

ECONOMIC DEVELOPMENT AND OPPORTUNITIES IN ROMANIA: LOCAL BUSINESS ENVIRONMENT INDEX (LBEI)

WHITE PAPER

Aspen Economic Opportunities & Financing the Economy Program

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Aspen Economic Opportunities & Financing the Economy Program

Aspen Policy Programs seek to improve the quality of leadership and the formulation of policy through evidence-based, multiple stakeholders' dialogue on the challenges facing society. Based on the **Aspen Method** which we profess and practice, we facilitate a transparent, responsible and non-partisan reflection process, between public decision-makers, private stakeholders and representatives of the non-governmental and academic sectors, about various aspects concerning key challenges of the Romanian society. The goal is to set up a platform helping our Program communities reach consensus on concrete policy recommendations in the areas pertaining to our Programs. The difference between Aspen Policy Programs and other initiatives is that we engage with public decision-makers from the start of the reflection process, engaging them in an informal and informed dialogue and fostering mutual ownership of our policy recommendations.

Aspen Economic Opportunities & Financing the Economy Program addresses 3 major topics:

- Identifying a wider range of viable financing sources for large infrastructure projects;
- Setting priorities for public & private resources for key infrastructure projects capable of unleashing the country's potential;
- Identifying policy solutions with a positive effect on reversing rising inequality, closing economic disparities among subgroups, reduce poverty and revive growth in lagging regions within country, thus enhancing economic mobility for all.

For the 2017 – 2018 iteration of the Program, the **Core Deliverables of the Program** included:

- ✓ A dedicated Program Community comprising the multiple stakeholders from the public, private, and non-governmental sectors;
- ✓ A dedicated Program Task Force, comprising the core contributors to the program;
- ✓ Thematic workshops for the Program Community on the major topics identified, issuing key policy recommendations;
- ✓ A **White Paper** with recommendations to the relevant decision makers with respect to the domestic Core and Periphery challenges;
- ✓ A Panel on **Financing in the New Economy** at **Bucharest Forum 2018**, Aspen Institute Romania's yearly flagship event, presenting the main recommendations of the program in a prominent public setting.

Aspen Institute Romania would like to thank the partners of the 2017 – 2018 program edition for their valuable support:

Program Partners: Metropolitan Life Romania, NN Romania, Raiffeisen Bank Romania, Mastercard Romania, BNP Paribas and Lybra Internet Bank.

Institutional Partners: Government of Romania, Ministry of Public Finance, National Bank of Romania, Romanian Financial Supervisory Authority, Ministry of Regional Development and European Funds, Ministry of Transport, Ministry for the Business Environment, Trade and Entrepreneurship.

Knowledge Partners: EBRD, World Bank and EIB.

Executive Summary

In the current context, in which the global markets are marked by growing uncertainty, ensuring the sources of capital for investments is one of the paramount conditions for achieving and sustaining economic growth and development.

For EU member states, there is the added benefit of accessing EU structural funding for investments, besides the capital markets, national budgets and public-private partnership. Whichever the source of funding might be, there is a necessary condition with regards to identification of the specific needs of a given economy, and the prioritisation of investment projects according to those needs.

It is clear that in the case of Romania there is an imminent necessity to develop several priority infrastructure projects as well as other development projects. However, many times it is difficult to properly understand and address the investments needs from a national, or increasingly European view-point. In a context in which structural funding is mostly directed to projects that provided “European added value”, there is a decreasing attention afforded to local needs, and opportunities.

This paper presents an original novel metric for assessing economic activity at local level: Local Business Environment Index (LBEI). In the development of this metric system we explore a large set of variables that are disaggregated at municipal level. Following the existent literature on the different drivers of economic development, we propose four major axes of assessment: entrepreneurship, innovation, investment financing, and public authorities’ support.

Much like the way in which many existent tools provide evaluations of the business environment at national level (e.g. Global Competitiveness Report (WEF), Doing Business Index (WB), Country Risk Report (OECD)), we propose the LBEI as a tool for subnational assessments. As such, it could help economic actors to develop more targeted market strategies that will deliver better, more efficient results in comparison to blanket measures deployed across the country.

We present the overall ranking of the level of attractiveness of the local business environment in the Romanian municipalities, amongst which the highest scores belong to cities of various sized: Bucharest, Cluj-Napoca, Timișoara, Alba-Iulia and Sibiu. Each municipality has a different distribution of specific strengths. We also look in-depth at the ranking and implications of the sub-indexes. In the case of the sub-index for Innovation for example, the ranking is dominated by Timișoara, Cluj or Sibiu, and not the capital city of Bucharest. In the case of the sub-index for Entrepreneurship the top-ranking city is Cluj and not Bucharest. As such, we can see that there are elements that define some of the Romanian cities and make them excel in certain areas over others. These rearrangements in the ranking of Romanian cities in the sub-indexes of our proposed metric LBEI show the extent to which there are specific local and regional economic opportunities and challenges.

LBEI is essential an endeavour to fine-tune our diagnostic methods. By disaggregating the local specificities of the Romanian cities, we can see better the business opportunities for private sector agents, and the needs and requirements of the public sector.

Introduction

As the world is increasingly worried about both the level and the sustainability of economic development, the underpinning factors of this process must be better understood. We have long focused on the overall national rates of growth and paid too little attention to growing subnational differences. A recent report of the World Bank „Magnet Cities” shows how dynamic some of the Romanian municipalities are—both from an economic and a human perspective¹. Much like the Hanseatic League of the Middle Ages, or the City States of the Renaissance, contemporary metropolises in Europe are responsible for the bulk of the continental economic growth via trade and services. As was aptly recently summarised: „Urbanists say that the 19th Century was a century of empires; the 20th Century was a century of nation states; and the 21st century will be the century of cities” (Silva 2018). At global level, 50% of the population is urban, 70% of the energy consumption is centred in cities, and it is also cities that are responsible for 80% of the world’s GDP².

We nevertheless face a methodological conundrum in the statistical and institutional assessments: what is the territorial unit of measurement for growth and development? Do we look at metropolises only, or do we account for secondary cities too? Do we assess the economic activity of the city, or that of its larger urban zone, or region of origin? Do we account for NUTSII or NUTSIII regional units? To what degree are the local authorities of a city or a region in charge of developmental policies and investments?

To answer some or any of these questions, we must account for country-level specificities of territorial organisation. In a recent compilation effort, the European Committee of the Regions (CoR) has developed an overview of levels of institutional and fiscal decentralisation in all EU countries, (potential) candidate and Eastern Partnership countries in the online portal „Divisions of Power”³. It is enough to browse through the Division of Power database to see the large extent to which EU member states differ in their territorial organisation. While increasingly more efforts are made to create a certain convergence in the division of powers in the EU, with a focus on increasing the competences of local governments (LGs), it is nevertheless an issue of historical institutional lineage the way a local or regional authority fits within the larger setting of the states.

We propose here that for the case study of Romania, a relevant unit of measurement is that of municipal cities that are also the administrative centres of their counties. Usually, these are also the most developed cities in each county. Accounting for the urban-driven economic growth, we therefore develop a pilot study of its drivers at local level. In doing so, we contribute not only to the academic literature on economic development, but also (we hope) to the conceptualisation of the institutional architecture of public administrations. By understanding the degree to which economic growth ignites at local level, we obtain a better perspective on what it is that can be done to nurture it.

¹ Magnet cities : migration and commuting in Romania (2017) World Bank Working Paper, available here: <http://documents.worldbank.org/curated/en/327451497949480572/pdf/116400-WP-P158178-PUBLIC-MagneticCities-Jun18-v4.pdf> , last accessed on 11.03.2018

² Innovation in Europe’s https://files.lsecities.net/files/2015/02/Innovation-in-Europes-Cities_Bloomberg-Mayors-Challenge1.pdf, last accessed on 11.03.18

³ <https://portal.cor.europa.eu/divisionpowers/Pages/default.aspx>, last accessed on 11.03.18.

This paper presents an original novel metric for assessing economic activity at local level: Local Business Environment Index (LBEI). In the development of this metric system we explore a large set of variables that are disaggregated at municipal level.

Following the existent literature on the different drivers of economic development, we propose four major axes of assessment: entrepreneurship, innovation, investment financing, and public authorities' support. If we derive the first three from the classic economic literature (Schumpeter 1934), we add the later pillar on the basis of recent empirical studies in the context of EU convergence at subnational level (Volintiru 2017).

Local Business Environment Index (LBEI): Methodological Aspects and Results

The theoretical framework behind our analysis consists of the pillars identified by the Austrian economist Joseph Alois Schumpeter to be essential in the capitalist development model, namely:

(1) local entrepreneurship (E);

(2) innovation (I);

(3) investment financing (C).

As we mention above, these three layers embedded in local policies and economic ecosystem, encourages market competition, new products and jobs, economic development and capital accumulation. Entrepreneurs support innovation through new ideas and, at local level, risk-taking creditors finance the implementation.

To these three pillars, we added one more, represented by **(4) local public support (LPS)**. In the current context, in which a large set of measures are being deployed at European level to support and encourage entrepreneurship as a driver for economic growth, local governments' involvement is an essential metric for the quality of the local business environment. We also included this dimension to mirror the way national evaluations or country risk assessments of the business environment are frequently looking at both economic and political traits.

Table 1 shows the economic data used to build every pillar and the importance (*weight*) associated with those pillars in our model.

On these four domains we realised an **Local Business Environment Index (LBEI)** including nine components to estimate how the municipalities from Romania are attractive in terms of entrepreneurial activity and how the local authorities succeed in supporting private initiative.

Table no. 1: The four pillars of entrepreneurship

Local entrepreneurship (E)	Innovation (I)	Investment financing (C)	Local Public Support (LPS)	
30%	20%	35%	15%	
Number of active companies with Romanian capital (10%)	Number of employees from high tech sectors (10%) ⁴	Loans to non-financial companies (Romanian Lei and foreign currencies) (20%)	Capital expenditures (5%)	
Number of active companies with foreign capital (10%)	Number of students (10%)	Foreign Direct Investments (10%)	EU funds expenditures (5%)	
SRL-D companies (10%)		Access to banking infrastructure (5%)	Highways connection (5%)	
Data sources				
National Institute of Statistics, Registry of Commerce, Listafirme.ro	Integrated Educational Registry, National Institute of Statistics	National Bank of Romania	European Funds Ministry, World Bank	
Local Business Environment Index				
Very low			High	
0	25%	50%	75%	100%

Source: National Institute of Statistics, Registry of Commerce, Listafirme.ro, Integrated Educational Registry, National Institute of Statistics, National Bank of Romania, European Funds Ministry, and the World Bank.

⁴ The sectors taken into account to approximate the number of employees employed in the High-Tech fields were: (1) Manufacture of basic pharmaceutical products and pharmaceutical preparations, (2) Manufacture of computer and electronic and optical products, and (3) Manufacture of electrical equipment.

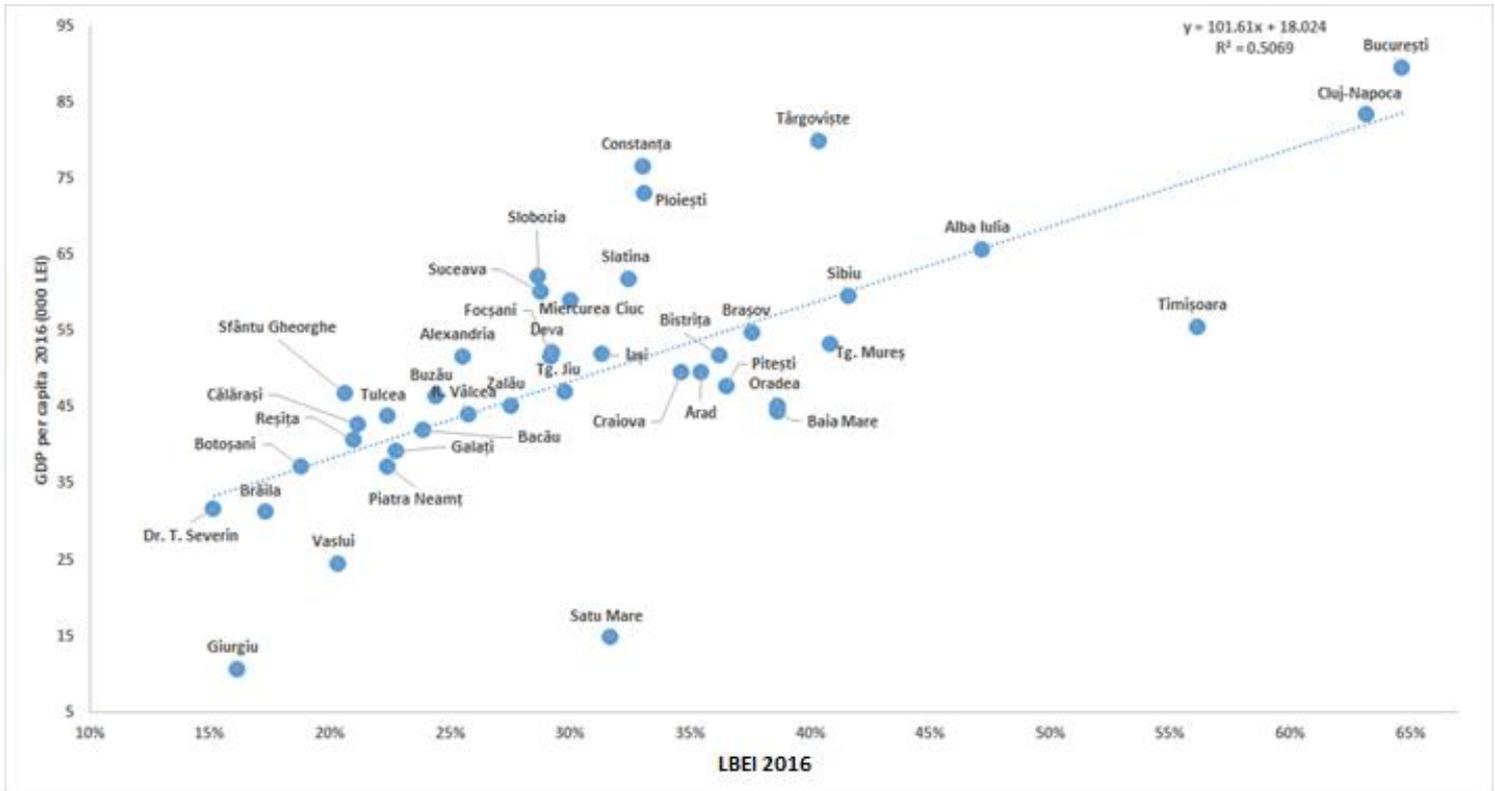
The relationship between the Local Business Environment Index we have developed and the level GDP per capita at the municipality level shows the extent to which it is a well-tailored tool for measuring the drivers of economic development at subnational level. Essentially, as we can see in the Figure below, there are certain cities in Romania for which the level of economic development is overlapping with that of the quality of the local business environment. These are: Bucharest, Cluj-Napoca, Alba-Iulia, Sibiu or Braşov. There are also cities that have a better performance in terms of GDP per capita than that of the local business environment, and these are:

Subnational studies are seeing a steady growth over the past years, as it is clearer than ever that from an empirical perspective subnational differences have become too large to ignore. It is often the case that in many countries there are very few localities that record the average regional or national values of any given indicator. Rather, we find large discrepancies and extreme values. Romania is no exception with some of the fastest growing GDP per capita in Europe at the level of the capital city of Bucharest and plunging poverty level and economic stagnation in many of its smaller localities.

These discrepancies invite researchers to question overall regional or national assessments and to look for the specificities of economic development and drivers of growth at more granular level. The heterogeneity of the sample of cases is thus diminished and we can more accurately perceive the mechanisms at play.

In the figure below, we have correlated the attractiveness of entrepreneurship at the municipality level with the nominal GDP per capita estimated for the 41 municipalities. It can be seen that there is a positive relationship between the two variables. Also, the relationship intensity (measured by the R square coefficient) is relatively strong, almost 51%.

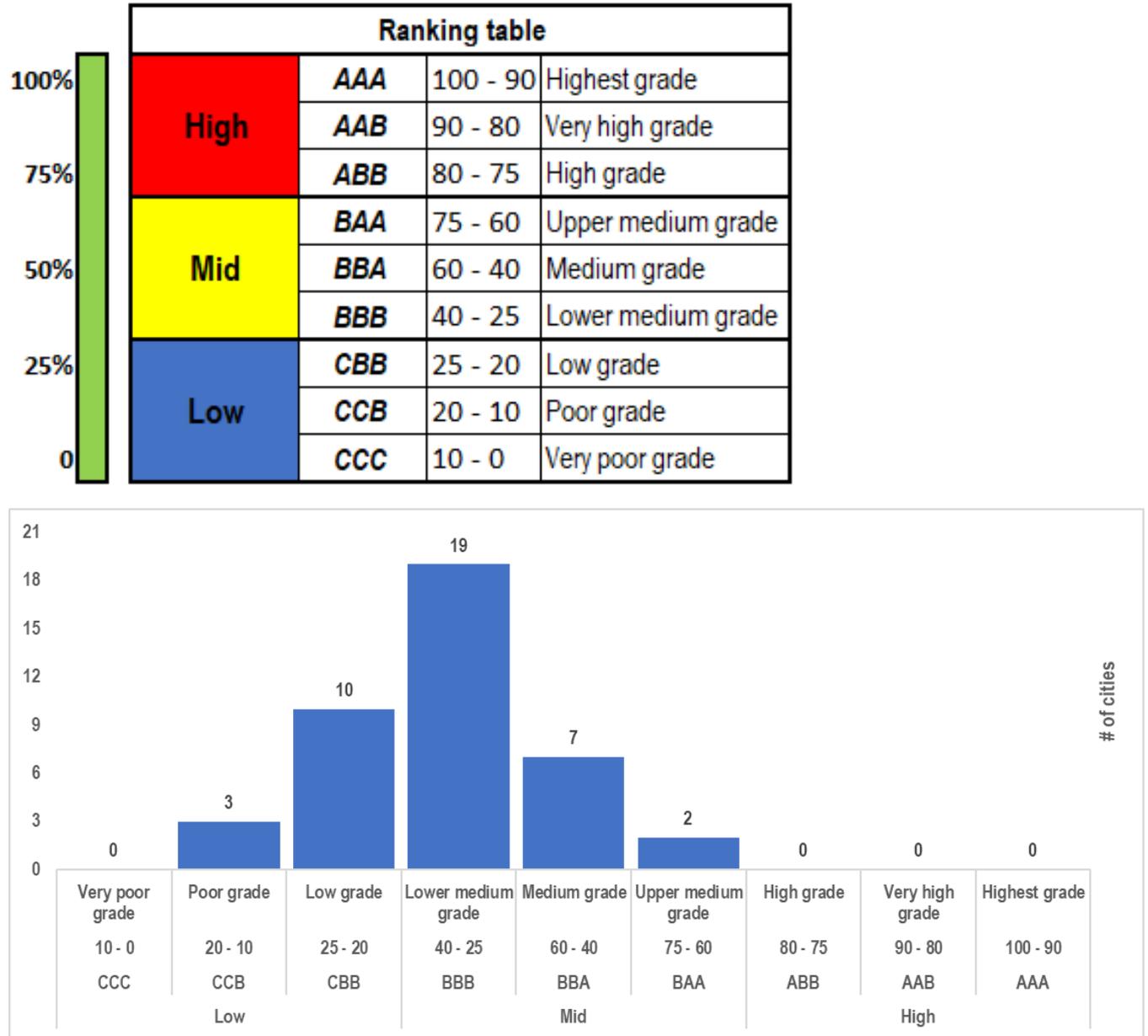
Figure no. 1: LBEI and GDP per capita



Source: Authors' calculations

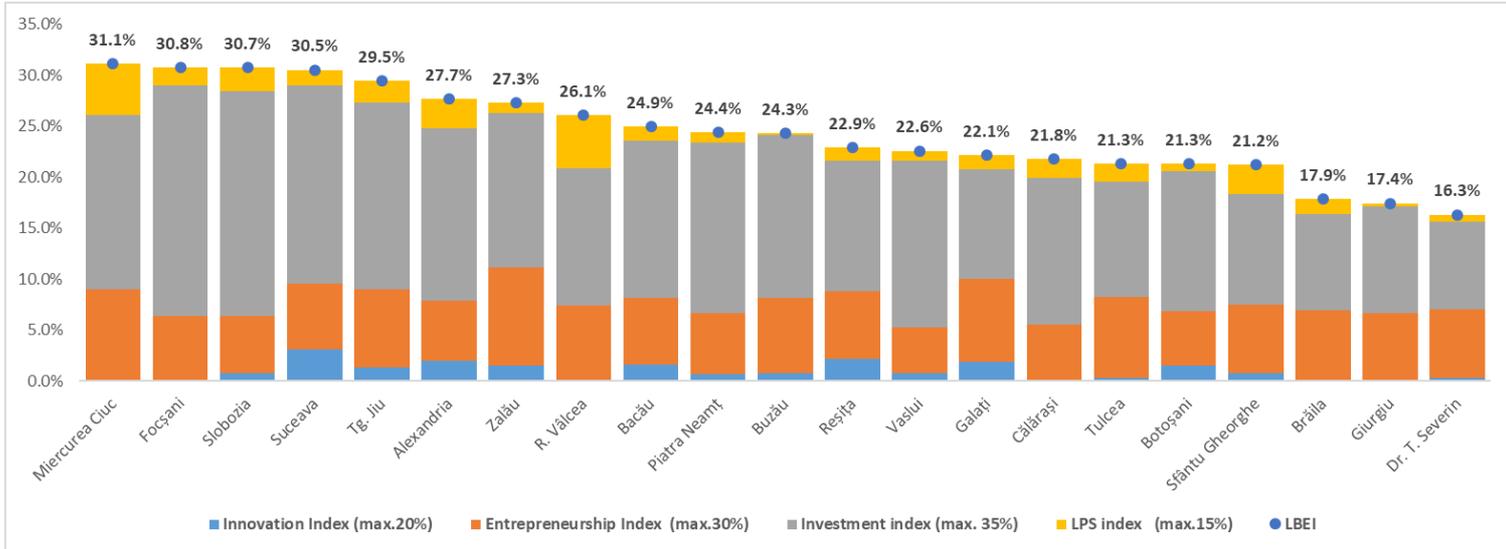
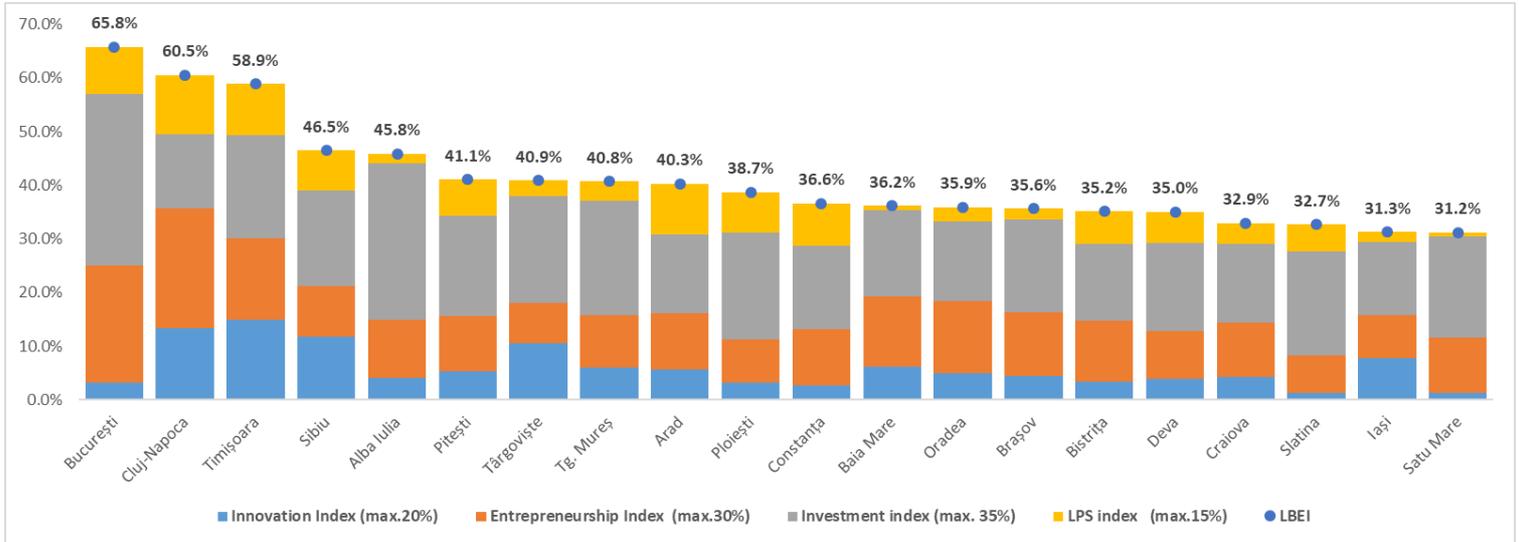
In the following figure we categorized the 41 municipalities into three categories (High, Medium and Low), each of which is divided into three other categories (High - AAA, AAB, ABB, Mid - BAA, BBA, BBB, and Low - CBB, CCB, CCC) so we classify municipalities from Romania according to the index value obtained on several grades (classes) of entrepreneurial and investment rating. As we can see, the best municipalities from Romania have BAA grades (Bucharest and Cluj-Napoca), representing an Upper Medium grade. Also, the most municipalities from Romania (21 from 41 municipalities analysed) have a BBB rating, respectively a Lower Medium grade environment for investment and entrepreneurship.

Figure no. 2: LBEI ranking categories



Source: Authors' calculations

Figure no. 3: Municipalities Ranking based on Local Business Environment Index (LBEI)



Source: Authors' calculations

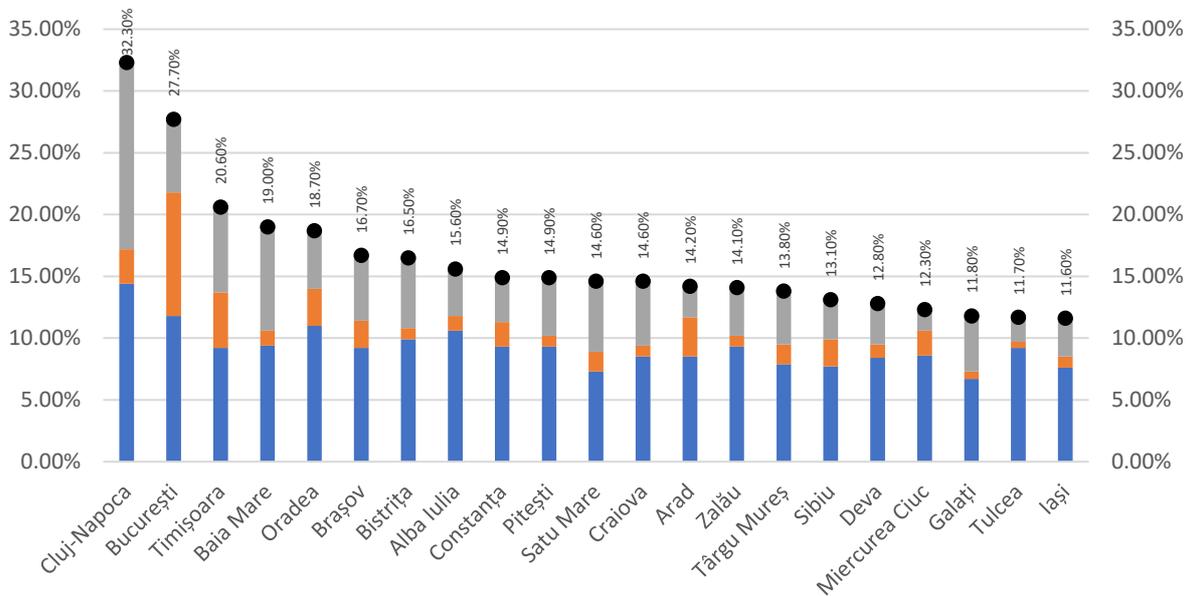
According to our analysis and methodology, not even one of the 41 municipalities that we have analysed here does not have a High grade in terms of the entrepreneurial and investment environment (rating AAA, AAB, or ABB).

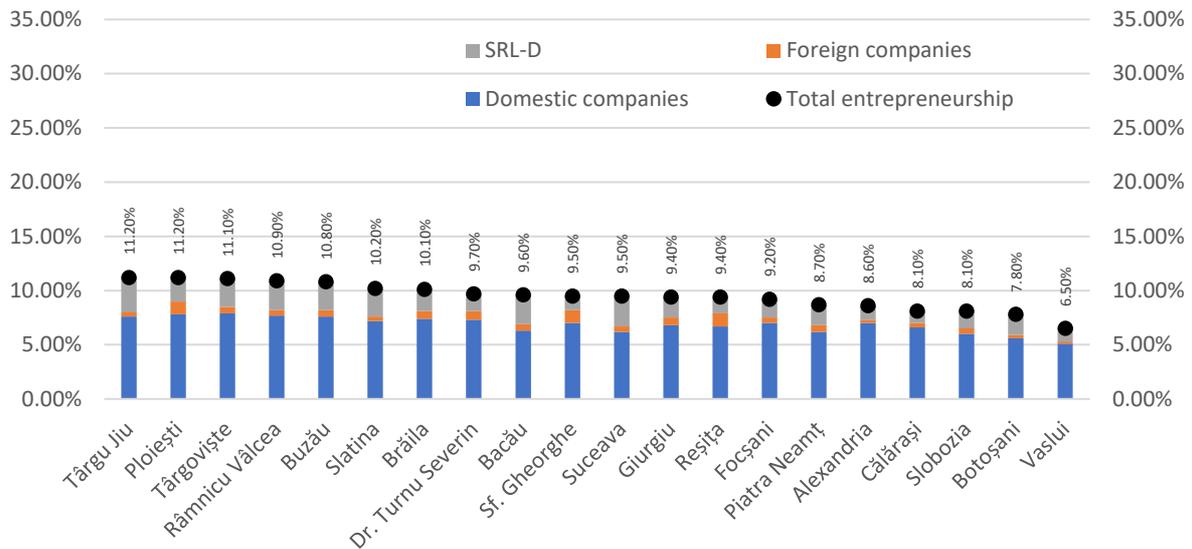
Local Entrepreneurship Pillar

Between the local business environment and entrepreneurship, one can trace a circular relationship. While the entrepreneurial activity is influenced by the quality of the business environment, it is also true that a higher density of entrepreneurial activities generates multiplication effects in the local economy and enhances the attractiveness of the local business environment.

From the perspective of entrepreneurship, we see Cluj-Napoca as the most important municipality from Romania both for existing domestic companies and new created companies (see Figure below and Table in Annex 2). Cluj-Napoca has the highest rate of domestic companies at 1000 inhabitants, 79, far above the capital city, Bucharest (65), and Oradea (60). The smallest rates of domestic companies at 1000 inhabitants are in Călărași (36), Slobozia (32.8), Botoșani (30.5) and Vaslui (27.7).

Figure no. 4: Entrepreneurship Sub-Index





Also, in terms of foreign companies, Bucharest is on the 1st place, with 45 foreign companies at 1000 inhabitants (cumulating more than 50% of the entire FDI stock, or 35,8 billion EUR). For SRL-D companies, Bucharest, with 2.7 SRL-D companies at 1000 inhabitants, is below other municipalities, like Baia Mare (3.8) and Timișoara (3.2), and close to Brașov, Craiova (both 2.4), Satu Mare (2.6) and Bistrița (2.6). According to our methodology, Alexandria, Călărași, Slobozia, Botoșani and Vaslui are the least attractive cities from Romania from the perspective of entrepreneurship, especially for foreign companies.

In the broader context of entrepreneurial culture across the country, it is important to highlight some characteristics that individuals in Romania believe they have or have acquired through the educational process. Also, we emphasize the position of Romania relative to the other EU Member States. The data source is the Eurobarometer on Entrepreneurship realised by European Commission in 2015.

Table no. 2: Perceptions of entrepreneurial capabilities – comparative perspective

Group	Questions	Metric	Ro	EU27	Diff. vs. EU 27
Education	<i>My school education made me interested to become an entrepreneur - Do you agree with?</i>		41.4%	24.4%	Above average
	<i>My school education helped me to better understand the role of entrepreneurs in society - Do you agree with?</i>	Sum of answers with Agree & Strongly Agree	56.1%	44.4%	Above average
	<i>My school education gave me skills and know how that enable me to run a business - Do you agree with?</i>		44.2%	39%	Above average

Ideas	<i>I am an inventive person who has ideas - To what extent do you agree with the following statements?</i>	Sum of answers with Agree & Strongly Agree	84.4%	80.8%	Above average
Risk	<i>In general, I am willing to take risks - To what extent do you agree with the following statements?</i>	Sum of answers with Agree & Strongly Agree	72.9%	64.9%	Above average
Self-determination	<i>My life is determined by my own actions, not by others or by chance - To what extent do you agree with this statement?</i>	Sum of answers with Agree & Strongly Agree	81.8%	84%	Below average
	<i>If I see something I do not like, I change it - To what extent do you agree with the following statements?</i>		83.8%	84%	Below average

Source: Eurobarometer on Entrepreneurship, European Commission (2015)

In the effort to discern some general traits of Romanian entrepreneurial culture, we refer answers from the Eurobarometer on Entrepreneurship related to perception / self-perception of individuals regarding the role of educational environment, risk and the ability to generate ideas. We selected only the sum of the "Agree" and "Strongly Agree" answers provided to questions in the table below.

Table no. 2 shows the answers of Romanian respondents at European Commission Eurobarometer. We bundled the self-perception of Romanian respondents regarding their entrepreneurial characteristics in four main groups: (i) Education; (ii) Ideas; (iii) Risk; (iv) Self-determination.

Also, the comparison with EU average helped us to consider that, in terms of self-perception and capability, it seems that Romanian youngsters are above EU27 average when we look at the support of education for entrepreneurial capabilities (i.e. *to understand the entrepreneurs and their role in society*).

At the same time, there is a self-perception in terms of new ideas and taste for taking risks above the EU27 average. Below, but close the EU27 average, is the percentage of people who consider that, in general, life is determined mainly by the chance and not by the own actions.

However, there is some evidence that, even when the Romanian youngster have a good self-perception regarding entrepreneurial abilities, the factual results are very low.

Furthermore, we proceed to correlate some answers of those questions with the number of private sector companies per 1000 inhabitants in the EU Member States.

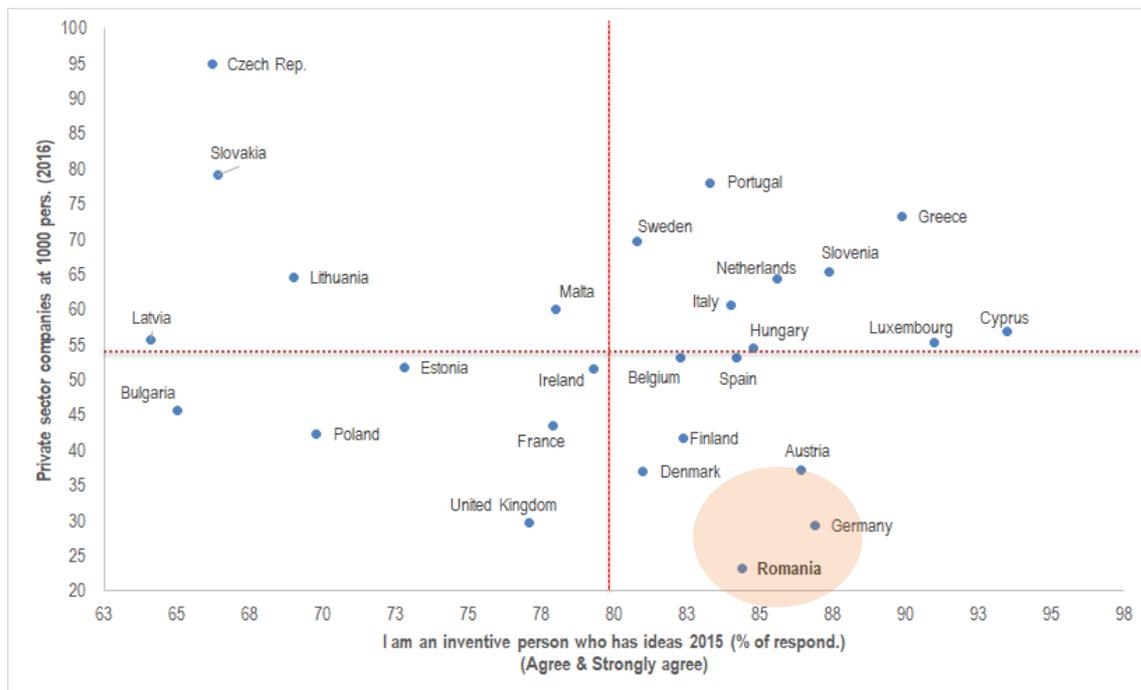
Figures below presents the relationship between the number of private sector companies from Romania at 1000 persons at the end of 2016 and the perception of creativity (Figure 7) on the one hand, and the perception of the support of educational system to entrepreneurial understanding (Figure 8), on the other hand. We analyse the Eurobarometer Survey data for all 27 EU Member States.

Thus, in Romania, the rate of private sector companies at 1000 persons is one of the lowest in EU, close to Germania and UK, countries with a larger population than Romania, despite the good score at both creativity self-perception and educational system support.

So, our conclusion is that we see in Romania a very positive perception of individuals entrepreneurial capabilities – one of the best in EU, but there is no capacity to translate these characteristics into strong, sustainable businesses.

One of the explanations could be the institutional barriers to create and develop companies as we see in the previous section. Another explanation could be the heavy access to finance (i.e. through loans, stock market, debt market) for the SMEs, which impede the business plans in first years of activity.⁵

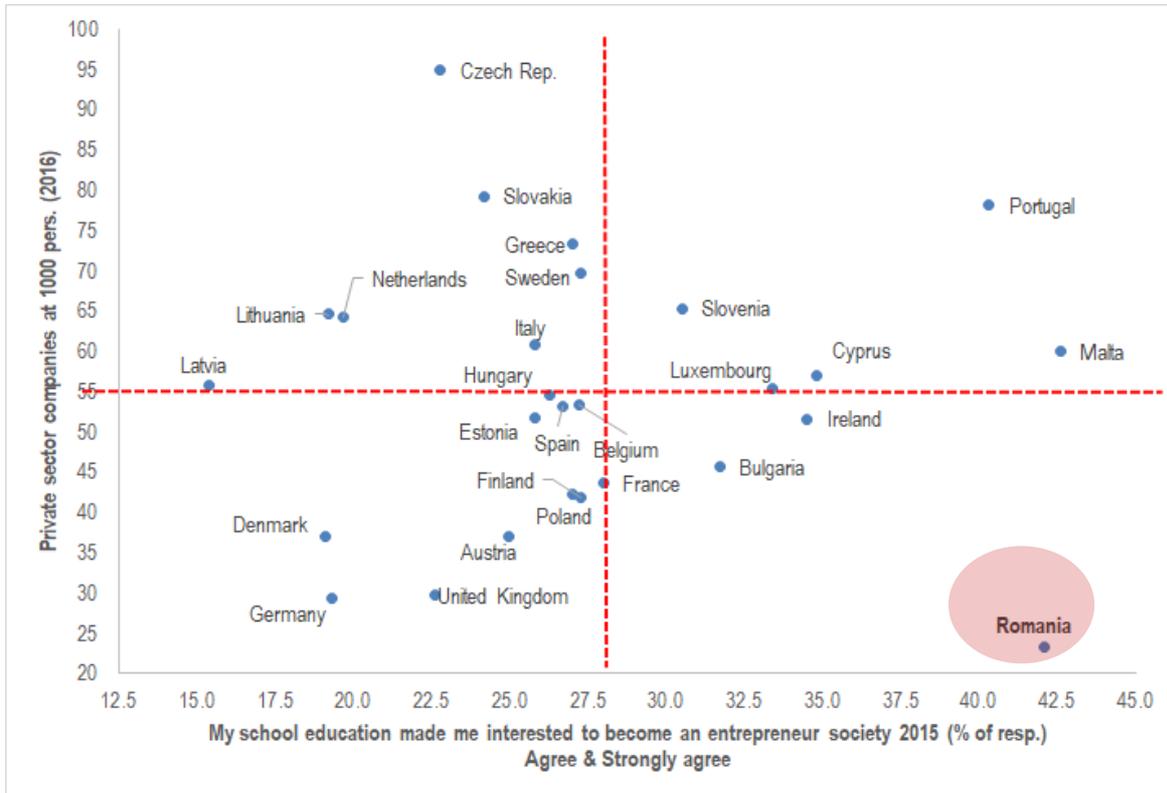
Figure no. 5: No. of companies and creativity



Source: European Commission, Eurostat and Romanian National Institute of Statistics

⁵ One instrument to support investment could be state aid schemes, that in the last ten years were an important source of funds for some sector with good results in Romania (automotive, aerospace and IT) in terms of regional development and jobs (See also Ștefan et al., 2016)

Figure no. 6: No. of companies and education



Source: European Commission, Eurostat and Romanian National Institute of Statistics

Local Innovation Pillar

Romanian municipalities have been particularly poised to take advantage of the principle of smart specialization, as in many of them the innovation component (see values in Annex 1) has been a driving force in the economic growth patterns. Most importantly, cities with a strong university campus, that engages in technical specialisations poses a privileged vantage point for competitive economic activities.

When looking at the Innovation subcomponent of our Local Business Environment Index (LBEI) we find a very different ranking than that of the overall ranking. We can see the capital city of Bucharest much further down than other university cities in Romania. Most prominently, we see Timișoara occupying the first position, with Cluj-Napoca following on the second position.

For Timișoara the number of employees in the High-Tech sectors is the driving indicator of its ruling position on this Innovation ranking. Similarly, we see Sibiu, Târgoviște or Târgu Mureș in a similar position of high labour force-driven innovation. For Cluj-Napoca on the other hand, we see that the average rate of students is what constitutes its prime innovative advantage. In the case of Cluj we see the form public support for high tech or creative enterprises takes as a start-ups incubator project –Cluj Innovation Park. Although a pole of high-tech start-ups in its own right, one of the main driving force of its innovation potential at this stage is the ratio of students per 1,000 persons. Obviously in total numbers, the students in Bucharest are far more numerous than in any other municipality in Romania, but to account for sheer numbers would be misleading, as the innovation environment is reliant upon concentration as well. For this reason, we look at the number of students relative to the total population size of the municipality in question. If, as in the case of Cluj and other university cities like Iași, Brașov, Craiova or Alba-Iulia, the concentration of students is greater than in Bucharest, there would be a higher overall Innovation ranking in our index.

As mentioned above, the High-Tech sector taken under consideration here are: (1) Manufacture of basic pharmaceutical products and pharmaceutical preparations, (2) Manufacture of computer and electronic and optical products, and (3) Manufacture of electrical equipment⁶. In Romania, there are 131 companies (around 9250 employees) that are active in the field of manufacture of basic pharmaceutical products—NACE code 2110. Further, according Eurostat, more than 860 companies operate in manufacture of computer and electronic and optical products – NACE division code 26, representing 31670 employees. At the same time, in the sector of manufacture of electrical equipment - NACE division code 27 - in Romania are 615 companies with more than 40050 employees in 2015.

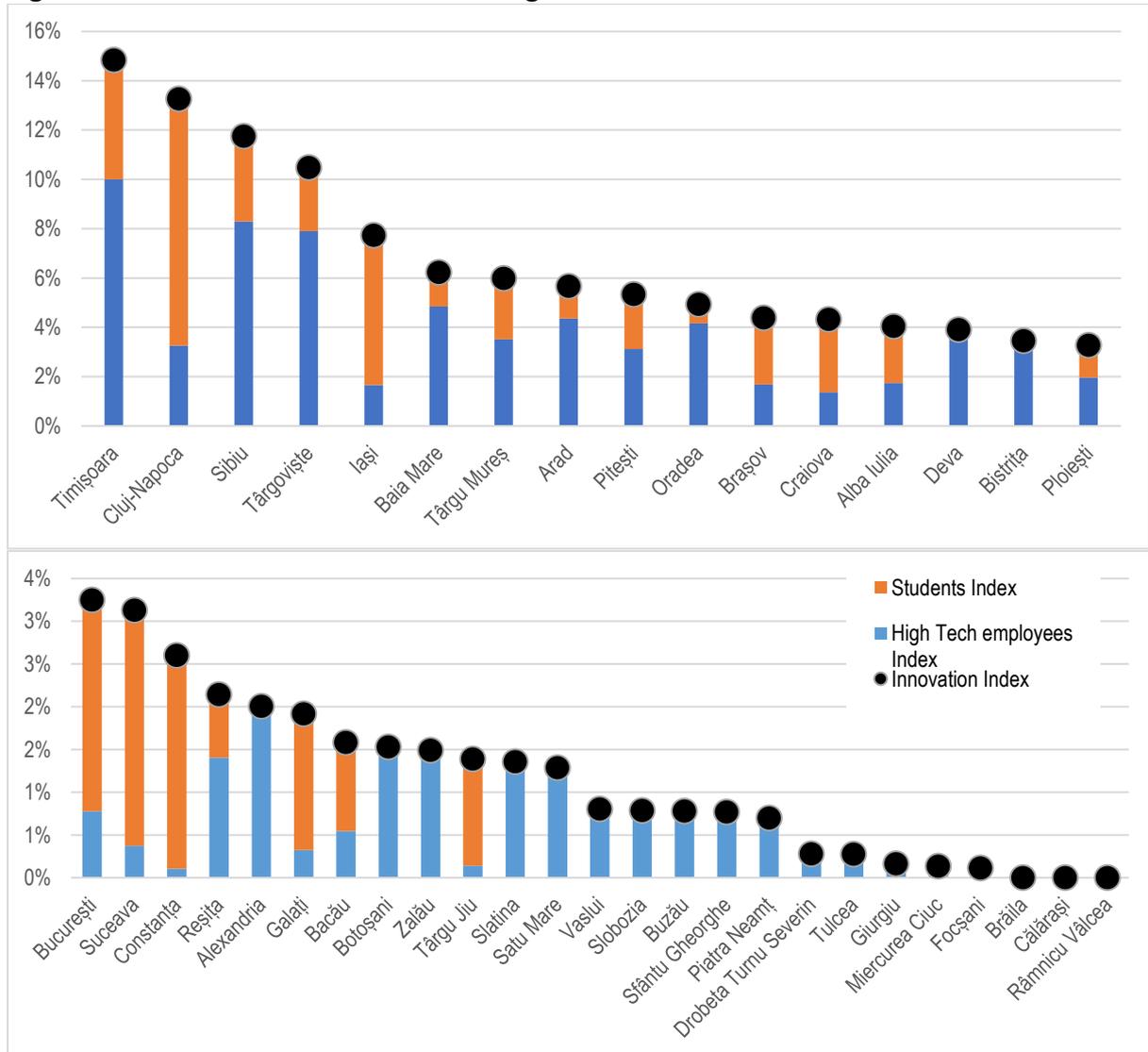
According to a recent report from LSE Cities, it is often the case that “cities out-perform their national contexts for productivity, competitiveness, innovation and economic growth”, and that “cities with high R&D spend have reaped the benefits of such investment, in the form of sustained growth and higher levels of job creation”⁷. In the case of the majority of Romanian municipalities, RDI concentration is closely linked to the size of the academic institutions. In

⁶ This classification is adopted for international trade activities, in the evaluation of the National Forecasting Commission, http://cnp.ro/user/repository/analiza_comert_exterior.pdf - see classification at pg. 35, Annex 9.

⁷ https://files.lsecities.net/files/2015/02/Innovation-in-Europes-Cities_Bloomberg-Mayors-Challenge1.pdf, last accessed on 11.03.2018

addition to RDI that is based in university campuses, there are also a number of national research institutes that are also preponderantly based in Bucharest and the main municipalities. Under the National Academy, we find approximately 50 institutes in Bucharest, as well as in Cluj, Timișoara or Târgu Mureș.

Figure no. 7: Innovation sub-index ranking



Source: Authors' calculations

At the European Union level, the expenditures on R&D is highest in the business enterprise sector, followed by the higher education sector, and the government sector only ranks third. In contrast, in Romania, we can see that for a long period of time the private sector and governmental spending were approximately equal parts in total R&D spending, with the latter being even higher than the first in most years. Only recently, we see in 2016 for the latest available data from Eurostat that the percentage of private sector spending has risen to comparable level to the EU average. Nevertheless, the higher education spending while playing a vital role in producing the human capital for innovation and research is not able to

deploy similar level funding for such activities as in other member states. We see thus a much higher reliance on the public funding, thus creating the basis for a symbiotic relationship between university centres, private actors and public institutions. In this context, support from local governments (LGs) can be an important driver of innovation and economic development, and it is this situation that is reflected in the Index we present here.

Romania developed back in 2014 the Operational Programme for Competitiveness 2014-2020 that took as a cornerstone in its funding priorities and eligible projects two National Strategies: National Strategy for Competitiveness 2014-2020, and the National Research, Development and Innovation Strategy 2014-2020. Within each of these strategies a number of strategic sectors have been outlined, with the purpose of concentrating European and national funding on those priorities. Smart Specialization was the frameworks employed to define these priority sectors for Romania. Smart Specialization (S3) is a methodology adopted by the European Commission for the implementation of the Cohesion Policy that aims at establishing the specific areas in which countries and regions have „a competitive advantage or have the potential to generate knowledge-driven growth”⁸.

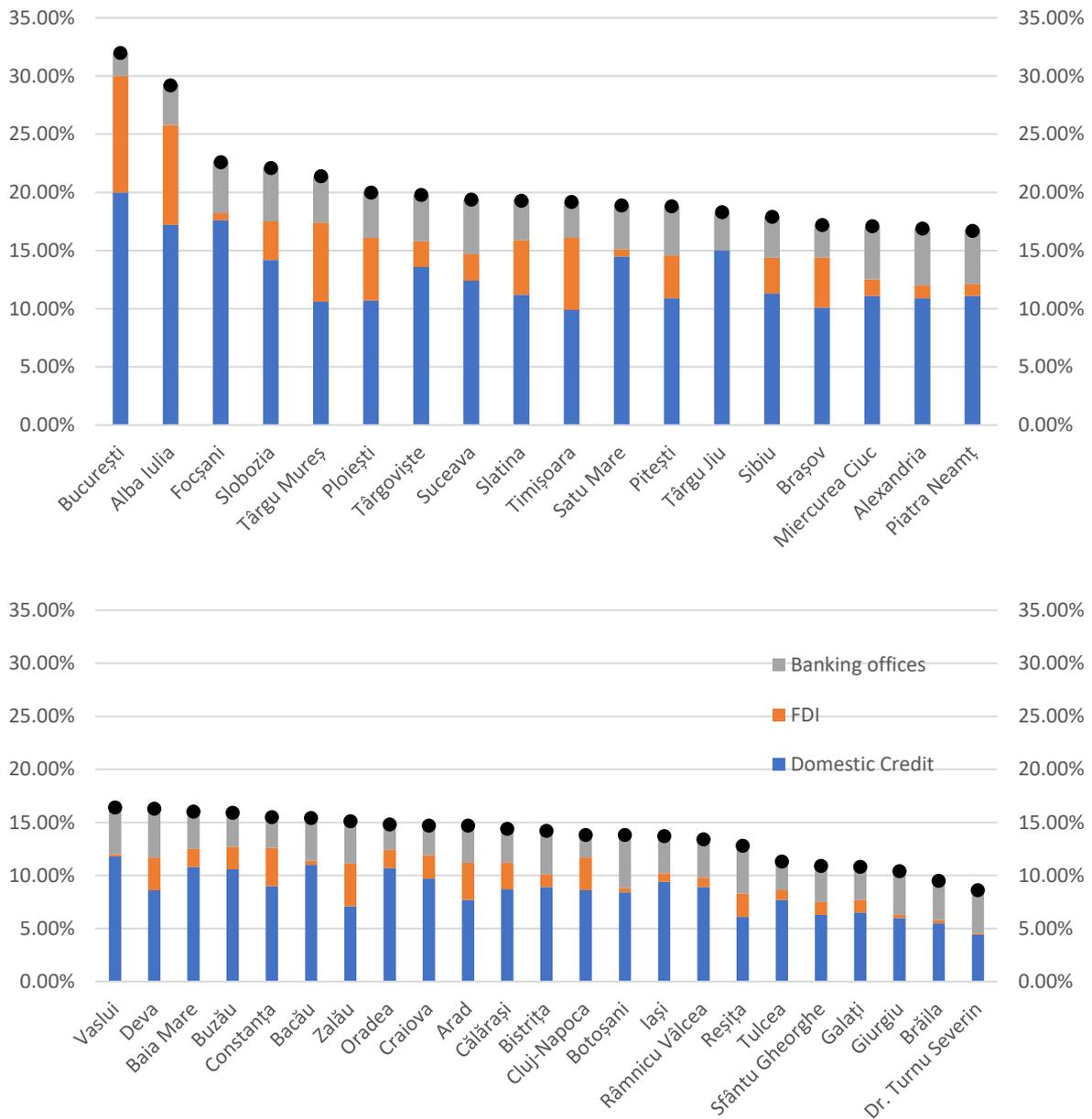
One of the main elements that could advance both the overall competitiveness of the Romanian economy, and the subnational level of innovation is the cooperation between the public and the private sector. As mentioned before, business incubators hosted in University campuses are one of the most effective methods to consolidate such public-private interactions, although stand-alone incubator spaces and mentoring projects in High Tech sectors or R&D are equally important. This collaborative approach is not only spearheaded by the EU funding conditions, but also by actual results in the international market.

⁸ <http://s3platform.jrc.ec.europa.eu/what-is-smart-specialisation->, last accessed on 13.03.2018

Local Financing Pillar

The Investment Financing pillar is composed by three important dimensions: domestic credit (local currency and foreign currency loans) for companies, foreign direct investment attracted and access to banking infrastructure (i.e. number of banking offices in each municipality).

Figure no. 8: Financing investment sub-index ranking

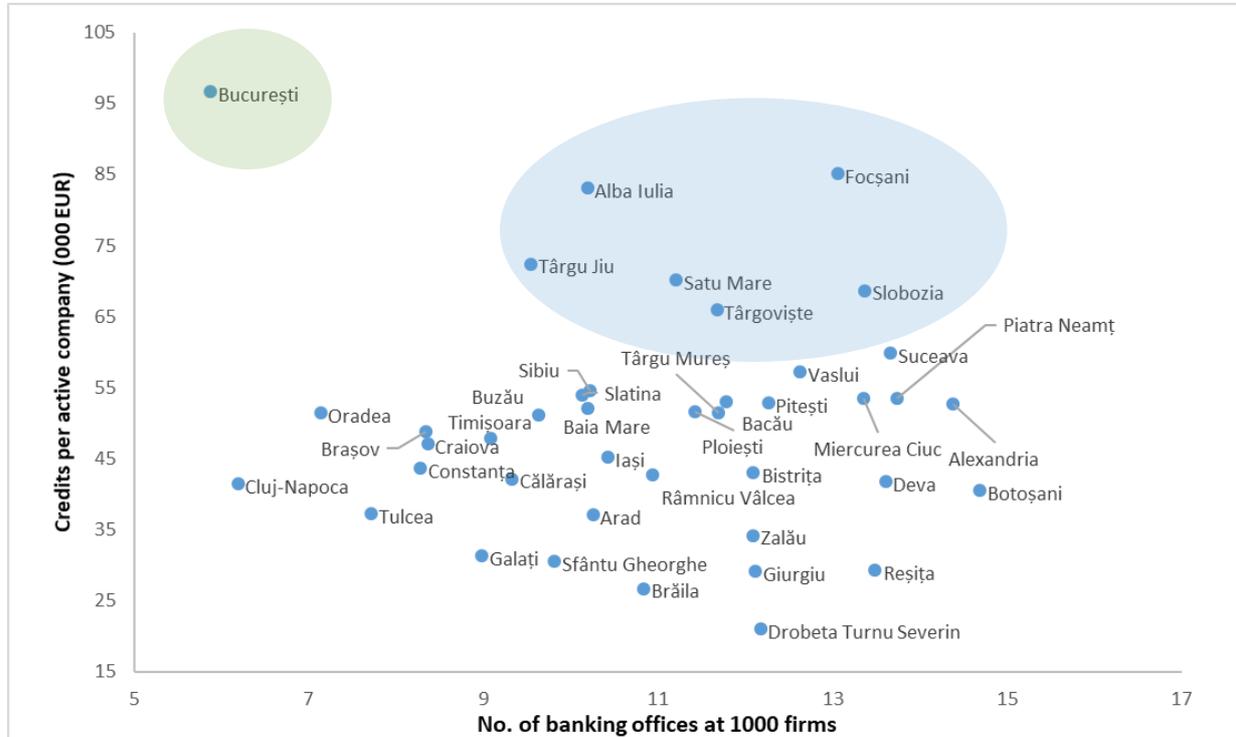


Source: Authors' calculations

We see that Bucharest is the most important municipality for investment index, both for domestic credit and foreign investment attracted. But, in terms of banking offices, there is the smallest number of banking offices at 1000 firms, approximately 6, even that in Bucharest is the higher value of credit per active company (95 650 EUR) and far above the second

municipality from our ranking table, Alba Iulia (83000 EUR per company and 10 banking offices).

Figure no. 9: Financial inclusion indicators at subnational level in Romania



Source: Authors' calculations

If we use the overlap of the density of banking offices (i.e. no. of banking offices at 1000 firms) with the financing levels (i.e. value of credits per active companies) we see the distinctive positioning of Bucharest as a top destination for credits among Romanian cities. Nevertheless, the figure above also shows that cities like Alba Iulia, Târgu Jiu, Focșani, Slobozia, Târgoviște, or Satu Mare also have a relatively high level of usage of the financial infrastructure, as having both high levels of credits and density of banking offices.

The importance of local financing is important not only from the perspective of local sources of capital, but also national ones (that can be subsequently tapped by companies at local level). In the CEE region at the moment, companies are approximately 90% reliant on banks for financing, while at the level of certain member states, such as Romania approximately 75% of SMEs are self-funded. Part of the limitation of accessing capital lies in its availability on the national market, but part of it also lies in the level of financial inclusion. As such, there are two types of actors that are of interest: private individuals and the way they manage their savings, and private companies and the way they are able to access funding on the local market.

According to a recent KPMG study on life insurances and private pensions in Romania⁹ the financial assets held by the population in Romania have doubled compared to 2009, however

⁹ KPMG (2018) Importanța și principalele beneficii ale asigurărilor de viață și pensiilor private. Available here: http://www.apapr.ro/wp-content/uploads/2018/05/KPMG_2018_Asigurari_pensii.pdf [in Romanian].

almost 40% are placed in bank accounts and deposits. These types of assets are not likely to ensure the financial well-being of the population over a long time horizon, given the low profitability rates. Other types of financial investment, such as insurance products, pension funds and quoted shares, still have low volumes, but have seen significant increases in recent years (46% increase in assets held in pension funds, 20% growth in insurance investment and 41% increase in equity holdings in June 2017 compared to December 2015), indicating a trend of diversification of investment by the population as available income increases and financial markets offer more investment alternatives.

In terms of investment capacity, life insurance and private pension funds are important institutional investors, directing significant levels of capital to financial markets financial and long-term strategic projects. The nature of such funds, given their long-term liability, makes them particularly suitable for multiannual investments. At EU level, 40% of the population's savings, totalling EUR 13 trillion were managed through insurers and pension funds.

The volume of savings accumulated through insurance and pension products is lower in Central and Eastern European countries, which have had a shorter time to accumulate such funds, as well as in countries with lower prosperity. However, according to a recent Legatum Institute Report, over the past decade, the average Central and Eastern European's income went from under to over half the average Western European's income¹⁰. As such, Romania, along with other CEE countries, is in a position to catch up on certain disparities of structure, or value in the financial sector. Financial markets are still underdeveloped, devoid of depth and diversity, as Romania has the lowest level of financial intermediation in the European Union—the share of total banking assets is 52% GDP compared to the EU average of 283%¹¹.

Financial inclusion, measured as access to financial products (bank and savings accounts, loans and payments), is also the lowest in the European Union. According to financial data measured by the World Bank in 2017, four out of ten Romanians did not have a current account, while only 19% of Romanians saved for old age, and these are average figures at national level. The situation in many secondary cities and rural areas is much worse in terms of financial inclusion.

One of the problems for financial inclusion is the extent of the shadow economy. This is not only problematic for the state (as it decreases its fiscal revenues and increases its collection costs), but it also poses problems for the SMEs' sector whose undeclared revenues make them unable to access financing. Currently, in Romania, approximately 75% of the SMEs are self-funded¹². It is noticeable that people of Romania understand the negative consequences of the shadow economy on the public and private business sector, as most of Romanian citizens (84%) are aware of the negative influence of shadow economy on the condition of public finances sector – they agree that shadow economy means less possibilities for the state

¹⁰ Legatum Institute (2016) Central and Eastern Europe Prosperity Report. Available here: <https://lif.blob.core.windows.net/lif/docs/default-source/default-library/170427-cee-prosperity-report.pdf?sfvrsn=0>.

¹¹ KPMG (2018) Importanța și principalele beneficii ale asigurărilor de viață și pensiilor private. Available here: http://www.apapr.ro/wp-content/uploads/2018/05/KPMG_2018_Asigurari_pensii.pdf [in Romanian].

¹² CNIPMMR (2018) Carta Albă a IMM-urilor din România, Raport de cercetare anual nr. 16/2018. Available here: http://cniipmmr.ro/wp-content/uploads/2018/07/Prezentare-Lansare-Carta-Alba-2018_3.pdf [in Romanian].

to provide public services for citizens, they also understand that shadow economy is limiting possibilities of economic growth of the country (88%), and they realize that shadow economy affects business sector, as it leads to unfair competition between enterprises (85%).¹³

In Romania, cash in circulation has a weight of about 60% of GDP, which is more than 6 times higher than the average of Eurozone countries¹⁴. In 2016, the shadow economy in Romania reached 27.6% of GDP, by 9.6 percentage points above the EU average, a level exceeded only by Bulgaria (30.2%). In the period 2013-2016, Romania registered a decrease of the shadow economy of 0.8 pp. According to a recent study, there a strong correlation between the high number of cash payments and the size of the shadow economy; card payments account for only 6.4% of GDP, more than 3 times less than the average for EU countries, and half of the average in Central and Eastern Europe, which places Romania on the last place in the EU¹⁵.

The relationship between financial education and financial inclusion can work in two ways: while better financial education can lead to increased financial inclusion, operating an account or using other financial products can also contributes to improving consumers' financial skills¹⁶.

¹³ IPSOS (2017) Opinions on shadow economy in Romania. Study prepared for Mastercard.

¹⁴ PWC (2018) *Study on the impact of electronic payments on the economy*.

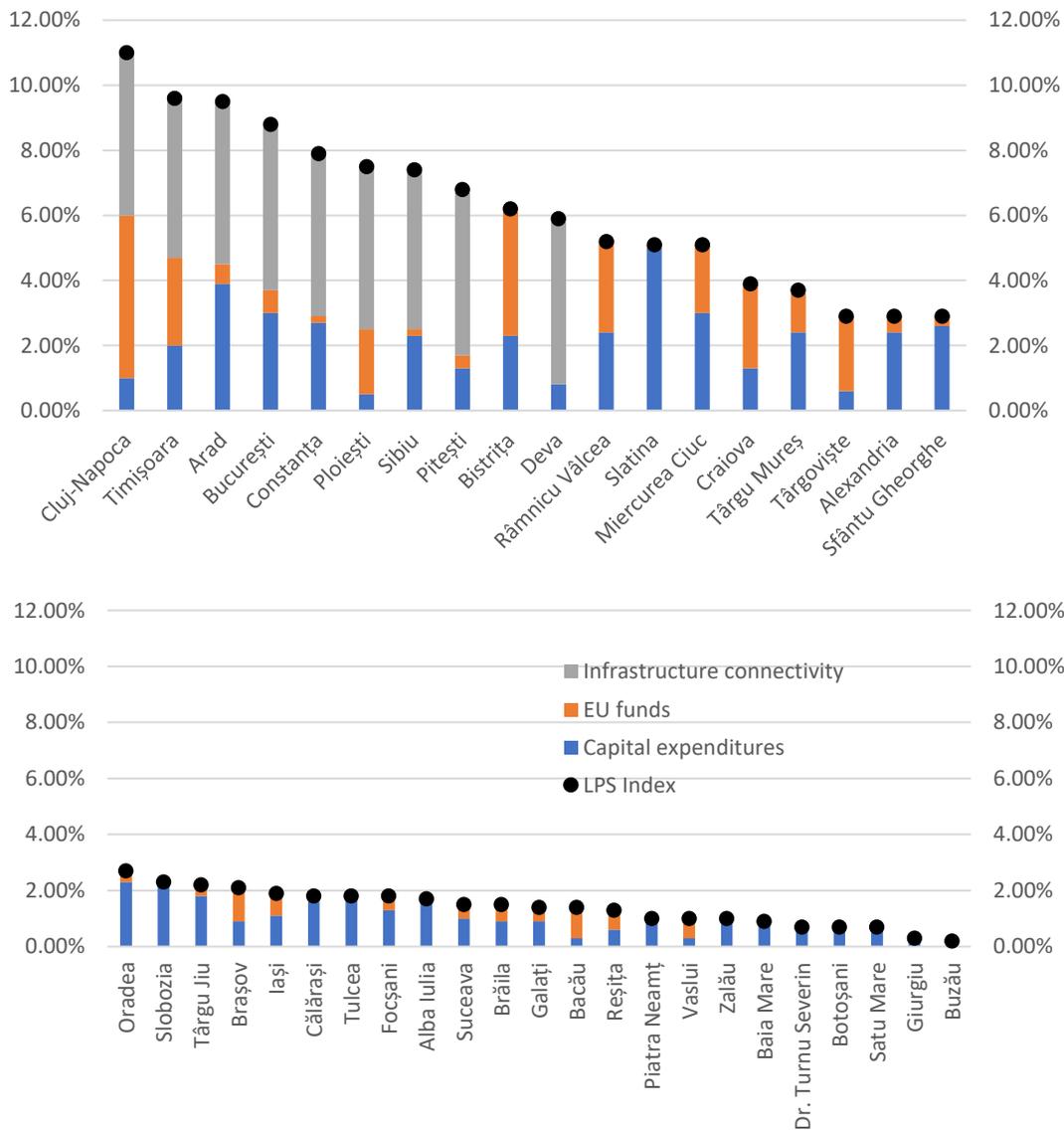
¹⁵ Idem fn. 14.

¹⁶ Standard & Poor's Ratings Services (2014) Global Financial Literacy Survey. Available here: http://gflec.org/wp-content/uploads/2015/11/Finlit_paper_16_F2_singles.pdf

Local Public Support Pillar

Local Public Support is measured here based on a number of metrics: the level at which EU funds were used by local governments, the level at which local governments have made capital expenditures, which can generally be associated with investments, and finally, the extent to which there is infrastructure connectivity in each of the cities in this sample. It is important to account for the fact that the latter is not solely a prerogative of local governments, given that large infrastructure projects such as highways are decided at the national government level. However, we took it as a proxy of local infrastructure “endowment”, as in general cities that are well connected through highways, also have a high level of local infrastructure development (e.g. sewage systems, internet connectivity, secondary roads).

Figure no. 10: Local public support sub-index ranking

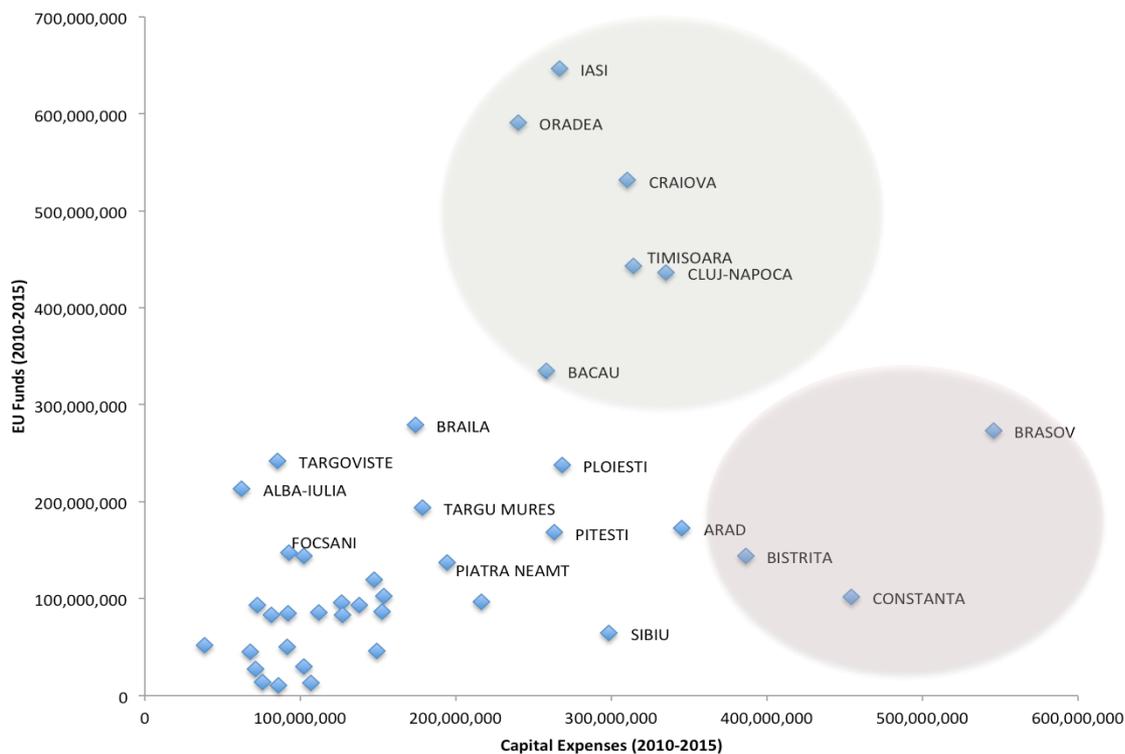


Source: Authors' calculations

In terms of absorption performance, for Romania's main weakness appears to be the administrative capacity with regards to project management. As such, despite a relatively high contracting rate, Romania ended the last period with the lowest absorption levels in the region.¹⁷

The investments need for infrastructure in Romania is currently very high. Only 9 out of 41 cities analysed here, are connected to a high way. We used a dummy variable to assess only this type of infrastructure connectivity, as this is most relevant to internationalisation logistics. However, there is also a poor connectivity in terms of other metrics of transportation potential, such as high-speed railway lines, international airports, or national roads. In addition to transport, infrastructure connectivity should also adequately cover needs related to telecommunication (i.e. internet connectivity and broadband speed), and public utilities (i.e. water supply, sewers, electrical grid).

Figure no. 10: EU Funding vs. Capital Expenditures in Romanian Municipalities*



*the scatterplot excludes the capital city of Bucharest because it skews the sample with a total 7.4 bil. RON Capital Expenditures, yet only 390 mil. RON EU Funding

Source: Authors' calculations

Most of the Romanian Municipalities have a relatively proportional capital expenditure and EU funding allocations. This follows the broader aid absorption capacity observed across the

¹⁷ Volintiru, C., Ionescu-Heroiu, M. and Goga, S. 2017. *Benchmarking EU Fund Absorption at Subnational Level*. World Bank Report. 10.13140/RG.2.2.10152.88326. Available here: https://www.researchgate.net/publication/321156173_Benchmarking_EU_Fund_Absorption_in_Romanian_Municipalities

EU regions, and is congruent with the principle of co-funding structural projects: the bigger local governments' own budget, the bigger the willingness to invest in partially funded EU projects. An important benchmark is that of the group of municipalities that managed to use significantly more EU funds than their own budget. Such examples are Iasi, Oradea, Craiova, Timisoara, Cluj-Napoca or Bacau. From a strictly budgetary point of view, these municipalities managed to optimize their financial resources, and engage a higher volume of outside funding. This can be achieved both through economies of scale (i.e. engaging in more projects) or by focusing on the type of projects that required a lesser co-financing from the local governments'.¹⁸

In terms of the mechanisms of financing various infrastructure projects, they are likely to suffer a change in the coming years. Over the past years, the majority of infrastructure projects in Romania have been funded either from the national or local budget (depending on the scale of the project), or from EU funds (with or without national co-financing depending on the financing program). One of the main components of the Local Public Support Pillar is the level of EU funds attracted and disbursed by local public administrations (*administrații publice locale* - APL). The capacity to manage EU funded projects (both in terms of securing the funding, and in terms of project implementation) is often referred to as a measure of administrative capacity. A recent study on Romanian local public administrations reveals this to be true, in the context in which the management of EU funded projects implies a certain logic of action, and set of good practices in the public administration¹⁹. The majority of EU funds at local level are used for infrastructure projects under the Regional Operational Program (POR). Starting with the future multiannual financial framework (MFF 2021-2027), EU funding will be skewed towards projects that have an "European added value"²⁰ and as such, a multitude of local infrastructure investments that previously benefited from EU funds might be left without this financing option.

Institutional capacity and administrative performance seems to contribute to economic development at local level. A recent study shows that meritocratic bureaucracies have an indirect effect through the quality of regulation on entrepreneurial initiatives (Nistotskaya and Cingolani 2016). Looking at the drivers of economic development at local level, we can see that the municipalities that were most effective in attracting EU funding, were also the ones that were able to attract other FDIs (e.g. Oradea, Alba-Iulia, Craiova) (see for the conceptual relation between administrative capacity and FDI Neshkova and Kostadinova 2012).

On the dimension of local public support, the capital city of Bucharest is outranked by the secondary cities of Cluj-Napoca, Timișoara, and Arad.

¹⁸ Idem fn. 17.

¹⁹ Idem fn. 17.

²⁰ European Parliament (2018) Briefing 2021-2027. MFF Multiannual Financial Framework 2021-2027: Commission proposal. Initial comparison with the current MFF. Available at: [http://www.europarl.europa.eu/RegData/etudes/BRIE/2018/621864/EPRS_BRI\(2018\)621864_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/BRIE/2018/621864/EPRS_BRI(2018)621864_EN.pdf).

Perspectives on Economic Opportunities' Assessment at Local Level

With the notable exception of the subnational and regional Doing Business reports of the World Bank, few comparative tools have focused on the subnational business environment. Furthermore, the ones that did account for this level of assessment of the economic environment are not deployed systematically, annually, and in a covering manner (i.e. most of the cities of a given country).

A subnational assessment of economic opportunities should begin with a proper diagnostic of the local environment. We include in the business environment diagnostic a series of elements that drive the performance of economic operators, be they local, national or international ones.

The differentiating rankings of the Romanian cities across the different pillars of our Local Business Environment Index shows the extent to which this metric is revealing of local specificities. In the case of the sub-index for Innovation for example, the ranking is dominated by Timișoara, Cluj or Sibiu, and not the capital city of Bucharest. In the case of the sub-index for Entrepreneurship the top-ranking city is Cluj. In the case of the sub-index for Local Public Support, we find such cities as Cluj, Timișoara or Arad outperforming Bucharest again. It is only in the case of Local Financing sub-index that Bucharest is ranked first, yet it is closely followed by the smaller city of Alba-Iulia. As such, we can see that there are elements that define some of the Romanian cities and make them excel in certain areas over others.

There are several aspects that could be pursued in the future to consolidate this diagnostic tool even further. In order to make the Local Business Environment Index a more poignant metric, we would like to add several additional sub-indexes. One pillar should be regarding local integrity. It would refer to the no. of corruption cases at local level, bribe cases and other such negative indicators of threats to the normal transactional relations in a given city (e.g. disaggregated level of the shadow economy). Another additional pillar would relate to “congestion costs”: traffic congestion, rents, local labour costs by industry etc.

In terms of revisions to the existent context of the LBEI, there are certain elements that could be refined. One of the main elements that should be developed in the present index is the composition of the local public support pillar (LPS). It would be highly relevant to show such elements as: whether companies have the possibility to pay local taxes via online platforms; the extent of local support for dual education. With regards to the entrepreneurial pillar, we should be able to account for various local entrepreneurial initiatives (i.e. business accelerators and incubators for start-ups, local investment fund for private companies), and not just bulk figures or the state-funded SRLD programme.

With regards to a greater understanding of local economic opportunities, a qualitative analysis should complement the quantitative metric. As such, we would like to develop and implement a questionnaire for companies to evaluate their perceptions on the local business environment in Romania. This and other qualitative benchmarking assessments would allow us to understand why exactly do certain cities outperform others in certain sub-indexes.

Finally, the greatest value of this diagnostic tool of economic opportunities at local level lies in its annual measurement, and as subsequent series of data will be added to it, instead of a

snapshot assessment, we will be able to develop a dynamic understanding of the local economic environment in Romania.

Recommendations

ISSUE	DESCRIPTION	POTENTIAL SOLUTIONS
<p>INFRASTRUCTURE DEVELOPMENT</p>	<p>Local business environment is thriving in localities that have a high degree of connectivity. Many of Romania’s secondary cities are still lagging behind in terms of infrastructure connectivity. The investments need for infrastructure in Romania is currently very high, and the mechanisms of financing them are likely to suffer a change. Over the past years, the majority of infrastructure projects in Romania have been funded either from the national or local budget (depending on the scale of the project), or from EU funds (with or without national co-financing depending on the financing program). Starting with the future multiannual financial framework (MFF 2021-2027), EU funding will be skewed towards projects that have an “European added value” and as such, a multitude of local infrastructure investments that previously benefited from EU funds might be left without this financing option.</p>	<p>Use domestic pension and insurance funds, whose long-term liability makes them highly appropriate for such investment via public bonds.</p> <p>Early need assessments and prioritisation of investment needs at local level to maximise chances of ensuring funding from cohesion structural programmes.</p>
<p>FINANCIAL INCLUSION</p>	<p>One of the problems for financial inclusion is the extent of the shadow economy. This is not only problematic for the state (as it decreases its fiscal revenues and increases its collection costs), but it also poses problems for the SMEs’ sector whose undeclared revenues make them unable to access financing. Currently, in Romania,</p>	<p>Financial education is largely seen as the most sustainable solution to tackle financial exclusion. At European level, the Commission has started a series of initiative in the field of financial education, such as establishing the Expert Group on Financial Education, a database of existing initiatives, and various online</p>

approximately 75% of the SMEs are self-funded. Furthermore, in a context of undeclared labour (e.g. employers prefer to have grey labour arrangements to avoid fiscal burdens) or transactions, individuals do not benefit from their rights, or full extent of opportunities available to them, as they lose out on the possibility to save through pension, to access credit financing etc. There is a sharp divide between the capital city of Bucharest and the rest of the country, as the situation in many secondary cities and rural areas is much worse in terms of financial inclusion.

The relationship between financial education and financial inclusion can work in two ways: while better financial education can lead to increased financial inclusion, operating an account or using other financial products can also contribute to improving consumers' financial skills.

tools for teachers and organizations. However, as education remains a national responsibility, the European Commission underscored that the best way to increase consumers' level of financial education in the EU is through developing coordinated strategies and integrated action plans in each Member State.

Legislative measures that discourage the shadow economy (e.g. cash back thresholds of significant values, fines for undeclared labour).

**LOCAL
KNOWLEDGE**

Romanian municipalities have been particularly poised to take advantage of the principle of smart specialization, as in many of them the innovation component has been a driving force in the economic growth patterns. Most importantly, cities with a strong university campus, that engages in technical specialisations poses a privileged vantage point for competitive economic activities.

When looking at the Innovation subcomponent of our Local Business Environment Index (LBEI) we can see

Further strengthen strategic partnerships between universities and private companies in key knowledge- or technological- intensive economic sectors.

the capital city of Bucharest ranks behind other university cities in Romania. Most prominently, we see Timișoara occupying the first position, with Cluj-Napoca following on the second position. However, the concentration of the majority of activities of MNCs is still the highest in the capital city, and not secondary cities. While the strengths of Bucharest in attracting FDI operations are self-evident, it is important for the secondary cities to exploit their regional specialization profiles, and to play to their local strengths in cooperation with university centres. Throughout Europe and the CEE region, it can be observed that the majority of companies that are prospering and innovating have strong relationships with university centres.

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Annex 1. Local Business Environment Index (LBEI)- municipal level data

	Innovation (I)	Local entrepreneurship (E)	Investment financing (C)	LGs' Support (LGS)	Total
București	3.2%	27.7%	30.0%	3.8%	64.7%
Cluj-Napoca	13.3%	32.3%	11.7%	6.0%	63.2%
Timișoara	14.8%	20.6%	16.2%	4.6%	56.2%
Alba Iulia	4.0%	15.6%	25.7%	1.7%	47.2%
Sibiu	11.8%	13.1%	14.4%	2.4%	41.6%
Tg. Mureș	6.0%	13.8%	17.4%	3.7%	40.9%
Târgoviște	10.5%	11.1%	15.9%	2.9%	40.4%
Oradea	4.9%	18.7%	12.4%	2.7%	38.7%
Baia Mare	6.2%	19.0%	12.5%	0.9%	38.7%
Brașov	4.4%	16.7%	14.4%	2.1%	37.6%
Pitești	5.3%	14.9%	14.6%	1.8%	36.6%
Bistrița	3.5%	16.5%	10.1%	6.2%	36.2%
Arad	5.7%	14.2%	11.2%	4.5%	35.5%
Craiova	4.3%	14.6%	11.9%	3.9%	34.6%
Ploiești	3.3%	11.2%	16.1%	2.5%	33.1%
Constanța	2.6%	14.9%	12.6%	2.9%	33.1%
Slatina	1.4%	10.2%	15.8%	5.1%	32.5%
Satu Mare	1.3%	14.6%	15.1%	0.7%	31.7%
Iași	7.7%	11.6%	10.1%	1.9%	31.4%
Miercurea Ciuc	0.1%	12.3%	12.5%	5.1%	30.0%
Tg. Jiu	1.4%	11.2%	15.0%	2.2%	29.8%
Deva	3.9%	12.8%	11.7%	0.9%	29.3%
Focșani	0.1%	9.2%	18.2%	1.8%	29.2%
Suceava	3.1%	9.5%	14.7%	1.5%	28.8%
Slobozia	0.8%	8.1%	17.6%	2.3%	28.7%
Zalău	1.5%	14.1%	11.0%	1.0%	27.6%
R. Vâlcea	0.0%	10.9%	9.7%	5.2%	25.8%
Alexandria	2.0%	8.6%	12.0%	2.9%	25.6%
Buzău	0.8%	10.8%	12.7%	0.2%	24.4%
Bacău	1.6%	9.6%	11.4%	1.4%	23.9%
Galați	1.9%	11.8%	7.7%	1.4%	22.8%
Tulcea	0.3%	11.7%	8.6%	1.8%	22.5%
Piatra Neamț	0.7%	8.7%	12.0%	1.0%	22.4%
Călărași	0.0%	8.1%	11.2%	1.8%	21.2%
Reșița	2.1%	9.4%	8.2%	1.3%	21.0%
Sfântu Gheorghe	0.8%	9.5%	7.5%	2.9%	20.6%
Vaslui	0.8%	6.5%	12.1%	1.0%	20.4%
Botoșani	1.5%	7.8%	8.8%	0.7%	18.8%
Brăila	0.0%	10.1%	5.8%	1.5%	17.3%
Giurgiu	0.2%	9.4%	6.3%	0.3%	16.2%
Dr. T. Severin	0.3%	9.7%	4.4%	0.7%	15.2%

Source: Authors' calculations

Annex 2. Entrepreneurship Sub-Index (municipal level data)

	Domestic companies	Foreign companies	SRL-D	Total entrepreneurship Sub-Index
Cluj-Napoca	14.4%	2.8%	15.0%	32.3%
București	11.8%	10.0%	5.8%	27.7%
Timișoara	9.2%	4.5%	7.0%	20.6%
Baia Mare	9.4%	1.2%	8.4%	19.0%
Oradea	11.0%	3.0%	4.7%	18.7%
Brașov	9.2%	2.2%	5.3%	16.7%
Bistrița	9.9%	0.9%	5.7%	16.5%
Alba Iulia	10.6%	1.2%	3.8%	15.6%
Constanța	9.3%	2.0%	3.6%	14.9%
Pitești	9.3%	0.9%	4.7%	14.9%
Satu Mare	7.3%	1.6%	5.7%	14.6%
Craiova	8.5%	0.9%	5.2%	14.6%
Arad	8.5%	3.2%	2.5%	14.2%
Zalău	9.3%	0.9%	3.9%	14.1%
Târgu Mureș	7.9%	1.6%	4.3%	13.8%
Sibiu	7.7%	2.2%	3.1%	13.1%
Deva	8.4%	1.1%	3.3%	12.8%
Miercurea Ciuc	8.6%	2.0%	1.7%	12.3%
Galați	6.7%	0.6%	4.4%	11.8%
Tulcea	9.2%	0.5%	2.0%	11.7%
Iași	7.6%	0.9%	3.1%	11.6%
Târgu Jiu	7.6%	0.4%	3.2%	11.2%
Ploiești	7.8%	1.2%	2.3%	11.2%
Târgoviște	7.9%	0.6%	2.6%	11.1%
Râmnicu Vâlcea	7.7%	0.5%	2.7%	10.9%
Buzău	7.6%	0.6%	2.6%	10.8%
Slatina	7.2%	0.4%	2.6%	10.2%
Brăila	7.4%	0.7%	2.0%	10.1%
Dr. Turnu Severin	7.3%	0.8%	1.6%	9.7%
Bacău	6.3%	0.6%	2.7%	9.6%
Sf. Gheorghe	7.0%	1.2%	1.3%	9.5%
Suceava	6.2%	0.5%	2.7%	9.5%
Giurgiu	6.8%	0.7%	1.9%	9.4%
Reșița	6.7%	1.2%	1.5%	9.4%
Focșani	7.0%	0.5%	1.7%	9.2%
Piatra Neamț	6.2%	0.6%	1.8%	8.7%
Alexandria	7.0%	0.3%	1.3%	8.6%
Călărași	6.6%	0.4%	1.1%	8.1%
Slobozia	6.0%	0.5%	1.7%	8.1%
Botoșani	5.6%	0.3%	1.9%	7.8%
Vaslui	5.1%	0.2%	1.3%	6.5%

Source: Authors' calculations

Annex 3. Innovation Sub-Index (municipal level data)

	High Tech employees Index		Students Index	Innovation Index
Timișoara	10.00%		4.83%	14.83%
Cluj-Napoca	3.26%		10.00%	13.26%
Sibiu	8.30%		3.46%	11.75%
Târgoviște	7.90%		2.58%	10.48%
Iași	1.66%		6.07%	7.73%
Baia Mare	4.85%		1.37%	6.22%
Târgu Mureș	3.52%		2.47%	5.99%
Arad	4.36%		1.32%	5.67%
Pitești	3.13%		2.21%	5.34%
Oradea	4.16%		0.77%	4.93%
Brașov	1.68%		2.69%	4.38%
Craiova	1.37%		2.96%	4.33%
Alba Iulia	1.74%		2.30%	4.04%
Deva	3.90%		0.00%	3.90%
Bistrița	3.45%		0.00%	3.45%
Ploiești	1.97%		1.31%	3.28%
București	0.78%		2.47%	3.25%
Suceava	0.37%		2.76%	3.13%
Constanța	0.10%		2.49%	2.60%
Reșița	1.41%		0.73%	2.14%
Alexandria	2.00%		0.00%	2.00%
Galați	0.32%		1.59%	1.92%
Bacău	0.54%		1.04%	1.58%
Botoșani	1.53%		0.00%	1.53%
Zalău	1.49%		0.00%	1.49%
Târgu Jiu	0.14%		1.25%	1.39%
Slatina	1.36%		0.00%	1.36%
Satu Mare	1.29%		0.00%	1.29%
Vaslui	0.80%		0.00%	0.80%
Slobozia	0.79%		0.00%	0.79%
Buzău	0.78%		0.00%	0.78%
Sfântu Gheorghe	0.77%		0.00%	0.77%
Piatra Neamț	0.70%		0.00%	0.70%
Drobeta Turnu Severin	0.28%		0.00%	0.28%
Tulcea	0.27%		0.00%	0.27%
Giurgiu	0.16%		0.00%	0.16%
Miercurea Ciuc	0.13%		0.00%	0.13%
Focșani	0.11%		0.00%	0.11%
Brăila	0.00%		0.00%	0.00%
Călărași	0.00%		0.00%	0.00%
Râmnicu Vâlcea	0.00%		0.00%	0.00%

Source: Authors' calculations

Annex 4. Investment financing Sub-Index (municipal level data)

	Domestic Credit Index	FDI Index	Banking offices Index	Investment Index
București	20.0%	10.0%	2.0%	32.0%
Alba Iulia	17.2%	8.6%	3.5%	29.2%
Focșani	17.6%	0.6%	4.4%	22.6%
Slobozia	14.2%	3.3%	4.6%	22.1%
Târgu Mureș	10.6%	6.8%	4.0%	21.4%
Ploiești	10.7%	5.4%	3.9%	20.0%
Târgoviște	13.6%	2.2%	4.0%	19.8%
Suceava	12.4%	2.3%	4.7%	19.4%
Slatina	11.2%	4.7%	3.5%	19.3%
Timișoara	9.9%	6.2%	3.1%	19.2%
Satu Mare	14.5%	0.6%	3.8%	18.9%
Pitești	10.9%	3.7%	4.2%	18.8%
Târgu Jiu	15.0%	0.0%	3.2%	18.3%
Sibiu	11.3%	3.1%	3.5%	17.9%
Brașov	10.1%	4.3%	2.8%	17.2%
Miercurea Ciuc	11.1%	1.4%	4.5%	17.1%
Alexandria	10.9%	1.1%	4.9%	16.9%
Piatra Neamț	11.1%	1.0%	4.7%	16.7%
Vaslui	11.8%	0.2%	4.3%	16.4%
Deva	8.6%	3.1%	4.6%	16.3%
Baia Mare	10.8%	1.7%	3.5%	16.0%
Buzău	10.6%	2.1%	3.3%	15.9%
Constanța	9.0%	3.6%	2.8%	15.5%
Bacău	11.0%	0.4%	4.0%	15.4%
Zalău	7.1%	4.0%	4.1%	15.1%
Oradea	10.7%	1.7%	2.4%	14.8%
Craiova	9.7%	2.2%	2.8%	14.7%
Arad	7.7%	3.5%	3.5%	14.7%
Călărași	8.7%	2.5%	3.2%	14.4%
Bistrița	8.9%	1.2%	4.1%	14.2%
Cluj-Napoca	8.6%	3.1%	2.1%	13.8%
Botoșani	8.4%	0.4%	5.0%	13.8%
Iași	9.4%	0.8%	3.6%	13.7%
Râmnicu Vâlcea	8.9%	0.9%	3.7%	13.4%
Reșița	6.1%	2.2%	4.6%	12.8%
Tulcea	7.7%	0.9%	2.6%	11.3%
Sfântu Gheorghe	6.3%	1.2%	3.3%	10.9%
Galați	6.5%	1.2%	3.1%	10.8%
Giurgiu	6.0%	0.3%	4.1%	10.4%
Brăila	5.5%	0.3%	3.7%	9.5%
Dr. Turnu Severin	4.4%	0.1%	4.1%	8.6%

Source: Authors' calculations

Annex 5. Local Public Support Sub-Index (municipal level data)

	Index capital expenditures	Index EU funds	Highways Index	LPS Index
Cluj-Napoca	1.0%	5.0%	5.0%	11.0%
Timișoara	2.0%	2.7%	5.0%	9.6%
Arad	3.9%	0.6%	5.0%	9.5%
București	3.0%	0.7%	5.0%	8.8%
Constanța	2.7%	0.2%	5.0%	7.9%
Ploiești	0.5%	2.0%	5.0%	7.5%
Sibiu	2.3%	0.2%	5.0%	7.4%
Pitești	1.3%	0.4%	5.0%	6.8%
Bistrița	2.3%	3.8%	0.0%	6.2%
Deva	0.8%	0.0%	5.0%	5.9%
Râmnicu Vâlcea	2.4%	2.8%	0.0%	5.2%
Slatina	5.0%	0.1%	0.0%	5.1%
Miercurea Ciuc	3.0%	2.1%	0.0%	5.1%
Craiova	1.3%	2.6%	0.0%	3.9%
Târgu Mureș	2.4%	1.2%	0.0%	3.7%
Târgoviște	0.6%	2.3%	0.0%	2.9%
Alexandria	2.4%	0.5%	0.0%	2.9%
Sfântu Gheorghe	2.6%	0.3%	0.0%	2.9%
Oradea	2.3%	0.5%	0.0%	2.7%
Slobozia	2.3%	0.0%	0.0%	2.3%
Târgu Jiu	1.8%	0.4%	0.0%	2.2%
Brașov	0.9%	1.2%	0.0%	2.1%
Iași	1.1%	0.8%	0.0%	1.9%
Călărași	1.6%	0.2%	0.0%	1.8%
Tulcea	1.8%	0.0%	0.0%	1.8%
Focșani	1.3%	0.5%	0.0%	1.8%
Alba Iulia	1.7%	0.0%	0.0%	1.7%
Suceava	1.0%	0.5%	0.0%	1.5%
Brăila	0.9%	0.6%	0.0%	1.5%
Galați	0.9%	0.5%	0.0%	1.4%
Bacău	0.3%	1.0%	0.0%	1.4%
Reșița	0.6%	0.7%	0.0%	1.3%
Piatra Neamț	1.0%	0.0%	0.0%	1.0%
Vaslui	0.3%	0.7%	0.0%	1.0%
Zalău	0.9%	0.0%	0.0%	1.0%
Baia Mare	0.8%	0.2%	0.0%	0.9%
Dr. Turnu Severin	0.7%	0.0%	0.0%	0.7%
Botoșani	0.7%	0.0%	0.0%	0.7%
Satu Mare	0.6%	0.1%	0.0%	0.7%
Giurgiu	0.3%	0.0%	0.0%	0.3%
Buzău	0.2%	0.0%	0.0%	0.2%

Source: Authors' calculations