REAL CONVERGENCE IN ROMANIA AND THE REGIONS OF DEVELOPMENT

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Abstract: *Romania has made considerable progress in the economic transition and integration in the European Union during the last decades. Over the last years, Romania has managed to meet the nominal criteria imposed by the Maastricht Treaty. In this context, the next step would be entering the Euro Area. The Euro objective continues to be debated by economics and academics questioning whether our economy is ready, or the right moment. There were several deadlines estimated and finally they were all postponed. The new estimated deadline is 2024, and a National Commission has been established with the main purpose of creating a National Plan for the Euro-zone Accession. In this context, the challenges of real convergence will be relevant at least on medium term. The present paper intends to analyse real convergence along with regional development in Romania, and find a possible answer to the question where do we really stand. The paper will be based on desk research by using data provided by EUROSTAT, the National Bank of Romania and the National Institute of Statistics from Romania.*

Key words: *real convergence, nominal convergence, GDP per capita, economic development*

JEL classifications: E66

1. Introduction

Romania is celebrating, in 2018, its centenary as a sovereign state and a decade and a bit over as member state of the European Union. It is an important moment to have a framework of Romania's position regarding its real convergence and its statute as member-state.

The European Union has a rich history of its own already. What started as a small Community is now a model of multilevel governance, a unique economic, social, and political union. Its power to promote peace and diplomatic negotiation as solution to conflicts is acknowledged at world level. The main evidence is the period of about 70 years of peace on the Continent.

At the beginning, it was about putting together the resources of six countries in order to rebuild and develop their economy after the disaster left behind by The World War Two. As years passed, other different stages of its enlargement took place (Denmark, Ireland and United Kingdom in 1973; Greece in 1981; Spain and Portugal in 1986; Austria, Finland and Sweden in 1995). However, the most important one was the one realized in 2004 when eight countries of Central and Eastern Europe, former communist states, joined the EU along with Cyprus and Malta. They were followed by Romania and Bulgaria in 2007, and the latest newcomer is Croatia in 2013. Currently, there are four candidate states applying for EU accession: Albania, Montenegro, Serbia, and Turkey. It is important to mention that Turkey is a candidate state since 1999.

There were certain objectives established initially needed to be reviewed as the enlargement progressed. The most important ones are the Maastricht Treaty's criteria for nominal convergence as foundation for the European Economic and Monetary Union (EMU). Moreover, important policies were implemented in order to reduce economic and social disparities among the member states.

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Nevertheless, the European Union is facing now a world characterised by multi-polarity, with economies (China, India, Brazil) that have quickly advanced in overthrowing the top economies of the world, while some are also regarded from the concerning perspective of real threats to global peace, due to the policies conducted in certain areas, including economic activity and trade practices. The world moves fast and the impact of globalization is deepening. The evolution on the IT market with its exponential growing e-commerce component, and the labour force and labour skills' mobility create pressure regarding the EU's objectives, respectively higher competitiveness, more jobs, deeper integration. Nevertheless, the threats represented by neighbourhood insecurities, the economic, financial, political, and social crisis of the last ten years, all added to the pressure.

Romania joined the EU in 2007 along with Bulgaria. There is more than a decade since. Was there any progress made by Romania in the meantime? There are researchers, decision-makers, and academicians that would answer yes, incontestably yes. Still, there are some negatives consequences that Romania has to face while finding solutions for the marked migration phenomenon, the challenges of a huge single market, and the major steps required throughout the transition period, etc.

In this context, the present paper aims to realise a framework of the actual study of Romania's economy, from the real convergence perspective. The paper will be based on desk research using data provided by EUROSTAT, The National Institute of Statistics from Romania and The National Bank of Romania. The next section will contain a critical review of scientific literature regarding real convergence, followed by the section regarding the nominal and real convergence of our country's economy, in order to draw some concluding remarks.

2. Literature review

The 1992 Maastricht Treaty set a number of criteria for achieving macroeconomic convergence prior to the accession to the monetary union. The criteria were clearly outlined leaving no place for interpretation. However, after the last economic and financial crisis, the question "Are the Maastricht criteria enough to reach economic convergence?" was more and more debated.

The studies regarding real convergence have been covered by the economic scientific literature for a long time by now. Nevertheless, a clear definition of the term does not exist yet. Almost every economist interested in analysing the long-term economic development had different approaches regarding issues of real convergence.

As starting moment for the systematic academic debates on real convergence is considered Solow's neoclassical growth model of 1956, which predicts that as each economy is getting close to its balanced growth path on long term, the disparities in per capita real income diminish, as long as there is technological homogeneity.

On the other hand, Land Pritchett (1987) mentions that the "divergence in relative productivity levels and living standards is the dominant feature of modern economic history", observing that "in the last century, incomes in the "less developed" or euphemistically, the "developing" countries have fallen far behind those in the "developed" countries, both proportionately and absolutely."

Azariadis (1996) promoted the club convergence hypothesis. Using Solow's neoclassical growth model he showed that "nations with identical economic structures need not converge to the same steady state or balanced growth path", as some may face the poverty trap while some are converging to a high steady-state income level.

The most applied concepts regarding economic convergence are β-convergence (Baumol, 1986) and σ-convergence (Quah, 1990). The β-convergence concept is related to growth regression models that showed the tendency of low-developed economies to grow

faster than developed economies. The σ-convergence is the key concept of studies about the distributional dynamics of per capita income levels, focusing on the cross-sectional dispersion of per capita income across different countries or regions, along with its evolution in time.

Another approach reveals the relative convergence concept versus absolute convergence concept. Absolute convergence is related to economies that are converging to the same steady-state income level, while the relative convergence focuses on the economies with the same rate in the steady-state level of income. (Barro and Sala-i-Martin, 1992)

Focusing on our academic research regarding real convergence Academician Aurel Iancu distinguishes three categories of the real convergence approaches, as base for his research:

- real convergence as a natural process deriving from the market forces, according to which the faster, less distorted, and more functional the market becomes, the more certain is the convergence process;
- the one according to which there is no real convergence between low-developed countries and the developed ones in the presence of a competitive market, and the natural process that takes place is the tendency of deeper divergence;
- finally, the last category is about the possibility of real convergence in a competitive market, but only if the negative effects are compensated by adequate economic policies, till the economic system of the country is able to "reach maturity to the so-called critical mass" in order to consider that the economy reached its real convergence.

The Academician's conclusions are that: "the issue of real convergence should be paid special attention" due to its complexity; "real convergence is the crucial point of economic growth and enables the researcher to set objectives, resources and mechanisms"; and "it signals the transition of the countries from the periphery/poor group to the rich one" (Iancu, 2009).

Other studies conducted are about the CEEC (Central and Eastern European Countries) block and its accession to the euro area or its countries convergence. For instance, we mention the Szeles and Marinescu findings in their paper "Real convergence in the CEECs, euro area accession and the role of Romania". They studied the absolute and conditional convergence in the CEECs, as the countries have same roots. They concluded that in CEECs, there is "both unconditional and conditional convergence" and Romania has an economic gap vs. the other CEE countries but its presence in the group "enhances the regional economic convergence." They also observed that the CEE countries "have experienced convergent economic growth in the last decade, which was mainly driven by labour productivity and participation to the international trade". (Szeles and Marinescu, 2010)

In her paper, "How does economic crisis change the landscape of real convergence for Central and Eastern Europe?" Ileana Alexe (2012) aimed to analyse the impact of economic and financial crisis on real convergence with the euro-area average, for ten countries form the CEE block: Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovenia, and Slovakia. Using Euclidian distance and the indicator per capita GDP, the study revealed that regarding the expected general decreasing path due to the economic and financial crisis, Poland and Slovakia are two exceptions that improved their real convergence to the euro-area average despite the crisis.

Goschin (2017) explores special economic convergence in Romania, using per capita real GDP. In the study, "the empirical results provided support for both absolute and relative beta divergence in per capita GDP, as well as sigma divergence among Romanian counties on the long run." The main conclusion is "this is the consequence of the two-speed regional development, with the capital region and some large cities thriving by attracting human capital and FDIs, while the lagging regions are systematically left behind." The results rather support the divergence theory "based on polarization and centre-periphery inequality."

In his speech held at the conference on European Economic Integration 2018 "How to finance cohesion in Europe?" Mugur Isărescu, The National Bank of Romania's Governor, highlights that "the Maastricht Treaty also explicitly stipulates that "a high degree of sustainable convergence" is needed. Yet, this requirement seems to have been overlooked sometimes. Second, practical experience with euro adoption so far has proved that real convergence is also critical for success. Even in the absence of a clear definition and a consensus on a numerical benchmark, it became clear that a high-enough level of real convergence is a prerequisite for minimising the costs associated with losing monetary policy independence after euro adoption. Recent years have shown that the euro area is not a cosy place for economies with lagging competitiveness or rigid markets." (Isărescu, November 2018)

3. Nominal convergence versus real convergence, Romania case study

Real convergence is a complex process still lacking a clear definition and consensus regarding its measurement indicators. Nevertheless, there is agreement regarding the fact that nominal convergence sustains real convergence. Based on this consideration, we are going to present first the framework of Romania's nominal convergence.

Looking at nominal convergence Romania met the Maastricht criteria since July 2015 up to November 2017, "yet without being part of the exchange rate mechanism" (Isărescu, November 2018). A framework of Romania's nominal convergence indicators compared with EU-28 and the Euro-area (19) is presented below, for the period 2007-2017.

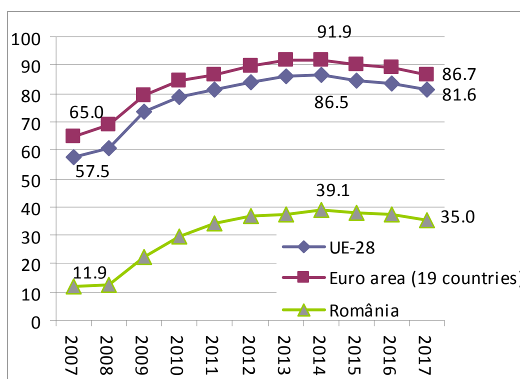


Figure 1 dept-to-GDP ratio

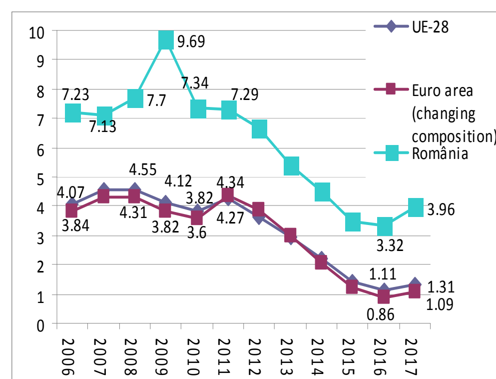


Figure 2 Long-term interest rate

Source: EUROSTAT data base, sdg_17_40Flag, tec00097

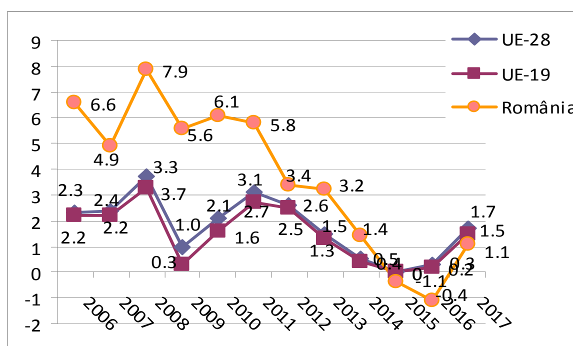


Figure 3 HICP Inflation rate
(Annual average rate of change %)

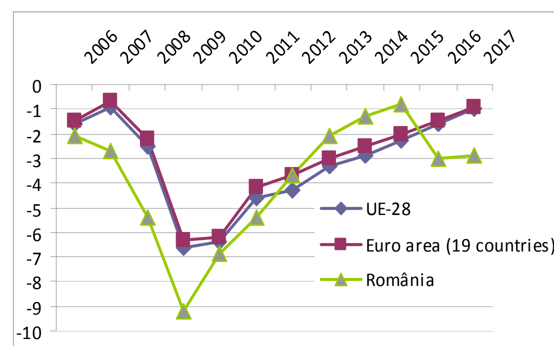


Figure 4 General government deficit/surplus
(Percentage of gross domestic product)

Source: EUROSTAT data base, tec00118, tec00127

The dept-to-GDP ratio for Romania has been below the target all along the period, but if we compare the value of the indicator to its highest value of the period, it more than triples (11.9% in

2007 up to 39.1% in the year 2014). In 2017, the level drops down to 35.0%, respectively about 2.34 lower than for EU-28 and 2.48 lower than for the Euro-area (19). (fig. no. 1)

The long-term interest rate has in general a decreasing dynamic over the period, with two exceptions, the first years of the last economic and financial crisis. In 2008, the long-term interest rate increased from 7.13, which is the value for 2007, up to 7.77, and in 2009, it reached the 9.69 value. In 2016, the long-term interest rate reaches the lowest value of the period 3.32, and increases to 3.96 in 2017. (Figure 2) The indicator is easy above the reference value, as it will be shown further below. (Table no.1)

In the next table, we present an overview of nominal convergence indicators for Romania compared to the reference values.

Table 1 Overview of economic indicators of convergence for Romania and their reference values

	Price Stability	Government budgetary development			Exchange rate		
	HICP inflation	Country in excessive deficit	General government surplus(+) deficit(-)	General government debt	Currency participating in ERM II	Exchange rate vis-à-vis euro	Long-term interest rate
2016	-1.1	No	-3	37.4	No	-1.0	3.3
2017	1.1	No	-2.9	35.0	No	-1.7	4.0
2018	1.9	No	-3.4	35.3	No	-1.9	4.1
Reference value	1.9		-3.0	60.0			3.2

Source: European Central Bank, convergence report, may 2018
https://www.ecb.europa.eu/pub/convergence/html/ecb.cr201805.en.html#toc1

The policy set in place regarding inflation has shaped the dynamics of the indicator during the last decade. As of 2005, NBR initiated a policy centred on inflation-targeting combined with the managed floating exchange rate. The indicator fluctuated in the early years of the analysed period (2006-2010), between 0.5 pp and 3.0 pp, but thereafter follows a decreasing evolution in the period 2010-2016, reaching a -0.4 value in 2016 from 6.1 % in 2010. Regarding its evolution compared to the evolution of the indicator for EU-28 and the Euro-area (19), in the period 2006-2014, the level for Romania was above the EU-28 and EU-29 level, and below for the subsequent three years.

The highest general government deficit for Romania, in the given period, was the 2009 deficit, and the lowest deficit was the one of 2015. In 2016 and 2017 it was arount the target, and for the 2018 Romani's general government deficit is estimated to be 3.4 a bit higher than the reference value. (Table no.1)

Romania still has to lead stability orientated economic policies and extensive structural reforms. Romania still has to improve its public administration and its juridical system. According to the convergence report of the European Central Bank "Romanian law does not comply with all the requirements for central bank independence, the monetary financing prohibition and legal integration into the EUROSYSTEM. Romania is an EU Member State with derogation and must therefore comply with all adaptation requirements under Article 131 of the Treaty." (ECB, May 2018)

There are other warning statistics regarding Romania. Its external total debt for the period January- September 2018 increases to 634 million euro. In the structure of the indicator, the long-term external debt represents at the end of September 69.5% out of total external debt (68129 millions euro), down 0.6 pp against December 2017. The short-term external debt is increasing to 29866 million euro by 3.6 pp more than in December 2017. Moreover, the short-term external debt coverage, calculated at the residual value, with the

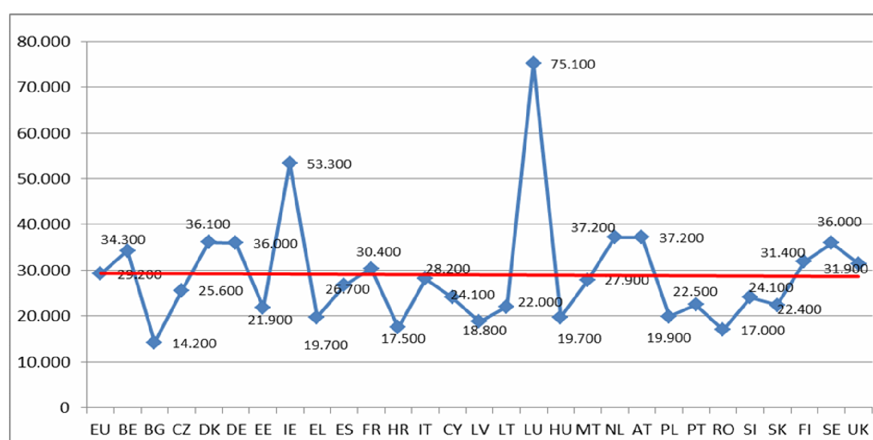
foreign exchange reserves at the NBR on 30 September 2018 was 72.6 percent versus 79 percent at 31 December 2017. (NBR, 2018)

In his speech held at the conference on European Economic Integration 2018 “How to finance cohesion in Europe?” Isărescu highlights that “the fact that currently the reference values for the long-term interest rate and inflation are no longer being met is a warning that efforts should be made to achieve nominal convergence in a lasting, rather than coincidental or transitory manner” and the two types of convergence need to sustain each other.

Regarding the real convergence in Romania, we are going to present some indicators at national, as well as regional level.

Per capita GDP at PPS is the most used indicator when it comes to analyse the gap that still exists regarding real convergence. Firstly, we are going to present the level of per capita GDP at PPS in 2016 for all EU-28 member states compared with the EU-28 average.

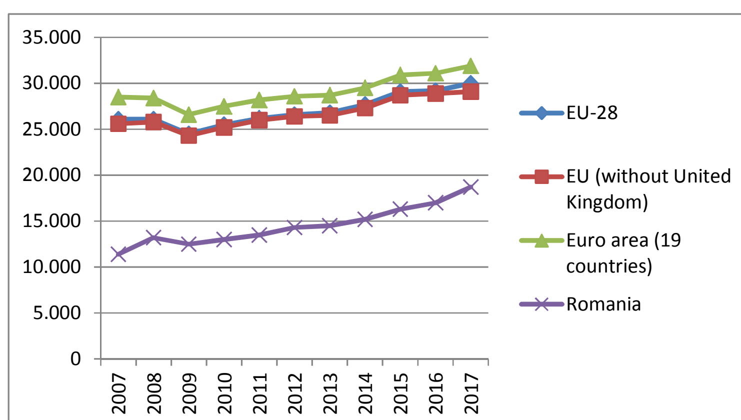
Figure 5: GDP per capita at PPS in 2016, member states versus EU’s level



Source: EUROSTAT, name_10r_2gdp

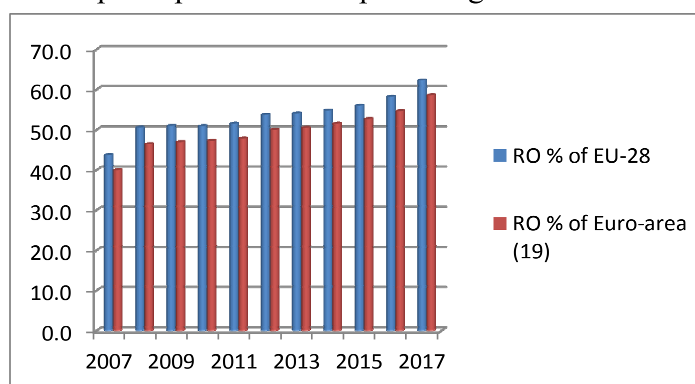
Narrowing down to the situation in Romania, we present the per capita GDP at PPS based on the comparative evolution for the period 2007-2017 between our country and EU-28, EU without the United Kingdom and the Euro-area (19), along with the level of Romania’s per capita GDP, as a percentage of EU-28 per capita GDP, and Euro-area per capita GDP.

Figure 6: Per capita GDP at PPS, for Romania, EU-28, Euro-area and EU (without UK)



Source: EUROSTAT data base, nama_10_pc

Figure 7: Romania per capita GDP as a percentage of EU-28 and Euro-area (19)



Source: EUROSTAT data base, nama_10_pc, own calculations

It is obvious that regarding per capita GDP at PPS, Romania has an important gap to catch-up against the EU-28 average and even a greater one against the Euro-area average. It can be observed, as well, that the level for EU-27 without the United Kingdom expressed, as per capita GDP at PPS, is slightly lower than EU-28 level. (Figure 6)

On the other hand the second graphic shows us the steps made forward by Romania, regarding the above-mentioned indicator. Compared against the EU-28 and the Euro-area, Romania has a better convergence against EU-28. In 2017, per capita GDP at PPS for Romania represented about 62.3 percentages out of the EU-28 average, and 58.6 percentages out of the Euro-area.

There are other indicators associated to measuring the real convergence (the degree of openness of the economy, labour productivity, unemployment rate, the real growth of per capita GDP, etc.) and there are indexes that enhance the power of key indicators, in several sectors of an economy, and that obviously are important for the real convergence perspective. Such an example is the Global Competitiveness Index that includes indicators for 12 important pillars of an economy: institutions, infrastructure, macroeconomic environment, health and primary education, higher education and trainings, goods market efficiency, financial market development, technological readiness, market size, business sophistication, and innovation.

Table 2 Global Competitiveness Index for Romania

Edition	2013-13	2013-14	2014-15	2015-16	2016-17	2017-18
Rank	78/144	76/148	29/144	53/140	62/138	68/137
Score	4.10	4.10	4.30	4.30	4.30	4.27

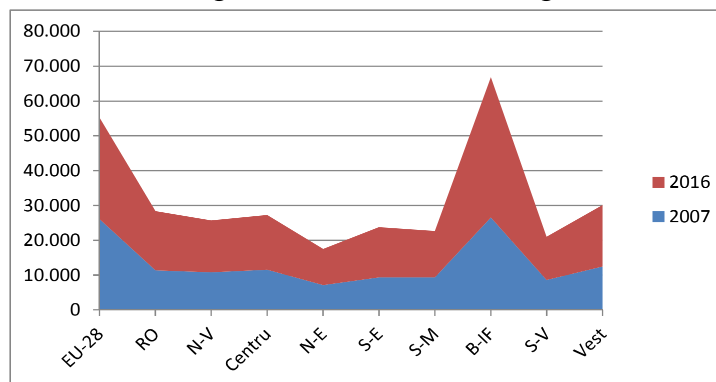
Source: The Global Competitiveness Index Report 2016-2017 and 2017-2018 editions, https://www.weforum.org/

According to the Global Competitiveness Index Report 2016-2017 the most problematic factors for doing business in 2016, in descending order are: access to finance (16.6 score), inefficient government bureaucracy (15.9), tax rates (14.7), inadequately educated workforce (10.4), corruption (10.1), Tax regulations (7.4), inadequate supply of infrastructure (7.3), poor work ethic in national labour force (4.7) and policy instability (3.5).

"Not only across countries; reducing development gaps within countries is also essential to mitigate the trade-offs challenging the policies confronted with asymmetric shocks. In Romania, for instance, one can find areas that are comparable, in terms of development and living standards", says Isărescu.

Looking at the regional real convergence for Romania's regions we are going to observe that there is an enormous gap between the Bucharest-Ilfov region and the rest of the NUTS2 regions of Romania.

Figure 8 Per capita GDP at PPS in 2016 versus 2007 for Romania's regions, comparative to Romania average level end RU-28 average value



Source: EUROSTAT data base, nama_10r_2gdp

The ranks for Romania's regions at national level, regarding per capita GDP related to the PPS indicator are: 1 –Bucharest-Ilfov with a per capita GDP at PPP in 2016 by 40400, followed by the West region (17600), 3 –Center region (15800), 4 –North-West (14900), 5 – South-East (14500), 6 –South region (13400), 7 –South -West (12400) and 8 –North-East (10400). Only two of them are above the national level and only one above the EU-28 average. However, the second ranked, respectively the West region has a huge gap against Bucharest-Ilfov, as its per capita GDP at PPS represents 44% out of the Bucharest-Ilfov level, but 61% out of the EU-28 average.

Regarding the empirical research in the field of measuring the real convergence at regional level, we emphasise the relevance of the Regional Innovation Scoreboard and the Regional Competitiveness Index.

Table 3 The Regional Innovation Scoreboard of Romania's regions

	RII2009	RII2011	RII2013	RII2015	RII2017	Performance group
EU28	97,3	100,0	101,5	101,9	102,6	--
Romania	--	--	--	--	--	--
North-West	42,9	44,2	40,9	29,2	29,1	Modest -
Center	36,8	39,1	37,1	29,3	31,5	Modest -
North-East	44,0	44,3	41,6	31,1	23,7	Modest -
South-East	52,7	45,0	38,0	31,3	27,1	Modest -
South	35,5	38,6	40,1	29,3	27,6	Modest -
Bucharest-IF	62,6	62,1	60,5	48,0	48,5	Modest +
South-West	34,2	34,2	34,3	22,8	23,9	Modest -
West	41,0	46,5	39,9	31,1	35,9	Modest -

Source: http://ec.europa.eu/growth/industry/innovation/facts-figures/regional_ro

The table above shows us that Romania's regions are at moderate level regarding innovation, as the other levels of performance for the innovation group are innovation leaders, and strong innovators. Moreover, the scoreboard is decreasing for all regions.

Table 4 Regional Competitiveness Index 2016 for Romania's regions

GEO	N-W	Center	N-E	S-E	South	B-IF	S-W	West
Rank –RCI 2016	241	246	251	262	254	161	255	240
Score	11.9	8.2	6.4	0.1	5.7	45.4	5.6	13.2
Rank –GDP per capita (PPS)	249	241	260	247	254	38	257	231
Score–GDP per capita (PPS)	47	51	34	48	42	128	40	57
Stage of development 1-5	1	2	1	1	1	5	1	2

Source: http://ec.europa.eu/

The Regional Competitiveness Index also highlights the gap between the Bucharest-Ilfov region and the rest. It is the only region of Romania showing a high level of development.

4. Conclusion

Real convergence is a complex process still lacking a clear definition and a consensus regarding its measurement indicators. There is a consensus regarding the fact that nominal convergence sustains real convergence. Romania made important progress over the last decade. However, Romania still has to conduct stability orientated economic policies and extensive structural reforms. Romania still has to improve its public administration and its legal system.

There are some warning statistics regarding Romania in 2018. The long-term interest rate is slightly above the reference value. Its external total debt for the period January-September 2018 increases. Moreover, the short-term external debt coverage on 30 September 2018 was 72.6% versus 79% at 31 December 2017. (NBR, 2018)

All the indicators considered at regional levels show a low regional real convergence against national level and a poor regional real convergence against other NUTS2 regions of the EU-28.

There is no surprise that according to the Global Competitiveness Index Report 2016-2017 several problematic factors for doing business were identified in 2016: access to finance, inefficient government bureaucracy, tax rates, inadequately educated workforce, corruption, tax regulations, inadequate supply of infrastructure, poor work ethic in national labour force and policy instability. These are the same problematic factors regarding real convergence.

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