A COMPARATIVE ANALISYSIS OF THE REAL CONVERGENCE AND NOMINAL CONVERGENCE INDICATORS OF ROMANIA TO THE EUROZONE

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Abstract

Achieving nominal and real convergence represents the main objective of Romania on its way to the accession to the Economic and Monetary Union. In order to adopt the euro, our country must cover the gaps which separate us from the exclusive club of the euro area Member States. Romania's efforts take place in the context in which the European economies hardly recover from the financial crisis which started in 2008, the European Union existing a clear tendency of polarization between poor and developed countries and also more a divergence process than an economic convergence one. In this context we proceed with an analysis of real convergence and nominal convergence relevant indicators.

Key concepts: *endogenous growth, divergence, marginal efficiency of capital, real convergence, nominal convergence, polarization*.

JEL classification: *E63, F45, O47.*

I. CURRENT STATE OF SCIENTIFIC RESEARCH

I.1 Solow model of economic convergence

Real convergence research gain consistency with the development of neoclassic models of economic growth and the application of econometric instruments to them (Iancu 2005, p.6). At the same time, there also has been some progress in the field of professional statistics, the new indicators of convergence being introduced and calculated and more and more comparative analysis regarding this economic phenomenon has been published.

The most significant in this regard is the neoclassical methodological approach of Solow (Solow, 1956). Therefore, real convergence, including the one involving the European integration project is addressed from three standpoints:

a) real convergence as a natural process. According to this definition, economic convergence runs naturally, based on the market forces;

b) real convergence as a process generating centrifuge tendencies. This approach expresses pessimism about reaching real convergence, being supported by the hypothesis according to which the gap between countries will deepen from the centre to periphery, leading to divergence;

c) self-sustained convergence. This position is in favour of the convergence process, considering it both necessary and achievable on concurrently market terms, by adopting new policies and taking measures to remove disparities, so that after reaching a critical mass, the respective economic systems to be sustainable.

The neoclassical theory of real convergence is based on the impact of investments in physical capital on the convergent economic growth. The model is based on the hypothesis that reduction of disparities depends on diminishing marginal return. As a result, "in case of increasing capital we will have a lower rate of increase than a proportional one", therefore "the poor countries, with a lower capital portion, have a higher rate of capital growth than the rich countries, who have a portion of physical capital portion on each inhabitant considerably greater". Consequently, according to Solow model, k* steady-state is given by the following equation:

$sAf(k)/k=\delta+n$, where:

$sAf(k)/k$ represents the saving curve, and

$\delta+n$ represents the depreciation curve.

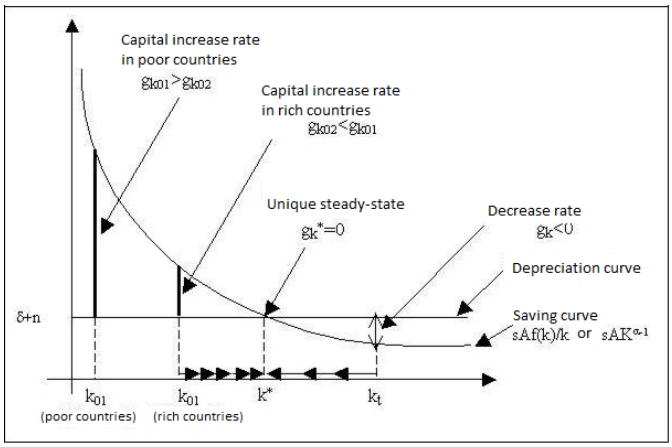

Figure 1 - Source (Iancu, 2015)

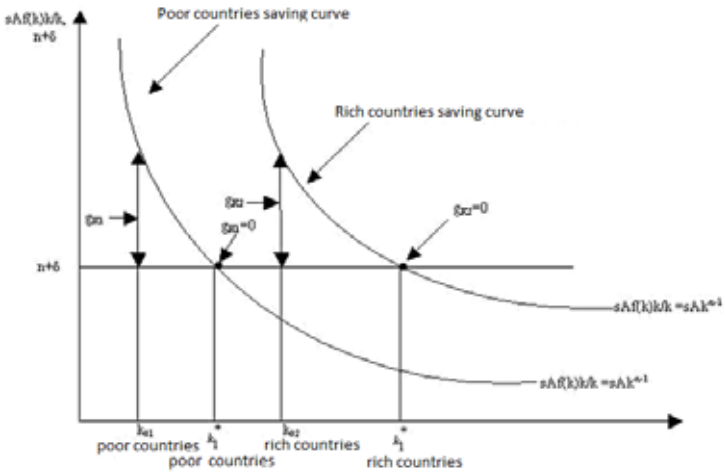

Figure 2 - Source (Iancu, 2015)

Figure no. 1 illustrates that the growth rates vary inversely proportional with the amount of the physical capital, therefore with the level of development. Growth rates of poor countries being higher than the growth rate of wealthy countries, the saving curse and the depreciation curve gradually move closer, until they intersect in the point of k* steady-state. Those above describe the conditional convergence, which assumes that the countries being under assessment have equal saving rates (s), technologies (A, δ) and population (n). Otherwise, the convergence is unattainable. Since the wealthiest countries have the capacity to make bigger investments than the poor ones, the curves of the first one are different than the curves of the last (figure no. 2). This is why the points of equilibrium of capital stock will be different, but it is not obligatory that the capital increase rates to be smaller in the richer countries and higher in the poor ones. However, as a result of significant differences between the saving curves, which in fact reflect the capacity to invest more, the economic convergence of any type of countries is questionable.

I.2 New approaches of real convergence

New approaches of real convergence (Iancu 2005, pp. 14-15) lay emphasis on the intangible factors and their effects called externalities or spillovers. They are non-quantifiable and shall take the form of knowledge, skills, qualifications, competences, innovations and know-how. Therefore, both the subject of scientific research and the scientific instruments used have been expanded, highlighting the contribution of physical capital and the importance of human capital and technological progress.

On the other hand, the study of convergence is based on the extensive use of econometric testing methods and of the neoclassical ones, after being amended and improved. Consequently, in the evolution of economies and the speed at which they are moving towards the state of convergence we can emphasize instruments and calculation models such as the „beta indicator (β) and the sigma indicator (σ) (Sala-i-Martin, 1996); the improved dynamic neoclassic model (Mankiw, Romer, Weil, 1992), (Islam, 1995), (Bassanini and Scarpeta, 2001): stochastic convergence model (Lee et al., 1997)".

Iancu (2005) quotes (Mankiw, Romer, Weil, 1992), as well as (Islam, 1995), according to which the introduction, as control variables, of saving rate and population increase rate points out that the economies having initially a low level of development grow faster than the economies having an increased level of development. In addition, capital mobility and labour migration are taken into account (Barro, Sala-i Martin, Blanchard and Hall, 1991).

Compared with the empirical studies, Durlauf (1995, 1996) and Quah (1996) oppose the transverse growth model, emphasizing the fact that this is „inconsistent with the convergence and consistent with the variety of mechanisms of endogenous growth". All efforts were directed to address the convergence groups (convergence-clubs) (Baumol, 2009). According to the last author, the neoclassical theory of convergence is hiding the manifestation of convergence groups and the differences between richest and poorer countries. Considering this polarisation, (Galor, 1996) argues that in similar conditions, the income of the inhabitants of countries having similar structural characteristics converge on a longer-term.

The theory of convergence groups competes with conditional convergence hypothesis, according to which the convergence is made independently from the initial conditions.

The topic referring to economic convergence is complex, "The latest empirical research validating different hypotheses of convergence attests the fact that there neither is nor can be an alignment of all countries having an absolute convergence". "What can be verified or confirmed by the economic and social reality of countries and regions is the group convergence regarded in its dynamics, depending on the factors acting in the economic system". (Iancu, 2005).

I.3 Indicators of real convergence.

The real convergence can occur as a result of the aggregation of a number of indicators, the first three of those described below reflecting the standards of living in the countries examined (Triandafil, 2012):

a) The average income per capita, an indicator showing the share of the amount of the income which is destined to the consummation of inhabitants concerned;

b) GDP per capita, an indicator calculated by diving the gross domestic product by the number of inhabitants;

c) The employment rate reflects the capacity of the country being examined to provide new jobs;

d) Labour productivity reflects the value, in monetary units of goods and services produced per time unit (one hour);

e) The relation between imports and exports seeks to take account of the specific weight of exports in relation to imports, aiming at obtaining a value higher than one.

Romanian specialists (Isărescu, 2004) consider that real convergence should be approached in terms of the following criteria:

a) The degree of openness of the economy, namely the weight of imports and exports in the gross domestic product GDP;

b) The weight of bilateral trade with the countries of the European Union in the Romania's overall external trade;

c) The value of domestic product GDP/capita, calculated in purchasing power parity or in relation to the nominal exchange rate between the leu and the euro;

d) The added value in the gross domestic product by the main sectors of national economy.

Other authors (Hen and Leonard, 2003) propose to take into account a set of four more criteria, and namely:

a) The variation of the gross domestic product GDP, of +/- 2% compared to the average indicator of 3 best performing member states from this point of view;

b) The unemployment rate, an indicator which should remain within a range of + 3% compared to the average of 3 less performing countries;

c) The trade balance in relation to the gross domestic product GDP, to the desirable level of oscillation +/- 3%;

d) The value of competitiveness indicator, which must not be below 10% compared to the one recorded in Germany, on the date of its entry into the euro area.

I.4 Real convergence in terms of optimal currency area criteria (Baldwin, Wiplosz, 2006)

a) Economic openness. The openness represents that part of economic activity destined to international trade. Therefore, while the weight of exports in GDP expresses the part of the internal production to be supplied for export, the weight of imports in GDP refers to internal expenditures made to support imports. Usually - according to the two authors- the smaller they are, the more countries support the monetary union.

b) Labour mobility. Labour mobility is given by the way in which manpower move in response to the economic incentives. When the exchange rate instrument is no longer operational, labour mobility contributes to the minimisation of the economic shock costs.

c) Diversification of trade. According to Kenen's criterion, asymmetric shocks will affect in a lesser extent the countries with a similar structure of production and with diversified commercial activity. The indicators represents the way in which the economic structure of each country is described in relation with the one of Germany, considered as a reference country. It takes into account the trade in agricultural products, mineral products and processed products.

d) Synchronization of economic cycles. Shocks asymmetry is a concern for the euro area, the frequency and intensity of asymmetric shocks can cause concern, especially they occur often and are intense. The synchronization of business cycles is particularly important in the conditions of abandoning its own monetary and exchange policies. The bigger the synchronization, the smaller the cost of losing the monetary control instrument (Socol, 2009).

e) Fiscal transfers. In an optimal monetary area, countries facing adverse temporary shocks shall benefit from the transfers from unaffected countries, these reallocations coming as a compensation to the loss of control over the economy by applying the conversion rate.

I.5 Nominal convergence indicators in the Economic and Monetary Union

According to Maastricht Treaty, a member state aspiring to adopt the euro must comply with the following criteria of nominal convergence:

a) The inflation not to be more than 1.5% compared to the average of the indicator registered in 3 of the European Union countries with the lowest rate per year of inflation;

b) The public budget deficit not to be more than 3% of the gross domestic product (GDP) of the country requesting joining euro area;

c) Overall public debt of that country not to be more than 60% of the gross domestic product (GDP).

d) The nominal interest rate on long term not to be more than 2% over the average rate of the 3 countries with the lowest inflation in the European Union;

e) The exchange rate to be stable. Establishing the exchange rate consists in the capacity of the foreign exchange market of the candidate country to maintain the exchange rate, in a 2-year interval, without any intervention from the central bank - with a variation range of +/-1.5% compared to the exchange rate initially established by the central bank.

II. COMPARATIVE ANALYSIS OF THE REAL CONVERGENCE INDICATORS IN THE ECONOMIC AND MONETARY UNION

II.1 Gross domestic product at purchasing power parity

In our opinion, one of the most relevant indicators of real convergence is the value of gross domestic product GDP per capita - as overwhelmingly resulting from the literature.

GDP per capita, UE28=100

	At purchasing power parity							At current prices, euro						
	EA 19 countries	BG	CZ	DE	HU	PL	RO	EA 19 countries	BG	CZ	DE	HU	PL	RO
2000	111	28	72	119	54	47	26	112	9	33	133	26	25	9
2001	111	29	74	118	57	46	27	112	10	36	131	29	27	10
2002	110	32	74	117	60	47	29	112	10	40	128	34	26	11
2003	109	33	77	117	62	48	31	113	11	40	127	35	23	12
2004	108	35	79	117	62	50	33	112	12	42	125	37	24	13
2005	108	37	80	117	62	50	34	111	13	46	121	39	28	16
2006	109	38	81	117	62	51	38	110	15	49	120	37	29	19
2007	108	42	83	117	61	53	41	110	17	52	120	39	32	23
2008	108	45	81	117	63	55	48	111	19	59	122	41	37	27
2009	108	46	83	116	64	59	49	114	20	58	125	38	34	24
2010	108	45	81	121	65	62	50	112	20	59	126	39	37	25
2011	108	45	83	124	66	64	51	112	21	60	129	39	38	25
2012	108	46	82	125	65	66	54	110	22	58	129	38	38	25
2013	107	46	84	125	66	67	54	110	22	56	131	38	38	27
2014	107	47	85	126	68	68	55	109	21	54	131	39	39	27
2015	106	46	87	125	68	69	57	107	21	55	129	39	39	28

Table no. 1. Source: Eurostat, 2016

Regarding the increases in GDP (Dăianu sa, 2017, p. 100), Romania is placed better than the Euro Area (EA) and the countries of the Central and Eastern Europe (CEE) average. Therefore, according to Eurostat, between 2000 and 2015 GDP had a yearly average increase of 3.68%, at the same time the Euro area average being of 1.18%. During the same period of time, Poland had a similar increase rate with the one of Romania, The Czech Republic one of 2.7%, and Hungary of 2.08%. In relative terms, in Romania the gross domestic product per capita at purchase power parity increased from 26% from the European Union average in 2000, to 57% of the EU average with 28 member states in 2015. However, considering the average of the European Union, in 2015 Romania is much below the Euro Zone, that of 106% and of Germany, of 125%. In the platoon of the Central and Eastern Europe countries, y is, for instance, significantly overrun by the Czech Republic, with GDP at the purchase power parity of 87% of the UE Average 28, by Poland by 69%, and Hungary by 68%.

II.2. Total factor productivity

Total factor productivity proved to be one of the most important indicators in achieving real convergence.

Total factor productivity

	2000-2007	2008-2013	2014-2015
Austria	1.2	0.5	0.4
Belgium	0.6	0.2	0.2
Bulgaria	2.2	0.7	0.8
Czech Republic	2.8	1.1	0.8

Germany	1	0.6	0.7
Denmark	0.7	1.3	0.6
Estonia	2.3	0.7	1.1
Greece	2.4	-0.8	-1.3
Spain	0.2	0.8	0.7
Finland	1.8	0	0.2
France	0.8	0.4	0.4
Croatia	1.1	-0.6	0.2
Hungary	1.9	0.2	0.3
Ireland	1.8	0.4	0.8
Italy	0.1	-0.1	0
Lithuania	3.7	1.5	1.6
Latvia	3.6	1.2	1.5
Holland	1.1	0.1	0
Poland	2.5	1.2	1.1
Portugal	0.4	0.9	0.9
Romania	4.3	0.5	0.5
Sweden	1.8	0.6	0.8
Slovenia	1.7	0.4	0.3
Slovakia	3.3	2.4	2.1
Great Britain	1.5	-0.1	0.1
EU28	1.2	0.4	0.4

Table 2 - Source: AMECO, European Commission

According to the table above, total productivity of production factors decreased from 4.3 between 2000 and 2007, to 0.5 between 2008 and 2013, value which has also been kept between 2013and 2015, tendency recorded due to the decrease in the volume of investments (Dăianu et al., 2017). In the Central and Eastern European countries, between 2000 and 2015, decrease in total factor productivity was from 2.5 to 1.1 in Poland from 1.9 to 0.3 in Hungary; from 2.2 to 0.8 in Bulgaria and from 2.8 to 0.8 in the Czech Republic In order to continue comparing, Germany between 2000 and 2015, the reduction of total factor productivity was from 1 to 0.7: in France from 0.8 to 0.4, and in Italy from 0.1 to 0. In Romania, the downward trend of the indicator droning the time of crises and within the subsequent period is also attributed to the "decrease in the utilisation rates of production capacity". Besides, as the table below illustrates, during the crisis and in the period after the crisis, the countries who have suffered the most have been the Baltic countries and Romania, who, during the period 2000-2007, had a strong dependence of foreign capital inflow".

II.3 Labour productivity

We also agree with the consensual opinion according to which the contribution of labour productivity in achieving convergence is a priority, increasing it becoming more obvious in the growth of economy, of incomes and living standards, the last one continuing to be much lower in Romania (Dăianu et al., 2017, pp.103-10).

Table 3 - Source: Eurostat, 2016
Labour productivity per person employed (%), EU28=100

Countries / Years	EA	Czech Republic	Germany	Hungary	Poland	Romania
2003	110.9	72	107.8	65.4	59	30.7
2004	109.8	73.9	107.4	66.3	60.4	33.9
2005	109.7	74.1	108.2	67.1	60.1	35.3
2006	109.5	75.1	108.2	67.2	59.7	38.9
2007	109.4	77.6	107.9	66.6	61.1	42.5
2008	109.5	75.2	107.4	70.5	60.8	48.7
2009	108.8	77	103.7	72.7	64.5	48.9
2010	108.8	75.4	106.3	72.5	69.5	49.3
2011	108.5	77	107.2	72.8	71.7	50.6
2012	107.9	75.6	105.7	71.2	73.6	55.6

2013	107.9	76	104.8	71.8	73.6	55.8
2014	107.7	77.6	106.3	70.4	73.7	56.7

According to the source quoted above and in conformity with the data provided by Eurostat, Romania had in 2014, an average of hourly productivity of 51.1% of the of the EU-28 average, the average productivity per employed person being of 56.7%. Regarding the last indicator, our country occupies a less satisfactory position compared to euro zone average of 107.7%, and the one of Germany, of 106.3%. Within the group of the countries in the Central and Eastern Europe, labour productivity per person in Romania is below the levels in the Czech Republic (77.6%), Poland (73.7%) and Hungary (70.4%). Between 2003 and 2014, Romania experienced a continuous growth of labour productivity per employee from 30.7% to 56.7%, while the euro area experienced a decline of the indicator value compared to EU-28, from 110.9% in 2003, to 107.7%, in 2014.

II.4 Current account deficit of GDP

In terms of the current account deficit, between 2007 and 2015 (Dăianu et al, 2017, p. 116), Romania experienced a visible progress, when has decreased from 13.8% of GDP to 0.7% of GDP. Except for 2008 and 2009, the budget deficit experienced a progressive reduction, this compensating for the modest increase of the difference between investments and private sector saving.

Yearly dynamics of the current account deficit of GDP

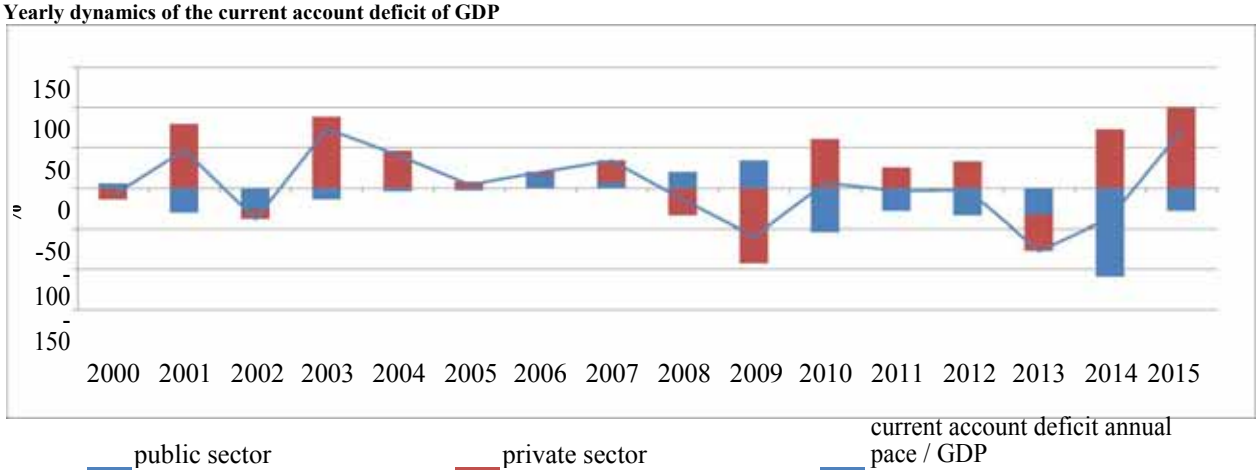

Figure 3 - Source: Eurostat, 2016

II.5 The absorption rate of European funds

UE grants via the structural and cohesion funds represents one of the main funding for investment projects, between 2007 and 2013, Romania having allocated more than EUR 12 billion funding within the agricultural policy, by agriculture and rural development programmes, namely for fishing. Essential for "increasing competitiveness, improving human capital, environment, agriculture, infrastructure, rural development, research, development and innovation, but also for the administrative capacity" is considered that the structural and cohesion funds have been realized "in a satisfactory manner" (Dăianu et al., 2017, p.113)

The absorption rate in the countries from Central and Eastern Europe, Italy, France and Germany

Countries	Poland	France	Germany	U28	Hungary	Czech Republic	Italy	Romania
Absorption rate	95%	4.5%	93.%	0.6%	89.8%	88.9%	2.6%	74.8%

Table 4 - Source: Eurostat, 2016

In the budget year 2007 and 2013, when first scheduled to join the European Union, Romania had in 2016 an absorption rate of 74.8%. This level is well below the one achieved in the Central and Eastern Europe countries, namely in the Czech Republic (88.9%), Poland (95%) and Hungary (88.9%).

II.6 Quality of road infrastructure

In order to increase the process of catching-up, the specialists recommend to develop the infrastructure, utilities, communication and motorway network of candidate countries. In the European programing period 2007-2013, Romania lost EUR 2 billion allocated by the Operational Programme for Transport (Dăianu et all.2017, p. 114).

Length of the motorway network.

Countries / Years	BG	CZ	DE	FR	IT	HU	PL	RO
2000	324	499.4	11,712	9,766	6,478	448	358	11,712
2001	328	517.6	11,786	10,068	6,478	448	398	11,786
2002	328	517.7	12,037	10,223	6,487	533	405	12,037
2003	328	518	12,044	10,379	6,487	542	405	12,044
2004	331	546	12,174	10,486	6,532	569	552	12,174
2005	331	564	12,363	10,800	6,542	636	552	12,363
2006	394	633	12,531	10,848	6,554	785	663	12,531
2007	418	657	12,594	10,958	6,588	858	663	12,594
2008	418	691	12,645	11,042	6,629	1,273.7	765	12,645
2009	418	729	12,813	11,163	6,661	1,273	849	12,813
2010	437	734	12,819	11,392	6,668	1,477	857	12,819
2011	458	745	12,845	11,412	6,668	1,515.5	1,070	12,845
2012	541	751	12,879	11,465	6,726	1,515.1	1,365	12,879
2013	:	:	12,917	:	:	:	1,482	12,917

Table 5 - Source: Eurostat, 2016

According to Eurostat, Romania occupies the last position in Europe regarding the motorway network. In the Central and Eastern Europe, with 644 of motorway, our country is outpaced by Poland which has 1,482 km, namely twice as many km of infrastructure for that category, but also by Hungary with 1,515 km, which has almost two and a half time more. Romania has 20 times less km than Germany (12,917 km) and 18 times less than France (11,465 km).

III. COMPARATIVE EXAMINATION OF NOMINAL CONVERGENCE INDICATORS IN THE EMU

Synoptic Table of Economic Convergence Indicators

		Price stability	Developments and budgetary projections of public administrations			Exchange rate		Long-term interest rates
		HCPI Inflation	Excessive deficit country	The surplus (+)/ deficit (-) of the general consolidated budget	The public debt	Currency taking part in ERM II	The exchange rate compared to euro	
Bulgaria	2014	-1.6	No	-5.4	27.0	No	0.0	3.3
	2015	-1.1	No	-2.1	26.7	No	0.0	2.5
	2016	-1,0	No	-2.0	28.1	No	0.0	2.5
Czech Republic	2014	0.4	No	-1.9	42.7	No	-6.0	1.6
	2015	0.3	No	-0.4	41.1	No	0.9	0.6
	2016	0.4	No	-0.7	41.3	No	0.9	0.6
Croatia	2014	0.2	Yes	-5.5	86.5	No	-0.7	4.1
	2015	-0.3	Yes	-3.2	86.7	No	0.3	3.6
	2016	-0.4	Yes	-2.7	87.6	No	0.5	3.7
Hungary	2014	0.0	No	-2.3	76.2	No	-4.0	4.8
	2015	0.1	No	-2.0	75.3	No	-0.4	3.4
	2016	0.4	No	-2.0	74.3	No	-0.7	3.4
Poland	2014	0.1	Yes	-3.3	50.5	No	0.3	3.5
	2015	-0.7	No	-2.6	51.3	No	0.0	2.7
	2016	-0.5	No	-2.6	52.0	No	-4.2	2.9
Romania	2014	1.4	No	-0.9	39.8	No	-0.6	4.5
	2015	-0.4	No	-0.7	38.4	No	0.0	3.5
	2016	-1.3	No	-2.8	38.7	No	-1.0	3.6
Sweden	2014	0.2	No	-1.6	44.8	No	-5-2	1.7
	2015	0.7	No	0.0	43.4	No	-2.8	0.7
	2016	0.9	No	-0.4	41.3	No	0.6	0.8

The reference value	0.7		-3.0	60.0			4.0

Table no. 7, Source: European Central Bank

III.1 Romania's case

The average inflation, according to the Convergence report for June 2016 of the European Central Bank, in Romania was -1.3%, significantly lower than the 0.7%, established by the criterion regarding price stability. It appears that in our country, in the last decade, the examined indicator varied from -1.3% to 8.5%, with an average of 4.5%, which is considered to be high. The budget deficit was within the limits established by the Maastricht criteria, which in April 2016 was 2.8% of GDP. Besides, the European Commission showed that Romania complied with this criterion even since 2013, but, on the other hand there is some concern involving overstepping in 2017 the long-term budget objective of 3% of GDP, as a result of fiscal loosening measures. The public debt was in April 2016 at the level of 38.7% of GDP, below the 60% level established by the nominal convergence criteria. But exceeding the mandatory budget deficit could lead to „placing public debt on an upward trend". The leu's exchange rate evolved within the limits presented in the table below, showing, as compared to euro, „an increased degree of volatility" and not taking part in the Exchange Rate mechanism ERM II. Compared with the average level for May 2014, the exchange rate has reached 4.4990 lei for one euro, with a depreciation of 1.7% of the national currency. On the other hand, the Convergence Report of CEB showed that although the balances of the current and capital account "substantially" improved in the last decade, the value of foreign liabilities is placed at "high levels. Long-term interest rates had, between May 2015 and April 2016, an average of 3.6%, below the level of 4% established according to Maastricht criteria. Staring with 2009, in Romania the average interest rates for a period of 12 months had a downward trend, decreasing from about 10% to less than 4%. The European Commission after examining the Alert Mechanism Report for 2016 concluded that our country "is not experiencing macroeconomic imbalances", but "the establishment of an environment favourable to the sustainable convergence in Romania requires economic policies oriented towards stability and comprehensive structural reforms".

III.2 Bulgaria's case

Yearly average HCPI inflation was in Bulgaria, in April 2016, -1.0%, below 0.7 % established by the nominal convergence criteria agreed on at Maastricht. The average of inflation for the last 10 years, that of 3.6% is considered to be high, the indicator evolving into a wide range of variation, ranging between -1.7% and 12.6%. The budget deficit and the public debt was within the limits established by the convergence criteria, with the mention that, although in 2014 GDP exceeded 3%, the European Commission concluded that „the deficit has an exceptional and temporary character, not requiring the initiation of the procedure of excessive deficit". Since 2012, to Bulgaria is applied the preventive component of the Stability and Growth Pact, EC forecast not excluding "the risk of a relative deviation from the adjustment path from the long-term objective, both in 2016 and 2017". The exchange rate during the period between 19th of May 2014 and 18th of May 2016 was 1.95583 BGN/1 euro, within a currency board, the Bulgarian leva not taking part in the ERM II and with fixed parity. On the other hand, as in Romania's case, it is noted that the capital current accounts of Bulgaria "experienced an improvement, but the value of net liabilities of the country remain at high values". Long term interest rates were, on average, in Bulgaria 2.5%, below the 4% reference level calculated according to the appropriate convergence criterion. Starting with 2009, Bulgaria also experienced a downward trend regarding interest rates, those on a 12-months period diminishing, in the previously mentioned period, from about 7% to less than 3%. Unlike Romania, the European Commission concluded that Bulgaria „is facing excessive macroeconomic imbalance", the neighbouring country being the subject of "a comprehensive examination within the Alert Mechanism Report for 2016".

III.3 Sweden's case

Yearly average HCPI inflation for April 2016, was, in Sweden of 0.9%, over the reference level of 0.7, calculated based on the criterion related to the pricing. In the last decade, in Sweden, inflation varied between 0.2% and 3.3% with an average of 1.4% and the monetary policy and the institutional framework oriented towards stability should continue to support price stability."

In 2015, the budget deficit and public debt did not exceed Maastricht criteria, Sweden being an object of the Stability and Growth Pact, even since its implementation in 1998. According to the projection for the month of May of the European Commission. Sweden will comply with its medium-term budget objective. Regarding its public debt, Sweden is exposed to short-term low risk and long-term medium-risks.

The exchange rate during the period from May 2015 until April 2016 for Swedish Krona was a flexible one, Sweden not being part in ERM II. The exchange rate against euro showed a high rate of volatility, on the 18th of May 2016 being 9.3525 Swedish kronor for one euro, with a depreciation of 3.6% as compared to May 2014. On the other hand, during the last decade in Sweden had "considerable current account surplus, usually, relatively low negative net international investment position".

The long-term interest rates were, between May 2015 and April 2016, in average, of 0.8%, level clearly below 4%, calculated according to the appropriate convergence. Since 2009 until now, long-term interest rates had a down-ward trend, the 12-months average being form more than 3% to less than 1%.

Sweden was the subject of a comprehensive examination of the European Commission within the Alert Mechanism Report, with a result that it confronts with macroeconomic imbalances. According to the convergence report of the European Central Bank, they would be the result of the ongoing real estate boom and of the high level of private debt.

IV. CONCLUSIONS

With a GDP average yearly increase of 3.68%, Romania is placed favourably over the average Euro Area but also over the one of the Central and Eastern Europe countries, between 2000 and 2015. The gross domestic product per capita at purchasing power parity reached – in 2015 – 57% of 28-UE average. In our country the downward trend of factor productivity – both during the crisis and the following period – is also attributed to the "decrease in the degree of production capacity". Regarding the average productivity per employed person, Romania has an unsatisfactory position in comparison with the average of the Euro Area. Our country had, in 2016, an absorption degree of European grants of approximately 75%, below the one achieved by the Central and Eastern European countries. Romania occupies the last place in Europe regarding the motorway network. Regarding the nominal convergence indicators, the average inflation had a value of minus 1.3%, much less than the accepted value of 0.7%. Regarding the GDP budget deficit, Romania had a visible progress but there are concerns regarding the possibility of surpassing the threshold of 3% in 2017, as a consequence of fiscal relaxation and the increase in public spending. The public debt was 38.7% from GDP, under the level of 60% established through the nominal convergence criteria; the Romanian "leu" exchange rates had an increased level of volatility, not participating in ERM II, and the long term interest rates had an average of 3.6%, under the 4% threshold calculated according the Maastricht criteria. Real and nominal convergence indicators being presented show the favourable trend of Romania on its road to join Monetary and Economic Union. But they are only a starting point for a broad analysis of the process and of the efforts to abolish the gap between our country and the Euro Area member countries.

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