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The Transition to the Euro and Economic Convergence of Romania

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THE TRANSITION TO THE EURO AND ECONOMIC CONVERGENCE OF ROMANIA

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Abstract: *By the Treaty of Accession to the EU, Romania opted for the euro adoption. According to the Maastricht Treaty, since 2014 Romania has fulfilled the nominal convergence criteria, thus becoming apt to adopt the euro. But a careful analysis of the reality and the lessons learnt from the Euro Area crisis show that the real convergence criterion is able to ensure the sustainability of the nominal criteria and the adequate functioning of the economy. To adopt the euro we should look for the minimum threshold of the GDP per capita calculated by the Purchasing Power Parity. In our study, we consider different real convergence thresholds on corresponding time horizons for comparison: at a 70% convergence level of Romania in relation to the EU 28 average, we need 8-9 years, and a full convergence level (100%) requires 22-26 years.*

Keywords: *Euro adoption, catch up, nominal convergence, real convergence, exchange rate.*

JEL: *F15; F43; F55; F59.*

1. Introduction

According to the Treaty of Accession to the EU and Integration, signed in 2005 and enforced on the 1st of January 2007, Romania opted for adopting the European single currency and giving up the national currency. By this Treaty, the euro adoption is mandatory, but no deadline is set. The effective transition to the Euro Area is possible only after fulfilling the economic convergence criteria, as well as the requirements for the harmonisation of the national legislation with the Euro Area legislation in accordance with Article 140 of the Treaty on Functioning of the European Union. Thus, Romania is included among the 26 states that opted in to adopt the euro[1]. Romania still is one of the six countries left outside the Euro Area, a groups called New Member States (NMS)[2].

According to the euro adoption programme, the candidate countries fulfilling the convergence criteria should comply with the Exchange Rate Mechanism 2 (ERM2).

The participation in the ERM2 is based on a sovereign decision, following the acceptance of new members by the Euro Area institutions having discretionary powers[3].

For joining the ERM2 and the Euro Area, the Romanian authorities suggested relatively short terms, but they were postponed. For example, the Romanian Government announced in 2006, before the accession, it intended to join the ERM2 after 2012, as a prerequisite for the euro adoption. To a question about this timing, Jean-Claude Trichet (2007) answered that "Romania has a lot of homework to do over a number of years before joining ERM"[4]. The first term for euro adoption was 2015, then we found out that Romania was not ready. The 2014 Government Report on convergence confirmed it, and set a new target for the euro adoption on the 1st of January, 2019.

Unfortunately, this term cannot be observed. Although the official documents issued by the Government and the National Bank of Romania (NBR) stressed the importance and the complexity of the euro adoption and

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[1] Denmark and the United Kingdom are the only states that negotiated the opt out clause. Following the 2016 Referendum, the United Kingdom decided to leave the European Union.

[2] This group includes Bulgaria, the Czech Republic, Croatia, Hungary, Poland and Romania.

[3] Some economists reject this stage of two years and call it "purgatory" (Willem H. Buiter, 2004, *In Purgatory and Beyond*, Conference and Challenges for Central Banks in an Enlarged EMU; O.B.-Viena).

[4] Jean-Claude Trichet, 2007, *Introductory statement with Q&A*, European Central Bank, Euro system (Romania has a lot of home work to do over a number of years before joining ERM).

an interministry committee was set up in 2011 for the transition to the euro, the issues approached and its activity were confined mostly to debates within a small circle of specialists, not to public debates and concerted and programmed actions involving all interested actors.

Klaus Johannis, the President of Romania, says that 2019 is an unrealistic term, but discussions are required because sooner or later Romania must adopt euro. The Ciolos Government, on the occasion of the approval of the 2016-2019 Convergence Programme, maintained the commitment to adopt the euro and said that a new term would be set following a profound analysis and the drawing-up of a schedule of measures and terms to be submitted to the European Commission by the next convergence programme. The 2016 Government Programme of the Social-Democrat Party, winner of the 2016 elections, points out that, as regards Romania's accession to the single currency area, the purpose is to initiate debates on the economic governance of the Euro Area and the elimination of the gap between the Euro states and the non-euro states without considering a programme of measures.

This postponement can be explained not only by lack of consistency and political will but by a prudent approach to the recent negative effects of the 2008-2011 euro crisis, mostly on peripheral countries of the Euro Area (less developed and less competitive) which faced a full crises while lacking the necessary levers to prevent or absorb the crisis shocks.

Speeding up or postponing the euro adoption is, first of all, an issue with profound economic and political connotations, implications and responsibilities. They are vital for Romania, because it is county needing a faster economic growth for filling the gap with the developed countries, modern economic and social structures, higher incomes for the population, etc. The question is whether, among the developed countries of the Euro Area, Romania enjoys better conditions for development and prosperity, while, on the one hand, the country participates in decision making, benefits by a weak currency, exchange savings, financial support within the common mechanisms of cyclical shock absorption, etc. and, on the other hand, Romania is deprived of economic levers such as exchange rate, monetary policy, etc. to absorb the crisis shocks, to stimulate exports and investments.

A reasonable approach to the transition to the euro implies an objective and comprehensive analysis not only of the lead-up to the accession to the Euro Area, but also of the functioning of the economies in the Euro Area, to see whether Romania's transition to the new status is advantageous or not: whether this transition should slow down until the new institutions and mechanisms are functional and effective or speed up to enable Romania to take part in decision making with regard to the completion and consolidation of the new economic institutions and mechanisms to improve their functioning inside the Euro Area.

The clarification depends, first, on firmness and the speed at which the core countries of the Euro Area implement the principles and the road map launched in 2014 by the five presidents, aiming at completing the EMU project by creating the banking, fiscal, financial and political unions as well as the creation of the mechanisms and means to support the peripheral countries to fill the gaps in development and absorption of the crisis shocks.

Although many studies and reports show that Romania meets all nominal convergence criteria and, in this respect, it could join the Euro Area at any time, the truth is that there are many other criteria to be met by this country, and due to some policies implemented from 2015 to 2017, Romania seems to depart from these criteria.

We analyse below the following: the nominal convergence criteria explained in the Treaty as a prerequisite for joining the Euro Area (section 2); the role of the exchange rate and its effects (section 3); real convergence sustainability (section 4); projections of some convergence thresholds strictly necessary for the accession to the Euro Area (section5); conclusions (section 6).

2. Nominal convergence criteria and accession to the Euro Area

Accession to the Euro Area is not a unilateral act of will of a candidate state. Accession may be gradual[5], *i.e.*, as long as the nominal convergence criteria are met, some accession stages are considered, and the Euro Area countries vote yes after analyses and reports on the criteria.

The nominal convergence criteria refer to price stability (inflation), stabilisation of long-term interest, exchange rate stabilisation and participation in ERM2, the budget deficit ceiling and public debt threshold.

[5] This is the shock therapy suggested by Prof. Silviu Cerna (2016).

Actually, the above criteria are presented as closely linked conditions as follows:

(1) Inflation should not exceed 1.5 percentage points, which is the average rate of the three EU states with the lowest inflation rates.

(2) Long-term inflation rate should not exceed by more than two percentage points the average rate of the three EU countries with the lowest inflation.

(3) The national currency-euro exchange rate should range within a ±15% band. Moreover, every candidate to the Euro Area should participate in the EMU for at least two year before the euro adoption and should not devaluate the national currency over the same period[6].

(4) Budget deficit should not exceed 3% of the GDP, *i.e.*, complying with fiscal discipline[7]. A sharper deviation of the budget deficit from the 3% rate triggers automatically the excessive deficit mechanism, except for the case when such deficit is reported to the European Commission as being exceptional and temporary.

(5) Public debt should not exceed 60% of the GDP[8]. When exceeding this ceiling (the cases of Croatia, 86.7% and Hungary, 75.3% in 2015), then the obligation is to lower the debt below the 60% ceiling. The same is valid for the Euro Area states.

Relating the facts to the above criteria and the euro adoption, it seems that Romania has made great efforts to meet the nominal convergence criteria. The results obtained by Romania and other non-euro EU member countries are shown in Table 1.

Table 1

Fulfilment of the nominal convergence indicators by Euro Area candidate countries, 2012-2015 (%)

Country	Year	Price stability	Government budgets			Exchange rate to euro (annual average changes)	Long-term interest rate
		Inflation	Excessive deficit	Surplus (+) Deficit (-)	Government gross debt		
Bulgaria	2012	2.4	Yes	-0.8	18.4	0	4.5
	2013	0.4	No	-1.5	18.9	0	3.5
	2014	-1.6	No	-5.4	27.0	0	3.3
	2015	-1.1	No	-2.1	26.7	0	2.5
Croatia	2012	3.4	-	-5.0	55.9	-1.1	6.1
	2013	2.3	-	-4.9	67.1	-0.8	4.7
	2014	0.2	Yes	-5.5	86.5	-0.7	4.1
	2015	-0.3	Yes	-3.2	86.7	0.3	3.6
Czech Republic	2012	3.5	Yes	-4.2	46.2	-2.3	2.8
	2013	1.4	Yes	-1.5	46.0	-3.3	2.1
	2014	0.4	No	-1.9	42.7	-6.0	1.6
	2015	0.3	No	-0.4	41.1	0.0	0.6
Hungary	2012	5.7	Yes	-2.1	79.8	-3.5	7.9
	2013	1.7	Yes	-2.2	79.2	-2.6	5.9
	2014	0.0	No	-2.3	76.2	-4.0	4.8
	2015	0.1	Nu	-2.0	75.3	-0.4	3.4
Poland	2012	3.7	Yes	-3.9	55.6	-1.6	5.0
	2013	0.8	Yes	-4.3	57.0	-0.3	4.0
	2014	0.1	Yes	-3.3	50.5	0.3	3.5
	2015	-0.7	No	-2.6	51.3	0.0	2.7
Romania	**2012**	**3.4**	**Yes**	**-3.0**	**38.0**	**-5.5**	**6.7**
	2013	**3.2**	**Yes**	**-2.3**	**38.4**	**0.9**	**5.4**
	2014	**1.4**	**No**	**-0.9**	**39.8**	**-0.6**	**4.5**
	2015	**-0.4**	**No**	**-0.7**	**38.4**	**0.0**	**3.5**
Sweden	2012	0,9	No	-0,6	38,3	3,6	1,6
	2013	0,4	No	-1,1	40,6	0,6	2,1
	2014	0,7	No	-1,6	44,8	-5,2	1,7
	2015	0,7	No	0,0	43,4	-2,8	0,7
Limits (reference values)	2012	3.1	-	‹ 3	‹ 60	±15	5.8
	2013	2.7	-	‹ 3	‹ 60	±15	5.5
	2014	1.7	-	‹ 3	‹ 60	±15	6.2
	2015	0.7	-	‹ 3	‹ 60	±15	4.0

Source: ECB, *Convergence Report 2014 and 2016*; SEA, *Practical Application Science*, Vol. III, issue1 (7), 2015.

6 The reason of the last requirement is to prevent a possible manipulation of the exchange rate that could help the candidate country to increase unreasonably its competitive level in relation to other Euro Area countries. It is worth mentioning that, at the UK Government's request, the ECOFIN accepted the new more relaxed exchange rate, if compared to the former EMU, as well as the principle that accession should be *voluntary*. This weakened the commitment of the non-euro EU countries to join the Euro Area (even a *sine die* postponement of such accession), as they could invoke more or less justified motives.

7 This rate was set at Germany' request in view of applying the golden rule which implies that it represents the rate of expenditure on public investment in infrastructure that could influence the economic growth from which to pay the public debt caused by the deficit (Baldwin, Wyplosz, 2014, p. 393).

8 The 60% rate is closely linked to they 3% budget deficit rate resulting from the utilisation of a hypothetical calculation formula.

By comparing the 2012-2015 indicators with the reference indicators, we notice that only in the last two years Romia satisfied the nominal convergence criteria for all five indicators. Romania overcame the excessive deficit procedure in 2013, and the macroeconomic imbalance procedure in 2016 (Voinea, 2016).

In general, the resilience of these indicators is low, especially in emerging economies. The positive results may be reversible when strong shocks are caused by various disturbing factors, such as contradictory economic-financial and fiscal policies failing to comply with principles of equilibrium and macroeconomic stability and the principles of cyclicity. An analysis based on regulations regarding the fiscal and financial policies approved by the regulatory bodies (but this time not based on rigorous impact studies in accordance with the law and not aiming at convergence) show that such regulations might annihilate the positive results obtained with great efforts and may postpone Romania’s accession to the Euro Area. Moreover, as the above policies are implemented during the economic cycle booming they become procyclical, thus risking to push Romania’s economy to recession.

The following statistical data show that the above policies endangers the sustainability of the nominal convergence criteria. They reveal the budget deficit worsening: on one hand, a general VAT decrease from 24% to 20% in 2016, and to 19% in 2017, and a diminution in VAT on food from 24% to 9%; on the other hand, a sensible growth (two times) of the minimum guaranteed wage and the wages in the government sector by 15-50%, as well as a pension increase and provision of special pensions (contrary to the contribution principle) for some categories of pensioners, including Parliament members[9], while most of the pension fund is covered by transfers from the state budget.

Diminishing incomes and rising expenditures on wages and pensions (at the expense of public investments) cause an increase in the budget deficit in 2017, supposed to worsen in the future, at the risk of pushing Romania towards the excessive deficit mechanism and exceeding the structural deficit ceiling[10], thus affecting and even endangering the potential growth.

The authors of the Maastricht Treaty formulated only criteria to be met by derogation from the euro adoption criteria, without creating mechanisms to resolve the problem (especially less performing countries with serious structural asymmetries) caused by the transition to the mechanisms for the functioning of the national currencies and the single currency - euro. The last crisis in the Euro Area countries revealed several shortcomings of the construction and functioning of the economic and financial institutions and mechanisms, which strongly affected the less performing and asymmetric economies. These facts causes worries as well as reservation as regards the speeding-up of the accession to the Euro Area.

3. The question of the exchange rate and its effects

Among the five nominal convergence criteria the exchange rate requires more comments taking into account its special situation related to existence, behaviour, role and effects on the entire economy in the context of maintaining the national currency or giving it up and adopting the euro.

In this context, the exchange rate is first characterized by a *sui generis* existence. If, while giving up the national currency and adopting the euro, the other four economic categories (price, interest, budget deficit and public debt) are preserved, although with different roles and mechanisms, the only category that vanishes is the exchange rate, along with the disappearance of the national currency.

Once the exchange rate disappears when the euro is adopted, the questions is why the ERM2 takes two years[11], some economists consider that this is a purgatory for the above countries (Buiter, 2004; Bulir, Hurnik, 2006).

A possible explanation of the creation of the above mechanism is that the main concern of the authors of the Maastricht Treaty was to ensure a stable exchange rate by keeping its fluctuation within a normal band

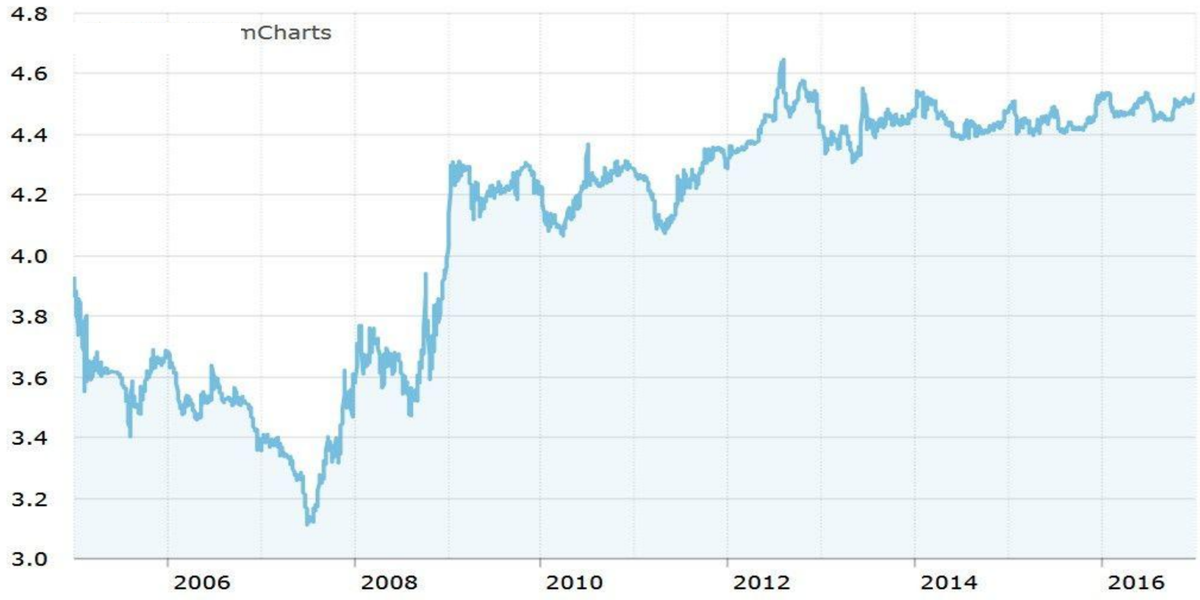
[9] To the above ones, we should add the two laws concerning the reimbursement and the conversion of the real estate debts from Swiss francs into lei at the historic moment of contracting. The problem is not the financial aspect itself, but the connotation of this action: distortion of the principles governing the contract law, the ownership right, and law retroactive action – bad signals to investors.

[10] Law no. 338/2015 on the approval of the ceiling of the fiscal-budgetary indicators provides – by amending the Law no. 69/2010, art. 26, para. (3), for the annual structural deficit of the public administration -2.73% and -2.86% of the GDP for 2016 and 2017, thus exceeding the 1% ceiling.

[11] While Greece was given two years, Slovenia, Cyprus and Malta – three years, Slovakia – four years, other countries received longer periods; Estonia – 7 years, Latvia – 9 years and Lithuania – ten years.

(2x15%)[12] and prevent a possible manipulation to force the adoption of the euro at an exchange rate favouring an undeserved position of the new-comers as regards their competitive level.

Within the study of the exchange rate behaviour, the analysis of the Table 1 data (above) regarding the fluctuations of the currency to euro exchange rate between 2012 and 2015 as against the reference values reveals that, both in Romania and in the new member states, the fluctuations are much below the reference ones. A more careful analysis of the leu exchange rate for 12 years (2005-2017) shows that only between 2007 and 2009 the exchange rate fluctuation in Romania was higher (but between normal limits). Since 2010, the fluctuation has ranged within a narrower band (Figure 1).



Source: the NBR's database; http://www.cursbnr.ro/grafic-valute.

Figure 1: (Leu/Euro) Exchange rate, 2005-2016

As regards the exchange rate, we should analyse the effects of giving up an important lever of monetary policy, which means more than a technical operation. This implies a deep change in the objective and in the general project of integration[13], with advantages and disadvantages for each candidate country.

Romania (like Poland, Hungary and the Czech Republic) has a floating exchange rate, with important functions in the economy. Economists supporting a slow-down of the transition to the euro say that keeping the monetary autonomy under this regime is advantageous because the exchange rate remains one of the main tools that could improve the competitiveness of the national products and services as compared to the foreign ones and absorb the shocks caused by the national currency devaluation in relation to other currencies. This is important to ensure the equilibrium and the economic stability. For example, in 2009, the serious devaluation of the leu as against the euro (from 3.5 to 4.3 lei/euro) made imports more expensive and exports cheaper, so that the negative balance changed into a positive foreign debt balance, which helped Romania to overcome the crisis easier.

Contrary to those who see only advantages in devaluation, an honest analysis takes into account the other side as well, *i.e.*, a dearer euro on the domestic market, which affected the economic agents and the households incurring debts in euro or other foreign currency. To stop the leu falling further, thus worsening the foreign currency crisis, the Romanian authorities had to borrow 20 billion euro from the International Monetary Fund, the World Bank and the European Union.

The above example reveals that, when imbalances are too serious and exceed the capacity to absorb the exchange rate, other financial instruments (loans, reserve funds, etc.) are used to prevent or to remedy or calm down the negative effects of imbalances. Usually such tools are very expensive. Although the imbalances are caused by the private sector, the costs are usually included in the public accounts.

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[12] When the Maastricht Treaty was signed (1993), the fluctuation band was 2x2.5%. Considered to be very restrictive, in August 1993 the band was expanded to 2x15% (De Grauwe, 2016, p. 149).

[13] Considering the institutional, monetary and economic integration, Dorrucci said very suggestively that"...the introduction of the euro in 1999 was not just, as some belived, the "cherry on the pie" (with the pie being the EU internal market), but it rather implied a new, big pie on a cherry" (Ettore Dorrucci, 2014, *Enlarging the Euro Area: Four Lessons for CEE Countries*).

By adopting the euro, states give up the national currency and, implicitly, the exchange rate as an important damper of the economic shocks. With no exchange rate, the tool for attenuating the financial shocks is the fiscal one, and if this is not available, then the public debt plays this role. The recent experience reveals that in the Euro Area states, especially the peripheral ones (which cannot use the exchange rate as a damper or other levers to compensate for the lack of fiscal space) the shocks caused stronger adverse effects if compared to the non-euro EU member state and to the Euro Area developed countries. The profound adverse effects are related to the GDP diminution, higher unemployment, worsening budgetary deficit and higher public debt in Greece, Portugal and Spain[14].

When the cost-benefit balance is worked out for the transition to the euro and the elimination of the exchange rate, we should also consider the positive effects of this process.

The first category of effects benefiting companies, households and natural persons dealing with currency exchange implies the disappearance of the transaction costs because of the elimination of the currency exchange and the commissions on currency exchanges. If we consider these expenses, then the value of the costs of the saved transactions is very high. A brief calculation shows that the costs of the saved transaction amount to over 600 million euro as against the total volume of trade and money transfers.

The second category of positive effects of the euro adoption is related to the disappearance of the currency risk and, equally, of the shocks, as well as the disappearance of public expenditures that would have been made for the shock dampening. Again, in relation to the currency exchange, the two other categories of positive effects, having a derivative character, such as the country risk perception, especially in emerging economies with weak institutions. Once integrated into the Euro Area's institutional framework, these countries enjoy a better perception of the country risk which implies improvement of the sovereign rating. This means access to facilities offered by the lender of last resort related to the global reserve currency, which lowers the cost of foreign financing (Bluedorn *et al.*, 2015).

The third category of effects is related to the elimination of monetary asymmetries caused by the fact that the assets and the income flows are evaluated and obtained in national currency and credits are contracted in foreign currency. These asymmetries may cause losses to the debtors and to financial and economic stability when the foreign currency is stronger (dearer money) and the national currency is weaker (cheaper money). Romania is an illustrative example of the case when the national currency – in relation to important foreign currencies – severely depreciated between 2005 and 2016[15], differently from one foreign currency to another: 23% as against euro, 42% as against USD and 77% as against Swiss franc (Table 2).

Table 2

Lei/foreign currency ratio

	16.12.2005	16.12.2016	2016/2005(%)
Euro	3,66	4,52	123
USD	3,05	4,32	142
Swiss franc	2,37	4,21	177

Source: on-line NBR Archives.

Although tending to decrease, the euroisation level of the loans to the private sector amounted, in 2015, to about 60% of the total stock of loans contracted especially from subsidiaries of banks located in the Euro Area (Bluedorn *et al.*, 2015, p. 10).

[14] Of course, the adverse effects are not exclusively caused by the elimination of the exchange rate, but by other factors as well. This is proved by the last years' recovery of the nominal and real convergence indicators, as a positive effect of the reconsideration of the application of the Stability and Growth Pact, by strengthening the excessive deficit procedure and enforcing new rules for developing the fiscal responsibility and strengthening the supervision and sanctioning mechanism and the mechanism of mutual support for the Euro Area states. The new regulations are related to the Six-pack (2011), The Fiscal Compact (2013), the Two-pack (2013), etc.

[15] We find similar cases in other non-euro EU member countries.

4. Real convergence – An essential sustainability criterion

4.1. On the convergence criteria

Besides the above criteria, Article 140 of the Treaty on Functioning of the European Union requires the fulfilment of other two conditions regarding the factors of nominal convergence sustainability: the first one concerns institutional convergence[16], and the second one concerns real convergence. In relation to institutional convergence, the Treaty deals only with legislative convergence. Real convergence deals with real economy. Both are important to ensure nominal convergence. But real convergence ensure the consistence and sustainability of the nominal criteria on medium and long terms.

There are two approaches to real convergence: in a narrow sense and in a broad sense. **The real convergence in a narrow sense** deals will filling the gaps in development between countries and regions and is based on the GDP per capita at the purchasing power parity (PPP). **The real convergence in a broad sense** (based on the operational theory of the optimum monetary area) refers to filling the gaps in economic and social development between countries and regions, using production, incomes, living standard, competitiveness and productivity as analysis indicators. Further in a broad sense, real convergence is related to the synchronisation of economic cycles, labour market flexibilisation, intensity of exchanges of goods and services among EU countries.

In the next section, we briefly deal with a few aspects of real convergence in a narrow sense regarding Romania's integration into the Economic and Monetary Union (EMU).

The situation in some Euro Area countries (following the financial crisis) and some research on this topic show that the nominal convergence criteria on which the euro adoption is based are not enough. The evolutions of the indicators of this criteria are always reversible because of changes in markets or in the economic policies implemented. Therefore, the **principle of sustainability** required by the Treaty on Functioning of the European Union is very necessary. But the principle was vaguely formulated, and there was a lot of room for interpretations, either of the way of understanding and of the objectives, or of the level of exigency. For example, besides the nominal convergence (as contract obligation), in less developed countries the first one should be the real convergence criterion with indices specific to economic growth and to the determinant factors – GDP, savings, investments, labour productivity, competitiveness, consolidation of the institutional system.

The explanation and the application of the sustainability principle by EU institutions aroused further concerns about ensuring a balanced economic development of all EU member countries by legislative measures and actions of evaluation, monitoring, warning, prevention and correction of the evolution of the economies based on indicators of the real economy – aggregated demand, aggregated consumption, effective and potential GDP, gap, savings and investments, as well as specific indicators of cyclicity, innovation a.s.o. Many analysis and evaluation reports made by the EC, the ECB, and the IMF, usually include concepts, indicators and methodologies inspired by the Theory of Optimum Currency Area concerning labor market flexilization, synchronisation of cycles a.s.o. [17]

4.2. Filling the development gap

Real convergence in Romania should be regarded as an important strategic objective for ensuring the material base of nominal convergence sustainability to reach the upper stage of European integration – joining the Euro Area,

[16] Economic theory on the institutional system includes, besides legal aspects, other components such as traditions, behaviours, mentalities, organisational systems, etc. The Treaty deals with the institutional system and its convergence in a narrow sense and refers only to achieving the compatibility of the national legislation, including the National Central Banks' regulations, of each member state and of the Economic and Monetary Union (EMU) and the regulations of the European System of Central Banks and of the European Central Bank. It is worth mentioning that from the first year of the EC reporting on convergence dealing with Romania's progress (2008) to the last report (2016), there was some criticism of non-compliance, incompatibility and imperfection as regards the NBR's integration into the ESCB, as NBR Law (2004) and NBR regulations are not fully compabible with the ESCB and ECB regulations. Also, there were imperfections regarding the ESCB objectives, institutional and personal independence. The report also criticized Euro Area countries for their non-compliance. Although the NBR is taking action for the euro adoption, practical measures for the legislative harmonisation of the Romanian banking system will be taken only after the governmental implementation of the programme and the road map for the transition to the euro, considering every requirement or implication.

[17] Tanja Broz, "The Theory of Optimum Currency Areas: A Literature Review", *Privredna Kretanja i Ekonomska Politika*, 104/2005; Daniel Dăianu *et al.* (2017).

the core of the EU states. The real convergence is important and necessary since it provides material support (by amplifying and diversifying the income sources) for the nominal convergence and the institutional and administrative harmonisation with other Euro Area countries.

Although economics books and scientific debates have revealed that we need to attach greater importance to sustainable real convergence and fill the development gap among countries, only due to the last economic crisis, this issue has been accepted and approached more seriously in official documents on the EMU integration. The crisis clearly reveals that emerging economies (both euro and non-euro ones) cannot cope with shocks and competition unless they are properly developed, and this requirement cannot be met without a higher economic growth rate for ensuring the convergence with developed countries and catching-up.

Therefore, for the comparative analysis of the gap filling trend, we should first consider the indicator regarding the economic growth rate.

Analysing the GDP annual growth rates in Romania and other new member states (Bulgaria, Czech Republic, Hungary and Poland) in the 1999-2008, 2009-2015, 1999-2015 periods and comparing them to the annual average rates in EU28 and EA19 (Table 3), we find out the following: 1) in all above periods, the average rates in the New Member States (NMS) are higher than the EU ones. For example, between 1999 and 2015, the GDP average growth rate in Romania was 3.6%, in EU 28 – 1.4% and in the Euro Area – 1.2%. Also in Poland (3.7%), the Czech Republic (2.8%), and Hungary (2.1%). The growth rates were higher than the EU rate in the same period. The explanation is that the foreign investment inflow and the capital return in these EU emerging economies were higher than the developed countries' rates[18]; 2) after the crisis (2010-2015), the growth rates, although lower than before the crisis, have been higher than the EA19 and EU28 average rates.

Table 3

Annual average growth indices of the GDP using the deflator for EU28, EA19 and other countries, calculated for: 1999-2008; 2009-2015 and 1999-2015,

(%)

	1999-2008	2009-2015	1999-2015
EU28	2.3	1.2	1.4
EA19	2.0	0.9	1.2
Bulgaria	3.0	1.5	3.6
Czech Republic	4.3	1.7	2.8
Poland	4.2	3.2	3.7
Romania	**6.0**	**1.9**	**3.6**
Hungary	3.4	1.7	2.1
Germany	1.5	2.0	1.3
Estonia	6.4	4.0	3.8
Greece	3.6	-4.4	0.2
France	1.9	1.1	1.3
Latvia	7.1	0.7	3.8
Lithuania	7.0	3.4	4.1
Portugal	1.4	-0.4	0.4
Slovenia	4.2	0.6	2.1
Slovakia	5.7	2.9	3.9
Spain	3.5	-1.0	1.6

Source: Eurostat.

The real economic convergence is measured by means of the per capita GDP of a state in relation to the average of the group of states to which it pertains. There are two alternatives of the indicator: a) one based on the exchange rate; b) the other one based on the Purchasing Power Parity (PPP).

Table 4 shows the evolution of the GDP per capita at current prices between 2005-2015 in the New Member States (NMS), including Romania, in relation to the EU28 GDP per capita according to both alternatives. The differences in the GDP per capita between the two alternative have methodological reasons: the exchange rate alternative shows the effective situation of a country's economy in relation to the effective economies of other countries, without considering the differences in prices. According to statistics, the price level in EU emerging economies are almost half the average price level in the EU developed economies.

[18] The domestic capital return in Romania (as a ratio of annual incomes from capital to invested capital) was 21% in 2013 as compared to 6% in France, 8% in the United Kingdom, 10% in Germany (Florin Georgescu, 2015).

Considering the average price level in EU28=100, the prices in the EU emerging countries in 2015 were the following: Romania, 51.0; Bulgaria, 47.0; Poland, 54.0; Hungary, 56.8; Czech Republic, 62.6; Greece, 85.0; Portugal, 82.0; Germany, 100.0; France, 104.6; and Denmark 135.7.

Because of the price difference, the emerging economies' GDP per capita seems to be much underestimated when it is calculated by means of the exchange rates.

Table 4

GDP per capita, euro, current prices, EU = 100

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

Source: Eurostat, 2016. EA= Euro Area, DE=Germany, BG=Bulgaria, CZ= Czech Republic, HU=Hungary, PL=Poland, RO=Romania

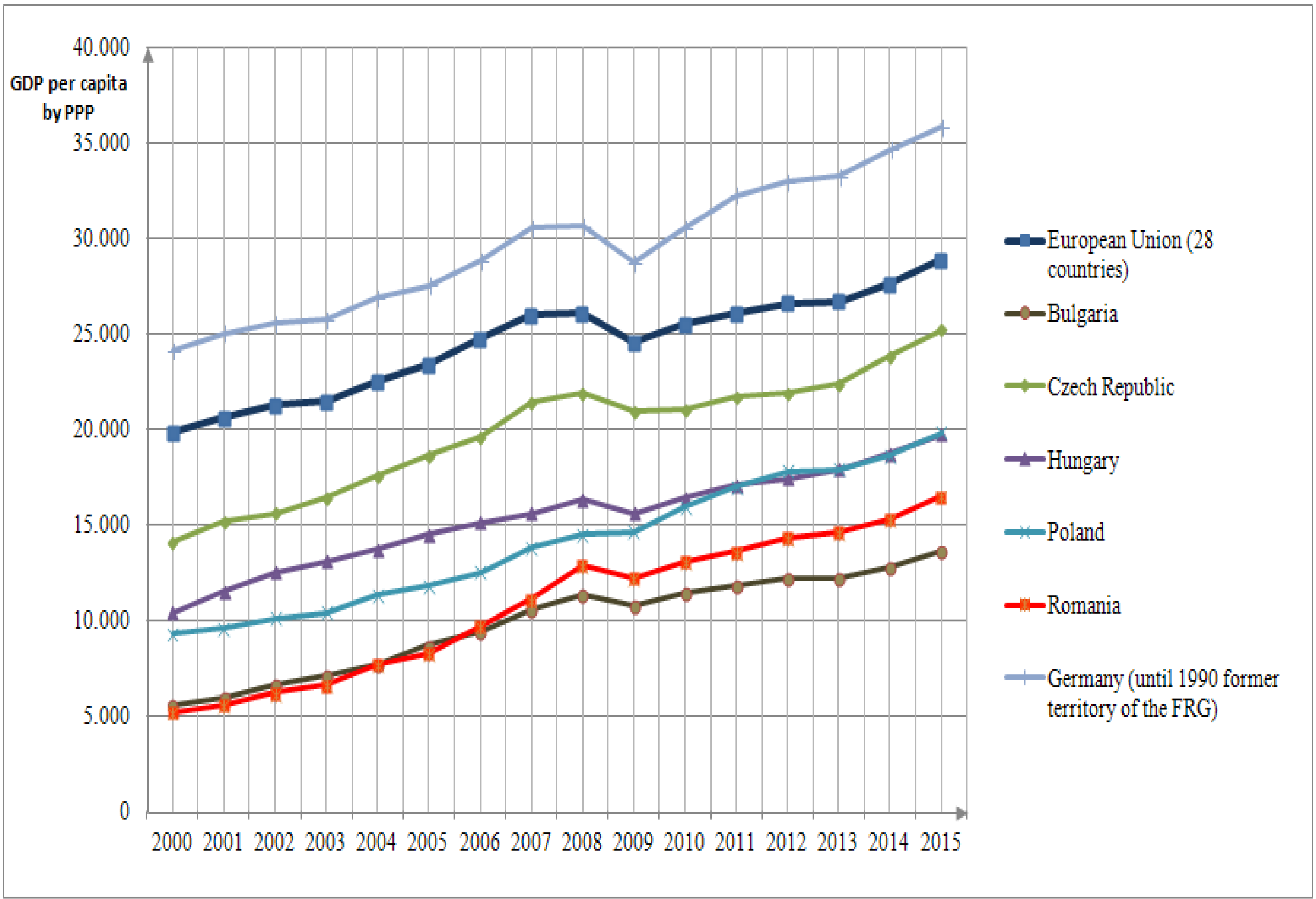
Considering the Table 4 data, we may conclude the following:

1. The GDP per capita at the PPP as against the GDP per capita at the Exchange Rate (related to the EU average=100) in 2015 is higher: 1.5 times in the Czech Republic, 1.74 times in Hungary, 1.76 times in Poland, 2.03 times in Romania and 2.19 times in Bulgaria.

2. The less developed a country is, the greater the ratio of GDP per capita at PPP to GDP per capita at the EX is.

3. Among all countries included in the table, Romania ranks above all the other countries included in the table by the convergence level (2.2 times higher for the GDP per capita at PPP).

For a synthetically and expressive presentation of Romania's and the EU's convergence, as compared to the other New Member States we show in Figure 2 the evolution of the GDP per capita between 1995-2015.



Source: based on Eurostat.

Figure 2: GDP per capita at PPP, current prices, 2000-2015

Graph 2 shows a slight approach of Romania's GDP per capita, and a more accentuated approach in the case of the Czech Republic.

4.3. The question of the real convergence level for joining the Euro Area

Now, many tend to favour the idea that the accession to the Euro Area should be conditional not only on nominal convergence criteria, but also on two new criteria: 1) Achieving a minimum real convergence (GDP per capita at PPP); 2) Carrying out a reform within the EU and the Euro Area along with efforts of the non-euro EU emerging economies to fill the gap with developed countries (Dorrucci, 2014; Stiglitz, 2017; Dăianu *et al.*, 2017).

Here we refer only to the minimum real convergence level, defined above as a ratio of the GDP per capita at PPP of a country and the average GDP per capita at PPP of EU28.

The question is whether Romania is ready to adopt the euro in accordance with the real convergence indicator. Part of the answer can be provided by the historical data (Table 5). Analysing the country statistics by the requirements for accession to the Euro Area and by the results obtained, we find out that at the time of euro adoption only one country achieved a much lower convergence level (Latvia 64). The convergence level of all the other countries was over 70 at the accession time (Table 5), but much below the average level of EU28. Each of the four states attaining a convergence level below 80 (Slovakia, Latvia, Lithuania and Estonia) has a low weight in the Euro Area economy, so that, their accession at different times to the developed countries' club did not raise special problems, as Greece did, because of its relatively high convergence level (88).

Table 5

Convergence level of some countries at the EA accession time (GDP per capita at PPP), EU28=100

Country	Euro adopting year	GDP per capita in the euro adoption year		National GDP/EU28 GDP (EU28=100)	
		National	EU28	Euro adoption year	2015
0	1	2	3	4	5
Portugal	1999	15500	18300	84	77
Spain	1999	17400	18300	94	90
Greece	2001	18200	20400	88	68
Slovenia	2007	22700	25900	87	83
Slovakia	2009	17400	24400	71	77
Latvia	2014	17500	27500	64	63
Lithuania	2015	21600	28900	75	75
Estonia	2011	18500	26100	71	75

Source: Eurostat.

Five of the eight countries included in Table 5 faced a lowering level of convergence from the accession to 2015. In some countries, the decrease was dramatic: Greece by 20pp, and Portugal by 7 pp. Severe macroeconomic imbalances and poor competitiveness were worsened by the long crisis and these countries can hardly recover.

The Table 4 data on the evolution of the convergence of the non-euro New Member States between 2000 and 2015 reveal smaller gaps as against the EU average. The Czech Republic kept its first position as regards the convergence with the EU28 over the 2000-2015 period, and Romania moved from the last position to the last but one – from 26 to 57, *i.e.* a 31 pp rise. In 16 years, the difference in GDP per capita at PPP between Romania and the EU average diminished from 74 to 43, and the difference from Germany diminished from 96 to 67.

Data show that Romania has a good chance to achieve convergence with the developed countries. To be sure of that, I think that a minimum convergence level for an adequate accession to the Euro Area should be a strategic objective of Romania in the near future. But the representatives of some Romanian central institutions were reluctant to comment on this issue. For example, although Mugur Isărescu is a prime supporter of real convergence for fulfilling the nominal convergence criteria for the euro adoption, he has not yet suggested a minimum level of real convergence to be attained at the time of accession to the Euro Area. As it is not a requirement stipulated in the EU official papers on the euro adoption, the Romanian governmental authorities have not yet proposed a minimum level of real convergence for the euro adoption. Also, the strategy for The Country Project of the Romanian Academy (2017) contains medium and long-term projections of possible real convergence but it does not suggest a minimum convergence threshold as a requirement for the euro adoption.

Contrary to the above-mentioned, the study on “Romania and the accession to the Euro Area” (Daianu *et al.*, 2017) suggests that Romania should target a GDP per capita at PPP of 75% of the Euro Area average as a necessary minimum threshold at the time of euro adoption, which means – as a time horizon – the year 2024 at a growth rate of 5% and the year 2028 at a growth rate of 3.68%. In Hungary, the Prime Minister himself announced a real convergence threshold of 90% of the EU average (Horvath, 2014), which (according to our calculations) can be reached in 2016, if the annual average growth rate of the GDP per capita at PPP of the 1995-2015 period is maintained: 5% in Hungary and 3.3% in EU28.

5. Projections of the thresholds of real convergence of Romania and the EU

For making our own projection regarding the time horizon for various real convergence thresholds (65, 70, 75, 80, 90, 100), we considered the following assumptions and alternatives:

- Out of the two nominal annual growth rates of the GDP per capita of Romania:
  6.4% between 1995 and 2015, and
  5.6% between 2009 and 2015,

we selected the post-crisis period (5.6%), as it seems more plausible;

- For the project evolution of the GDP per capita by PPP of **EU28** we determined two variants of nominal annual growth rate:

alternative (a): 3.3% between 1995 and 2015 and
alternative (b): 2.85% between 2009 and 2015.

As no data were available on the effects of the reform programmes under progress in the EU, we considered as variants for EU28 both growth rates (3.3% and 2.85%).

Using calculation formulas[19] explained in one of our earlier studies (Iancu, 2008), I determined the number of years to reach different levels of convergence within two scenarios based on a nominal annual growth rate for Romania ($\bar{r}_R$=5.6%) and two nominal annual growth rates for EU28 ($\bar{r}_E$=2.85% and $\bar{r}_E$=3.3%). The calculation results are presented in Table 6.

Table 6

Number of years and GDP per capita at PPP corresponding to different levels of convergence in Romania

Convergence level	Romania: $\bar{r}_R$=5.6%							
$\frac{\text{GDPp.c. RO}}{\text{GDPp.c. EU28}}$	Variant (a): EU28: $\bar{r}_E$=2.85				Variant (b): UE28: $\bar{r}_E$=3,3%			
	No. years	The year corresponding to convergence level	GDP p.c. PPP (euro)		No. years	The year corresponding to convergence level	GDP p.c. PPP (euro)	
			Romania	EU28			Romania	EU28
57	0	2015	16473	28900	0	2015	16473	28900
65	5	2020	21631	33259	6	2021	22843	35115
70	8	2023	25473	36185	9	2024	26899	38708
75	10	2025	28406	38277	13	2028	33450	44076
80	13	2028	33450	41644	15	2030	37302	47033
85	15	2030	37302	44051	18	2033	43926	51844
90	17	2032	41596	46598	21	2036	51723	57148
95	19	2034	46386	49292	23	2038	57681	60982
100	22	2037	53628	53628	26	2041	67924	67221

Source: Calculation based on Eurostat.

The duration of the convergence process from one threshold to another for equalizing the two levels depends on the size of the GDP per capita growth rates of the two entities: Romania and EU28. Obviously, if Romania's growth rate is higher than the EU28 growth rate, then the period for reaching the necessary minimum threshold and full convergence is correspondingly shorter.

Real convergence is a long process. Linking Romania's accession to the Euro Area with reaching high real convergence thresholds, besides systematically meeting the other criteria, is a strong argument based both on the theory of optimum currency area and, mostly, on the lessons of the last economic crisis. For example, setting a higher convergence threshold would ensure, for the candidate country and for the Euro Area alike, a better synchronisation of the economic cycles, a better compatibility of institutions, a higher mobility of the production factors, a diminishing difference in competitiveness, productivity and incomes.

High convergence thresholds mean, implicitly, an extension of the lead-up to the Euro Area accession, when the candidate countries may use the exchange rate and the interest as tools of economic policy and shock absorption and get ready for that. But setting a high real convergence level (85-90%) means keeping Romania outside the Euro Area up to 2033 and 2036 (at nominal growth rates of 2.85% and 3.3% for EU28, and 5.6% for Romania), which seems to be hardly acceptable. Such a distant term hinders Romania from taking advantage of the reforms implemented in the Euro Area, of the financial aid, and of the opportunity to make

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19 The formulas used to determine the convergence periods are the following:

$$Y_{tR} = Y_{oR}(1+\bar{r}_R)^t \quad (1)$$

$$Y_{tE} = Y_{oE}(1+\bar{r}_E)^t \quad (2)$$

$$Y_{oR}(1+\bar{r}_R)^t = Y_{oE}(1+\bar{r}_E)^t$$

$$t = \frac{\log Y_{oE} - \log Y_{oR}}{\log(1+\bar{r}_R) - \log(1+\bar{r}_E)} \quad (3)$$

Denoting by:
Y_{OR} and Y_{OE} – the initial level of the GDP per capita at PPP euro for Romania and EU28, respectively;
Y_{tR} and Y_{tE} – the prognosis level of the GDP per capita at PPP euro for Romania and EU 28, respectively;
t – time in years;
$\bar{r}_R$ and $\bar{r}_E$ - average growth rates of the GDP per capita at PPP euro for Romania and EU28, respectively;
Convergence occurs when $\bar{r}_R > \bar{r}_E$.

decisions concerning the Euro Area. At the same time, Romania may face the risk of remaining a peripheral country in a future EU functioning at two or more speeds.

But not every real convergence ensures the sustainability of nominal convergence. Real convergence should not be contingent but strongly sustainable (sound and durable); it should be accompanied by an effective and profitable diversification of economic activities as well as by a flexible structure of such activities in relation to the evolution of the markets, based on production and assimilation of innovations and on their dynamics.

Even if the EU Accession Treaty and other EU official papers do not mention the sustainable real convergence criterion, actually this criterion is the most important prerequisite for the euro adoption, in which not only the emerging economies, but also the developed countries of the Euro Area (which decide on any new accession) are interested.

6. Conclusion

According to the EU Accession Treaty, each country is free to draw up the schedule and set the euro adoption time, depending on their possibilities and capacity of mobilisation to meet the convergence criteria. Formally, only in the last two years (2014 and 2015, see Table 1), Romania has taken action to meet the five nominal convergence criteria included in the Maastricht Treaty. But nobody is sure that this convergence is no longer reversible and, moreover, that discrediting these criteria cannot affect other indictors, such as macroeconomic equilibrium (structural deficit, potential growth, current account deficit, infrastructure development, etc.).

Many analyses on the causes and effects of the last great depression reveal that the nominal convergence sustainability cannot be ensured only by means of financial and fiscal discipline, no matter how rigorous and firm they are, especially in less developed countries. Real convergence and institutional convergence are the backbone for achieving the sustainability of the nominal convergence criteria, and only together they can produce stability and economic growth. Without a firm real convergence and strong institutions compatible with institutions of the EU member countries, nominal convergence is vulnerable and possibly reversible.

The transition to the single currency, besides the disadvantage the national policy-makers of their economic levers (exchange rate and monetary policy), offers several opportunities – highly compensatory, according to some specialists.

By a reasonable and fully responsible economic and financial policy of the parties in power, Romania my quickly reach a minimum real convergence threshold for joining the Euro Area. This threshold depends on Romania's growth rates, higher than the developed countries' rates, and on structural reforms able to produce maximum effects while ensuring a macroeconomic equilibrium.

Assuming that the growth rate of the GDP per capita at PPP for Romania and EU28 countries is extended, reaching thresholds of 70% or 75% of the GDP per capita by PPP in Romania as against the EU28, *i.e.* 2023 and 2028, is possible, which would allow our country to adopt the euro while fulfilling also the other (five) criteria of convergence, in accordance with the Maastricht Treaty.

These five criteria are rather quantitative minimum requirements. Joining the Euro Area, Romania should also meet qualitative requirements and achieve compatibility:

- First, institutional compatibility, by adopting and implementing the Community Acquis, the attitude/behaviour of the decision-makers and the people as regards the law observance, corruption, labour discipline, etc.;
- Second, synchronisation of the economic cycles to allow for common regulations and joint decisions on the anticyclical policies and policies for shock absorption;
- Third, ensuring adequate conditions for improving competitiveness and diminishing unemployment by aiding the small and medium-size companies;
- Fourth, implementation of efficient economic and social policies, with help from the EU, for resolving the problem of the migration of qualified and high-qualified professionals to EU developed countries, which economically worsens the scarcity of labour and qualified and high-qualified personnel, and endangers the economic growth and, implicitly, Romania's convergence with the European Union.

The credit crisis (Greece being the main victim) as well as Brexit have caused concern and lack of confidence among the European Institutions. In reply to the above concern and lack of confidence and in accordance with the wish to solve the main problems of the EU, *The White Paper on the Future* of Europe

(Reflections and scenarios for the EU27 by 2025) was launched on the occasion of the 60th Anniversary of the Rome Treaty. The changes implied by these scenarios are not mainly aimed to give answers but to propose issues for various alternatives to be analysed and discussed by the public. Among these issues five scenarios of the euro future and functioning are presented as assumptions.

Scenario 1 (called “further on the same road”) is aimed at applying and updating the existing agenda for reforming the Union, ensuring jobs, economic growth and investment in digital, energy and transport infrastructures as well as improving the single currency functioning in order to stimulate economic growth and prevent economic shocks.

Scenario 2 (called “exclusive focus on a single market”) assumes that the future EU should preserve common institutions and mechanisms, valid only in a single market, while all the other specific domains, institutions and mechanisms should be further controlled by the states. According to this scenario, the euro should be replaced by national currencies.

Scenario 3 (called “who wants more achieves more”) deals with various “coalitions” or country groups aiming to cooperate for attaining some objectives, such as the cooperation of the Euro Area countries with non-euro countries as regards taxation and social issues.

Scenario 4 (called “less but more efficient”) focuses on priorities and selective development with clear responsibilities at the EU, national and local levels. The measures for consolidating the Euro Area and ensuring the common currency stability are top priorities.

Scenario 5 (called “more, together”) focuses on deeper implication of the European Union and increasing solidarity of the component countries. To meet the present challenges, the member states should share competences, resources and decisions in all domains of interest, such as: the Euro Zone, trade, defence and security, migration management, single market completion as regards the energy, digital and services sectors, joint investment in innovation and research and in large infrastructure projects throughout the EU. The scenario points out that among the Euro Area countries and non-euro countries seeking to join this area “there is better fiscal and social coordination and European supervision of financial services”. (White Paper on the Future of Europe, 2016, p. 24).

The last of the five scenarios seems to be more robust and able to cope with the interests of the European peoples and their allies. For example, when we refer to increasing solidarity and actions in the fiscal and financial services field, we mean they should ensure good conditions on medium and log terms, and step further to achieving the political, financial, fiscal and banking union, which implies more than eliminating the present shortcoming existing in the Euro Area. Creating these unions means attaining a fundamental objective: finilizing the Economic and Monetary Union proposed in the Programme of the Four Presidents, in 2012, and the Programme of the Five Presidents, in 2015.

ANNEX

Main GDP aggregates per capita [nama_10_pc]	
Last update	16.03.17
Extracted on	21.03.17
Source of data	Eurostat
UNIT	Current prices, PPS per capita
NA_ITEM	Gross domestic product at market prices

GEO/TIME	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
European Union (28 countries)	**19.800**	**20.600**	**21.300**	**21.500**	**22.500**	**23.400**	**24.700**	**26.000**	**26.100**	**24.500**	**25.500**	**26.100**	**26.600**	**26.700**	**27.600**	**28.900**	**:**
Euro area (19 countries)	22.300	23.100	23.700	23.800	24.700	25.700	27.000	28.500	28.400	26.600	27.500	28.200	28.500	28.600	29.400	30.700	:
Bulgaria	**5.600**	**6.000**	**6.600**	**7.100**	**7.700**	**8.700**	**9.400**	**10.600**	**11.300**	**10.800**	**11.400**	**11.800**	**12.200**	**12.200**	**12.800**	**13.600**	**:**
Czech Republic	**14.100**	**15.200**	**15.600**	**16.400**	**17.600**	**18.600**	**19.600**	**21.400**	**21.900**	**20.900**	**21.000**	**21.700**	**21.900**	**22.400**	**23.800**	**25.200**	**:**
Croatia	9.400	10.100	10.900	11.500	12.300	13.000	14.400	15.900	16.500	15.200	15.100	15.600	16.000	15.900	16.100	16.700	:
Hungary	**10.400**	**11.500**	**12.500**	**13.100**	**13.700**	**14.500**	**15.100**	**15.600**	**16.300**	**15.600**	**16.400**	**17.100**	**17.400**	**17.900**	**18.700**	**19.700**	**:**
Poland	**9.300**	**9.600**	**10.100**	**10.400**	**11.300**	**11.800**	**12.500**	**13.800**	**14.500**	**14.600**	**15.900**	**17.000**	**17.800**	**17.900**	**18.600**	**19.800**	**:**
Romania	**5.200**	**5.600**	**6.200**	**6.600**	**7.700**	**8.300**	**9.700**	**11.100**	**12.900**	**12.200**	**13.100**	**13.600**	**14.300**	**14.600**	**15.300**	**16.500**	**:**
Germany (until 1990 former territory of the FRG)	24.100	25.000	25.500	25.700	26.900	27.500	28.800	30.500	30.600	28.700	30.500	32.200	32.900	33.200	34.600	35.800	:

Source: Eurostat.

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