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**THE ROMANIAN ACADEMY
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ECONOMIC STUDIES

Fiscal Consolidation by Austerity and EU Surveillance Policies

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FISCAL CONSOLIDATION BY AUSTERITY AND EU SURVEILLANCE POLICIES *

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Abstract: *After a brief introduction dealing with critical opinions of some economists on the European austerity policy, the authors point out that austerity as a means of achieving fiscal consolidation and financial stability is applied when the fiscal domain is weak. After analyzing the effects of the 2009 crisis on some indicators and austerity measures taken by almost all EU countries, the study presents the content and the role of the EU fiscal compact and methodology used to support the fiscal consolidation measures. Most of the study consists in the analysis of the outcome of this methodology (through indicators, key-equations, graphs) revealing the relationships between indicators: effective GDP and potential GDP, production variation, effective, cyclical and structural deficits as well as the deficit in the balance of payments. The paper reveals some shortcomings of the new mechanism which affect the development of some major segments of the real economy, such as public investments, and further the economic potential growth on medium and long terms.*

Keywords: *fiscal policy, budget deficits, structural deficits, austerity, fiscal consolidation, the golden rule of public finance, economic growth*

JEL: *E62, F02, H2, H5, H6, H7*

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1. Introduction

The 1990's controversial discussions regarding the austerity policy and its effects were resumed in the following two circumstances: 1) when trying to overcome the 2009 crisis in the European countries, and 2) when the 2010-2011 public debt crisis in some Eurozone countries and, especially, the long Greek crises started.

The controversies have more relevance owing to the critical opinions of several authors, including two famous American economists – Krugman and Stiglitz, Nobel Prize winners – on the European austerity policies. Rejecting the idea developed and supported by Giavazzi, Ardagna, Alesina, Pagano *et al.* that the fiscal contraction could have expansionary effects and recalling the repeated and lasting crises in the EU, the two economists use, as the main argument, the comparison between the US solution to the crisis, consisting in incentives, and the European Union solution to the crisis through austerity policy (expenditure cut and tax increase). The first way (the US one) implies the economic growth stimulation and the second one (the EU way) implies aggravation of the crisis and stagnation. According to Krugman, the austerity policy means an economic suicide of Europe (*The New York Times*, April 15th, 2012), while Stiglitz thinks that austerity is a disaster of the Eurozone. The latter blames the European authorities for dogmatism and reminds them: when facts do not match theory, then change the theory, not the facts (*The Guardian*, October 1st, 2014)¹.

In this paper, we do not intend to argue against the two and many other economists (De Grauwe, Gros, Boyer, Plumer, etc.) who criticize to rejection the European austerity policy, especially that implemented in Greece. First we want to briefly comment on that criticism and then to present the logic of the austerity policy – accepted and supported by most of the European economists and implemented by the EU authorities and countries –, together with a few personal comments. An early comment: instead of directing criticism first against the political and governmental forces which systematically implement (often for election reasons) budgetary policies with excessive deficit and indebtedness, criticism is actually directed towards responsible forces and measures which support, initiate and develop policies for eliminating excessive financial disequilibria and for ensuring fiscal consolidation. The

¹ But often it is easier to maintain theories and change the facts – just as Angela Merkel and other European post-austerity leaders seem to think, according to Stiglitz.

supporters of the austerity measures, when formulating and implementing them, generally agree that there are no alternatives and impose them as an iron rule (even as a common and elementary reason) simply because, on one hand, we cannot perpetually consume more than what we produce and, on the other hand, we cannot tolerate the waste of public money and the corruption in various countries, including the EU ones.

Unfortunately, the term “austerity” used in public debates acquired a significant political connotation and often became a political weapon, thus causing confusion and distorting its objectives and functions. It can be explained by the fact that the austerity measures affect the people’s interests by cutting public expenditures and personal incomes, as well by increasing taxes, although they are taken to restore macroeconomic equilibria – diminishing the excessive budgetary deficit and the unsustainable public debt.

The austerity policy on both sides – higher taxes and lower public expenditure – is meant to establish order, rigour and responsibility both in the creation and collection of budgetary income and in the expenditure of public money, in line with minimum requirements such as fairness, effectiveness, proper functioning of the economy and the society, and compliance with rules set in international treaties and commitments.

2. Austerity Measures for Fiscal Consolidation

The austerity measures of the fiscal consolidation policy do not act alone but along with other components such as monetary ones, stimulation, compensation, reform and structural adjustment. The weight of each component of the fiscal consolidation policy depends on the features and the state of each economy. For example, the relation between the austerity policy and the stimulation policy within the fiscal consolidation measures is mostly determined by the fiscal space size set by the available financial reserves of the economy, and by the confidence in the financial system and the economic potential of the country. It is obvious that when the financial reserves, confidence and economic potential are low, the austerity policy plays the leading, if not the only, role in fiscal consolidation.

The budget deficit and the public debt stock have become a real hazard to many national economies. They caused the last crisis, which was further worsened by procyclical policies in many countries. For example, in Romania, the high economic growth rate prior to the crises

(2004-2008) was accompanied by a shock to the consumption demand growth, determined by a significant increase in public pensions and wages. One should add to them the significant deficit in the foreign balance of payments, produced by a quick rise in imports against exports, following the full opening of the domestic market, in the context of insufficient domestic supply, low competitiveness of the Romanian products and services, and a low exchange rate (domestic currency / foreign currency). But the effects of the crisis and some excessive governmental measures required by the crisis worsened the deficit and public debt. In Romania, the budgetary deficit as a share of GDP increased from 4.8%, in 2008, to 7.3%, in 2009; the trade deficit (from the balance of payments) increased from 2.7 billion US dollars, in 2000, to 22.7 billion US dollars, in 2008, and the share of public debt in the GDP increased from 13.6%, in 2008, to 38.2%, in 2012.

The aggressiveness of the last crises forced the Romanian Government, like most of the EU governments, to take austerity measures by combining budgetary expenditure cuts (wages, personnel reduction, investment expenditure) with higher taxes (VAT, excise, etc.), the reform of the pension and wage system, and liberalisation of the labour market. Table 1 shows the effects of the 2009 crisis on some indicators, and the austerity measures taken by some EU member countries in 2010 and 2011.

The question is whether the austerity measures can actually resolve the problem of fiscal consolidation - by diminishing the budget deficit and public debt - or the national economies worsen further, as the supporters of the austerity policies claim.

The austerity measures taken either to cut public expenditures or to increase taxes are mainly and immediately directed to diminish or even eliminate the budget deficit and, consequently, to prevent future rising of public debt by budget rebalancing between incomes and expenditures. But the same austerity measures cause also a diminution in the population's and companies' incomes, which is revealed by the decreasing demand and consumption on short term. As one of the authors (Iancu, 2015) of this paper pointed out in a synthesis of the conclusions to many studies published in the last decade, it is not always the fiscal contraction that discourages the private consumer, in accordance with the old Keynesian tradition.

Table 1

Effects of the 2009 crisis and austerity measures taken by Romania and other EU member countries

Country	Crisis effects on some indicators						Main austerity measures	
	GDP (%)	Public debt in GDP (%)		Budget deficit (%)		Balance of payment deficit (%)		
	2009/2008	2009	2011	2009	2011	2009	2011	
Romania	-7.1	23.2	34.2	-8.9	-5.3	-4.2	-4.6	Romania received from the EU, IMF and World Bank (through the support programme) 20 billion euro and implemented a large programme of reforms and austerity measures consisting of the following: reform of the pension system including an older retirement age, diminution of the special pensions and the application of the contribution principle; a new wage system for the public sector by eliminating or adjusting the benefits and allowances and implementing a new wage schedule; elimination of over 100.000 jobs from the budgetary sector and employment freezing; temporary cut by 25% in public sector wages and VAT increase from 19% to 24%.
Austria	-3.8	79.7	82.1	-5.3	-2.6	+2.6	+1.6	Freezing employment in the federal public sector up to 2014; wage freezing for a year and a small rise in the next year; reduction in Parliament expenditure; older retirement age and tougher requirements for early retirement; reduction in the expenditure on health care by 1.4 billion euro by 2014.
Belgium	-2.6	99.2	102.0	-5.5	-4.1	-1.1	-1.0	The government austerity plan of December 2011 stipulates a deficit diminution by 11.3 billion euro: older retirement age, from 59 to 62 years; higher taxes on incomes (except for those from the saving accounts).
Czech R.	-4.8	34.1	39.9	-5.5	-2.7	-2.4	-2.2	In April 2012, the Government (after being voted in) announced the following austerity measures: VAT increase by 1%, up to 21%; higher tax on income; higher tax on property; diminution in the payments for health insurance; elimination of several tax deductions.
Denmark	-3.3	40.4	46.4	-2.8	-2.1	+3.4	+5.8	Cutting government expenditures by 4 billion euro for four years for diminishing the budget deficit below 3% of the GDP. The diminution includes the cut in unemployment allowance, elimination of 20,000 jobs from the public sector, diminution in child allowance by 5%, diminution in ministry wages by 15% and diminution in academic expenditure.

Finland	-8.3	41.7	48.5	-2.5	-1.0	+2.7	-0.6	VAT increase by 24%, higher taxes on transport fuel, tobacco and beverages, on newspaper and magazine and on sweets; lower tax rates of corporations by 15%; lower government expenditure on municipalities by 631 million euro; lower defence expenditure by 49 million euro.
France	-2.9	79.0	85.2	-7.2	-5.1	-0.8	-1.0	The Government's austerity plan of August 2011 provided a lower budgetary deficit by 11 billion euro for a transition from a 7.1% deficit in 2011 to a 3% deficit in 2013 and the following measures for: 1. Increasing revenue to the budget: temporary increase by 3% in taxes on household income; higher tax on income from capital by 1.1%; higher taxes on investment in real estate, except for housing; higher tax on medical care by 7%; corporation tax reform; 2. Diminishing expenditures: indexation of benefits (allowances) for families and households by the GDP growth rate (not the inflation rate), which diminishes the expenditure on social insurance; diminution in the reimbursement rate for expenditures on election campaigns by 5%; older retirement age, from 60 to 62 years.
Greece	-4.4	...	171.3	-15.3	-10.2	-10.9	-9.9	Greece received three support packages from the EU and the IMF: 110 billion euro in 2010, 130 billion euro in 2012 and 87 billion euro in 2015 on conditions that Greece makes reforms and takes austerity measures such as: lower government operation expenditure by 200 million euro; smaller special pensions by 10 to 20%; elimination of allowances for families earning over 45,000 euro a year, except for those having five or more children; lower wages for the local political staff by 10% and lower minimum wage by 22%; smaller tax exemption for various categories of people and higher taxes on yachts, cars, swimming pools, property; partial or full privatisation of some state-owned companies, lower expenditure on health and defence; older retirement age, from 61 to 65 years; lower pensions and additional pensions, elimination of 150,000 jobs from the public sector; diminution in the public sector wages by 15%.
Hungary	+6.6	78.2	81.0	-4.6	-5.5	-0.8	+0.8	Hungary received in 2008 a support package from the IMF, EU and the World Bank. For reducing the deficit, the following austerity measures were taken: elimination of the 13 th pension, older retirement age to 65 years, freezing of the minimum pension and more restrictive rules for the pensions of the disabled; lower illness allowances; lower subsidies for housing, for gas and lower compensation for district heating; freezing the benefits for child care; lower subsidies for medicines, higher education and unemployment

								allowances; higher VAT from 25% to 27%; higher taxes on tobacco, beverages, gas oil, gaming; 1% rise in social insurance contribution; pension fund reform; measures for increasing the public sector efficiency; the implementation of a digital system for road tolls.
Ireland	-6.4	62.3	111.2	-13.9	-12.7	-2.1	+1.2	In 2010, Ireland received a support package of 85 billion euro from the EU and the IMF on condition that Ireland takes the following austerity measures: diminution in public expenditure by 10 billion euro; higher taxes by 5 billion euro; lowering minimum wage by one euro per hour (to 7.65 euro); savings from expenditure on social allowances by 2.8 billion euro in 2014, through control measures and structural reforms; reduction in the public sector personnel (public servants) by 24,750; pension diminution by 10% and a new pension scheme for the newly employed in public services; reform of the social assistance system to stimulate employment.
Italy	-5.5	112.5	116.4	-5.3	-3.5	-1.9	-3.1	The 2011 austerity plan consists in budget deficit diminution by 68 billion euro, based on the following: wage freezing in the public sector; 10% cut in funding the political parties; lower transfers to the local administration; privatisation of the state-controlled entities; higher taxes on banks and other financial institutions; higher taxes on gas and gaming; 3% additional tax on individual incomes exceeding 300 thousand euro per year; higher taxes on property; VAT increase to 28%; pension reform; elimination of the exemption from taxes on church property.
Poland	+2.6	49.8	54.8	-7.3	-4.9	-3.9	-5.1	Nominal wage freezing; reform of local public administration funding; diminishing the cost of debt service resulted from the change in the pension scheme; early retirement restrictions; higher taxes on fuel; a new tax on copper and silver.
Portugal	-3.0	83.6	111.1	-9.8	-7.4	-10.4	-6.1	78 billion euro received from the IMF, ECB and EU in 2011 through the Salvation Programme were granted on condition that the following austerity measures are taken: the suspension of the two yearly bonuses received by public employees and pensioners; privatisation of some state-controlled companies; elimination of some privileges granted to high public servants and politicians; increasing the VAT by 1% and the corporation tax rate; higher tax on income, including a higher tax rate up to 45% on incomes over 150,000 euro per year; diminished programmes for social aid; a 3% increase in the tax rate for companies having a profit of over 1.5 million euro plus 2% accrual for every 10

								million euro profit.
Slovenia	-7.8	34.5	46.5	-0.7	-0.1	-0.6	+0.2	The Government adopted a plan for diminishing expenditures by 818 million euro to lower the budget deficit to 3% in one year, by taking the following austerity measures: lower wages of public servants by 15%; lower bonuses; elimination of some unemployment and health care benefits; no wage adjustment by inflation in the public sector.
Spain	-3.6	52.7	69.2	-11.0	-9.4	-4.7	-3.6	To reach a 3% budget deficit target in 2013, the Government adopted the following austerity programme: smaller funding of the political parties by 20%; freezing of wages and minimum wages in the public sector; cutting the public expenditure by 8.9 billion euro; temporary increase in the tax on personal income; selective increase in some tax rates on wealth and elimination of subsidies for oil products; the requirement to have balanced budgets for public administration; measures against tax evasion, including a 2500 euro limit for cash payment and the taxpayers' obligation to declare their business abroad; savings from the improvement of the health and education administration.

Sources: The list of the main austerity measures of the countries (with some slight modifications) is taken from: Zachary Laven and Federico Santi,2012, EU Austerity and Reform. A Country by Country Table, Home. April 2012: <http://www.europeaninstitute.org/April-2012-austerity-and-reform-a-country-by-country-table>; The crisis effect on the indicators has been calculated using the statistical data from: European Commission, “Cyclical Adjustment of Budget Balances”, Spring 2015; Eurostat; World Bank Indicators.

Empirical research conducted by several authors show that the diminution in government expenditure is associated with a growth in consumption and aggregate demand, even in the context of raising taxes and controlled income and wealth (Giavazzi, Pagano, 1990; Alesina, Ardagna, 2009; Bilicka *et al.*, 2012, etc.). Also, the effects of some austerity measures may turn from short-term contractionary ones into medium-term expansionary one because of the changes in the consumers' and investors' behaviour and/or because of a change in monetary and exchange rate policy. Statistics show that a GDP decrease takes place, except for a few cases, not during the austerity period but mainly during the crisis.

Analysing the data presented in Table 2 with regard to the annual GDP rate in the EU countries in the pre-crisis or boom phase (2005-2008), the crisis phase (2009), the post-crisis phase (2010-2012) and the economic recovery phase (since 2012-2013) we notice the following characteristic situations and trends: in the first phase, a rapid economic growth in all countries; in the second phase, a significant economic slowdown in all countries, except for Poland; in the third phase, a slight economic decline in some countries and a modest growth in other countries; in the fourth phase, economic recovery in most of the countries.

As regards the way of interpreting and resolving the problems caused by the economic and financial crisis of 2009 as well as by the sovereign debt crisis in some Eurozone countries, we notice two categories of attitudes and public measures. The first one, accepted in the USA, consists of a preponderantly stimulative fiscal policy under rigorous regulations and preserving mechanisms which ensure a high freedom level for the economic agents. The second category is found in the EU and is based on fiscal measures preponderantly based on austerity. The austerity measures consist in increasing taxes and decreasing the public expenditure associated with monetary policies, implemented along with policies for strengthening the fiscal discipline and enforcing fiscal rules in every member country. These policies consist of implementing institutional and governance reforms and innovations, enforcing regulations through treaties and mechanism, as well as procedures for preventing and monitoring the cases of excessive deficits and indebtedness.

Table 2

Gross Domestic Product: annual rates, percent (national currency, 2010 reference year)

	BE	DE	EE	IE	EL	ES	FR	IT	CY	LV	LT	LU	MT	NL	AT	PT	SI	SK	FI	EA-19	BG	CZ	DK	HR	HU	PL	RO	SE	UK	EU-28
1995	2.4	1.7	4.5	9.8	2.1	2.8	2.1	2.9	9.9	-0.9	3.3	1.4	6.2	3.1	2.7	2.3	4.1	5.8	4.2	2.4	2.9	6.2	3.0		1.5	7.0	7.1	4.0	2.5	
1996	1.6	0.8	5.9	9.1	3.0	2.7	1.4	1.3	1.6	2.5	5.2	1.5	4.0	3.1	2.4	3.5	3.5	6.8	3.7	1.6	1.6	4.3	2.9	5.9	0.0	6.1	3.9	1.5	2.7	1.9
1997	3.7	1.8	11.7	10.8	4.5	3.7	2.3	1.8	2.4	8.8	6.1	5.9	4.9	4.0	2.2	4.4	5.1	6.1	6.3	2.6	-1.1	-0.7	3.3	6.6	3.4	6.5	-4.8	2.9	2.6	2.7
1998	2.0	2.0	6.8	8.5	4.1	4.3	3.6	1.6	5.1	6.3	7.6	6.5	3.4	4.4	3.6	4.8	3.3	4.0	5.4	2.9	3.5	-0.3	2.2	1.9	4.2	4.6	-2.1	4.2	3.5	3.0
1999	3.7	2.0	-0.3	10.2	3.1	4.5	3.4	1.6	4.7	2.2	-1.0	8.4	4.1	4.5	3.6	3.9	5.3	-0.2	4.4	2.9	-5.6	1.4	2.9	-0.9	3.2	4.6	-0.4	4.5	3.2	3.0
2000	3.6	3.0	9.7	6.5	4.0	5.3	3.9	3.7	5.7	5.3	3.6	8.4	6.4	4.4	3.4	3.8	4.2	1.2	5.6	3.8	6.0	4.3	3.7	3.8	4.2	4.6	2.4	4.7	3.8	3.9
2001	0.9	1.7	6.2	5.3	3.7	4.0	2.0	1.8	3.6	7.2	6.7	2.0	0.6	1.6	1.4	1.9	2.9	3.3	2.6	2.1	3.8	3.1	0.8	3.4	3.7	1.2	5.6	1.6	2.7	2.2
2002	1.6	0.0	6.1	5.8	3.2	2.9	1.1	0.3	3.2	7.2	6.8	3.3	3.0	0.0	1.7	0.8	3.8	4.7	1.7	0.9	4.5	1.6	0.5	5.2	4.5	2.0	5.2	2.1	2.5	1.3
2003	0.9	-0.7	7.5	3.0	6.6	3.2	0.8	0.2	2.8	8.6	10.3	1.2	2.5	0.3	0.8	-0.9	2.8	5.4	2.0	0.7	5.4	3.6	0.4	5.6	3.8	3.6	5.5	2.4	4.3	1.5
2004	3.4	1.2	6.5	4.6	5.0	3.2	2.8	1.6	4.4	8.9	7.4	4.9	0.4	1.9	2.7	1.8	4.4	5.2	3.9	2.2	6.6	4.9	2.6	4.1	4.8	5.1	8.4	4.3	2.5	2.5
2005	1.9	0.7	9.5	5.7	0.9	3.7	1.6	0.9	3.9	10.2	7.7	4.1	3.6	2.3	2.1	0.8	4.0	6.5	2.8	1.7	6.0	6.4	2.4	4.2	4.3	3.5	4.2	2.8	2.8	2.0
2006	2.6	3.7	10.4	5.5	5.8	4.2	2.4	2.0	4.5	11.6	7.4	4.9	1.6	3.8	3.4	1.6	5.7	8.3	4.1	3.3	6.5	6.9	3.8	4.8	4.0	6.2	8.1	4.7	3.0	3.4
2007	3.0	3.3	7.9	4.9	3.5	3.8	2.4	1.5	4.9	9.8	11.1	6.5	4.0	4.2	3.6	2.5	6.9	10.7	5.2	3.1	6.9	5.5	0.8	5.2	0.5	7.2	6.9	3.4	2.6	3.1
2008	1.0	1.1	-5.3	-2.6	-0.4	1.1	0.2	-1.0	3.6	-3.2	2.6	0.5	3.3	2.1	1.5	0.2	3.3	5.4	0.7	0.5	5.8	2.7	-0.7	2.1	0.9	3.9	8.5	-0.6	-0.3	0.5
2009	-2.6	-5.6	-14.7	-6.4	-4.4	-3.6	-2.9	-5.5	-2.0	-14.2	-14.8	-5.3	-2.5	-3.3	-3.8	-3.0	-7.8	-5.3	-8.3	-4.5	-5.0	-4.8	-5.1	-7.4	-6.6	2.6	-7.1	-5.2	-4.3	-4.4
2010	2.5	4.1	2.5	-0.3	-5.4	0.0	2.0	1.7	1.4	-2.9	1.6	5.1	3.5	1.1	1.9	1.9	1.2	4.8	3.0	2.0	0.7	2.3	1.6	-1.7	0.8	3.7	-0.8	6.0	1.9	2.1
2011	1.6	3.6	8.3	2.8	-8.9	-0.6	2.1	0.6	0.3	5.0	6.1	2.6	2.3	1.7	3.1	-1.8	0.6	2.7	2.6	1.6	2.0	2.0	1.2	-0.3	1.8	4.8	1.1	2.7	1.6	1.7
2012	0.1	0.4	4.7	-0.3	-6.6	-2.1	0.3	-2.8	-2.4	4.8	3.8	-0.2	2.5	-1.6	0.9	-4.0	-2.6	1.6	-1.4	0.8	0.5	-0.8	-0.7	-2.2	-1.5	1.8	0.6	-0.3	0.7	-0.5
2013	0.3	0.1	1.6	0.2	-3.9	-1.2	0.3	-1.7	-5.4	4.2	3.3	2.0	2.7	-0.7	0.2	-1.6	-1.0	1.4	-1.3	-0.4	1.1	-0.7	-0.5	-0.9	1.5	1.7	3.4	1.3	1.7	0.0
2014	1.0	1.6	2.1	4.8	0.8	1.4	0.4	-0.4	-2.3	2.4	2.9	3.1	3.5	0.9	0.3	0.9	2.6	2.4	-0.1	0.9	1.7	2.0	1.1	-0.4	3.6	3.4	2.8	2.1	2.8	1.4

Source: European Commission, "Cyclical Adjustment of Budget Balances", Spring 2015.

We do not intend to describe below the two categories of policies. They are detailed in periodical reports of the IMF and other specialized organisations of the EU Commission. We intend to assess and analyse the impact of some of these policies on the deficit and public debt diminution and on the economic growth, using adequate indicators and specific computation methods.

In Sections 3 and 4 we briefly present the fiscal compact and the official methodology of the EU used along with fiscal consolidation measures. In Section 5, we analyse the results of these methodologies along with some explanations of the fiscal compact, the specific rules and mechanism required by the compact and the methodology as well as the effects. In Section 6 we reveal some shortcomings of the new mechanisms, especially those related to public investments. Section 7 includes brief conclusions.

3. The Fiscal Compact: Content

If national economies functioned strictly in accordance with principles and rules of the free market and the economic policy decisions complied with rules for maintaining the macroeconomic balance and the normal operation of the automatic stabilizers, then the approaches and calculations in Olteanu (2015) and the articles and studies presented in Iancu (2015) would suffice. Actually, the real economic life is economically influenced not only by cyclical oscillations but also by several discretionary and unpredictable changes and, politically, by strong election interests and practices often eager to sacrifice the macroeconomic equilibria. Moreover, in accordance with the new European construction, the economies of the component states are extensively regulated but they are not yet integrated into a single system. For example, while the monetary policies are implemented at the EU level, the fiscal policies are mostly carried out at the national level. So, only mere assessments and findings obtained through very pedantic and comprehensive studies do not suffice. The present European construction needed and still needs an institutional system and an economic mechanism for decision-making able to compensate for shortcomings and inconsistencies, as mentioned above. In such circumstances, the general scientific preoccupations with the interpretation and the determination of the effects caused by discretionary austerity measures, as well as other measures for fiscal consolidation have been outlined in the EU policies for macroeconomic stabilisation. Moreover, the measures were institutionalized by means of legislative tools and

calculation mechanisms and models, used at the Union and national levels for coordinating and supervising the financial stability, paying special attention to the cases of excessive budget and current account deficits.

In the case of EU member states, their governments have to implement austerity policies mainly because “in good times” they ignore or do not observe the rules set by treaties, regulations and procedures of financial stability. Systematically and excessively resorting to major public expenditures, exceeding the budget incomes, the governments determine – by means of such policies – the accumulation of excessive non-sustainable public debts.

Learning the recent lessons taught by the economic and financial crises and, especially, by the latest public debt crises, the European Union created an elaborated mechanisms for supervising the financial stability, acting *ex ante* through the two components: prevention and correction. This mechanism becomes effective with the enforcement of the Stability and Growth Pact (SGP) in 2005 and the Stability, Coordination and Governance Treaty (SCGT) in the Economic and Monetary Union (EMU) in 2012, as well as other regulations required by their implementation (EU secondary and primary intergovernmental and national laws). The SCGT includes the Fiscal Compact (Title III of the Treaty), which aims at achieving financial discipline especially in the Euro Area and in the other EU member countries, as well as the SGP development and consolidation.

Among the main requirements and ways to attain the objectives, we find the following:

1. Construction of balanced budgets including mechanisms for the automatic correction of the deviations from the allowable limits (from reference values).
2. Observance and improvement of excessive deficit procedures.

Their implementation by all signatory EU members (except for the United Kingdom and the Czech Republic) means decisive steps taken to improve fiscal discipline and consolidation in those countries and, on long term, to integrate the fiscal system and the monetary system by expanding the power of superstate bodies in supervising and making fiscal policy decisions and correspondingly diminishing the national prerogatives. This leads, among others, to the depolitisation / objectivisation of the fiscal sector, *i.e.* closer to the objective requirements of the economies, at the national and Community levels.

Practically, it can be done by transposing into the national legislation the common fiscal rules for achieving balanced national budgets or a positive (surplus) balance. These rules, defined as the preventive arm of the SGP, require that effective annual budget deficit should be below 3% of GDP, and the structural budget deficit – according to the Medium Term Objective (MTO) specific to countries with a public debt over 60% of GDP – should be below 0.5% of GDP. The structural deficit of the countries with a public debt below 60% of GDP and a low fiscal sustainability risk should be below 1% of GDP.

The balanced budget rules transposed into the national legislation include a correction mechanism that is automatically enforced when significant deviations from the MTO occur. Also, the correction mechanism includes the cumulated impact of these deviations on the sovereign debt dynamics to be taken into account.

By observing and implementing this mechanism both at the EU level and the national level we either avoid major disequilibria requiring severe austerity measures or we face smaller disequilibria requiring bearable austerity measures.

A very important question is what this mechanism is and how we could understand it. We present below a few orientative elements. Since the detailing of the matter would exceed the scope of this study we focus less on the methodological and measuring side but more on the interpretation and the analysis of some effects, by means of some indicators and criteria to be fulfilled in accordance with this mechanism to correct any excess and to make fiscal system sustainable.

4. Methodology: Indicators and Key Equations

The newly created EU methodology, mechanism and institutions play not only a knowledge role, but also an active one in taking political action for eliminating major financial disequilibria.

Within the methodology concerning the Fiscal Compact mechanism (fiscal surveillance), the deficit measure (budget balance with a negative sign) plays a key role, because it is the most

expressive synthetical indicator of practical importance which turns into government borrowing, and its chronicization means public debt accrual².

Complementarily, the methodology also includes a set of other indicators used as elements of calculation and analysis of the budget deficit (balance), of the impact of cyclicity on the deficit, as well as of how the MTO reference criteria of fiscal and financial stability are fulfilled. This set includes the effective GDP, the potential GDP, the output gap, the cyclical component, the public expenditure and revenue elasticity to GDP changes.

When it comes to the determination of the effect (impact) of the change in fiscal variables on the economy (GDP), the first issue considered is the determination of the output elasticity of budget incomes and expenditures, and of the fiscal multipliers (as indicators expressing the total effects produced by discretionary governmental fiscal measures). Since we confine ourselves to the official methodology and the comparison of the effects of various fiscal changes, we use here elasticities as calculation and analysis tools.

Another important issue related to the indicators and their impact calculation is that concerning the cyclical fluctuation implying automatic stabilizers and cyclically adjusted GDP by applying the HP filter and, recently, the Kalman filter. The potential GDP is calculated using the Cobb Douglas modified production function, in relation to which the output gap is determined as difference between the effective GDP and the potential GDP.

We present below the basic forms of calculation of some indicators and some relations between indicators, used in the EC official methodologies (Girouard, André, 2005; Fedelino *et al.*, 2009; Mourre *et al.*, 2013, 2014). We begin with the government budget deficit (balance) (*Def*), which is the difference between the government budget income (*R*) and government budget expenditure (*G*):

$$\text{Def} = R - G \quad (1)$$

The budget deficit (balance), like other fiscal variables, is equally affected in its dynamics by discretionary political actions and by the automatic effects caused by changes in the

² A lasting deficit causes debt accrual at higher rates than the sum of annual deficits, since to this sum we have to add the spending on bond issuing and trading on capital markets (Jürgen von Hagen, Guntram B. Wolff, “What do deficits tell us about debt? Empirical evidence on creative accounting with fiscal rules in the EU”, in *Discussion Paper, Series 1, Studies of Economic Research Centre*, No. 38/2004).

macroeconomic environment, especially by cyclical output changes. For example, an economic slowdown caused by the economic crisis means an automatic decrease in most of the taxes, a rise in unemployment spending, etc. This is the cyclical component or the cyclical deficit denoted by Def_c .

The most common variant of the budget deficit is the cyclical adjusted budget balance (CAB), known as structural deficit (Def_s). It is obtained by subtracting the cyclical deficit (Def_c) from the government budget deficit (Def):

$$Def_s = Def - Def_c \quad (2)$$

In its turn, the cyclical deficit (the cyclical component of the budget balance) is determined, in accordance with EU methodology, on the basis of the following two indicators:

- The output gap, denoted by OG , is the cyclical measure of the position of the effective economy as against the position of the potential economy measured by the distance between the effective GDP (Y) and the potential GDP (Y^P). It is a deviation of the effective GDP from the potential GDP expressed as percentage of the potential output as below:

$$OG = \frac{dY}{Y^P} = \frac{Y - Y^P}{Y^P} \quad (3)$$

- The budget elasticity, measuring the relation between the economic cycle and the budget, is expressed by the cyclical adjustment parameter, denoted by ε . It measures the response of the budget balance to every level of the output gap (Mourre *et al.*, 2013). It was introduced in the official methodology at the request of the EC work group to replace the sensitivity index, rather for conceptual accuracy than for the significance of the application results (Mourre *et al.*, 2013)³.

For simplicity reasons, we shall denote the budget deficit (Def) by B . In this case, the calculation formula of the budget elasticity is the following:

$$\varepsilon = \frac{d(B/Y)}{dY/Y} \quad (4a)$$

³ For example, in 2012, 16 EU member countries out of 27 show no difference between the two calculation methods, and 8 countries show differences of only 0.1 percentage point.

Following the required transformation, we get:

$$\varepsilon = \frac{dB}{dY} - \frac{B}{Y} \quad (4b)$$

The product of the elasticity index and the output gap represents the cyclical component called the cyclical deficit. By introducing the elasticity index relation (4a) and the output gap relation (3) in the general relation of the net budget balance, called structural deficit (Def_s),

$$\frac{Def_s}{Y} = \frac{B}{Y} - \varepsilon OG, \quad (5a)$$

we come to the basic relation:

$$\frac{Def_s}{Y} = \frac{B}{Y} - \frac{d(B/Y)}{dY/Y} \cdot \frac{dY}{Y^P} \quad (5b)$$

Making the required changes, we come to the final simplified relation of the structural deficit per output unit (known in literature as CAB):

$$\frac{Def_s}{Y} = \frac{B - dB}{Y^P} = \frac{B - (B - B^P)}{Y^P} = \frac{B^P}{Y^P} \quad (5c)$$

Def_s can be measured and expressed as either absolute amount or output unit or percentage of the net (structural) budget balance. Both components of the relation are calculated at the potential level.

In conclusion:

a) The effective budget deficit consists of the structural (net or free of the cyclical component) deficit plus the cyclical deficit (cyclical component):

$$Def = Def_s + Def_c \quad (6)$$

b) The methodological studies include (under the same name of structural deficit) also the variant resulting by subtracting from Def_s the effects caused by on-off and temporary measures (E_{ootm}) significant as magnitude of the price changes, production structure and exports. We denoted this variant by Def_{ss} :

$$Def_{ss} = Def_s - E_{ootm} \quad (7)$$

c) Also, there is a primary structural deficit (Def_{sp}) obtained by subtracting the interest (I) from the structural deficit:

$$Def_{sp} = Def_s - I \quad (8)$$

d) These indicators are used as calculation and analysis tools within the surveillance mechanisms of deficit deviation from the reference limits, as follows:

- the effective budget deficit (Def/Y) should be below the ceiling of 3% of GDP:

$$Def/Y \leq 0,03, \text{ and}$$

- the structural budget deficit (Def_s/Y) should be:

- below 0.5% of GDP in countries with a public debt over 60% of the GDP:

$$Def_{s1}/Y \leq 0,005 \text{ and}$$

- below 1% in countries with a public debt below 60% of GDP:

$$Def_{s2}/Y \leq 0,01.$$

5. Fiscal Consolidation by Diminishing the Budget Deficit: Effect Assessment

In accordance with the official methodology, the EU Commission built complete series of main indicators used for fiscal surveillance and consolidation. The series are updated in accordance with the latest methodological innovations and improvements to be successfully used for:

1) Measuring and analysing the shares of both the discretionary fiscal efforts and the automatic stabilizers, for reducing budget spending and public debt.

2) Strengthening the fiscal discipline by consolidating the Stability and Growth Pact, observing the rules enforced through the fiscal compact and the MTO as a preventive element of the Pact, and observing the rules for a balanced budget, including the correction mechanism in case of deviation from the MTO⁴.

We analyse here, under the EU terms, how Romania, besides other member countries, involved in the efforts for fiscal consolidation by diminishing budget deficit and public debt, to prevent or overcome the macroeconomic imbalances and the outcome. The first step of the analysis deals with the evolution of the annual effective budget deficit (percent of GDP) between 1995-2014 and the evolution of the public indebtedness (debt related to the GDP, percent) over the same period in Romania, Germany, Bulgaria, Poland and Hungary (Figures 1a-1e).

Fig. 1: Budget deficit and public debt, 1995-2014

⁴ European Commission, "Fiscal Compact", 2012, pp. 82-83.

Fig. 1a: Romania

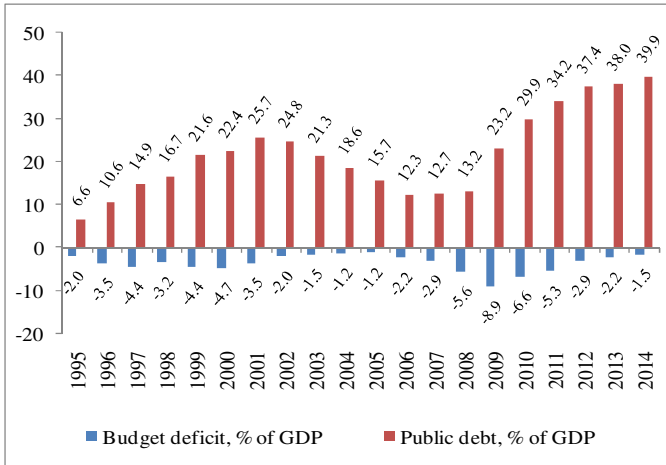


Fig. 1b: Germany

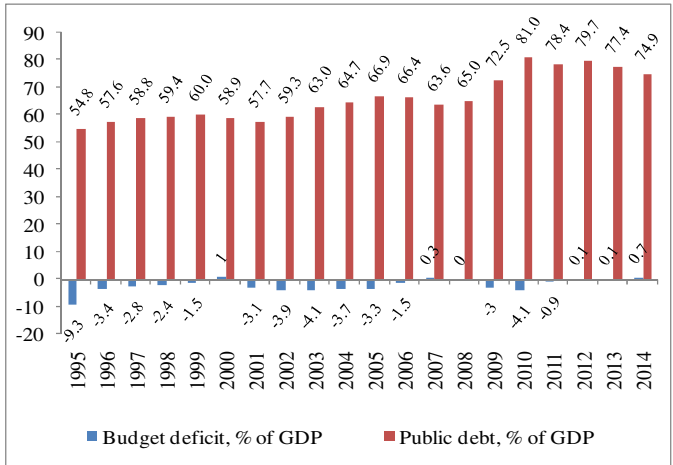


Fig. 1c: Poland

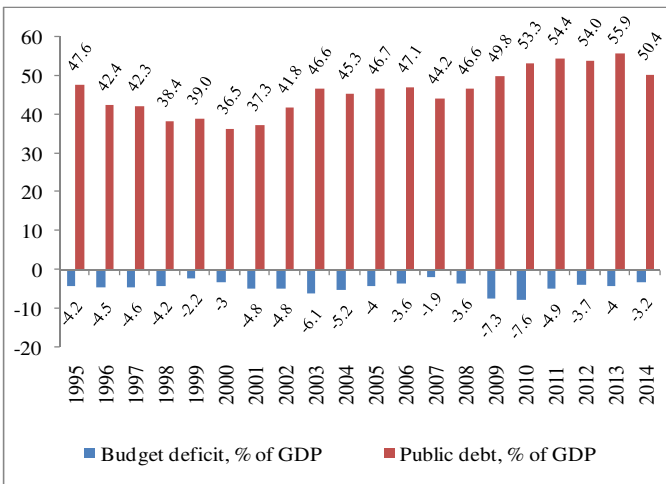


Fig. 1d: Bulgaria

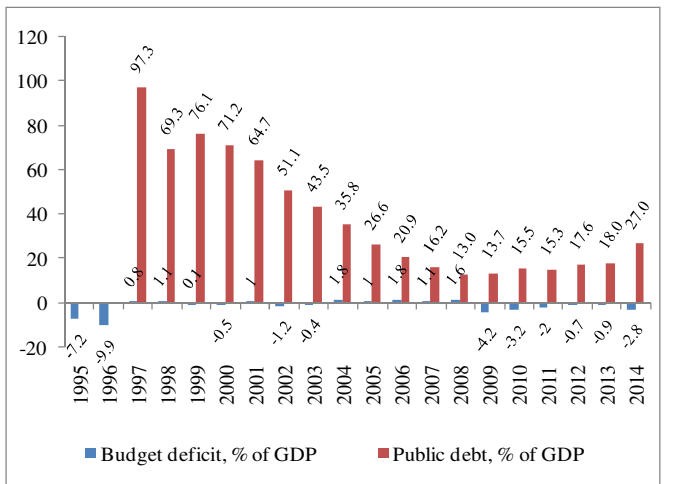
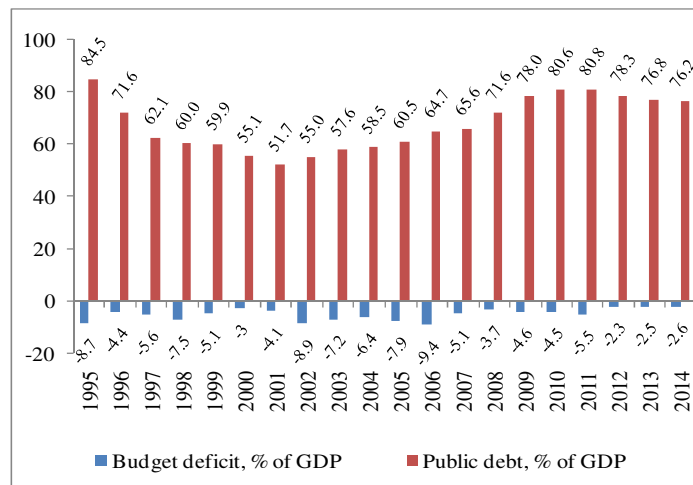


Fig. 1e: Hungary



Source: Eurostat.

In most of the EU countries, both the budget deficit and the public debt are persistent and varying in magnitude and dynamics. As for the dynamics of the budget deficit magnitude, Romania and other countries face major oscillations of this indicator, dependent on the economic cycle phases. Between 1995 and 2014 there were periods when the deficit exceeded by far the 3% threshold, as well as periods when it was much below the threshold.

As for the public debt, although Romania is ranked below the 60% ceiling, the public debt increase by 2.5 times in only three years (2008-2011) and reaching the level of almost 40% in 2014 as against 12.3% in 2007 (facing a non-performing economic structure, increasingly feeding the pension fund from other budget revenues in order to compensate for lack of social contributions, procyclical policies as increasing public wages and tax cuts, as well as a severe reduction in public and private investments) have increased ~~caused~~ not only the risk that the public deficit and debt exceed the ceiling set by the treaties, but also the risk that a severe macroeconomic instability emerge and all its negative effects.

From conceptual and technical perspective, the disequilibrium and the equilibrium restoration can be produced in two ways: 1) through the discretionary component of the government policy; and 2) through the cyclical component, called also automatic stabilizer. We wrote above that the effective budget deficit consists of two components called: a) net or structural deficit, called the discretionary element, and b) cyclical deficit or cyclical component. In turn, the cyclical deficit is the product of two elements: 1) the gap (distance) between the effective GDP and the potential GDP, calculated by the production function (called output gap and denoted by *OG*); 2) the elasticity coefficient of the budget balance (ε), showing major differences among countries.

On the basis of these relations and the calculations presented by the European Commission in *Cyclical Adjustment of Budget Balance* and in the AMECO database, we carry on our analysis and present descriptions and graphs accompanied by explanations and comments on various fiscal indicators and the relationships among them. Here, we first analyse the two calculation elements of the cyclical deficit: *OG*, ε .

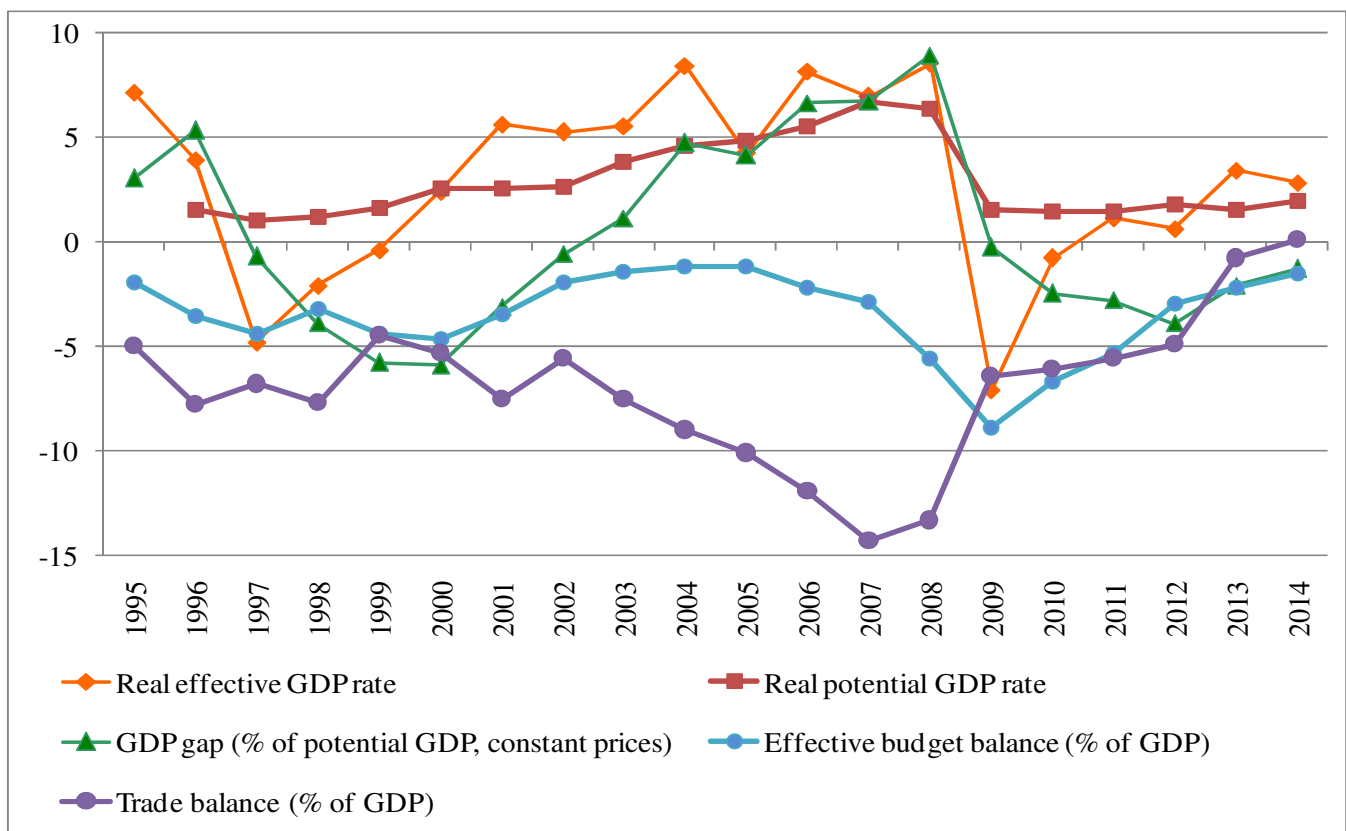
The first element is the output gap (*OG*). To understand its relationship with the other indicators from which it stems out (effective GDP and potential GDP) we present (Figures 2a-2e) its evolution as well as the annual growth rates of the effective and potential GDP for

Romania, Germany, Bulgaria, Poland and Hungary, between 1995 and 2014. It is worth mentioning that before the two crises, of 1997-1998 and 2009, the gap evolution shows that the effective GDP level noticeably exceeded the potential GDP. It means that the economy was too “hot”, so that the growth was no longer sustainable and exceeded the normal productive potential.

For finding the source of growth over the potential GDP, we introduce in the same graph the curve of the effective budget deficit expressed in percentage of the GDP, as well as the curve of the trade deficit over the same period (1995-2014). For Romania (Fig. 2a) we notice a worsening of the budget deficit and the balance of payments before and during the crises, which confirms that the growth was not sustainable, since it was mostly based on the two categories of deficits and less on the potential.

Figure 2: The evolution of GDP gap, growth rates of effective and potential GDP, budget balance and trade balance, 1995-2014, percent

Fig. 2a: Romania



Source: Based on data from the European Commission, *Cyclical Adjustment of Budget Balances*, Spring 2015 and Eurostat.

For comparison, we present in Figures 2b-2e the curves of the same indicators for other four member countries: Germany, Bulgaria, Poland and Hungary. We notice the following: Germany showed income increases (positive budget and trade balances) and lower oscillations of the curves described by indicators, while Bulgaria, Poland and Hungary showed deficits (negative budget balances) and higher oscillations of the three indicators, relatively similar to those recorded in Romania.

Fig. 2b: Germany

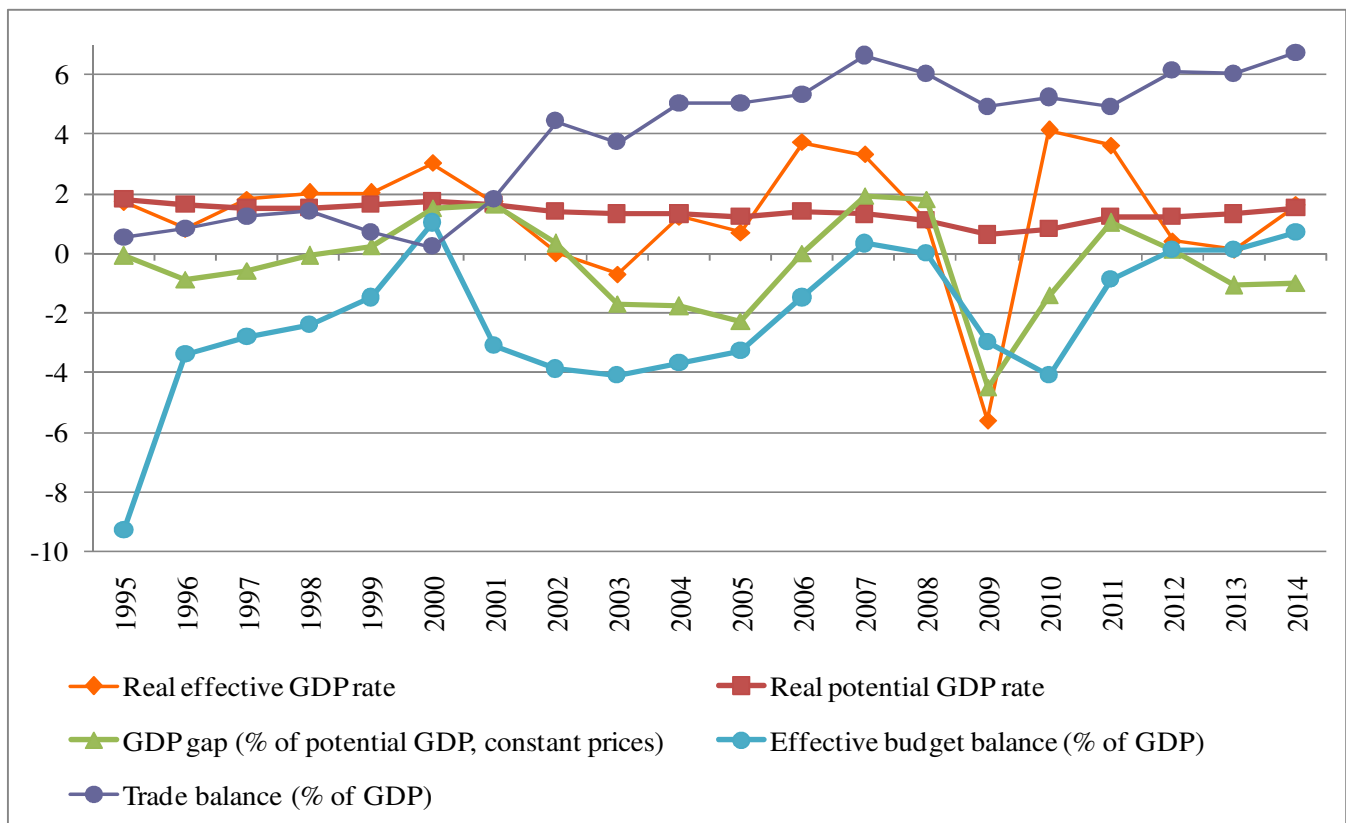


Fig. 2c: Bulgaria

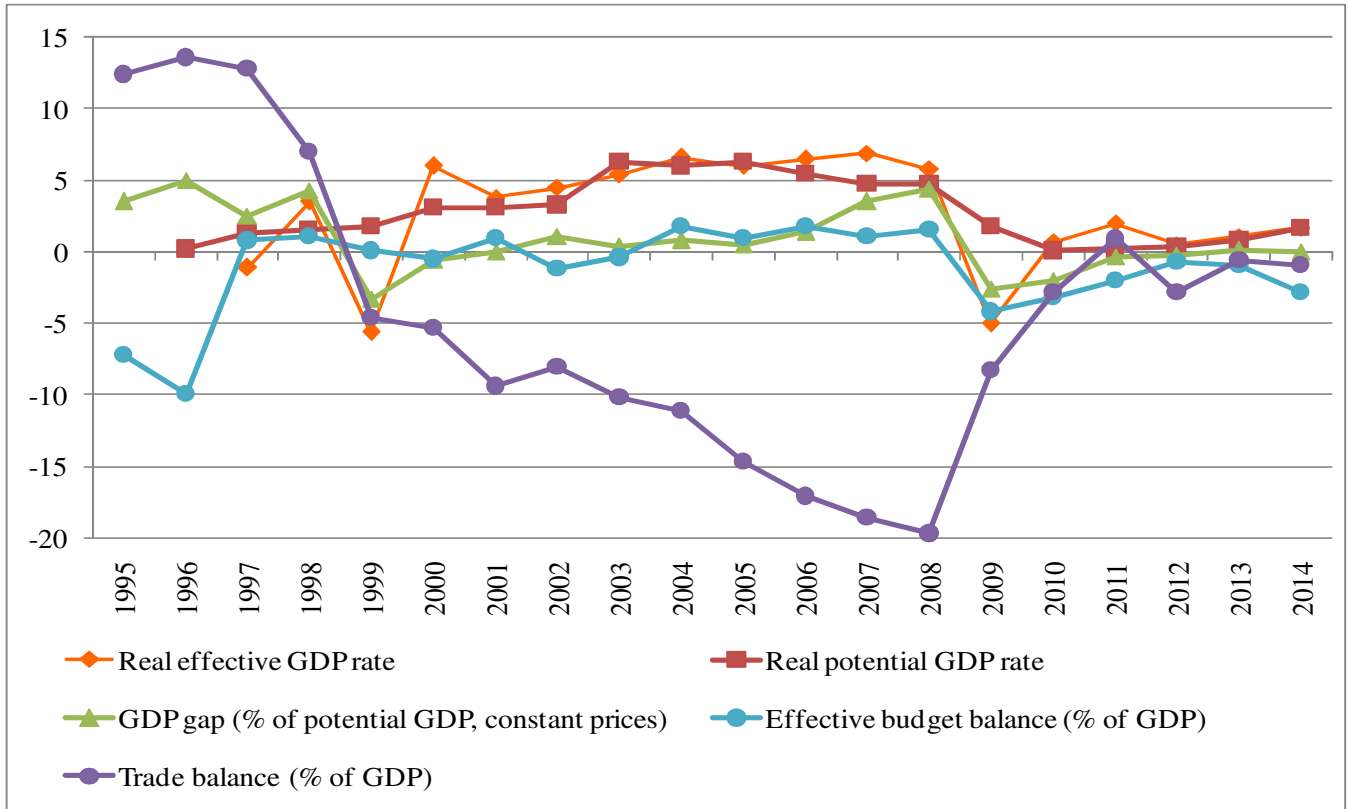


Fig. 2d: Poland

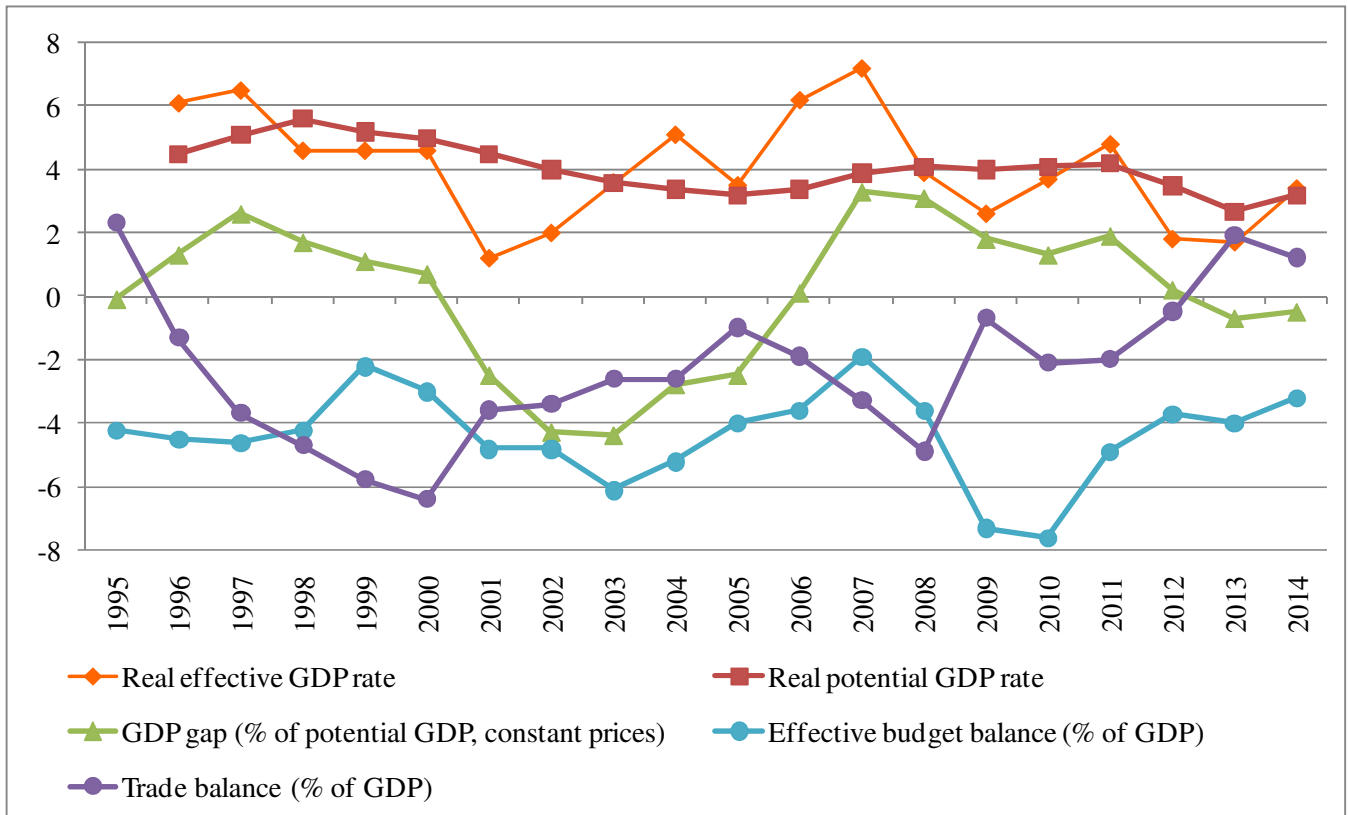
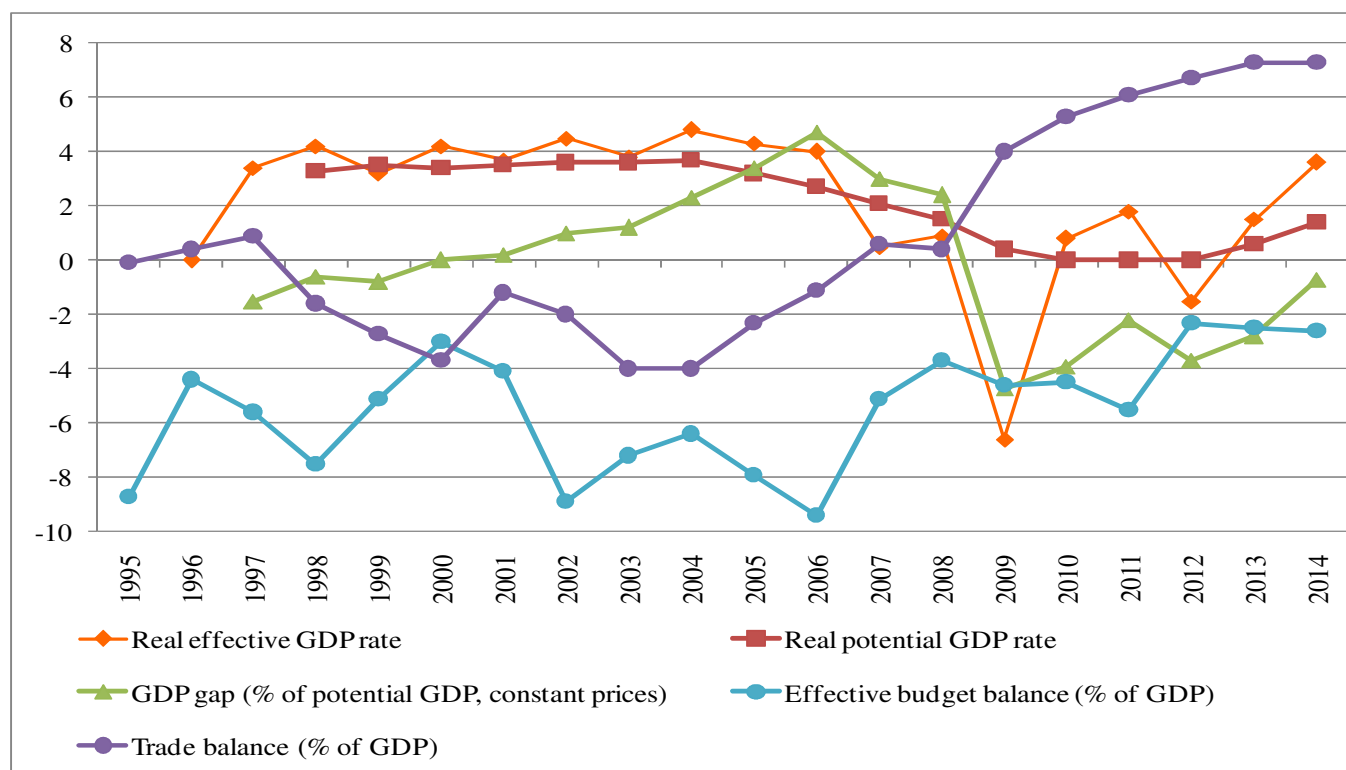


Fig. 2e: Hungary



Source: Based on data from the European Commission, *Cyclical Adjustment of Budget Balances*, Spring 2015 and Eurostat (Annex 2).

The second element of calculation of the cyclical component is the cyclical adjustment parameter of the budget deficit. Called budget elasticity and denoted by ε , it measures the relationship between the economic cycle and the budget or reveals the response of the budget balance (percent) to 1 percent of the output gap. According to the definition, the elasticity shows the variation in the ratio of the budget balance to GDP and the variation in the output gap: $\varepsilon = d(B/Y)/(dY/Y)$ (Mourre *et al.*, 2014, p. 9).

The total budget elasticity is an aggregated form resulting from the difference between the income elasticity and budget spending elasticity: $\varepsilon = \varepsilon_R - \varepsilon_E$. In turn, these elasticities represent the summing up of individual elasticities by category of incomes⁵ and expenditures⁶.

In general, elasticities in relation to output fluctuations could be higher for incomes and their components than for expenditures, except for unemployment expenditure.

⁵ These categories consist of: personal income, corporate income, contributions to social insurance, indirect taxes, incomes other than taxes.

⁶ Expenditures on unemployment, on gains, other expenditures.

The impact of the elasticity of various income categories and expenditure categories on the cyclical deficit and, finally, on the structural deficit depends not only on the size of elasticity, but also on the weight of each category of incomes and expenditures, *i.e.* in all incomes and all expenditures, as well as their weight in the economy (in GDP). According to the calculations, the elasticity of the taxes on wage earnings has the highest impact on cyclicity both because of the higher elasticity of this category of incomes and its heavier weight in all budget incomes. The same happens with the higher elasticity of the taxes on corporate income.

The final results of the calculations on the elasticities of incomes, expenditures and budget balance in the EU countries prove that at a 1 percent variation in the output gap, the cyclical deficit (component) by country ranges between 0.31 for Bulgaria and 0.34 for Romania to 0.60 for France and 0.61 for Belgium⁷ (Annex 1).

Since elasticity is calculated in relation to the GDP, it is obvious that values close to zero reveal a real process, *i.e.* they fluctuate cyclically as much as the GDP does. As for the elasticity of the budget expenditures, things are different. Values vary by country within a wide range, from -0.38 (Romania) and -0.39 (Bulgaria) to -0.61 (Sweden) and -0.62 (Germany) and come closer, to some extent, to the weight of budget expenditures in the countries' GDP⁸.

Once the primary indicators are calculated and analysed, we can further calculate and analyse the outcome indicators, *i.e.* revealing their significance and evolution, the opportunity of manipulating (influencing) them through fiscal policies as well as their utilisation as calculation, signalling and orientation elements for formulating and implementing fiscal consolidation policies. Here, it is necessary to separate the effects produced by automatic stabilizers from the effects produced by discretionary factors pertaining to the fiscal policies. It implies the decomposition of the effects of the two categories of factors by:

- a) the automatic response of the budget to changes in the economic activity;
- b) the response of the budget to discretionary fiscal policies.

For implementing the fiscal surveillance by means of the two arms – preventive and corrective ones –, fulfilling the medium-term objectives (MTO) and implementing **the**

⁷ European Commission, *Report of Public Finances in EMU 2014*, p. 45.

⁸ European Commission, *Report of Public Finances in EMU 2014*, p. 45.

excessive deficit procedure, the new indicator of the structural balance (deficit), defined as budget balance (deficit) free of cyclical effects (Def_s or CAB) was promoted.

According to the given series (with updated methodologies), we present in Figures 3a-3e the curves described by the effective budget deficit (Def), besides the cyclical deficit (Def_c), the structural deficit (Def_s) and the output gap (OG), for Romania, Germany, Bulgaria, Poland and Hungary. For revealing the weight of the above indicators in the system we present two variants of the graph:

A. The variant revealing the magnitude of the effective deficit and of the two components – structural deficit and cyclical deficit – in relation to the gap curve.

B. The variant revealing the magnitude of the gap in relation to the curves described by the deficits.

Analysing these graphs and basic data, we may conclude the following:

1. Between 1995 and 2014, we find two subperiods: 1995-1997 and 2003-2008, when the curve of the output gap was above zero, *i.e.* when the gap was positive, because the effective GDP growth was higher than the potential one. Over the two subperiods, the economy grew beyond its normal potential, using resources in a forced way, which caused disequilibria reflected first in the increasing (effective and structural) budget deficit and public debt and in the increasing positive cyclical component.

Not only the lack of strong fiscal policies of prevention and correction, but also the implementation (by the Government) of procyclical policies caused a rise in the deficit-to-GDP share, which might increase disequilibria much beyond the sustainable limits.

2. Over the 2003-2008 subperiod there was a rise in the cyclicity of the effective deficit which competed in size with the structural deficit, both reaching extremely unfavourable limits: -8.9% and -8.8%.

Figure 3: The cyclical, structural, effective deficit and the GDP gap

Figure 3a: Romania – variant A

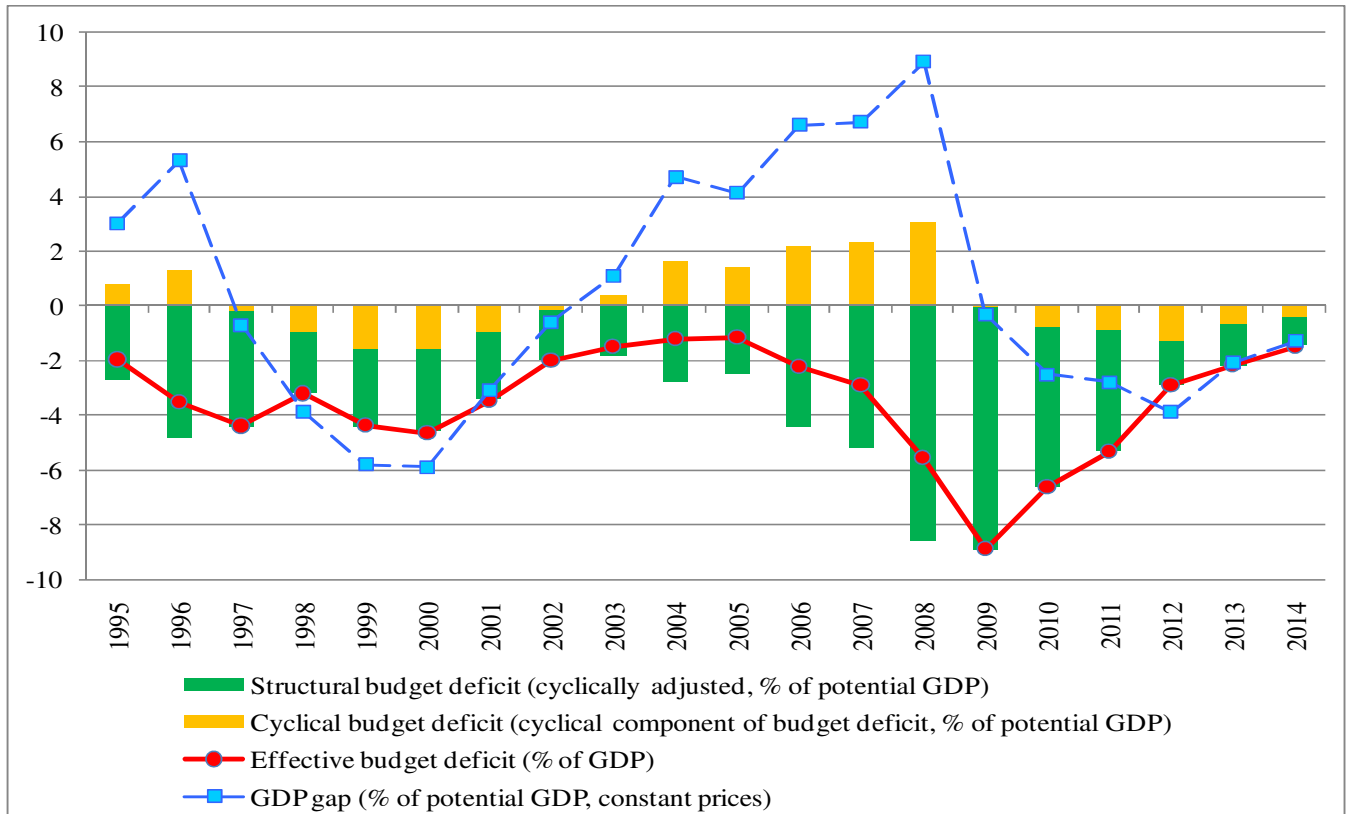


Figure 3a: Romania – variant B

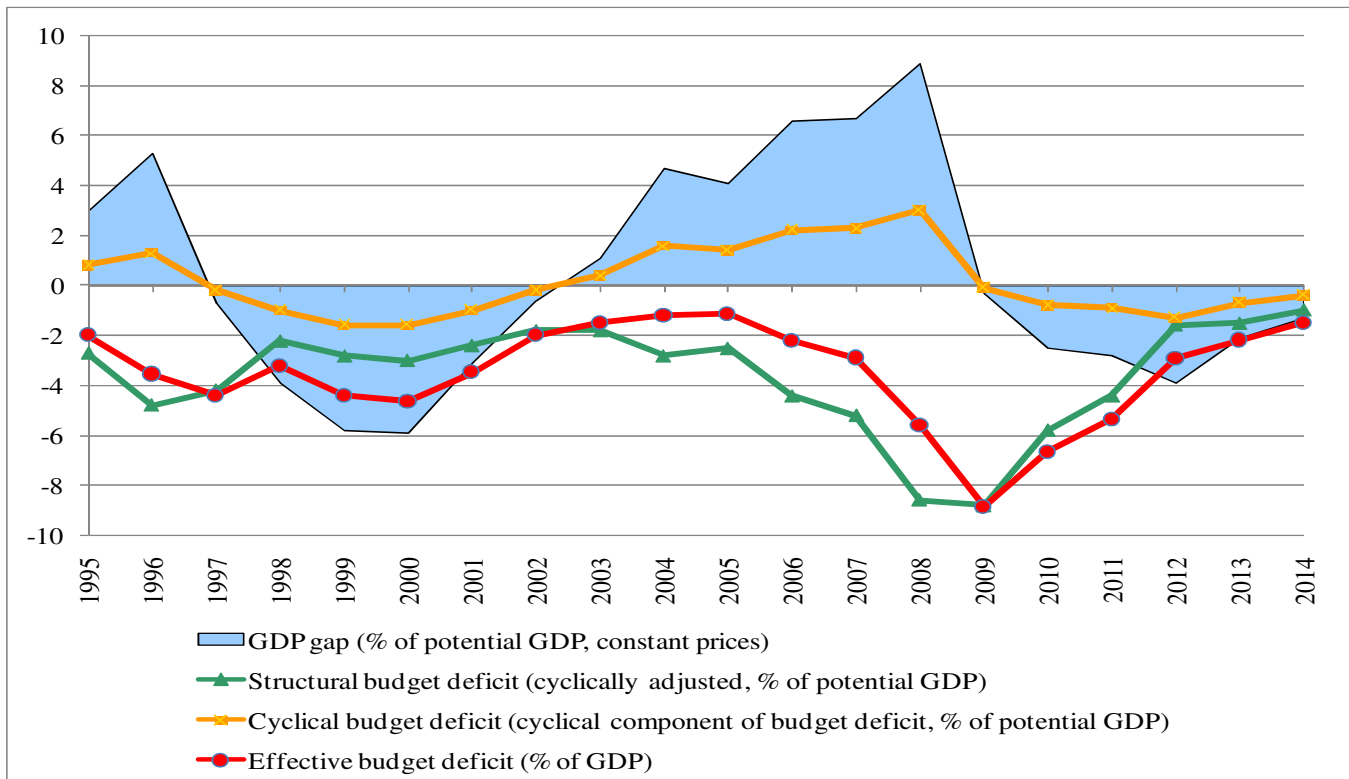


Figure 3b: Germany – variant A

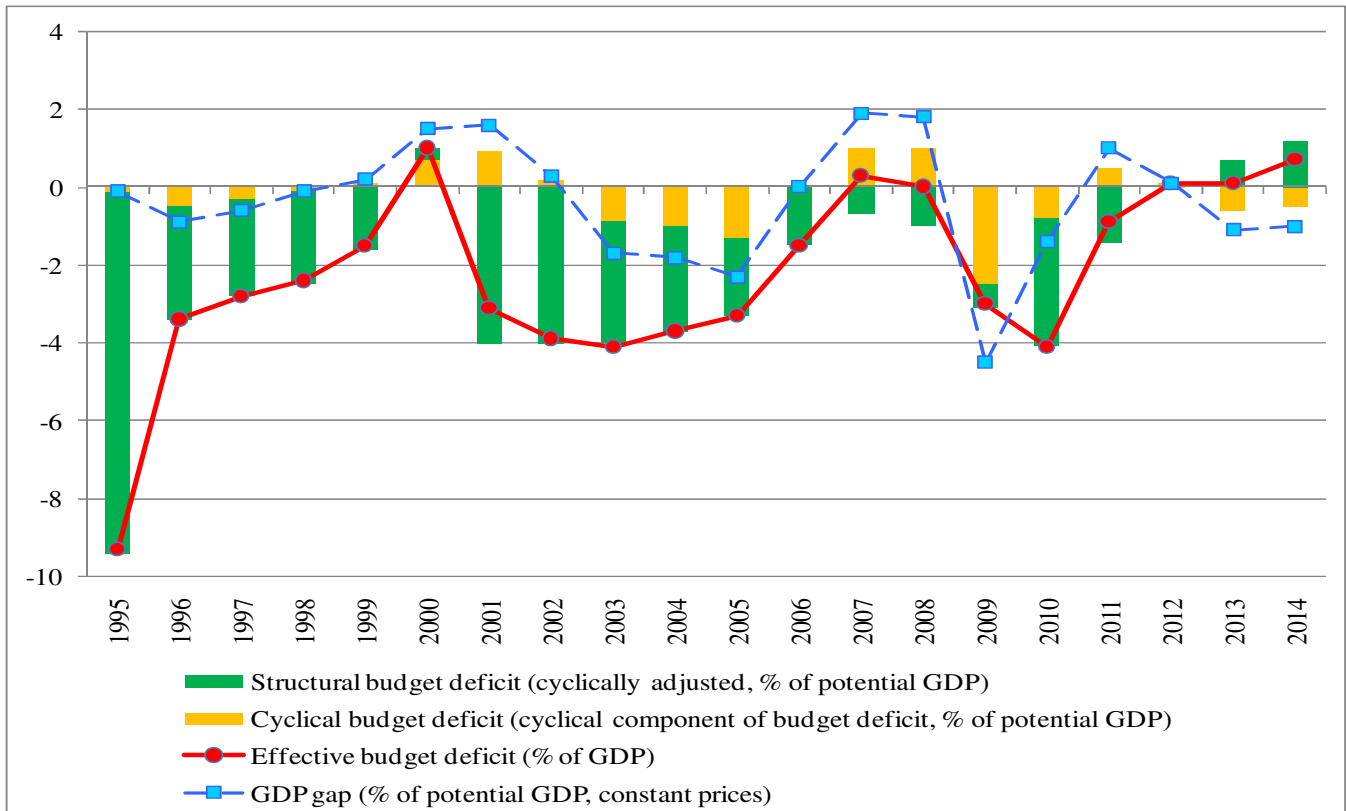


Figure 3b: Germany – variant B

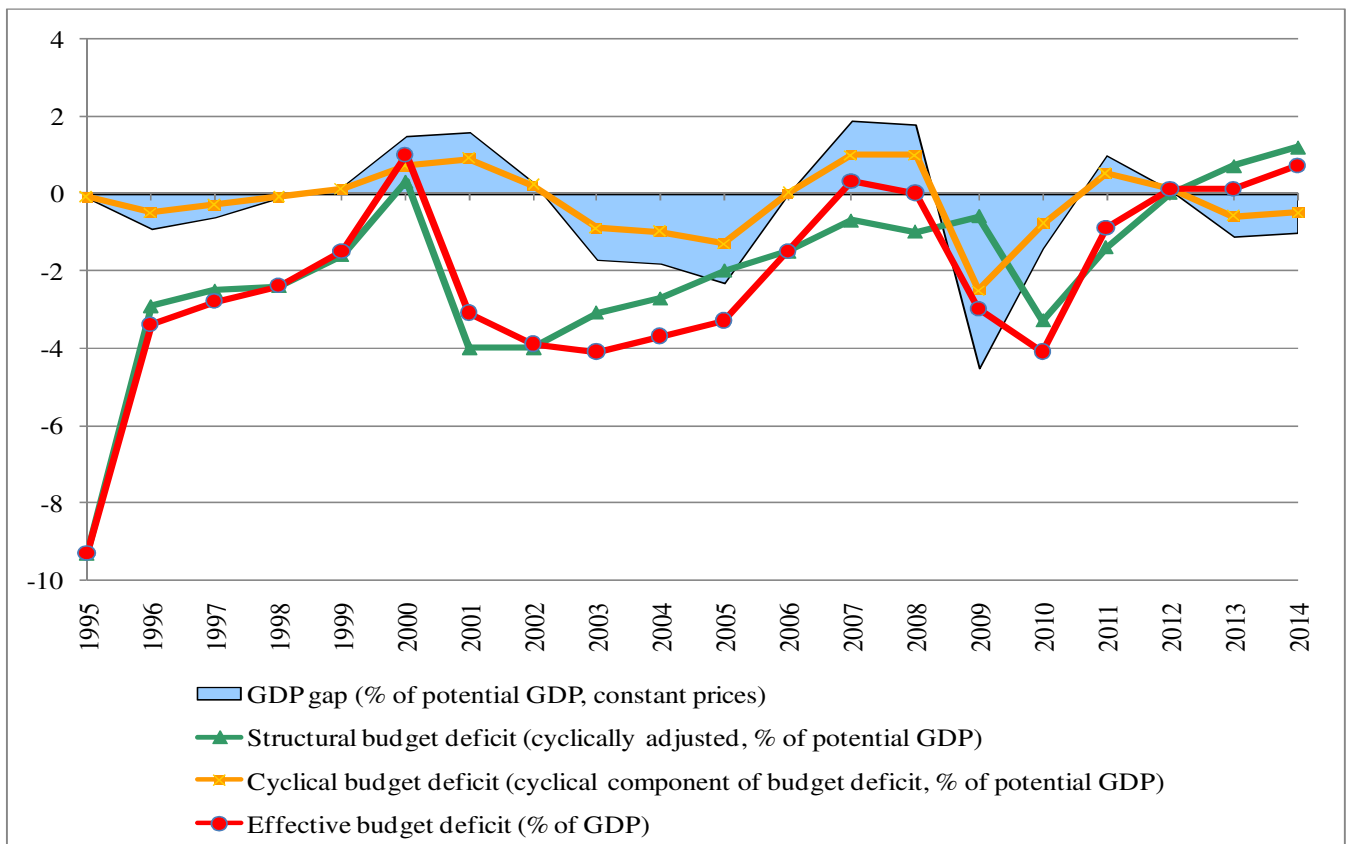


Figure 3c: Bulgaria – variant A

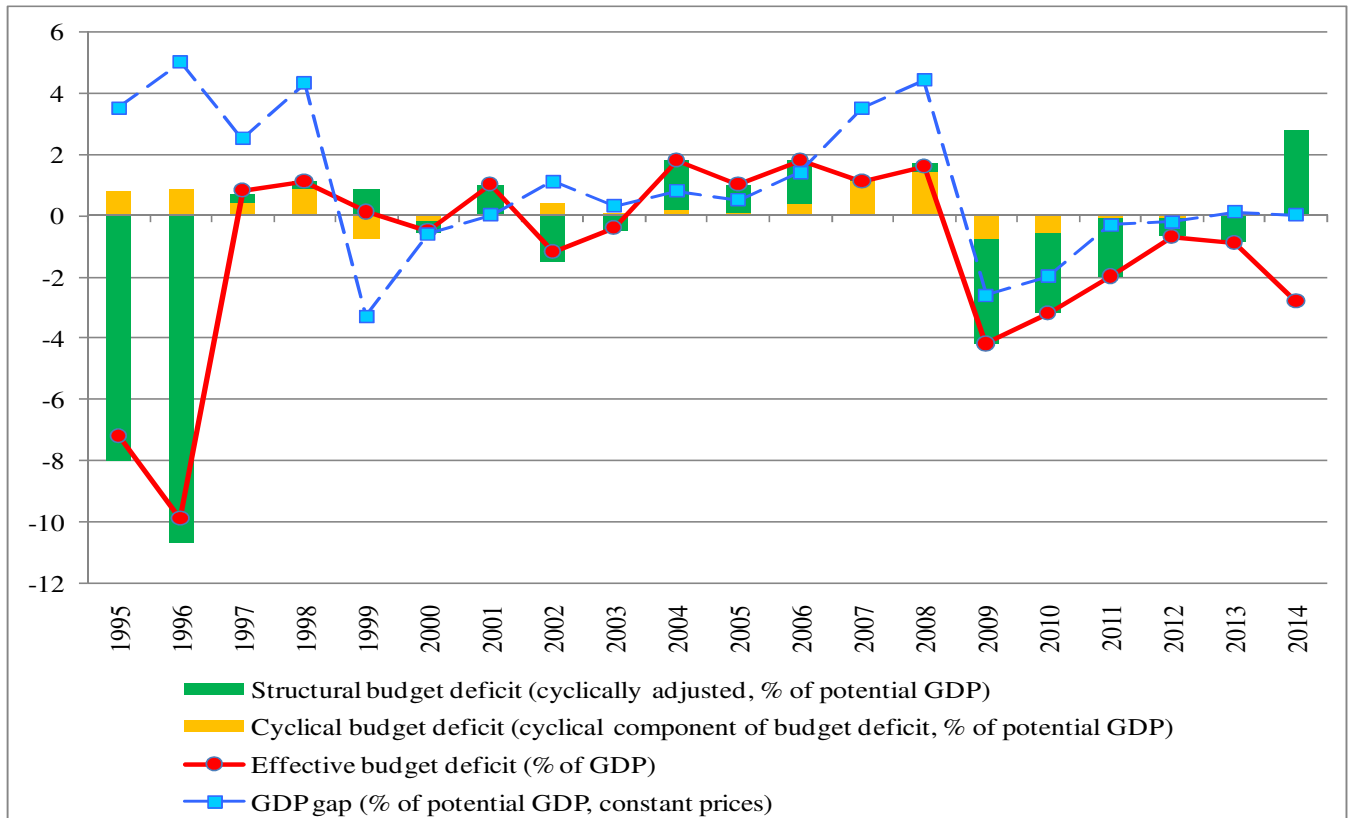


Figure 3c: Bulgaria – variant B

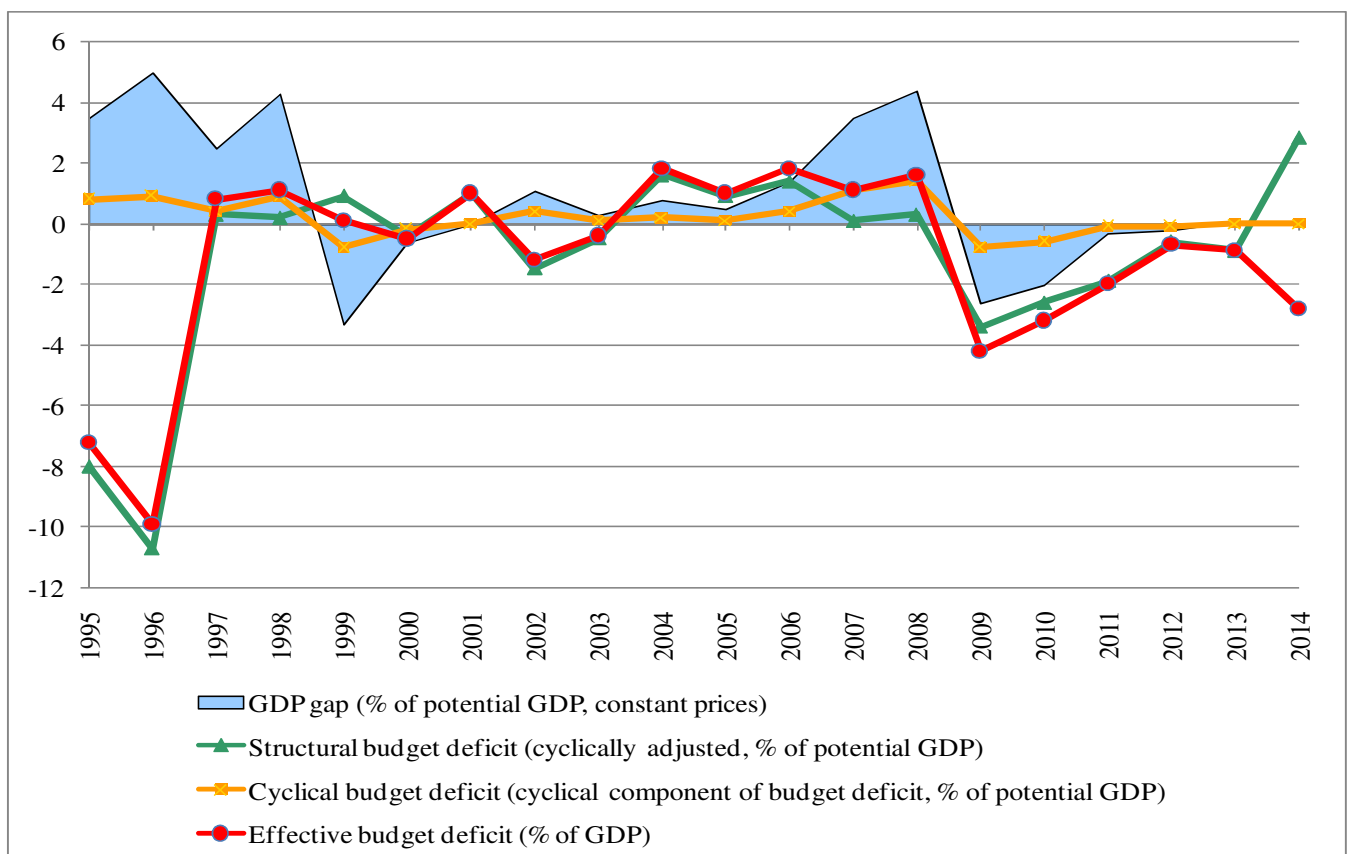


Figure 3d: Poland – variant A

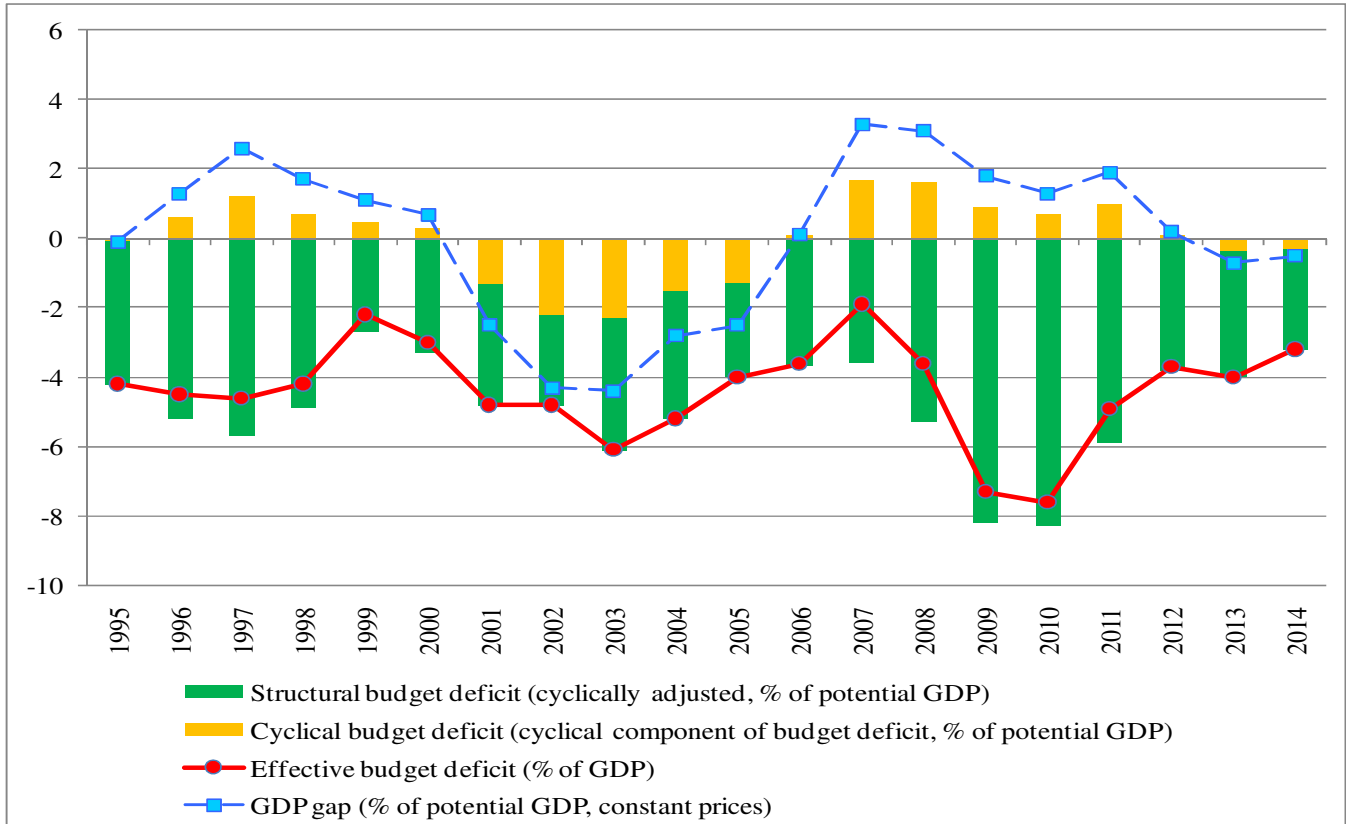


Figure 3d: Poland – variant B

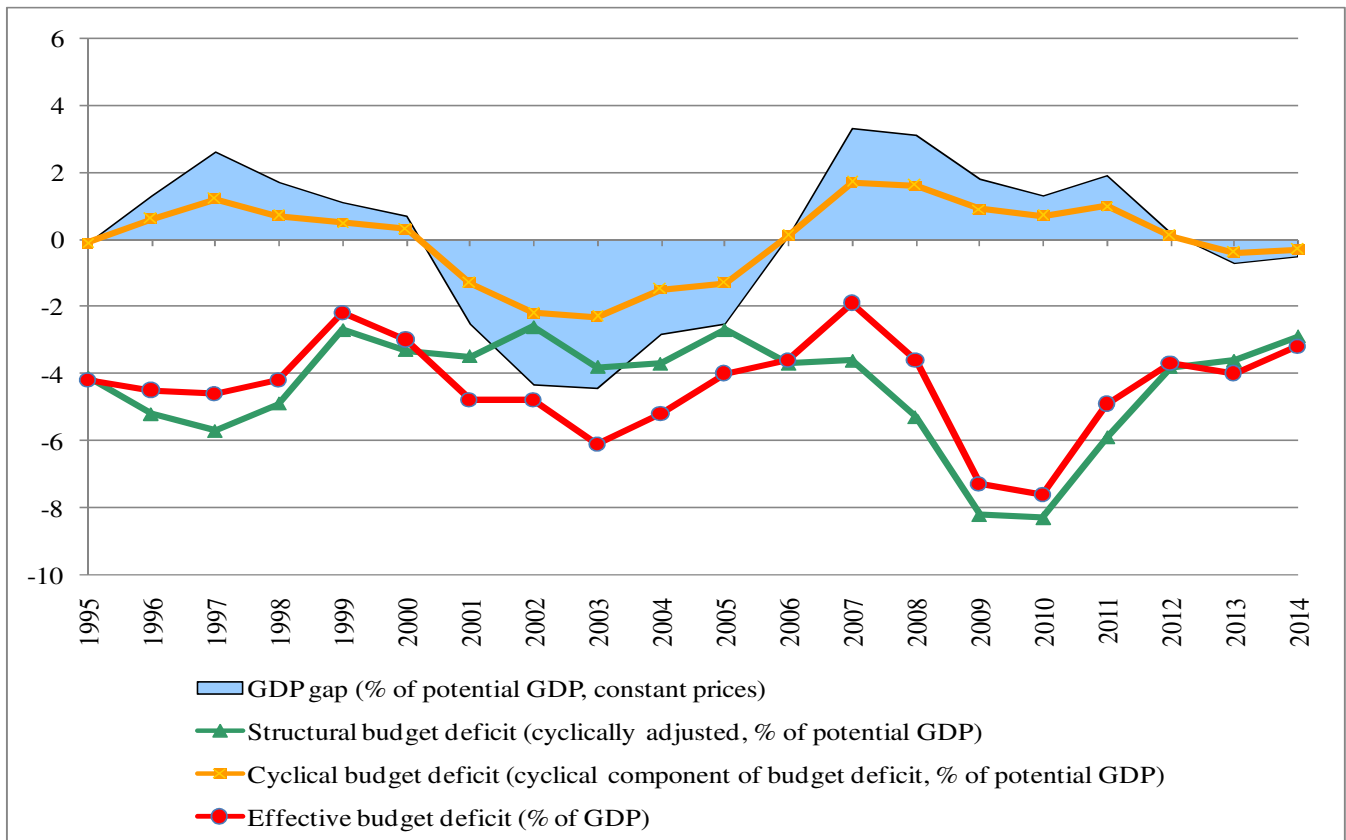


Figure 3e: Hungary – variant A

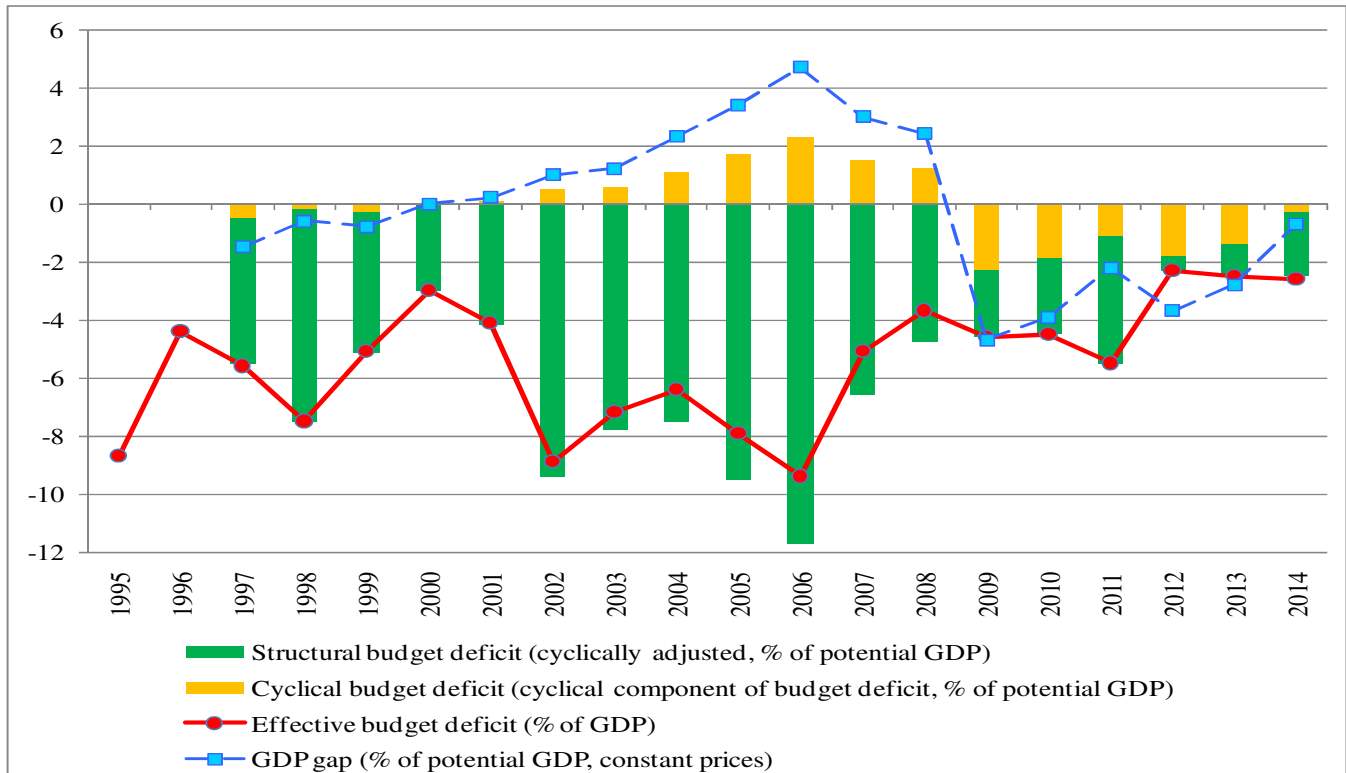
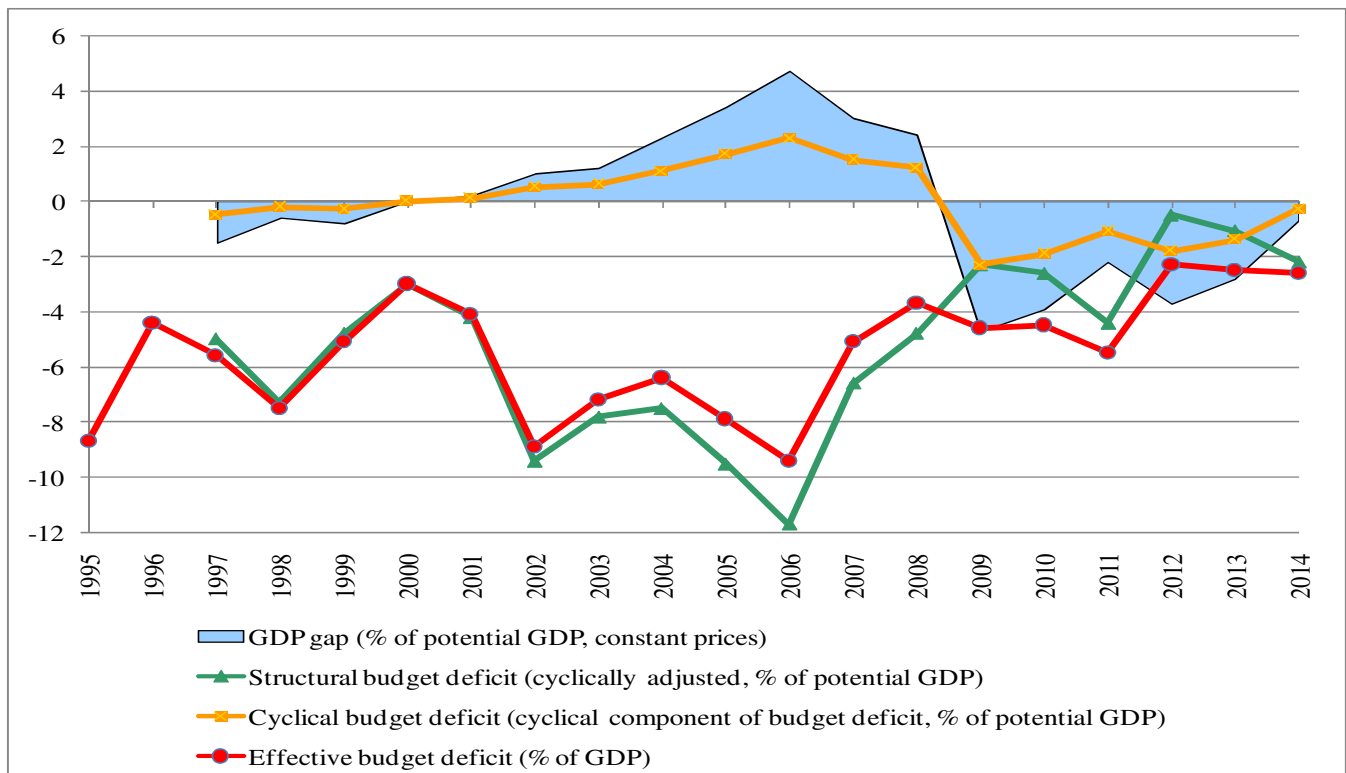


Figure 3e: Hungary – variant B



Source: Based on data from the European Commission, *Cyclical Adjustment of Budget Balances*, Spring 2015 (Annex 2).

3. Over the same subperiod, during the boom time, the policy makers promoted highly expansionary (procyclical) fiscal policies by excessively increasing the public expenditures from cyclical incomes (Dumitru, 2012) and from loans, which caused after 2008 a diminution in the fiscal space and worsened the economic crisis. Actually, the procyclical fiscal policy eliminated the role of automatic stabilizers in the smoothing of the economic cycle (Dumitru, 2012) by blocking them, and their replacement with tough austerity policies was the only possible way in absence of a fiscal space. The list of the austerity measures taken by Romania and other EU countries presented in Table 1 shows only some of the discretionary fiscal measures.
4. Contrary to the assumption that the austerity measures would implacably cause economic contraction and its consequences, especially on short term, the statistical data do not confirm this assumption as a general rule. Data presented in Table 2 show that out of all 27 EU member states which were affected by the economic crisis (with a major GDP contraction in 2009) and took austerity measures, 12 of them attained positive growth rates as early as 2010, when some of them adopted austerity measures. In Romania and Latvia, the recovery started in 2011.

Although the economic recovery is still unsatisfactory because of low rates and high unemployment, some promising results have been obtained in the fiscal sustainability consolidation, following the austerity measures taken along with the reforms presented above (see Table 3). To example, considering as a criterion the effort of fiscal consolidation by diminishing the effective budget deficit and the structural budget deficit, the positive fact is that, with regard to the effective deficit, the number of countries ranked below the 3 percent limit increased from 10 in 2010 to 18 in 2013. Also, with regard to the structural deficit, the number of countries ranked below the 1 percent limit increased from 5 in 2011 to 7 in 2013; with regard to the primary structural deficit⁹, the number of countries ranked below the 1 percent limit increased from 7 in 2011 to 17 in 2013.

⁹ We obtain the primary structural deficit by deducting the interest from the structural deficit.

Table 3

Budget deficits in the EU and the member states (% of GDP), 2011-2014

	Effective budget deficit				Structural deficit				Primary structural deficit			
	2011	2012	2013	2014	2011	2012	2013	2014	2011	2012	2013	2014
BE	-3.9	-4.1	-2.9	-3.0	-3.6	-3.1	-2.7	-2.6	-0.3	0.3	0.5	0.4
DE	-0.9	0.1	0.1	0.2	-1.3	0.0	0.6	0.7	1.2	2.3	2.6	2.6
EE	1.0	-0.3	-0.5	-0.4	-0.2	-0.4	-1.1	-0.8	-0.1	-0.2	-1.0	-0.6
IE	-12.6	-8.0	-5.7	-3.7	-8.0	-7.1	-4.8	-3.8	-4.6	-2.9	-0.4	0.3
EL	-10.1	-8.6	-12.2	-1.6	-5.7	0.1	3.1	2.0	1.6	5.1	7.1	6.3
ES	-9.4	-10.3	-6.8	-5.6	-6.3	-3.6	-2.3	-2.2	-3.8	-0.7	0.9	1.2
FR	-5.1	-4.9	-4.1	-4.4	-5.0	-4.3	-3.3	-3.0	-2.4	-1.7	-1.0	-0.9
IT	-3.5	-3.0	-2.8	-3.0	-3.3	-1.6	-0.8	-0.9	1.4	3.5	4.0	3.8
CY	-5.8	-5.8	-4.9	-3.0	-5.7	-5.5	-2.1	-0.8	-3.5	-2.6	-1.0	-2.2
LV	-3.4	-0.8	-0.9	-1.1	-1.1	-0.1	-1.0	-1.5	0.8	1.6	0.4	0.0
LU	0.3	0.1	0.6	0.2	0.8	1.5	2.0	1.1	1.2	2.0	2.4	1.5
MT	-2.6	-3.7	-2.7	-2.5	-3.1	-3.8	-2.7	-2.7	0.1	-0.8	0.2	0.1
NL	-4.3	-4.0	-2.3	-2.5	-3.8	-2.2	-0.6	-0.5	-2.0	-0.6	0.9	1.0
AT	-2.6	-2.3	-1.5	-2.9	-2.5	-1.8	-1.3	-1.1	0.3	0.9	1.3	1.4
PT	-7.4	-5.5	-4.9	-4.9	-5.4	-2.3	-1.9	-1.3	-1.1	2.6	3.0	3.7
SI	-6.2	-3.7	-14.6	-4.4	-4.5	-1.8	-1.8	-2.5	-2.6	0.2	0.7	0.8
SK	-4.1	-4.2	-2.6	-3.0	-4.1	-3.4	-1.4	-2.1	-2.5	-1.6	0.5	-0.3
FI	-1.0	-2.1	-2.4	-2.9	-0.8	-1.1	-0.7	-1.1	0.6	0.4	0.5	0.2
EA-18	-4.1	-3.6	-2.9	-2.6	-3.6	-2.1	-1.2	-1.1	-0.6	0.9	1.6	1.6
BG	-2.0	-0.5	-1.2	-3.6	-2.0	-0.5	-1.3	-3.4	-1.2	0.3	-0.5	-2.5
CZ	-2.9	-4.0	-1.3	-1.4	-2.6	-1.4	0.2	-0.7	-1.3	0.0	1.5	0.6
DK	-2.1	-3.9	-0.7	-1.0	-0.6	-0.1	0.2	-0.2	1.4	1.7	1.9	1.4
HR	-7.7	-5.6	-5.2	-5.6	-7.1	-4.4	-3.6	-3.9	-4.2	-1.2	-0.2	-0.1
LT	-9.0	-3.2	-2.6	-1.2	-3.8	-2.8	-2.2	-1.8	-1.9	-0.8	-0.4	0.1
HU	-5.5	-2.3	-2.4	-2.9	-4.2	-1.3	-1.3	-2.7	0.0	3.3	3.3	1.4
PL	-4.9	-3.7	-4.0	-3.4	-6.0	-4.0	-3.5	-2.9	-3.4	-1.4	-1.1	-0.8
RO	-5.5	-3.0	-2.2	-2.1	-3.6	-2.5	-1.7	-1.7	-1.9	-0.7	0.0	0.1
SE	-0.1	-0.9	-1.3	-2.4	0.0	0.0	-0.3	-1.5	1.1	0.9	0.6	-0.7
UK	-7.6	-8.3	-5.8	-5.4	-5.8	-6.5	-4.4	-5.0	-2.7	-3.6	-1.6	-2.3
EU-28	-4.5	-4.2	-3.2	-3.0	-3.8	-2.7	-1.7	-1.8	-0.9	0.1	1.0	0.8

Source: European Commission, "Report in Public finances in EMU 2014", *European Economy*, 9/2014, p.7.

Romania ranked below the 3 percent limit of the effective budget deficit starting in 2012 and the 1 percent limit of the structural deficit in 2014. As for the EU, the structural deficit diminished from 4.7% in 2010 to 1.6% in 2014, and in the Eurozone, the structural deficit diminished from 4.2% in 2010 to 0.8% in 2014¹⁰.

The reforms and the new mechanism that accompanied the fiscal compact implemented by the EU for the fiscal consolidation provided opportunities for a diminution in the budget deficits and the public debt. But they do not provide equal opportunities for improving the real economy indicators – economic growth and unemployment reduction, especially by increasing the economic potential through investments.

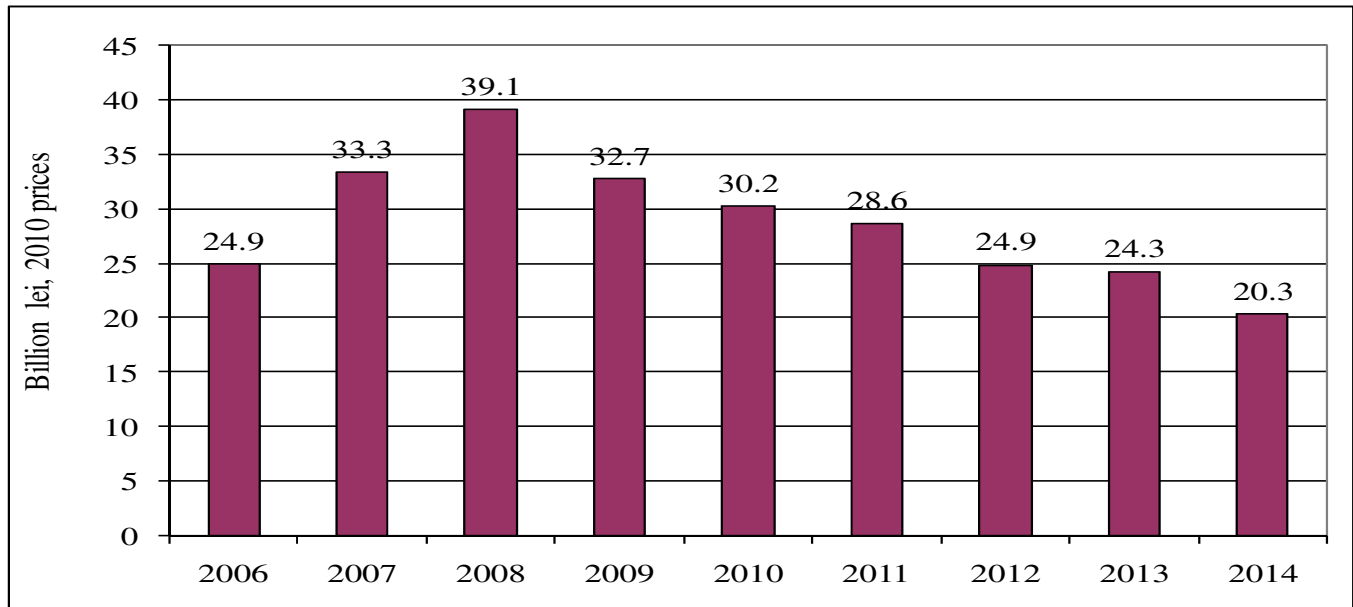
Since the regulations included in the new mechanism focused almost exclusively on diminishing the structural and effective deficits as well as on the automatic application of severe sanctions, the national decision-makers are more selective in taking austerity measures, by diminishing the budget expenditures in order to strictly comply with the reference rules included in the treaties, often at the expense of the economic sustainable development on medium and long terms. One of the severely sacrificed sectors is just the public investment.

6. The New Mechanism and the Golden Rule

The question of the fiscal consolidation and sustainability and of the austerity measures cannot be separated from the question of public investments which is, in fact, an essential factor of the economic growth potential. Although the necessity to make such investments is obvious, especially in less developed countries, as revealed by many studies and articles (Blanchard, Giavazzi, 2004; Haan *et al.*, 2007; Creel *et al.*, 2012; NERI, 2012; Wichengreen, Wyplosz, 1998; Monperrus-Veroni, Saraceno, 2005; van Ark, 2010; Verde, 2004), statistics show a systematic diminution. The diminishing size of investments is shown by their decreasing weight in the GDP at the EU level by about 20% p.p. in 2015 as against 2010. The evidence shows the existence of the same trend in Romania, as Figure 4 describes the evolution of the public investments in the 2006 – 2014 period:

¹⁰ AMECO, 2015.

Figure 4: Public investments in Romania



Source: Eurostat.

Not only the public investments, but also the private ones have continuously decreased in the last years in Romania; that is why the total investments in real terms, in 2014, amounted to only 46.8% of the 2008 level.

A full picture of the trend in the investment process across the EU is provided by Table 4 regarding the growth rates of the public investments made by the EU member states in 1995-2014.

According to statistics, in 2010, a significant number of countries (12-18 out of all 28) were affected by a severe systematic decrease in public investments. The most affected were Romania, Spain, Portugal, Austria, Lithuania, France, the Netherlands, the United Kingdom, etc.

One of the causes of this diminution could be just the newly created regulations and mechanisms that could have, as a secondary effect, the investment decrease. A plausible sign could be the fact that the EU regulations and mechanisms for reducing the budget deficit do not only ignore the investments, but they are conceived and function in a way that stimulates the policy makers to sacrifice just the expenditure on public investments, as a possible means of spending diminution (to keep budget deficits within the required limits). The reason is that they do not cause major direct social problems, just as a wage and pension cut or/and a tax rise might do.

Table 4

Investment growth rates (fixed capital gross formation) in the public sector, in the EU member countries, 1995-2014 (percent)

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Belgium	-4.8	6.2	0.5	15.5	2.6	-7.8	3.4	0.8	-0.2	7.0	-6.7	5.7	2.2	4.6	4.0	5.0	3.0	-5.0	4.2
Bulgaria	...	89.7	131.5	22.7	7.0	3.6	-3.4	3.2	13.8	10.9	19.5	38.0	11.4	-13.3	-4.3	-24.6	0.2	19.7	25.2
Czech R.	-5.4	-5.1	3.7	-15.1	17.3	-5.6	5.9	102.8	-31.4	11.8	5.3	1.0	13.4	7.6	-13.0	-10.3	-7.8	-10.6	15.6
Denmark	10.7	-0.3	-5.1	4.4	6.4	8.9	-8.2	-2.8	11.6	-0.3	11.4	3.2	-1.4	3.6	10.3	1.1	15.8	-2.3	7.0
Germany	-1.8	-5.6	2.6	6.9	-0.6	1.6	-0.9	-3.7	-5.0	-3.5	6.0	3.1	7.0	7.2	2.7	1.6	-1.2	-0.2	-0.9
Estonia	...	...	...	...	...	16.3	39.8	-2.7	-8.0	16.8	28.1	23.8	5.1	-12.7	-19.1	13.0	33.5	-12.3	-4.5
Ireland	11.5	20.1	12.7	21.4	19.2	26.3	6.8	-11.4	-2.7	5.8	10.7	32.9	16.0	-30.2	-7.4	-24.8	-20.3	-9.1	10.1
Greece	...	...	...	...	...	...	...	...	...	...	...	10.0	15.8	-6.8	-33.5	-28.9	-5.8	4.6	39.3
Spain	-12.5	3.3	9.6	4.1	-1.8	7.2	10.7	4.8	-1.9	8.1	7.0	10.5	2.9	10.6	-7.8	-20.8	-35.7	-9.2	-3.7
France	0.6	-5.0	0.9	5.5	6.9	0.0	-0.4	5.1	3.5	2.0	-1.4	2.6	-0.9	4.8	-0.5	-4.0	2.1	0.1	-7.4
Croatia	...	...	...	...	...	...	10.8	38.7	-5.9	-8.3	5.2	16.7	-1.0	-9.4	-40.1	9.3	1.1	5.7	-3.1
Italy	6.4	2.3	5.8	6.3	-0.5	4.5	-17.8	29.6	2.1	-0.5	-0.6	0.2	0.9	10.8	-15.7	-5.7	-10.0	-7.8	-6.1
Cyprus	19.2	-2.6	-40.3	13.2	12.3	5.5	11.3	14.5	9.6	-14.9	-1.6	-4.7	7.8	30.4	7.6	-8.4	-29.4	-29.7	-10.6
Latvia	30.9	-31.9	6.5	20.4	15.7	-5.0	12.9	70.7	40.0	8.7	49.6	38.0	-10.4	-10.0	-9.6	15.5	-3.4	-7.3	2.1
Lithuania	...	...	...	...	...	...	...	...	...	...	27.9	40.7	4.9	-27.0	20.7	3.6	-12.2	-5.4	-2.2
Luxembourg	...	...	...	...	...	8.7	16.2	2.9	-0.6	13.1	-9.9	0.0	3.3	9.4	15.2	-4.4	-4.2	-8.5	...
Hungary	...	65.0	29.7	-0.7	10.5	15.9	41.9	-22.8	6.8	15.0	25.5	-14.6	-22.7	0.5	9.6	-8.2	9.5	19.9	22.5
Malta	...	...	...	...	...	-8.1	20.0	17.1	-16.0	32.0	-10.2	-1.6	-33.1	-5.7	-1.2	24.9	13.4	-9.8	39.6
Netherlands	8.1	0.4	3.8	11.9	3.8	6.9	7.0	2.4	-5.9	-1.6	9.1	2.4	5.2	2.7	-3.1	-1.0	-6.3	-3.1	2.6
Austria	-3.6	-18.8	1.4	1.4	-4.1	-7.8	11.5	-4.0	-0.6	27.6	0.2	6.8	8.8	0.3	-2.4	-4.9	-3.4	4.2	-3.3
Poland	19.2	20.0	6.5	-5.8	-35.2	55.8	5.2	0.9	10.6	23.8	25.9	21.6	12.1	10.3	18.0	11.6	-17.1	-9.6	13.5
Portugal	13.7	19.6	-2.8	1.7	-4.3	12.8	-6.3	-4.2	3.1	-6.8	-16.3	-1.0	14.1	10.3	30.9	-35.5	-31.3	-14.4	-0.8
Romania	-6.0	-28.2	-24.0	-8.2	111.7	-20.2	24.4	16.3	-12.7	7.6	104.2	33.8	17.3	-16.4	-7.5	-5.4	-13.2	-2.4	-16.3
Slovenia	2.9	-2.4	4.5	17.0	-4.9	12.4	1.3	4.6	6.8	-3.0	20.4	14.7	8.0	1.5	-4.0	-16.6	-7.4	8.4	21.6
Slovakia	...	...	-20.5	-21.4	1.7	10.0	8.6	-16.2	0.6	23.0	20.2	-8.5	13.3	9.0	-1.5	8.9	-15.7	0.0	27.3
Finland	11.7	16.4	0.1	-1.7	-6.9	-1.2	11.4	6.5	4.1	-6.4	-5.5	6.4	2.9	3.2	-2.5	6.1	2.3	4.3	-1.4
Sweden	-1.1	-9.4	2.9	3.3	-6.7	6.4	6.2	0.8	1.9	2.5	5.8	3.3	2.9	-0.5	6.7	1.8	2.8	1.8	0.8
United Kingdom	-16.9	-6.9	10.5	2.8	0.1	15.9	6.4	9.9	19.2	-38.4	73.8	3.5	16.2	5.5	0.6	-6.6	-4.7	-4.5	9.2

Source: Calculation based on Eurostat data.

A possible answer to the question how we can prevent, supervise and correct such unsatisfactory and harmful situations and developments could be the adoption of the golden rule of the public finance conceived by Musgrave in 1939, experimented in various forms in some periods by Sweden, the United Kingdom, Germany, and supported by many authors.

The golden rule assumes that we need to adopt a **dual budget** for separating the current public expenditure from the investment expenditure.

The arguments are the following:

a) Public investment is an important component for ensuring economic growth, especially when the purpose is the infrastructure development and modernisation.

b) As the investment objectives require over one year to be completed, their financing from current funds is uncertain (risky), especially when the execution of the works needs continuity.

c) The investment objectives achieved and implemented from taxes paid by the present generations benefit the future generations who make no effort for that. But when the investment funding is based on loans, the future generations would equally be involved. Therefore, the cost of investment in physical assets could be borne by those who use such assets (Balassone, Franco, 2000, p. 218).

d) The golden rule is more compatible with economic growth and convergence than the new mechanisms created by the financial reforms, which ignore the public investment issue (Monperrus-Veroni, Saraceno, 2005).

The advantages of the golden rule are sometimes criticized for less attention paid to consumption and for promoting the public debt growth.

The discussion about the need for a dual budget separating the investment expenditure from other current budget expenditures led to several points of view regarding the finding of constructive solutions inside the EU mechanism of effective management of the budget deficit and the public debt.

It is obvious that the application of the golden rule requires some changes in the tools of supervision and correction or even deviations from the reference rules. These changes are related not only to the budget deficit parameter but also to the limitative reference rules and the

medium-term objectives. The question is whether these categories of changes are consistent with the EU Treaty objectives and Fiscal Compact (Balassone, Franco, 2003).

The alternatives suggested for debate as well as those applied many years ago by some countries are not in line with the EU treaties and fiscal mechanisms. For example, the alternative suggested by Modigliani *et al.* takes into account the separation (deduction) of the net public investment from the effective and structural budget deficits:

$$[Def - (INV_p - A)]/Y \leq 0.03$$

$$[Def_{s1} - (INV_p - A)]/Y \leq 0.01$$

$$[Def_{s2} - (INV_p - A)]/Y \leq 0.005$$

where:

Y – PIB;

INV_p – public investment;

Def – effective budget deficit;

Def_{s1} – structural deficit;

Def_{s2} – primary structural deficit;

A – annual depreciation.

These relations show that limitations are only valid for current budget expenditure.

The other alternatives implemented by some countries were based on a rise in the limitative ceilings of the effective and structural budget deficits, in two ways:

a) At a value equivalent to net public investment:

$$Def / Y \leq 0.03 (INV_p - A) / Y$$

$$Def_s / Y \leq 0.01 (INV_p - A) / Y$$

b) At a value equivalent to gross public investment:

$$Def / Y \leq 0.03 + (INV_p) / Y$$

$$Def_s / Y \leq 0.01 + (INV_p) / Y.$$

Once the Maastricht Treaty is enforced, the member countries give up their own methodologies and adopt the EU methodologies and mechanisms, including further changes and amendments.

In spite of the decreasing public investment in the EU countries, the question of the golden rule of the public finance either has almost been eliminated from the agenda of profound public

discussions and policies for improving the economic mechanisms, or has not been adequately supported to be taken into account by the policy makers.

Creel (2012), when citing the proposal made in 2012 by the Italian Prime Minister, pointed out that “the golden rule of the public finance represents a balanced current public budget, where the public investment is financed by indebtedness” (Creel *et al.*, 2012, p. 545). According to Creel, the fiscal golden rule is the fourth fiscal rule that should be observed within the Fiscal Pact mechanism, besides the limitation of the effective deficit, the structural deficit and the public debt.

Ignoring the connotation of the golden rule - established by the theory of public finance -, according to which deficits can only be used for financing investments that benefit future generations as well (Verhelst, 2012, p. 2; Artis, 2002), the leaders of the Eurozone countries introduced, in the Intergovernmental Treaty (at the European summit of 2011), the following new golden rule: *the structural deficit, in spite of its leading role within the new mechanism, is not destined for public investment to the benefit of the new generations* (Verhelst, 2012; Artis, 2002), *but for various budget expenditures*.

Obviously, by this content change, the EU and the member countries focus on ensuring financial discipline and stability. At the same time, there is no further concern about the public investment as an important engine of economic growth and economic modernisation on medium and long terms.

Not only the less developed area of the EU needs to develop the infrastructure in all fields, but also the EU as a whole has to make major efforts to restore the infrastructure and develop a new RDI-based economy, clean and renewable energy, new networks for power transport, the research, education, health care (Creel *et al.*, 2012; Verhelst, 2012), and the defence means in order to meet new challenges and cope with world competition. All of them need huge investments. The golden rule, in its changed form that deals only with financial discipline and stability, often hinders any efforts for future investments, and make useless the efforts for reform and innovation. The return to the golden rule consecrated by the public finance theory – which takes into account public investment in relation to the constraints regarding the level of the public debt and the level of the structural and budget deficits – would ease the present critical situation of dramatic diminution in volume and quality of public investment, and of

economic stagnation of the EU member countries, would release the achievement of public investment and facilitate the economic recovery.

In case of returning to the real golden rule of the public finance, one of the minimum solutions could be that according to which the structural deficit (Def_s) is wholly destined to public investment (INV_p), as per the relation: $Def_s - INV_p = 0$. For the less developed countries, this solution could be more beneficial, since it would allow for at least the cofinancing of investment projects through non-reimbursable funding by the EU. At the same time, this would guarantee that the funds corresponding to the structural deficit would not be used to cover current needs.

From a broader perspective and beyond this concrete case, we should care about changing the very way of perceiving the present relation between the real sector and the nominal sector, which is going to become a real dogma. As a rule, it is not the real economy, supporting the society's life, that should be strictly and always modelled in accordance with the criteria and the interests of the nominal economy. On the contrary, the nominal economy should serve the real economy and, therefore, be adapted not to hinder but to stimulate innovation and the development of the real economy on medium and long terms.

7. Conclusions

At this stage, we have analysed two major problems: a) the ways of determining the budget deficit – as negative differences between incomes and expenditures – in close relation to the economic cycle; and b) ways to resolve the deficit problem.

a) For changing them into work tools for introducing the fiscal discipline in the EU member states, the deficits are classified into the following four categories: effective, cyclical, structural and primary structural. At the same time, we defined the calculation elements: effective GDP, potential GDP, output gap, income elasticity, expenditure elasticity and total (budget) elasticity. Considering these calculation elements, the EC work groups established the four categories of deficits and created full statistical series since 1995, updated in accordance with the changes and innovations made so far.

b) Since the ceilings of the effective budget deficits and the structural deficits set in the Maastricht Treaty and the Stability and Growth Pact were exceeded, the EU and the member countries took two important measures: (i) one aiming at restoring the budget balance through

discretionary measures (cutting budget expenditure and increasing taxes) for reducing the excessive deficits; (ii) one related to the implementation of a supervision and intervention mechanism in case of deviation, using the two arms of the Stability and Growth Pact, strengthened the Treaty for Stability, Coordination and Governance (Fiscal Compact) in the EMU, *i.e.* the preventive arm and the corrective arm. According to the Fiscal Compact, the corrective arm implies the countries' obligation to observe the three-percent effective deficit limit, and the preventive arm implies the gradual convergence of the countries signing the Fiscal Compact towards the medium-term objective, which means an obligation to comply with the structural deficit of 0.5% of the GDP for the countries with a public debt of over 60%, and 1% of the GDP for countries with a public debt much below 60% and a low risk level. The adoption of the structural deficit – although considered too restrictive especially for emerging economies – is necessary for diminishing the public debt stock and ensuring the public finance sustainability.

The new mechanism is created to survey the evolution of the national and Community economic systems and their deviation from the established rules, because of the discretionary measures and/or the effects produced by the automatic stabilizers (the cyclical component). The relations between relevant indicators describing the economic cycle are important for knowing *ex ante* the possible effects: on one hand, the effects of manipulating the economic system through fiscal policies (discretionary measures) and the weight attributed to these policies in different stages of the economic cycle; on the other hand, the effects of the economic system movement under the impact of the automatic stabilizers.

c) An important pillar of the evolution of the economic system within the cycle is the potential GDP, taking into account the content, the determinant factors and the high stability level. The effective GDP oscillates around the potential GDP as it is characterized by high mobility, especially when implementing, for example, aggressive policies to increase wages in absence of corresponding productivity improvement, or policies for quick and significant tax cuts. This high mobility could cause, in certain circumstances, deep economic crises which requires, in turn, tough austerity measures.

d) At present (2015), Romania's economy is in the stage of economic growth, with a positive output gap. For example, if compared to the potential GDP growth of 1.5% in 2013 and

1.9% in 2014, the effective GDP begins to grow beyond the potential, *i.e.* 3.4% and 2.8%, respectively. Considering the low rate of the potential GDP as against the previous years because of the investment diminution, the best policy in the present phase of the economic cycle would be an increase in public and private investments and the creation of the fiscal area through a positive budget balance.

Unfortunately, unable to learn the lesson thought by the recent economic crisis, the Romanian politicians repeat the mistake made between 2006-2008 as they adopt for 2015-2016 (in a period of economic revival and boom) the same procyclical policy, consisting of measures for aggressive stimulation of the consumer demand by increasing the budget expenditure, such as: discriminatory special pensions, contrary to the general principle of contributivity, wage raising in the entire budget-supported sector by 10%, of which 25% for health care and education.

These initiatives were preceded by the adoption of the new fiscal code in 2015, including quick and significant (in size) measures for fiscal relaxation which mostly stimulates the same consumer demand by reducing the VAT from 24% to 20%, and 9% for food, as well as lower excises and taxes on dividends.

Correlating the effects of the two legislative initiatives to increase the consumer demand which further causes a significant diminution in public and private investments, we may find out that in the near future we will witness, on one hand, a diminution in the productive potential, and, on the other hand, a forced increase in the effective GDP owing to deficits and loans. A consumer demand exceeding the productive potential could be covered by a massive increase in imports, which may affect the balance of payments. In the absence of the corrective arm of the Stability and Growth Pact strengthened through the Fiscal Compact, the procyclical policy adopted in 2015 by the Romanian Government and Parliament “favours” a severe future crisis – especially because of the wide range of discretionary measures, the magnitude of these measures as well as the absence of a fiscal space –, a crisis followed by severe austerity measures.

Elasticity of incomes, expenditures and budget balance

Countries	Incomes	Expenditures	Budget balance
	ϵ_R	ϵ_E	$\epsilon = \epsilon_R - \epsilon_E$
Belgium	0.01	-0.59	0.61
Bulgaria	-0.08	-0.39	0.31
Czech R.	0.01	-0.45	0.43
Denmark	0.00	-0.62	0.62
Germany	-0.01	-0.56	0.55
Estonia	0.04	-0.41	0.44
Ireland	0.02	-0.51	0.53
Greece	-0.02	-0.51	0.48
Spain	0.01	-0.53	0.54
France	0.00	-0.60	0.60
Croatia	-0.01	-0.48	0.47
Italy	0.04	-0.50	0.54
Cyprus	0.07	-0.45	0.52
Latvia	-0.03	-0.41	0.38
Lithuania	0.02	-0.39	0.41
Luxembourg	0.00	-0.44	0.44
Hungary	-0.02	-0.51	0.49
Malta	0.01	-0.45	0.46
Netherlands	0.07	-0.58	0.65
Austria	0.01	-0.57	0.58
Poland	0.03	-0.49	0.52
Portugal	-0.02	-0.53	0.51
Romania	-0.05	-0.38	0.34
Slovenia	-0.01	-0.48	0.48
Slovakia	0.00	-0.40	0.39
Finland	-0.03	-0.60	0.57
Sweden	-0.02	-0.61	0.59
United Kingdom	0.12	-0.47	0.59

Source: European Commission, "Report on Public Finances in EMU 2014", *European Economy*, 9/2014, p. 45.

Effective and potential GDP rates, effective budget balance and trade balance

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Romania																				
Real effective GDP rate, %	7.1	3.9	-4.8	-2.1	-0.4	2.4	5.6	5.2	5.5	8.4	4.2	8.1	6.9	8.5	-7.1	-0.8	1.1	0.6	3.4	2.8
Real potential GDP rate, %	...	1.5	1.0	1.2	1.6	2.5	2.5	2.6	3.8	4.6	4.8	5.5	6.7	6.3	1.5	1.4	1.4	1.8	1.5	1.9
GDP gap, % of the potential GDP	3	5.3	-0.7	-3.9	-5.8	-5.9	-3.1	-0.6	1.1	4.7	4.1	6.6	6.7	8.9	-0.3	-2.5	-2.8	-3.9	-2.1	-1.3
Effective budget balance, % of the GDP	-2.0	-3.5	-4.4	-3.2	-4.4	-4.7	-3.5	-2.0	-1.5	-1.2	-1.2	-2.2	-2.9	-5.6	-8.9	-6.6	-5.3	-2.9	-2.2	-1.5
Structural budget deficit (cyclically corrected, % of the potential GDP)	-2.7	-4.8	-4.2	-2.2	-2.8	-3.0	-2.4	-1.8	-1.8	-2.8	-2.5	-4.4	-5.2	-8.6	-8.8	-5.8	-4.4	-1.6	-1.5	-1.0
Cyclical budget deficit (cyclical component of budget deficit, % of the potential GDP)	0.8	1.3	-0.2	-1.0	-1.6	-1.6	-1.0	-0.2	0.4	1.6	1.4	2.2	2.3	3.0	-0.1	-0.8	-0.9	-1.3	-0.7	-0.4
Trade balance, % of the GDP	-5.0	-7.8	-6.8	-7.7	-4.5	-5.3	-7.5	-5.6	-7.5	-9.0	-10.1	-11.9	-14.3	-13.3	-6.4	-6.1	-5.6	-4.9	-0.8	0.1
Germany																				
Real effective GDP rate, %	1.7	0.8	1.8	2.0	2.0	3.0	1.7	0.0	-0.7	1.2	0.7	3.7	3.3	1.1	-5.6	4.1	3.6	0.4	0.1	1.6
Real potential GDP rate, %	1.8	1.6	1.5	1.5	1.6	1.7	1.6	1.4	1.3	1.3	1.2	1.4	1.3	1.1	0.6	0.8	1.2	1.2	1.3	1.5
GDP gap, % of the potential GDP	-0.1	-0.9	-0.6	-0.1	0.2	1.5	1.6	0.3	-1.7	-1.8	-2.3	0	1.9	1.8	-4.5	-1.4	1	0.1	-1.1	-1
Effective budget balance, % of the GDP	-9.3	-3.4	-2.8	-2.4	-1.5	1	-3.1	-3.9	-4.1	-3.7	-3.3	-1.5	0.3	0	-3	-4.1	-0.9	0.1	0.1	0.7
Structural budget deficit (cyclically corrected, % of the potential GDP)	-9.3	-2.9	-2.5	-2.4	-1.6	0.3	-4.0	-4.0	-3.1	-2.7	-2.0	-1.5	-0.7	-1.0	-0.6	-3.3	-1.4	0.0	0.7	1.2
Cyclical budget deficit (cyclical component of budget deficit, % of the potential GDP)	-0.1	-0.5	-0.3	-0.1	0.1	0.7	0.9	0.2	-0.9	-1.0	-1.3	0.0	1.0	1.0	-2.5	-0.8	0.5	0.1	-0.6	-0.5
Trade balance, % of the GDP	0.5	0.8	1.2	1.4	0.7	0.2	1.8	4.4	3.7	5.0	5.0	5.3	6.6	6.0	4.9	5.2	4.9	6.1	6.0	6.7
Bulgaria																				
Real effective GDP rate, %	...	...	-1.1	3.5	-5.6	6.0	3.8	4.5	5.4	6.6	6.0	6.5	6.9	5.8	-5.0	0.7	2.0	0.5	1.1	1.7
Real potential GDP rate, %	...	0.2	1.3	1.6	1.8	3.1	3.1	3.3	6.3	6	6.3	5.5	4.8	4.8	1.8	0.1	0.2	0.4	0.8	1.7
GDP gap, % of the potential GDP	3.5	5	2.5	4.3	-3.3	-0.6	0	1.1	0.3	0.8	0.5	1.4	3.5	4.4	-2.6	-2.0	-0.3	-0.2	0.1	0.0
Effective budget balance, % of the GDP	-7.2	-9.9	0.8	1.1	0.1	-0.5	1	-1.2	-0.4	1.8	1	1.8	1.1	1.6	-4.2	-3.2	-2	-0.7	-0.9	-2.8
Structural budget deficit (cyclically corrected, % of the potential GDP)	-8.0	-10.7	0.3	0.2	0.9	-0.4	1.0	-1.5	-0.5	1.6	0.9	1.4	0.1	0.3	-3.4	-2.6	-1.9	-0.6	-0.9	2.8
Cyclical budget deficit (cyclical component of budget deficit, % of the potential GDP)	0.8	0.9	0.4	0.9	-0.8	-0.2	0.0	0.4	0.1	0.2	0.1	0.4	1.1	1.4	-0.8	-0.6	-0.1	-0.1	0.0	0.0
Trade balance, % of the GDP	12.4	13.6	12.8	7.0	-4.6	-5.3	-9.4	-8.0	-10.2	-11.1	-14.7	-17.1	-18.6	-19.7	-8.3	-2.8	0.9	-2.8	-0.6	-0.9
Poland																				
Real effective GDP rate, %	...	6.1	6.5	4.6	4.6	4.6	1.2	2.0	3.6	5.1	3.5	6.2	7.2	3.9	2.6	3.7	4.8	1.8	1.7	3.4
Real potential GDP rate, %	...	4.5	5.1	5.6	5.2	5.0	4.5	4.0	3.6	3.4	3.2	3.4	3.9	4.1	4	4.1	4.2	3.5	2.7	3.2
GDP gap, % of the potential GDP	-0.1	1.3	2.6	1.7	1.1	0.7	-2.5	-4.3	-4.4	-2.8	-2.5	0.1	3.3	3.1	1.8	1.3	1.9	0.2	-0.7	-0.5
Effective budget balance, % of the GDP	-4.2	-4.5	-4.6	-4.2	-2.2	-3	-4.8	-4.8	-6.1	-5.2	-4	-3.6	-1.9	-3.6	-7.3	-7.6	-4.9	-3.7	-4	-3.2
Structural budget deficit (cyclically	-4.1	-5.2	-5.7	-4.9	-2.7	-3.3	-3.5	-2.6	-3.8	-3.7	-2.7	-3.7	-3.6	-5.3	-8.2	-8.3	-5.9	-3.8	-3.6	-2.9

corrected,% of the potential GDP)																				
Cyclical budget deficit (cyclical component of budget deficit, % of the potential GDP)	-0.1	0.6	1.2	0.7	0.5	0.3	-1.3	-2.2	-2.3	-1.5	-1.3	0.1	1.7	1.6	0.9	0.7	1.0	0.1	-0.4	-0.3
Trade balance, % of the GDP	2.3	-1.3	-3.7	-4.7	-5.8	-6.4	-3.6	-3.4	-2.6	-2.6	-1.0	-1.9	-3.3	-4.9	-0.7	-2.1	-2.0	-0.5	1.9	1.2
Hungary																				
Real effective GDP rate, %	...	0.0	3.4	4.2	3.2	4.2	3.7	4.5	3.8	4.8	4.3	4.0	0.5	0.9	-6.6	0.8	1.8	-1.5	1.5	3.6
Real potential GDP rate, %	...	...	...	3.3	3.5	3.4	3.5	3.6	3.6	3.7	3.2	2.7	2.1	1.5	0.4	0.0	0.0	0.0	0.6	1.4
GDP gap, % of the potential GDP	...	...	-1.5	-0.6	-0.8	0.0	0.2	1.0	1.2	2.3	3.4	4.7	3.0	2.4	-4.7	-3.9	-2.2	-3.7	-2.8	-0.7
Effective budget balance, % of the GDP	-8.7	-4.4	-5.6	-7.5	-5.1	-3.0	-4.1	-8.9	-7.2	-6.4	-7.9	-9.4	-5.1	-3.7	-4.6	-4.5	-5.5	-2.3	-2.5	-2.6
Structural budget deficit (cyclically corrected,% of the potential GDP)	...	...	-5.0	-7.3	-4.8	-3.0	-4.2	-9.4	-7.8	-7.5	-9.5	-11.7	-6.6	-4.8	-2.3	-2.6	-4.4	-0.5	-1.1	-2.2
Cyclical budget deficit (cyclical component of budget deficit, % of the potential GDP)	...	...	-0.5	-0.2	-0.3	0.0	0.1	0.5	0.6	1.1	1.7	2.3	1.5	1.2	-2.3	-1.9	-1.1	-1.8	-1.4	-0.3
Trade balance, % of the GDP	-0.1	0.4	0.9	-1.6	-2.7	-3.7	-1.2	-2.0	-4.0	-4.0	-2.3	-1.1	0.6	0.4	4.0	5.3	6.1	6.7	7.3	7.3

Source: European Commission, *Cyclical Adjustment of Budget Balances*, Spring 2015 and Eurostat.

Abbreviations

Member states

BE	Belgium	HU	Hungary
BG	Bulgaria	MT	Malta
CZ	Czech R.	NL	Netherlands
DK	Denmark	AT	Austria
DE	Germany	PL	Poland
EE	Estonia	PT	Portugal
EI	Ireland	RO	Romania
EL	Greece	SI	Slovenia
ES	Spain	SK	Slovakia
FR	France	FI	Finland
IT	Italy	SE	Sweden
CY	Cyprus	UK	United Kingdom
LV	Latvia	EA	Eurozone – 19 states
LT	Lithuania	EU	European Union
LU	Luxembourg	EU-28	European Union – 28 member states

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