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# An Analysis of Economic Growth, Competitiveness and Macroeconomic Imbalances in the European Union

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*Taking into consideration the determinants of the economic crisis and of the sovereign debt crisis, we aim to analyze the dynamics of the European economies and discuss changes related to macroeconomic imbalances, as highlighted by the recent crises as an important factor of the unfavorable dynamics registered during the last years. In this respect we considered both internal and external imbalances, as specified in the macroeconomic imbalance procedure that was implemented for the European Union member states since 2012, as a response to the crises that affected all open economies of the world. The purpose of this article is to provide a comprehensive analysis of economic imbalances in the European Union and to determine their influence on economic growth.*

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## 1. Introduction

The recent financial and economic crises, followed by the European sovereign debt crisis, highlighted the necessity for further research on the European economies, regarding growth, competitiveness and their impact on sustainability. Macroeconomic developments registered during the last years had drawn attention on the competitiveness gaps between the European economies, as the main problem of Euro Area seem to be the gap of competitiveness (Spahn, 2013). One of the most important imbalances is related to the dynamics of the current account, as for example, within the Eurozone, the gap between the Northern countries (including Austria, Germany, Belgium, Luxembourg, the Netherlands and Finland) and the Southern ones (Greece, Italy, Spain, Ireland and Portugal) has increased since the beginning of the Economic and Monetary Union, being a "persistent problem" (Holinski et. al, 2012). Moreover, the economic crisis, and particularly the sovereign debt crisis, have highlighted important interdependencies between different instruments of macroeconomic policy and public finances (especially between indicators of external imbalances, the main factors leading to widening disparities in the Eurozone and to unsustainable growth of public debt). Within this context, the objective of this paper is to analyze the internal and external imbalances that are specific to the European Union member states and, based on panel data estimation, determine their influence on economic growth.

## 2. Dynamics of Economic Growth and Macroeconomic Imbalances

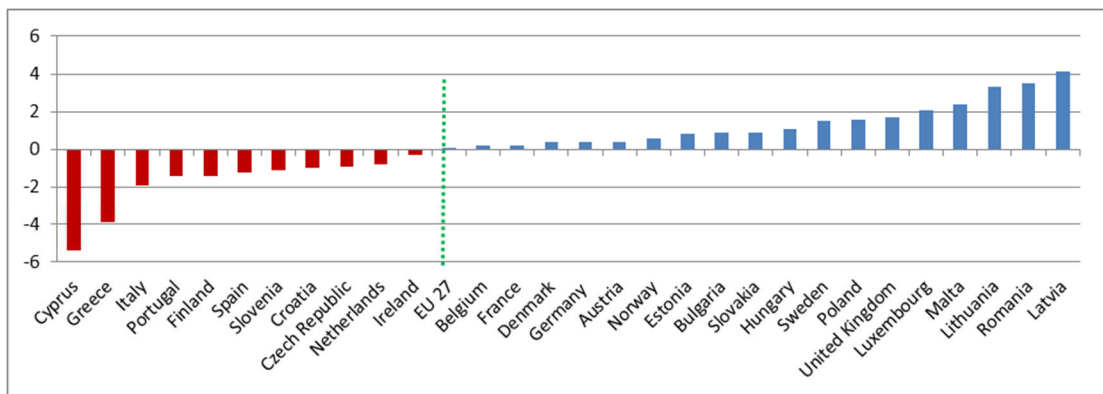
European countries have been heavily challenged during the last years, the competitiveness gaps and the other issues highlighted before leading to very slow economic recovery. On average, in 2013, GDP growth of the European Union (including 28 member states) was of 0.1%. There are, however, important differences between European Union

countries in terms of economic recovery, as in 2013, 11 member states registered GDP growth below the European Union average.

The biggest negative changes in GDP at market prices (percentage change on previous period) were registered by Cyprus (-5.4%), Greece (-3.9%), Italy (-1.9%) and Portugal (-1.4%). The other two PIIGS countries, Spain and Ireland, also registered downturn, the GDP change being of -1.2% in Spain and of -0.3% in Ireland. However, Spain registered an improvement since last year, while Ireland, although registered slow economic growth in 2012, in the following year registered a downfall in GDP.

**Figure 1**

**Economic growth in the European Union in 2013  
(GDP at market prices, percentage change on previous period)**



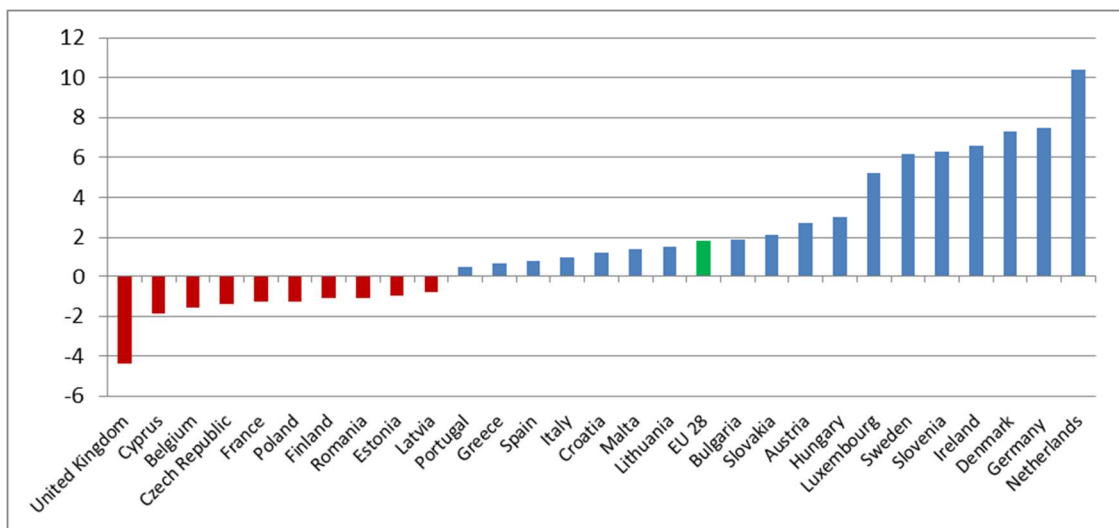
*Source: EUROSTAT, own calculation*

The period before the economic crisis was a time of increasing competitiveness gaps between the northern Euro Area member states and those of the periphery (Gros, 2012). The peak of these differences, as well as the increasing in current account deficits were registered in 2008 (Lazar, Paun, 2015). The analysis of current account dynamics highlighted important differences between European countries, not

only between Euro Area member states, but also between the other countries. In 2000, the first year of the analysis, the European countries that registered the highest current account deficits (above 10%GDP) were Portugal and Malta, while Hungary, Lithuania, Bulgaria, Greece and Cyprus also registered high current account deficits, above 5%GDP, but below the 10%GDP level. In 2008, the situation worsened for many European countries, the deficit reaching worrying levels, especially in Cyprus, Bulgaria and Portugal. Nevertheless, Romania, Latvia and Lithuania did not account for much better result either. On the other side, countries as Netherlands, Germany, Denmark, Luxemburg, had been, in 2000 and 2008, registering current account surplus. Also in 2013, these countries are still exporting more goods and services than are importing.

**Figure 2**

**Dynamics of current account balance in the European Union  
(%GDP)**



Source: EUROSTAT, own calculation

Most of the European Union countries registered improvement in current account balance during 2008-2013. The exception is Sweden, which in 2008 recorded current account surplus higher than in 2013, and the United Kingdom, which suffered deterioration in the current account deficit, which reached 4.4% of GDP. The United Kingdom became in 2013 the European member state with the largest current account deficit in the European Union and the only country that was not within the limits set by the Scoreboard of macroeconomic imbalances.

European Union member states that recorded current account surplus in 2013 were Denmark (7.3%GDP), Sweden (6.2%GDP), Hungary (3%GDP), Bulgaria (1.9%GDP), Lithuania (1.5%GDP) and Croatia (1.2%GDP). Denmark and Sweden are the only two European Union member states that are not part of the Euro Area, which are net exporters of goods and services, registering current account surpluses. This performance is achieved in the Eurozone only by the Netherlands and Luxembourg, which, although the balances had fluctuated during the period under review, these countries had exported more goods and services than they had imported.

Romania fits into the general trend of states that are not part of the Euro Area and is similar to the states of the periphery of the Eurozone, due to the increasing current account deficits registered during the period prior to the economic crisis. However, during 2010-2013 countries had struggled to reduce these deficits and the measures implemented resulted in improvements in the current account balance. Romania registered a current account deficit of 13.5% of GDP in 2007 and succeeded in registering until 2013 a current account deficit of 1.1% of GDP.

External imbalances highlighted the increased vulnerability of many European Union member states under the prospects of the financial and economic crisis, these being also one of the main causes of macroeconomic indicators' downfall during 2007-2009. "The general

trend in the European Union is of deepening trade deficits during 2000-2008 and their subsequent reduction as a result of balancing efforts made by member states" (Lazar, Paun, 2015). The recession was landmark in the study of competitiveness gaps, which highlighted the "transfer of competitiveness between the southern Eurozone countries and the northern periphery" (Gros, 2012). Statistical analysis reveals, however, the European tendency of reducing these gaps and balancing the relations between the participating states.

As a general trend, during 2008 and 2013, all European Union countries improved their current account balance. This is also the situation of other macroeconomic imbalance indicators, regarding competitiveness, fiscal sustainability and labour market. However, it should be taken into consideration the fact that the measures taken in order to overcome the crisis should continue, as the improvement regards mainly flow indicators (European Commission, 2014) and to a lower extent, stock indicators (for example, regarding external liabilities).

### **3. Macroeconomic Imbalance Scoreboard**

Due to the fact that during the last eight years European economies registered increasing gaps that threatened the stability of the European Union and especially of the Euro Area, new provisions were regarded, in view of preventing and correcting specific imbalances. Drafted within the new European economic governances, these provisions tackle aspects regarding balanced growth and sound fiscal policy, one important objective being the correction and prevention of macroeconomic imbalances, meant to be achieved, among other mechanisms, through the Macroeconomic Imbalances Procedure (MIP).

The MIP is a mechanism adopted by the European Parliament and the European Council in 2011, part of the Six Pack rules on economic governance, established with the purpose of identifying and correcting macroeconomic imbalances, before the effects of increasing gaps would

spread to other European Union members and impose pressures on the European stability. The surveillance of the European economies will be compared with thresholds established through the Macroeconomic imbalance scoreboard, which consists of 11 indicators that were highlighted by previous dynamics of being most important in terms of potential destabilizing factors.

Figure 3

### Macroeconomic imbalance scoreboard

External imbalances and competitiveness						Internal imbalances				
Headline Indicators	3-year average of current account balance as a % of GDP	Net International Investment Position as a % of GDP	3-year % change of Real Effective Exchange Rate, HICP deflators relative to 35 industrial countries	5-year % change of export market shares	3-year % change of nominal unit labour cost	y-o-y % change in deflated house prices	private sector credit flow as % of GDP	private sector debt as % of GDP	general government debt as % of GDP	3-year average of unemployment rate
Indicative thresholds	+6/-4%	-35%	+/-5% for EA +/-11% non-EA	-6%	+9% EA +12% non-EA	+6%	+15%	160%	+60%	+10%

Source: European Commission

Macroeconomic imbalance scoreboard consists of indicators that focus on external imbalances and competitiveness, including also indicators regarding internal imbalances. The surveillance of the dynamics of these indicators should act as a warning system for increasing imbalances and should impose corrective measures and improvement, if necessary. While the role of the Macroeconomic Imbalance Procedure is the identification of emerging or persistent macroeconomic imbalances at an early stage, the purpose of our research is to determine the influence of MIP indicators on economic growth.

#### 4. Econometric Analysis

Based on panel data analysis we tested the influence of competitiveness and internal and external imbalances on economic growth, taking into consideration most of the indicators monitored using the macroeconomic imbalances scoreboard. Panel data analysis was conducted using EViews 8 software. Data was provided by EUROSTAT database. Within the analysis we used data from 2001 to 2012 and fixed effects regression was applied, as Hausman test proved that this method will be more suitable than random effects regression. For the model, the individual effects are assumed to be uncorrelated with the independent variables, while the default standard errors are independent and identically distributed. The output of the fixed effects regression model is presented in the following Figure.

Figure 4

#### Fixed effects regression model

Dependent Variable: GDP Method: Panel Least Squares Date: 11/11/14 Time: 11:11 Sample (adjusted): 2003 2013 Periods included: 11 Cross-sections included: 28 Total panel (balanced) observations: 308				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
CC(-1)	0.359115	0.112267	3.198772	0.0015
EXP01	0.094367	0.027254	3.462478	0.0006
GDT	-0.028091	0.013237	-2.122134	0.0347
HPR	0.156545	0.019023	8.229140	0.0000
REER(-1)	-0.115589	0.040672	-2.842004	0.0048
PRDT	-0.020692	0.007822	-2.645428	0.0086
PRCR	0.119457	0.023930	4.991854	0.0000
NIP	-0.322399	0.143109	-2.252625	0.0251
FINS(-2)	-0.051599	0.017634	-2.926099	0.0037
C	5.969154	1.231445	4.847277	0.0000
Effects Specification				
Cross-section fixed (dummy variables)				
R-squared	0.659495	Mean dependent var	1.839610	
Adjusted R-squared	0.625590	S.D. dependent var	3.952699	
S.E. of regression	2.418618	Akaike info criterion	4.716549	
Sum squared resid	1585.272	Schwarz criterion	5.164645	
Log likelihood	-689.3485	Hannan-Quinn criter.	4.895718	
F-statistic	15.24882	Durbin-Watson stat	1.819988	
Prob(F-statistic)	0.000000			

Source: EUROSTAT, authors' calculation



As per the results obtained, economic growth can be explained by the variation of the considered variables, following the equation below:

$$\begin{aligned} \text{GDP}_{it} = & 5.96 + 0.35 \cdot \text{CC}_{it-1} + 0.09 \cdot \text{EXP}_{it} - 0.02 \cdot \text{GDT}_{it} + 0.15 \cdot \text{HPR}_{it} - \\ & 0.11 \cdot \text{REER}_{it-1} \\ & - 0.02 \cdot \text{PRDT}_{it} + 0.11 \cdot \text{PRCR}_{it} - 0.32 \cdot \text{NIP}_{it} - 0.05 \cdot \text{FINS}_{it-2} \end{aligned}$$

Where:

$\text{GDP}_{it}$  = GDP growth rate for each 28 E.U. member state

$\text{CC}_{it}$  = 3 year average of current Account balance as % of GDP, for each 28 E.U. member states

$\text{EXP}_{it}$  = five-year percentage change of export market shares measured in values for each 28 E.U. member state

$\text{GDT}_{it}$  = general government sector debt in percent of GDP for each 28 E.U. member state

$\text{HPR}_{it}$  = house price index relative to a Eurostat consumption deflator, year-on-year changes for each 28 E.U. member state

$\text{REER}_{it}$  = three-year percentage change of the real effective exchange rates based on for each 28 E.U. member state

HICP/CPI deflators, relative to 42 other industrial countries for each 28 E.U. member state

$\text{PRDT}_{it}$  = private sector debt in percent of GDP for each 28 E.U. member state

$\text{PRCR}_{it}$  = private sector credit flow in percent of GDP for each 28 E.U. member state

$\text{NIP}_{it}$  = net international investment position in percent of GDP for each E.U. member state

$\text{FINS}_{it}$  = total financial sector liabilities, year-on-year change (%) for each 28 E.U. member state

As evidenced by the model, three year average of current account balance has a positive influence on growth, but with a one year delay.

This is consistent with the economic literature, the influence from the previous period being highlighted even when yearly data were considered for current account balance analysis (Andreica, Lazar, 2014). Hence all variables remain constant, if current account balance, three year average, increases with one percentage, GDP growth rate will increase with about 0.35 percentage points, with a one year delay.

International investment position statistics record the net financial position (assets minus liabilities) of a country with the rest of the world. In our model, NIP have a negative influence on economic growth, this being if NIP increases with 1 percent, economic growth is expected to decrease with 0.32 percentage points, keeping all the variables constant. NIP is a good starting point in the assessment of external positions of member states. However, the composition of NIIP is important for a deeper understanding of the degree of vulnerability of a country. Therefore, also in this case, the interpretation of the results should also take into account other competitiveness indicators.

The REER assesses the competitiveness of a country in terms of prices. A rise in the index means a loss of competitiveness, therefore it is understandable that GDP growth and REER have an inverse relation with a one year delay, a decrease in REER from one year will result in an increase with 0.11 percentage points for the next year.

The share of world exports quantifies the value of exports of goods and services of a country compared to the value of total world exports. The indicator is expressed as the percentage change over five years and is also used an indicator of competitiveness. The share of world exports have a positive influence on growth, a one percent increase could lead to an increase of 0.09 percentage points in GDP for the same year, hence all variables remain constant.

The deflated house price index is calculated as the ratio between the house price index (HPI) and the national accounts deflator for private final consumption expenditure. The analysis highlighted the fact that there is a direct influence of house prices on economic growth, this

being that a rise with 1 percent of house prices determines an increase with 0.15 percentage points on economic growth. The choice and inclusion of this indicator in the macroeconomic imbalance scoreboard resides heavily in the involvement of the real estate market in the beginning of the financial crisis.

Another scoreboard indicator is private sector credit flows. Although in the literature high credit growth was associated with higher crisis incidence (Frankel and Saravelos, 2010), our analysis underlined a direct influence on private credit on economic growth. Other authors (Berkmen et al., 2009) highlighted the fact that countries with a leveraged financial system (as Ireland) and high credit growth were heavily affected during the crisis. The total financial sector has a negative influence on economic growth, an increase of one percent in financial sector liabilities determining a decrease with 0.05 percentage points in economic growth, with two year delay. The situation can be explained easily in the context of the crisis developments and determinants. Moreover, both private debt and public debt level have a negative influence on economic growth.

### **Conclusions**

Facing macroeconomic challenges, the European economies had to recover confidence and try to avoid future macroeconomic imbalances and decrease actual gaps, as these were highlighted by the economic crisis and the sovereign debt crisis as being one of the important determinants of recession in most of the European Union member states and especially in the Eurozone. In order to increase the surveillance of these imbalances, new provisions of economic governance were enforced, out of which some focus especially on the macroeconomic imbalances discussed.

The statistical analysis highlighted the fact that important progress has been made in terms on reducing economic imbalances, especially under the new European economic governance and its provisions. However,

these are not sufficient and further efforts for stabilization is needed, especially since some of the indicators can affect economic growth even with a two year delay (e.g. lagged financial sector liabilities).

The results of the panel data analysis highlighted the fact that both internal and external imbalances have an effect on economic growth. The share of world exports, current account balance, house prices and private credit have a positive influence on economic growth, while an increase in government or private debt, in real effective exchange rate or in financial sector liabilities would result in a decrease in gross domestic product. To conclude, further attention should be given on both internal and external imbalances, due to the fact that, although progress has been made in terms of reducing macroeconomic gaps, the situation should be properly monitored.

### References

- [1] Andrews, D., Sanchez, C., Johansson, A., 2011, "Housing markets and structural policies in OECD countries", OECD Economics Department Working papers 836.
- [2] Andreica, M.E., Andreica, M., 2014, "Forecasts of Romanian industry employment using simulations and panel data models", Romanian Journal of Economic Forecasting –XVII (2), pp. 130-140.
- [3] Berkmen, P., Gelos, G., Rennhack R., Walsh, J.P., 2009, "The Global Financial Crisis: Explaining Cross-Country Differences in the Output Impact", IMF Working Papers 09/280.
- [4] Carlin, W., Glyn, A., van Reenen, J., 2001, "Export Performance of OECD Countries: An empirical Examination of the Role of Cost Competitiveness", The Economic Journal 111, pp. 128-162.
- [5] Edwards, S., 2001, "Does the current account matter?", NBER Working Paper 8275.
- [6] Égert, B., Halpern, L., MacDonald, R., 2005, "Equilibrium exchange rates in transition economies: Taking stock of the issues", William Davidson Institute Working Paper 793.

- [7] European Commission, Communication From the Commission to the European Parliament and the Council Strengthening the Social Dimension of the Economic and Monetary Union, Brussels, 2.10.2013, COM (2013) 690 final.
- [8] European Commission, Alert Mechanism Report 2014.
- [9] European Commission, Communication From the Commission to the European Parliament, the Council and the Euro group Results of in-depth reviews under Regulation (EU) No 1176/2011 on the prevention and correction of macroeconomic imbalances, Brussels, 5.3.2014 COM(2014) 150 final.
- [10] EUROSTAT, Macroeconomic Imbalances Procedure Scoreboard, Eurostat publishes latest indicators for early detection of macroeconomic imbalances, 166/2013 - 13 November 2013.
- [11] European Commission, Scoreboard for the surveillance of macroeconomic imbalances, European Economy occasional paper no 92, 2012.
- [12] Eurostat, Macroeconomic Imbalances Procedure Scoreboard, Eurostat news release, 166/2013 - 13 November 2013.
- [13] Furceri, D., Guichard, S., Rusticelli, E., 2011a, "Medium-Term Determinants of International Investment Positions: The Role of Structural Policies", OECD Economics Department Working Papers, No. 863, OECD Publishing.
- [14] Gros, D. (2012), "Macroeconomic Imbalances in the Euro Area: Symptom or cause of the crisis?", CEPS Policy Brief, No. 266.
- [15] Holinski, N., Kool, C., Muysken J. (2012), "Persistent Macroeconomic Imbalances in the Euro Area: Causes and Consequences", Federal Reserve Bank of St. Louis Review.
- [16] Jaumotte, F.; Sodsriwiboon P. (2010), "Current Account Imbalances in the Southern Euro Area", IMF Working Paper WP/10/139.

- [17] Jordá, O., Schularick, M., Taylor, A., 2011, "Financial crises, credit booms and external imbalances: 140 years of lessons", *IMF Economic Review* 59, pp. 340-378.
- [18] Lazar, I., Paun, R. M, (2015), "Current Account Dynamics and Determinants in the European Union", *EBES Conference Proceeding*.
- [19] Milesi-Ferretti, G., Razin, A., 1996, "Sustainability of persistent current account deficits", *NBER Working Paper* 5467.
- [20] Peters, D., 2010, "Price Competitiveness in Central and Eastern Europe: a Case Study for Transition Economies", *IMK Studies* 01-2010, *IMK at the Hans Boeckler Foundation, Macroeconomic Policy Institute*.
- [21] Rahman, J. (2008), "Current Account Developments in New Member States of the European Union: Equilibrium, Excess, and EU-Phoria", *IMF Working Paper* WP/08/92.
- [22] Spahn, P. (2013), „Competitiveness, Adjustment and Macroeconomic Risk Management in the Eurozone”, *ROME Discussion Paper Series*, No 2013-16.