



**The Role of EU/EMU Umbrella:
Emerging Market Economies of Central and Eastern
Europe during the Global Financial Crisis**

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Inclusion completed, adaptation successful?

What divides new and old members in the European Union, 6 years on?

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1. Introduction

Emerging market economies of Central and Eastern Europe were major beneficiaries of the boom which preceded the recent global financial and economic crisis (in early and mid-2000s), they became crisis' victims, their prospects for recovery looks mixed but they may easily become victims of any next global or European turbulence.

Although these have been domestic economic policies which can be, in first instance, credited for part of early successes and then blamed for crisis-related troubles one cannot forget about the role of external factors. The small open economies in Central and Eastern Europe are located on the periphery of the deeply integrated economic block (EU) and this factor expose them to various shocks (both positive and negative) which are largely beyond their control. This results not only from EU membership/ EU candidate status (which, by definition, means giving up part of a national sovereignty in economic and institutional spheres) but from a much broader phenomenon of a rapid globalization observed during the last few decades. Thus, even the countries which have been left outside EU integration process (for example, CIS or Southern Mediterranean regions) face serious limitations in their domestic economic policies coming from increasing global interdependence.

Today's global and European economy is much more integrated and interdependent than used to be ten or twenty years ago, not saying about post-World War II period (which in case of former communist countries meant isolation from the world and European markets). In an environment of highly integrated global markets each country (even the biggest ones like US, Japan, China or the EU as the entire block) must recognize its limited economic sovereignty and must be prepared to deal with consequences of global macroeconomic fluctuations and vulnerability.

The new member states (NMS) of the EU and the EU actual and potential candidates in the South-Eastern Europe enjoyed in the early and mid-2000s several benefits of their progressing integration with the Single European Market and adopting EU institutions, standards and policies. One of these benefits was related to rapidly decreasing risk premia and financial markets' perception that this region was on the move from 'emerging market' category to the class of advanced and matured economies. Very few believed that any part of the EU (including its new Eastern and South Eastern peripheries) may be ever hit by serious macroeconomic turbulence. So the EU membership was considered as a solid insurance against potential instability. Going further, joining the Economic and Monetary Union seemed to provide even more macroeconomic stability and security.

The recent global financial crisis verified dramatically these simplistic and overoptimistic assumptions, which have not been well grounded in the economic theory. The first crisis wave in the fall of 2008 and beginning of 2009 hit three NMS (Hungary, Latvia and Romania) and one EU potential candidate (Serbia) which had to request IMF assistance. From the beginning of 2010 the crisis got even closer to the EU core, attacking the periphery of the Euro area. Greece is fighting dramatically with the danger of public debt default and some other EMU members (notably Portugal and Spain) experienced downgrades of their credit ratings. To be fair: those EU NMS which joined the EMU in recent years (Slovenia, Cyprus, Malta and Slovakia) has enjoyed a relative financial calm so far.

The purpose of this paper is to analyze behavior of the emerging-market economies of Central and Eastern Europe during the recent global financial crisis with a special attention given to the role of EU factor. Putting in other words we are interested to find how the EU membership or prospects of membership affected countries' ability to respond to (mostly unexpected) crisis shock and whether EU NMS, EU candidates and potential candidates did better during the crisis, comparing to other transition economies, chiefly in the CIS region. For this reason, the analysis also covers this group of countries.

The paper consists of five sections. Section 2 contains a brief characteristics of the period of rapid economic growth in early and mid 2000s and its sources. Section 3 deals which the shock generated by the global financial crisis which erupted in mid 2007 in US and hit most of the emerging market economies in the second half of 2008. In section 4 we analyze the second shock generated by the Greek fiscal crisis in spring 2010. Sections 5 is devoted to potential future macroeconomic scenarios and risks associated with them.

2. The golden period of global growth before 2008

The years 2003-2007 recorded a remarkable pace of global economic growth and macroeconomic stability on the top of a quite good decade of 1990s¹. Looking back, this golden period of prosperity and relative stability resulted from coincidence of numerous supportive factors.

First and most important, the world economy benefited from comprehensive and far going policy reforms conducted in a number of important countries and regions in 1990s/ early 2000s (China, India, Russia, Central and Eastern Europe, Latin America, etc.). Second, after two or more decades of macroeconomic turbulences caused by weak, and sometimes openly populist, macroeconomic policies, vast majority of less developed countries adopted a more prudent stance in this area. This resulted in an impressive disinflation trend worldwide, rapid building up of international reserves and substantial improvement of fiscal balances. Third, these positive trends were accompanied by a unique calm in global financial markets (no serious turbulence). Fourth, the successful completion of the Uruguay round in mid 1990s helped, with a certain time lag, to liberalize world's manufacturing trade and, partly, trade in a service sector. Fifth, an accommodative monetary policy of the largest central banks conducted in the first half of 2000s, aftermath burst of the so-called dotcom bubble and 9/11 terrorist attack, meant a strong and positive demand shock for most of less developed countries and strengthened their economic boom.

Emerging market economies were the major beneficiaries of this boom growing much faster than developed countries (which served as the main source of global demand, especially the

¹ The entire period called is sometimes as the period of Great Moderation - see Bernanke (2004).

US) and contributing to impressive progress in global economic and social convergence. This trend was also experienced by emerging market economies of Central and Eastern Europe (see Table 1). In addition to the above mentioned positive global factors, the EU new member states (NMS) benefited from gaining a full access to the Single European Market and credibility premium upon their EU accession (and in expectation of fast EMU entry). It seemed that financial markets considered the entire EU as a homogenous area which was immune to adverse and country-specific macroeconomic and financial shocks. As result, NMS risk premia were below those of other emerging markets (Luengnaruemitchai & Schadler, 2007).

Net capital inflows (and consequently, as the mirror phenomenon, current account deficits) reached a record-high level especially in the smallest economies with currency boards or fixed pegs such as three Baltic countries and Bulgaria, which enjoyed reputation of fiscally prudent and microeconomically flexible. To a lesser extent, the similar trend was experienced by EU actual and potential candidates (i.e., Western Balkan countries and Turkey). In turn, CIS countries which had no EU membership (or even close association) perspective benefited from a global commodity boom. All post-communist economies gained from the previous decade of painful economic reforms and restructuring.

3. The first shock: global financial crisis and its consequences

Most of favorable factors described in the previous section disappeared or even started to work in the opposite direction once the global financial crisis hit the entire world economy, especially Europe, in summer 2008.

In the financial sphere, liquidity and credit dried up, capital started to fly back to main financial centers (mostly US), stock markets and commodity prices declined (although there was almost one year time mismatch between collapse of these two asset markets), risk premia for both sovereign and private borrowing grew dramatically, many national currencies depreciated (especially in countries which run floating exchange rate regimes) threatening in massive insolvency of economic agents borrowing in foreign currencies. Some countries experienced banking sector troubles. In the real sphere, external demand for exported goods and labor declined.

Neither EU membership, nor currency board regimes were considered as effective insurance against balance-of-payment and fiscal crisis any longer. Those NMS which managed to enter EMU before the crisis (Slovenia, Cyprus, Malta and Slovakia) minimized nominal shocks (especially those related to currency risk) but were not able to use exchange rate as the shock absorber. On contrary, most of countries with floating exchange rates experienced much bigger fluctuations of nominal variables (see Table 2) but some of them (Poland) could accommodate faster to declining external demand.

On average, countries which grew faster during the boom period experienced a deeper output decline when crisis started. Countries which experienced largest capital inflows and run the highest current account deficits before the crisis suffered the largest capital outflow in the new circumstances. Three NMS (Hungary, Latvia and Romania), one high-income country of the European Economic Area (Iceland), two EU potential candidates (Bosnia & Herzegovina, Serbia) and six CIS economies (Armenia, Belarus, Georgia, Kyrgyzstan, Tajikistan and Ukraine) had to resort to IMF assistance to secure their international liquidity and avoid both sovereign default and uncontrolled run on their currencies. In spring 2010, the first EMU

member, i.e. Greece had to ask for external financial aid (including the IMF program) because of its progressing public debt crisis (see the next section).

The early picture of crisis consequences in Central and Eastern Europe looked gloom and led to several alarming public comments of high-level officials like that of the World Bank President Robert Zoellick on February 27, 2009². Fortunately, these fears proved to be a bit exaggerated. Ex-post, in April 2010 the picture looked less dramatic and more nuanced.

Based on IMF April 2010 preliminary GDP statistics for 2009 presented in Table 1 one can say that, on average, Central and Eastern Europe³ experienced a smaller output decline than Euro Area and entire EU. On the contrary, CIS, especially its European part contracted more dramatically. At first glance, this might suggest that EU membership/ close association with the EU (the case of actual and potential EU candidates) continued to provide some kind of protection umbrella for European emerging-market economies even in the time of distress. However, this conclusion seems to be premature and not necessarily well-grounded in reality.

Actually, there is a deep differentiation within each country group. Among NMS the deepest (two-digit) contraction was experienced by three Baltic countries while Poland recorded a modest positive growth⁴ and Cyprus and Malta – only a modest decline (less than 2%). Within the group of actual and potential EU candidates Kosovo and Albania recorded positive growth and Macedonia – a marginal decline (by 0.7%). The biggest recession hit tourism- dependent Montenegro and Croatia (respectively -7.0 and -5.4%).

However, even bigger differences can be observed within the CIS: Ukraine contracted by 15.1%, Armenia by 14.4%, Russia by 7.9%, and Moldova by 6.5%. On the other hand, all 5 Central Asian countries, Azerbaijan, and Belarus continued growing, in some cases (Azerbaijan and Uzbekistan) at a pretty high rate.

4. The second shock: European and global public debt crisis

At the end of 2009 and beginning of 2010 general mood in the global and European economy became more optimistic again. The worse case scenario, i.e. danger of a Great Depression style deep, long-lasting and devastating crisis seemed to be left behind. There were several signs of financial markets, global trade and real sector revival. The emerging market economies, especially those in Asia and Latin America started to attract capital inflows again (less so in Europe although market sentiments improved here too). This optimistic mood did not last long, however. The new blow came from the Greek public debt crisis⁵ erupting in the first quarter of 2010 and culminating in early May 2010, before the EU governing bodies and the IMF agreed on the rescue package for Greece.

The repercussions of Greece's fiscal troubles go much beyond boundaries of this relatively small economy. First, this is the first open public debt crisis experienced by a member country

² <http://www.ft.com/cms/3cf2381c-c064-11dd-9559-000077b07658.html>

³ According to IMF regional classification, i.e. including 7 NMS (Bulgaria, Estonia, Hungary, Latvia, Lithuania, Poland and Romania) and 8 EU actual and potential candidates (Albania, Bosnia & Herzegovina, Croatia, Kosovo, Macedonia, Montenegro, Serbia and Turkey).

⁴ Due to Poland's economic potential (ca. half of GDP of all NMS) its positive growth record affected the average performance of the entire CEE group.

⁵ Called by many commentators and market participants as the crisis of Euro what does not seem to be a correct interpretation. Although somewhat weakened against the US dollar Euro did not become a subject of speculative attack as it happens in case of currency crisis.

of the Economic and Monetary Union since its launch in 1999 and financial markets test the degree of actual fiscal solidarity within the Euro area.

Second, Greek episode has put market attention to similar vulnerabilities of other Northern Mediterranean economies (Italy, Portugal and Spain) and several other developed countries, including all G7 members but Canada (see Tables 3 and 4). A year earlier the call for a substantial fiscal stimulus in all EU member countries overshadowed fiscal sustainability concerns what proved deeply wrong (see Dabrowski, 2009). Table 4 clearly demonstrates how difficult will be to stop the rapid increase in public debt to GDP ratio in most of the leading developed countries unless the dramatic fiscal adjustment will be undertaken in a near future.

Third, the potential danger of Greek sovereign default has reminded about the continuing fragility of European banks and other financial institutions which have not recovered yet from post-Lehmann shock at the end of 2008 and can face big problems in case of any new turbulence.

Although the debt indicators in Central and Eastern Europe look, on average, better comparing to Western and Southern Europe some of the EU NMS (Hungary and Poland) may face serious fiscal problems in not so distant future unless they undertake corrective measures early enough. Other CEE countries may suffer from negative contagion effects generated by fiscal problems of either peripheral EMU members or less fiscally prudent neighbors. Increased volatility of CEE exchange rates and bond yields in April and May 2010 (i.e. before and immediately after adopting a rescue package for Greece) may serve as good indication of their potential macroeconomic vulnerability. Consequently, their financial systems, especially commercial banks may also suffer from the increased exchange rate volatility as well as from potential problems of mother banks in Western Europe.

5. Looking ahead: what can happen next?

The continuing macroeconomic uncertainty makes difficult predicting what may happen in both near and more distant future. The IMF April 2010 forecast (see the last column of Table 1) suggests that recovery in 2010 will not be fast and will not be enjoyed by all countries (those which recorded the deepest recession in 2008-2009 may continue recession or stagnation).

On average, CEE and CIS countries have chance to grow faster than the Euro area and entire EU. This gives them opportunity to continue catching up process although with lower speed than during the boom preceding the recent crisis. However, the picture will be uneven within each regional group/ subgroup as it was in 2009. And returning to the pre-crisis boom does not seem likely at least in a near future. In addition, the overall macroeconomic environment will be less comfortable, with higher debt-to-GDP ratios in most countries, and tighter credit conditions. The EU NMS (including those which already entered or will enter the EMU) and EU candidate countries cannot count any longer on lower risk premia generated by the EU/ EMU “umbrella” which role has been seriously reassessed by financial markets both at the end of 2008 and at the beginning of 2010.

In a bit longer term, the situation of emerging market economies especially those located in Europe and on its periphery will depend on how the world economy manage to overcome the crisis and its underlying roots. The two potential scenarios seem to be particularly dangerous

for this group of countries. If the global economy experiences the so-called double deep recession (for whatever reason – premature tightening of macroeconomic policies in major advanced economies, public debt crisis or the new round of troubles in financial sector) emerging market economies will be hit again on the demand side and may react stronger on the down than their developed counterparts. However, if the monetary and fiscal stimulus is not withdrawn on time there will be a danger of another kind of troubles: higher inflation (perhaps stagflation), new imbalances and new bubbles. Under such scenario emerging market economies in Central and Eastern Europe can easily become the first victims of a new macroeconomic and financial crisis.

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Table 1: Annual growth of real GDP, in %, 2003-2010

| Country | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|--|------|------|------|------|------|------|-------|------|
| EU-15 | | | | | | | | |
| Austria | 0,8 | 2,5 | 2,5 | 3,5 | 3,5 | 2,0 | -3,6 | 1,3 |
| Belgium | 0,8 | 3,1 | 2,0 | 2,8 | 2,8 | 0,8 | -3,0 | 1,2 |
| Denmark | 0,4 | 2,3 | 2,4 | 3,4 | 1,7 | -0,9 | -5,1 | 1,2 |
| Finland | 2,0 | 4,1 | 2,9 | 4,4 | 4,9 | 1,2 | -7,8 | 1,3 |
| France | 1,1 | 2,3 | 1,9 | 2,4 | 2,3 | 0,3 | -2,2 | 1,5 |
| Germany | -0,2 | 1,2 | 0,7 | 3,2 | 2,5 | 1,2 | -5,0 | 1,2 |
| Greece | 5,9 | 4,6 | 2,2 | 4,5 | 4,5 | 2,0 | -2,0 | -2,0 |
| Ireland | 4,4 | 4,6 | 6,2 | 5,4 | 6,0 | -3,0 | -7,1 | -1,5 |
| Italy | 0,0 | 1,5 | 0,7 | 2,0 | 1,5 | -1,3 | -5,0 | 0,8 |
| Luxembourg | 1,5 | 4,4 | 5,4 | 5,6 | 6,5 | 0,0 | -4,2 | 2,1 |
| Netherlands | 0,3 | 2,2 | 2,0 | 3,4 | 3,6 | 2,0 | -4,0 | 1,3 |
| Portugal | -0,8 | 1,5 | 0,9 | 1,4 | 1,9 | 0,0 | -2,7 | 0,3 |
| Spain | 3,1 | 3,3 | 3,6 | 4,0 | 3,6 | 0,9 | -3,6 | -0,4 |
| Sweden | 1,9 | 4,1 | 3,3 | 4,2 | 2,6 | -0,2 | -4,4 | 1,2 |
| UK | 2,8 | 3,0 | 2,2 | 2,9 | 2,6 | 0,5 | -4,9 | 1,3 |
| EU-12 | | | | | | | | |
| Bulgaria | 5,0 | 6,6 | 6,2 | 6,3 | 6,2 | 6,0 | -5,0 | 0,2 |
| Cyprus | 1,9 | 4,2 | 3,9 | 4,1 | 5,1 | 3,6 | -1,7 | -0,7 |
| Czech Republic | 3,6 | 4,5 | 6,3 | 6,8 | 6,1 | 2,5 | -4,3 | 1,7 |
| Estonia | 7,6 | 7,2 | 9,4 | 10,0 | 7,2 | -3,6 | -14,1 | 0,8 |
| Hungary | 4,3 | 4,9 | 3,5 | 4,0 | 1,0 | 0,6 | -6,3 | -0,2 |
| Latvia | 7,2 | 8,7 | 10,6 | 12,2 | 10,0 | -4,6 | -18,0 | -4,0 |
| Lithuania | 10,2 | 7,4 | 7,8 | 7,8 | 9,8 | 2,8 | -15,0 | -1,6 |
| Malta | -0,3 | 0,7 | 3,9 | 3,6 | 3,8 | 2,1 | -1,9 | 0,5 |
| Poland | 3,9 | 5,3 | 3,6 | 6,2 | 6,8 | 5,0 | 1,7 | 2,7 |
| Romania | 5,3 | 8,5 | 4,1 | 7,9 | 6,3 | 7,4 | -7,1 | 0,8 |
| Slovakia | 4,8 | 5,0 | 6,7 | 8,5 | 10,6 | 6,2 | -4,7 | 4,1 |
| Slovenia | 2,8 | 4,3 | 4,5 | 5,8 | 6,8 | 3,5 | -7,3 | 1,1 |
| EEA | | | | | | | | |
| Iceland | 2,4 | 7,7 | 7,5 | 4,6 | 6,0 | 1,0 | -6,5 | -3,0 |
| Norway | 1,0 | 3,9 | 2,7 | 2,3 | 2,7 | 1,8 | -1,5 | 1,1 |
| Switzerland | -0,2 | 2,5 | 2,6 | 3,6 | 3,6 | 1,8 | -1,5 | 1,5 |
| EU candidates/ potential candidates | | | | | | | | |
| Albania | 5,8 | 5,7 | 5,8 | 5,4 | 6,0 | 7,8 | 2,8 | 2,3 |
| Bosnia & Herzegovina | 3,5 | 6,3 | 4,3 | 6,2 | 6,5 | 5,4 | -3,4 | 0,5 |
| Croatia | 5,0 | 4,3 | 4,2 | 4,7 | 5,5 | 2,4 | -5,8 | 0,2 |
| Kosovo | 5,4 | 2,6 | 3,8 | 3,8 | 4,0 | 5,4 | 4,0 | 4,8 |
| Macedonia | 2,8 | 4,1 | 4,1 | 3,9 | 5,9 | 4,8 | -0,7 | 2,0 |
| Montenegro | 2,5 | 4,4 | 4,2 | 8,6 | 10,7 | 6,9 | -7,0 | -1,7 |
| Serbia | 2,4 | 8,3 | 5,6 | 5,2 | 6,9 | 5,5 | -2,9 | 2,0 |
| Turkey | 5,3 | 9,4 | 8,4 | 6,9 | 4,7 | 0,7 | -4,7 | 5,2 |
| CIS | | | | | | | | |
| Armenia | 14,0 | 10,5 | 13,9 | 13,2 | 13,7 | 6,8 | -14,4 | 1,8 |
| Azerbaijan | 10,5 | 10,2 | 26,4 | 34,5 | 25,0 | 10,8 | 9,3 | 2,7 |
| Belarus | 7,0 | 11,5 | 9,4 | 10,0 | 8,6 | 10,0 | 0,2 | 2,4 |
| Georgia | 11,1 | 5,9 | 9,6 | 9,4 | 12,3 | 2,3 | -4,0 | 2,0 |
| Kazakhstan | 9,3 | 9,6 | 9,7 | 10,7 | 8,9 | 3,2 | 1,2 | 2,4 |
| Kyrgyzstan | 7,0 | 7,0 | -0,2 | 3,1 | 8,5 | 8,4 | 2,3 | 4,6 |
| Moldova | 6,6 | 7,4 | 7,5 | 4,8 | 3,0 | 7,8 | -6,5 | 2,5 |
| Russia | 7,3 | 7,2 | 6,4 | 7,7 | 8,1 | 5,6 | -7,9 | 4,0 |
| Tajikistan | 10,2 | 10,6 | 6,7 | 7,0 | 7,8 | 7,9 | 3,4 | 4,0 |
| Turkmenistan | 17,1 | 14,7 | 13,0 | 11,4 | 11,6 | 10,5 | 4,2 | 12,0 |
| Ukraine | 9,6 | 12,1 | 2,7 | 7,3 | 7,9 | 2,1 | -15,1 | 3,7 |

| | | | | | | | | |
|--|-----|-----|-----|-----|-----|------|------|-----|
| Uzbekistan | 4,2 | 7,7 | 7,0 | 7,3 | 9,5 | 9,0 | 8,1 | 8,0 |
| World/ regions/ other countries | | | | | | | | |
| World | 3,6 | 4,9 | 4,5 | 5,1 | 5,2 | 3,0 | -0,6 | 4,2 |
| US | 2,5 | 3,6 | 3,1 | 2,7 | 2,1 | 0,4 | -2,4 | 3,1 |
| Japan | 1,4 | 2,7 | 1,9 | 2,0 | 2,4 | -1,2 | -5,2 | 1,9 |
| Euro area | 0,8 | 2,2 | 1,7 | 3,0 | 2,8 | 0,6 | -4,1 | 1,0 |
| EU | 1,5 | 2,7 | 2,2 | 3,4 | 3,1 | 0,9 | -4,1 | 1,0 |
| CEE | 4,8 | 7,3 | 5,9 | 6,5 | 5,5 | 3,0 | -3,7 | 2,8 |
| CIS | 7,7 | 8,2 | 6,7 | 8,5 | 8,6 | 5,5 | -6,6 | 4,0 |
| MENA | 6,9 | 5,8 | 5,4 | 5,7 | 5,6 | 5,1 | 2,4 | 4,5 |

Note: Yellow field means IMF estimates

Source: International Monetary Fund, World Economic Outlook Database, April 2010

Table 2: Countries most affected by the financial crisis through financial channels, Sept. 2008 – May 2009

Countries most affected by the financial crisis through financial channels

| Rank** | Country | Currency Depreciation (%) | Bond Spreads(Bps) | Equity Market (%) |
|--------|--------------|---------------------------|-------------------|-------------------|
| 1 | Ukraine | -59.9 | 733 | -66 |
| 2 | Argentina | -21.4 | 735 | -58 |
| 3 | Hungary | -18.9 | 283 | -58 |
| 3 | Poland | -35.2 | 127 | -53 |
| 5 | Jamaica | -20.4 | 439 | -51 |
| 6 | Ghana | -28.0 | 448 | -35 |
| 7 | Russia | -22.0 | 144 | -44 |
| 8 | Kazakhstan | -22.0 | 167 | -34 |
| 9 | Bulgaria | -1.5 | 175 | -51 |
| 10 | Mexico | -22.6 | 73 | -35 |
| 11 | Turkey | -21.7 | 44 | -40 |
| 12 | Greece | -1.2 | 95 | -47 |
| 13 | Sri Lanka | -6.6 | 464 | -27 |
| 14 | Indonesia | -8.8 | 85 | -29 |
| 15 | Austria | -1.2 | 39 | -49 |
| 15 | Pakistan | -6.3 | 132 | -26 |
| 17 | El Salvador | -0.3 | 176 | -35 |
| 18 | Vietnam | -7.1 | 53 | -33 |
| 19 | Italy | -1.2 | 13 | -50 |
| 20 | Lebanon | -0.3 | 57 | -45 |
| 21 | Netherlands | -1.2 | 17 | -42 |
| 22 | Brazil | -8.4 | 36 | -28 |
| 23 | Belgium | -1.2 | 14 | -36 |
| 23 | Chile | -5.5 | 80 | -14 |
| 23 | Tunisia | -7.7 | 62 | -14 |
| 26 | Ecuador | 0.0 | 2528 | -13 |
| 26 | Egypt | -3.4 | -137 | -39 |
| 28 | Spain | -1.2 | 20 | -31 |
| 29 | France | -1.2 | 11 | -34 |
| 30 | Colombia | -3.4 | 63 | -10 |
| 30 | Germany | -1.2 | 0 | -34 |
| 32 | Malaysia | -0.9 | 81 | -12 |
| 33 | Philippines | -0.1 | 53 | -21 |
| 34 | Peru | -0.4 | 42 | -15 |
| 35 | South Africa | 1.5 | 39 | -20 |
| 36 | US | 0.0 | 0 | -24 |
| 37 | Japan | 9.2 | -5 | -17 |
| 38 | China | 0.3 | -31 | -11 |

Note: **Rank from most to least affected. The country with the greatest currency depreciation was given a 1 (data from Wall Street Journal). Local currencies were compared to U.S. dollar, U.S. given 0 percent in currency depreciation. The country with the largest percentage drop in equity markets was given a 1 (data from World Bank GEM, Japan data from MSCI Barra). The country with the largest growth in bond spreads was given a 1 (data for EU countries from The Economist; data for remaining countries from World Bank GEM). EU bond spreads were compared to the German bund, while other bond spreads were compared to U.S. Treasuries (U.S. and German were given 0).

Source: Ali, Dadush & Falcao (2009)

Table 3: Europe: Gross debt to GDP, in %, 2004-2009

| Region/ Country | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 |
|------------------|-------------|-------------|-------------|-------------|-------------|-------------|
| EU-27 | 62.2 | 62.7 | 61.4 | 58.8 | 61.6 | 73.6 |
| Euro area | 69.5 | 70.1 | 68.3 | 66.0 | 69.4 | 78.7 |
| Austria | 64.8 | 63.9 | 62.2 | 59.5 | 62.6 | 66.5 |
| Belgium | 94.2 | 92.1 | 88.1 | 84.2 | 89.8 | 96.7 |
| Bulgaria | 37.9 | 29.2 | 22.7 | 18.2 | 14.1 | 14.8 |
| Czech Republic | 30.1 | 29.7 | 29.4 | 29.0 | 30.0 | 35.4 |
| Cyprus | 70.2 | 69.1 | 64.6 | 58.3 | 48.4 | 56.2 |
| Denmark | 44.5 | 37.1 | 32.1 | 27.4 | 34.2 | 41.6 |
| Estonia | 5.0 | 4.6 | 4.5 | 3.8 | 4.6 | 7.2 |
| Germany | 65.7 | 68.0 | 67.6 | 65.0 | 66.0 | 73.2 |
| Greece | 98.6 | 100.0 | 97.8 | 95.7 | 99.2 | 115.1 |
| Hungary | 59.1 | 61.8 | 65.6 | 65.9 | 72.9 | 78.3 |
| Ireland | 29.7 | 27.6 | 24.9 | 25.0 | 43.9 | 64.0 |
| Finland | 44.4 | 41.8 | 39.7 | 35.2 | 34.2 | 44.0 |
| France | 64.9 | 66.4 | 63.7 | 63.8 | 67.5 | 77.6 |
| Italy | 103.8 | 105.8 | 106.5 | 103.5 | 106.1 | 115.8 |
| Latvia | 14.9 | 12.4 | 10.7 | 9.0 | 19.5 | 36.1 |
| Lithuania | 19.4 | 18.4 | 18.0 | 16.9 | 15.6 | 29.3 |
| Luxembourg | 6.3 | 6.1 | 6.5 | 6.7 | 13.7 | 14.5 |
| Malta | 72.1 | 70.2 | 63.7 | 61.9 | 63.7 | 69.1 |
| Netherlands | 52.4 | 51.8 | 47.4 | 45.5 | 58.2 | 60.9 |
| Poland | 45.7 | 47.1 | 47.7 | 45.0 | 47.2 | 51.0 |
| Portugal | 58.3 | 63.6 | 64.7 | 63.6 | 66.3 | 76.8 |
| Romania | 18.7 | 15.8 | 12.4 | 12.6 | 13.3 | 23.7 |
| Slovakia | 41.5 | 34.2 | 30.5 | 29.3 | 27.7 | 35.7 |
| Slovenia | 27.2 | 27.0 | 26.7 | 23.4 | 22.6 | 35.9 |
| Spain | 46.2 | 43.0 | 39.6 | 36.2 | 39.7 | 53.2 |
| Sweden | 51.3 | 51.0 | 45.7 | 40.8 | 38.3 | 42.3 |
| UK | 40.6 | 42.2 | 43.5 | 44.7 | 52.0 | 68.1 |
| Iceland | : | 26.0 | 27.9 | 29.1 | 57.4 | : |
| Norway | 45.6 | 44.5 | 55.3 | 52.4 | 49.9 | 43.7 |

Note: Blue fields indicate countries where the public debt to GDP ratio increased by 15 percentage points or more in the period of 2007-2009

Source: Eurostat, http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=gov_dd_edpt1&lang=en

Table 4: G7: Gross public debt to GDP, in % (2005-2015)

| Country | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Canada | 70.3 | 68.7 | 64.2 | 70.4 | 81.6 | 82.3 | 80.9 | 78.7 | 76.2 | 73.4 | 70.5 |
| France | 66.3 | 63.7 | 63.8 | 67.5 | 77.4 | 84.2 | 88.6 | 91.6 | 93.2 | 94.3 | 94.8 |
| Germany | 68.0 | 67.6 | 65.0 | 65.9 | 72.5 | 76.7 | 79.6 | 81.4 | 82.1 | 82.0 | 81.5 |
| Italy | 105.8 | 106.5 | 103.4 | 106.0 | 115.8 | 118.6 | 120.5 | 121.6 | 122.8 | 123.9 | 124.7 |
| Japan | 191.1 | 190.1 | 187.7 | 198.8 | 217.6 | 227.3 | 234.1 | 240.1 | 244.0 | 246.7 | 248.8 |
| UK | 42.1 | 43.2 | 44.1 | 52.0 | 68.2 | 78.2 | 84.9 | 88.6 | 90.2 | 90.7 | 90.6 |
| US | 61.6 | 61.1 | 62.1 | 70.6 | 83.2 | 92.6 | 97.4 | 100.7 | 103.5 | 106.4 | 109.7 |

Note: Yellow fields contain IMF estimates/ forecasts

Source: IMF WEO Database, April 2010