

IMPACTS OF THE FINANCIAL CRISIS ON A SMALL OPEN ECONOMY:  
THE CASE OF HUNGARY

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*Abstract*

The paper reflects on the crisis management experience of a small open economy, Hungary. We start with a general description of the global financial crisis. Then we move to crisis developments in the Central and Eastern European (CEE) region and to Hungary, respectively. We outline the macroeconomic conditions in the pre-crisis period with initial Hungary-specific features and vulnerabilities and identify specific crucial points for economic policy formation. Data series cover the 2004-2010 period with expectations for 2011. This 6-year period well represents Hungary for the EU post-accession economic development path. It is demonstrated that capabilities of the new member small open economies for economic policy formation and to applying standard crisis adjustment instruments are most limited when compared to what the profession and the general public might think on this matter. As the most important research focus of the paper we analyze policy responses implemented by the changing governments and elaborate on the Hungarian domestic fiscal and monetary scene with special emphasis on the measures taken in the crisis-struck environment.

*Key words:* Economic crisis 2008-2009, external shocks, Hungary, macroeconomic policy responses

*The global financial crisis in 2008 - A general description*

*Propositions*

*Liquidity Crisis*

*Output Crisis*

*Impacts of the Crisis in Europe*

*External shocks for a Small Open Economy*

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**Introduction**

By following and analyzing the macroeconomic events unfolding on the waves of the 2008 world economic crisis in Europe, the paper reflects on the crisis management experience of a small open economy, Hungary. We start with a general description of the global financial crisis. Then we shift focus and move to crisis developments in the Central and Eastern European (CEE) region and to Hungary, respectively. We shall shortly outline the macroeconomic conditions in the pre-crisis period with initial Hungary-specific features and vulnerabilities and identify specific crucial points for economic policy formation. Data series will cover the 2004-2010 period with expectations for 2011. This 6-year period well represents Hungary for the EU post-accession economic development path. By 2004 Hungary had become a member of the European Union (EU) and similarly to other new EU member states embarked on a convergence path with the old EU member states. It makes much sense observing Hungary from 2004 not only because it was beyond the five years mark in 2009 that Hungary joined the EU. It is worth the academic attention also because the capabilities of the new member small open economies for economic policy formation and to applying standard crisis adjustment instruments are most limited compared to what the public might think on this matter. In addition, research institutions of the world also like to compare the economic performance of the countries after the mega-enlargement within their respective region. As the most important research focus of the paper we shall investigate policy responses implemented by the changing governments and elaborate on the Hungarian domestic fiscal and monetary scene with special emphasis on the measures taken in the crisis-struck environment.

*The main question asked is why and how can a strong external financial orientation lead to amplified external shocks in small open economy and whether the shocks could be better absorbed or dampened with some foresight?*

*The global financial crisis in 2008 - A general description*

It is our contention that it is useful to view the global crisis of 2007-2009 as a series of shocks of different nature composed of three interdependent and mutually reinforcing crises: a *financial crisis* (financial institutions suddenly finding masses of nonperforming assets on their balance sheets), a *liquidity crisis* (the sudden unavailability or dramatically higher cost of credits that previously were routinely granted on reasonable terms), and a *crisis in the real economy*, that is, substantial declines in output and large increases in unemployment. For practical purposes the causes and consequences of the three crises will be shortly discussed sequentially even though their timing overlaps.

It is the author's view that the fundamental causes of the global financial crisis - with some limitations- can be traced to three sets of interrelated factors. We cover these factors by three propositions.

*Propositions*

*(1) Persistent global imbalances in savings between Asia on the one hand and North America and Europe on the other, reinforced by very low, even negative real rates of interest in the USA after 2000.*

Persistent global imbalances came about during this decade as China and other emerging economies in Asia grew at rapid rates and their societies saved an unusually high proportion of expanding incomes. Contributing factors were the almost uninterrupted expansion in the world economy since 1992 and the accumulation of new wealth from natural resources, such as oil and raw materials. This led to an excess of intended global savings relative to intended global investment, causing dramatic declines in long-term interest rates. In the USA, this was reinforced by the low or negative real rate of interest at which banks could borrow, thanks to the monetary policy of the Fed.<sup>i</sup>

A good portion of the excess savings was mopped up by the developed West, as its "satisfaction now" culture prompted societies to consume more than they were producing. The major manifestation was the USA's large and sustained current-account deficits. EE behaved likewise, its people and governments being impatient to converge to West European living standards.

*(2) The emergence of new types of financial instruments in the developed West whose dramatic growth was fuelled by incentives that made individuals and financial institutions rich while creating a huge, system-wide financial time bomb.*

As bond yields declined and stock yields followed, investors began to look for assets that would generate the earlier higher real returns. The solution was "alternative investments": real estate and securities tied to it, hedge funds, venture capital, private equity, derivatives, and commodity futures. The financial wizards created obscure, unregulated financial instruments, packaged them and traded them, often with very high leverage of 30 or more to 1.<sup>ii</sup> And traders at banks, hedge funds, and other financial institutions were typically given bonus incentives to speculate, with huge personal financial gains if successful and modest personal risks if they failed, creating a widespread "moral hazard" in the financial system.<sup>iii</sup>

The speculative new instruments, the high leverage, and the trading incentives did, for a time, generate large profits in the financial sector, but also one of the largest asset bubbles in financial history. As someone aptly put it: "[This process] was abetted by mortgage originators who had little interest in making sure loans were good quality, investment banks that securitized and packaged those loans, rating agencies that forgot the fundamental laws of gravity, and purchasers who bought securities they could not possibly understand."<sup>iv</sup>

*3. The developments stated under (1) and (2) were taking place while policymakers and regulators woke up late, they were dozing too long at the wheel.*

For example, the US government sponsored the housing boom and regulators failed to stop the bubble. Interest rates were too low for too long, prompting excessive credit creation. The Basel international rules failed to impose appropriate capital requirements on securitized mortgage obligations held by banks, so they had built up gigantic portfolios, most of which turned into “toxic” assets when the bubble burst. US financial institutions were monitored by nine compartmentalized regulatory agencies, none concerned with overall systemic risks. Banking regulation in Europe was country-specific and uncoordinated, even though the most important financial institutions were regional or global in scope. And because neither in the US nor in the EU was there a “what if” plan for a financial crisis, early reactions to the crisis were haphazard and often inept.

### *Liquidity Crisis*

For the economy as a whole, a *liquidity crisis* means that the two main sources of liquidity, banks and the commercial paper market, severely reduce the number of loans they make or stop making loans altogether. Because so many banks rely on the interbank loan market to borrow short term when needed, and companies rely on both types of loans to meet their short-term obligations, dramatically reduced lending in these markets has a ripple effect throughout the economy, causing liquidity crises at a plethora of individual companies, which in turn affects individuals and the real economy.

The global financial crisis, with a score of venerable global financial institutions facing massive volumes of non-performing loans and other assets, automatically impaired liquidity in the financial system. However, the problem was hugely exacerbated in September 2008 with the inept decision, made jointly by the US Treasury and the Federal Reserve, to suddenly and unexpectedly let Lehman Brothers – a large and systemically important investment bank – go bankrupt, soon after the government came to the rescue of investment bank Bear Sterns and also to the world’s largest insurance company, AIG. The tragedy of letting Lehman go was that huge losses were suffered not only by the owners and investors in Lehman but also by the thousands of customers of Lehman, whose routine financial transactions with Lehman were not honoured.

The decision to let Lehman go bankrupt at a time when financial institutions throughout the world were reeling from the effects of the financial crisis created such uncertainty about credit risks that private credit markets froze; no one wanted to invest in or lend to banks, or to each other, in the crisis situation. Thus, Lehman’s collapse triggered a severe global *liquidity crisis*, exacerbating the big problem borrowers worldwide had faced since August 2007.

### *Output Crisis*

In such a situation, banks and other financial institutions practically stopped lending to the private sector, even though credit is the lifeblood of the real economy. To the extent that lending continued, the criteria became more stringent and costs significantly higher. This is one channel through which the contagion spread from global finance to the global real economy. Another channel was the immense loss of wealth that the private sector suffered as stock markets crashed, pension funds bled, and housing prices slumped. The combination of impaired credit and loss of wealth caused consumption and investment to plummet, GDP to decline and unemployment rates to rise, generating the global *economic crisis*. As consumption and investment declines, their negative impacts spread through the well-known negative spending multiplier effects.

The three crises – financial, liquidity, and economic - reinforced each other, causing the most severe economic dislocation in the world in the past six decades.

The new direction of policy responses from the central banks and governments to inject new life and money into freezing economies and banking systems went hand in hand in the US and in Europe, this pattern of the helping hand got firm reflection in the steep easing of credit conditions as depicted by Graph 1. and Graph 2: long term yields of U.S. and EUR government bonds came down from levels of 4,5 % to just above 2 % within little more than 2 years ; key interest rates of set by the FED, ECB and SNB.

Figure 1 Government bond yields 2008-2010, (%)

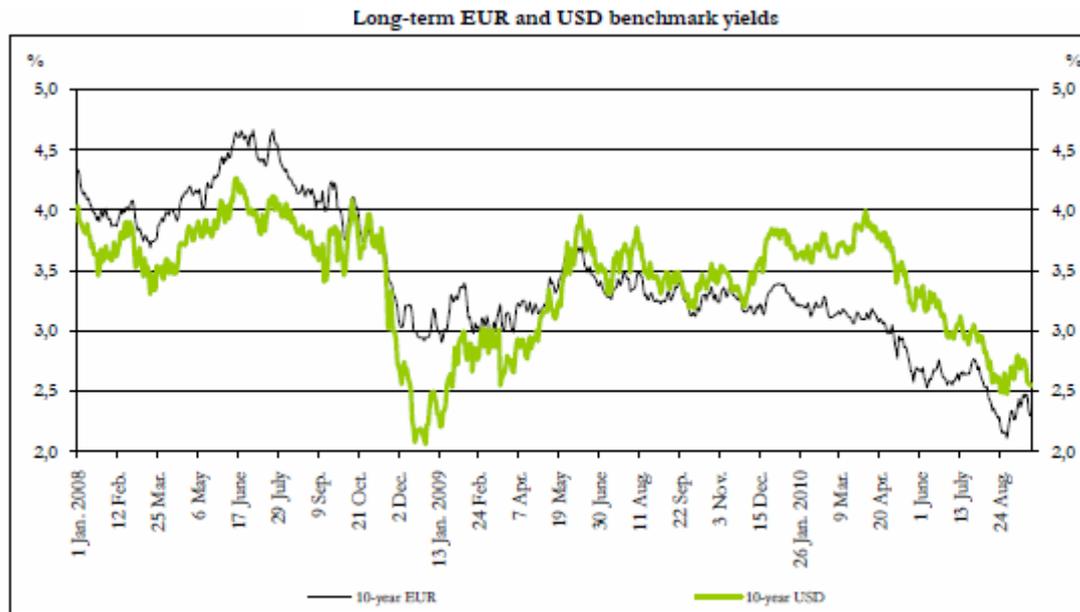
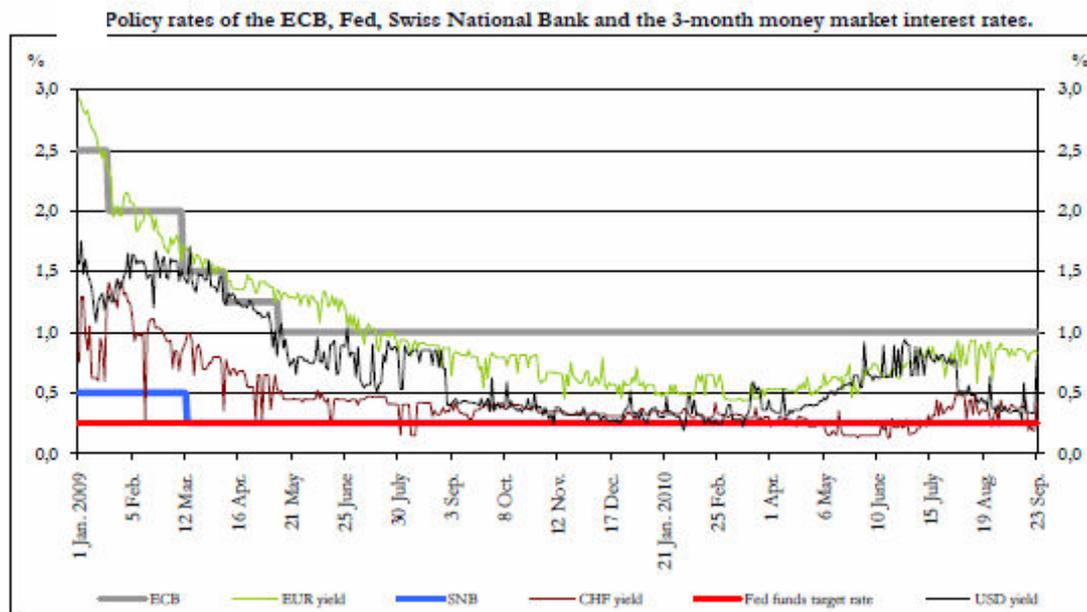


Figure 2. Key Interest rates in the crisis years, 2009-2010



### *Impacts of the Crisis in Europe*

The crisis has hit Europe particularly hard, perhaps harder than other regions of the world, though considerable diversity prevailed across the region<sup>1</sup>. All countries have been affected by the financial crisis and the collapse in global trade, with the impact depending on the extent of exposure to toxic assets, reliance on securitization, and on respective world markets dependence<sup>2</sup>. In addition, several countries were suffering from the bursting of home-grown real estate and construction bubbles (Ireland, Spain, the United Kingdom, and the Baltics, for example). A number of countries have been left vulnerable because of concerns about fiscal sustainability like Greece and Italy or because of concerns about large current account deficits. For countries, like Hungary, as Griffith-Jones and Ocampo argue, the economic and financial crisis in 2008 was

<sup>1</sup> International Monetary Fund, *World Economic Outlook*, Washington, D.C., October 2009.

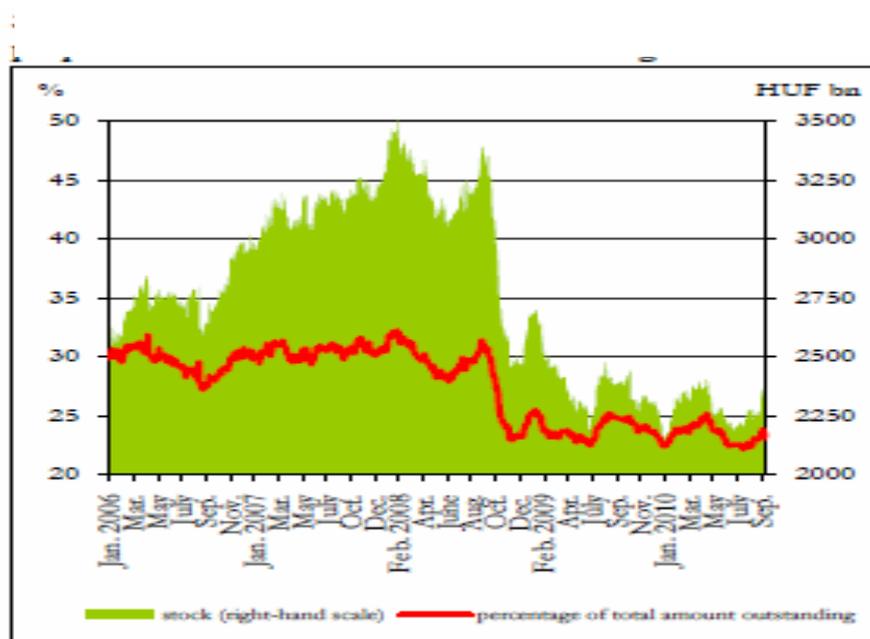
<sup>2</sup> International Monetary Fund, *Regional economic outlook: Europe*, Washington, D.C., October 2009.

driven by the reversal of the three positive ‘shocks’ that developing countries experienced during the preceding boom period: namely, exceptional financing, high commodity prices and, for a significant number of countries, large flows of remittances<sup>3</sup> all came to an end. The initial trigger of negative events that contributed to the reversals of these trends in Europe too was the rapid impact on credit markets of the bursting of the U.S. housing bubble. However, it was the reversal in commodity prices in mid-2008 and, particularly, the severe world financial crisis that started in September 2008 that led to significant reversal of favourable global conditions for European countries. The recession in the United States and other developed countries further multiplied the negative impact of the crisis for Europe.

One of the key channels for transmission of the crisis from developed to emerging markets in Europe has been private capital flows. In several countries, there has been a massive reversal of currency positions out of high-yielding assets in emerging economies into developed countries’ currency with a negative impact on the exchange rates of the respective countries, even in countries with significant current account surpluses<sup>4</sup>. The main channel of transmission of the crisis to exporters of manufactures and services is through a decline in trade volumes; while exporters of primary goods have been more affected by declining prices<sup>5</sup>.

For many emerging European economies, domestic demand in the rest of Europe and global trade greatly affect their business cycle, a connection that, particularly in Central Europe, is amplified by tight supply chain links to Western neighbours. As for financial market participants, they were concerned about the level of private debt, the availability of external financing, and the instability of the exchange rate<sup>6</sup>. Hence, the capital flows into the region have become limited, and interest rates spreads have elevated. The problems in Central and Eastern Europe, CEE region weighed particularly heavily on the financial solidity of EU banks, since they provided the backbone of the banking and financial system in those countries, and therefore are much exposed to the consequences of mounting flights of capital and currency attacks in those countries<sup>7</sup>. When all European banks run for the exit (e.g. by refusing to roll over credit lines that come due or to extend further credit to their subsidiaries), they are increasing their own losses. This trend got immediate reflection in the massive sell off of assets held in the fragile, crisis hit Hungarian capital market in 2008, see Figure 3. below.

Figure 3. Hungarian Government securities and equity held by foreign residents in 2006-2010



Source: MNB.

Notes: MNB calculations without central bank bills.

<sup>3</sup> Griffith-Jones, Stephany and Ocampo, José Antonio, ‘The financial crisis and its impact on developing countries’, (hereafter, ‘The financial crisis’), *International Policy Centre for Inclusive Growth*, Working Paper, 53, 2009.

<sup>4</sup> Griffith-Jones and Ocampo, ‘The financial crisis’, p. 2

<sup>5</sup> Ibid.

<sup>6</sup> International Monetary Fund, *Global Financial Stability Report*, Washington, D.C., October 2009.

<sup>7</sup> Gros, Daniel, ‘Collapse in Eastern Europe? The Rationale for a European Financial Stability Fund’, *CEPS Commentary*, 2009

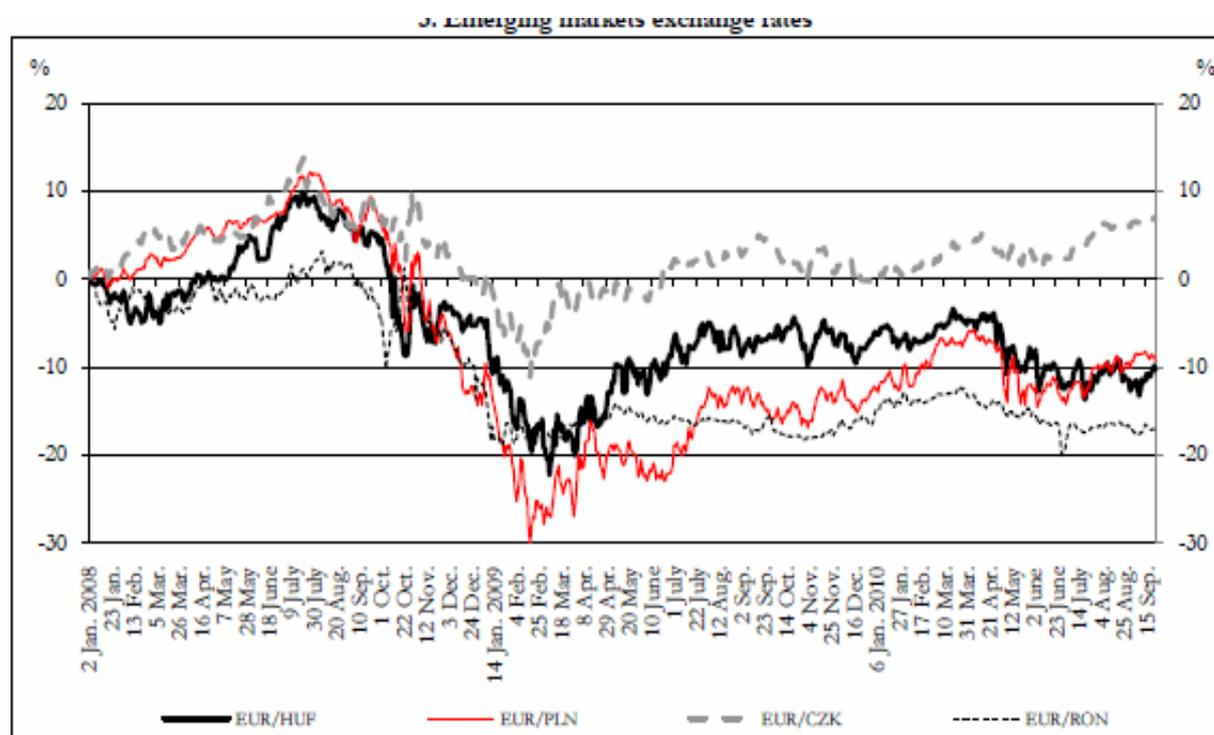
Figure 3 demonstrates that on the critical October days of the crisis, foreigners did not hesitate to sell off a good deal of their holdings in small open non euro zone- economy Hungary. The rapid withdrawal of capital cost dearly to remaining holders of the public debt as they had to suffer huge immediate losses on their bonds. This shock came as never seen before surprise, a price to be paid on the too-early-maybe financial liberalization.

### *External shocks for a Small Open Economy*

We now move to analyzing the role of external shocks specifically for Hungarian economy. Analytical frameworks (as demonstrated in Ötker –Robe et al, IMF WP 2007 ) emphasize the role of capital inflows in accumulation of excessive foreign debt. Therefore, we should mention that, in particular, the inflows into Hungary in mid-2000s have been boosted by the good prospects linked to EU-related structural reforms and to lower risk premia due to macroeconomic stabilization<sup>8</sup>. Furthermore, capital inflows tended to be associated with declining interest rates in the industrialized countries (compared to domestic interest rates) and with increased global liquidity<sup>9</sup>. Another factor has been the rapid growth of bank credit to the private sector, funded by bank borrowing from abroad. These institutional changes have not only been important in stimulating the capital inflows, but have also shaped the policy responses to the complications that they brought for macroeconomic and financial stability. One of such complications was the Impossible Trinity dilemma: while opening the capital account and pursuing multiple policy objectives ( price stability, need for external funds and competitiveness) policy tensions were likely to surface between domestic and foreign economic goals. In theory greater exchange rate flexibility can help to resolve the tension between various policy targets by letting the appreciation absorb the impact of the inflows<sup>10</sup>. But in reality exchange rates could do little to make proper adjustments. This was the case for most CEE countries. Lasting volatility ( as can be seen on Figure 4 ) of fx rates did not help stabilization policies in any fashion.

Figure 4. EEC currency movements, 2008-/01/ - 2010/09/

Fx price changes (against the EUR) during the crisis in EEC countries (HUF, CZK, PLN, RON) %



Source: Thomson Reuters.

<sup>8</sup> Ötker-Robe, İnci, Zbigniew Polański, Barry Topf, and David Vávra, 'Coping with Capital Inflows: Experiences of Selected European Countries', (hereafter, 'Coping with Capital Inflows'), IMF Working Paper, WP/07/190, 2007, p.6.

<sup>9</sup> International Monetary Fund, Global Financial Stability Report, Washington, D.C., April 2005.

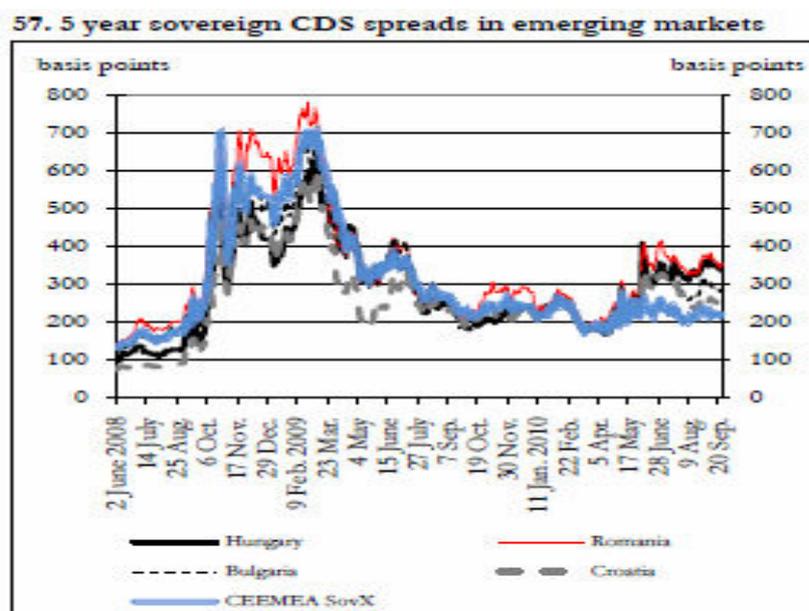
<sup>10</sup> Ötker-Robe et al., 'Coping with Capital Inflows', p. 3

While common global shocks have increasingly affected the volatility of interest rate spreads and other financial indicators in Hungary, important factors behind the turbulence were the unwanted banking and fiscal developments<sup>11</sup>. When the crisis intensified in late 2008, liquidity and capitalization strains in particular in the banking sector shook financial markets. The results in the financial account of the balance of payments for Hungary – a deficit of 5.9 billion Euros in 2009, as compared to a surplus of 10.6 billion Euros in 2008 – show how soon and how drastically conditions tightened in the international financial environment. This led to interventions by the Hungarian Central bank NBH and by fiscal authorities (sometimes with support from the international financial institutions), which added to spur interest rate volatility through their negative impact on the government budget. Special concerns about the cyclical effects of the recession, continued to contribute to the largely unbalanced patterns on the Hungarian fiscal scene.

As the foreign appetite for HUF bonds continued to deteriorate, (Figure 3.) the pressure increased on the foreign exchange rate. Despite a period of currency appreciation from October 2006 to July 2008, the forint depreciated sharply from August 2008 to March 2009: the rate of nominal depreciation was almost 30 per cent in the eight-month period, and about 19 per cent in just the four months from December 2008 to March 2009, as can be depicted by Figure 4. The higher exchange rate volatility can be explained just partly by changes in the real interest rate differentials between the emerging economy and the rest of the world and partly by changes in the risk premium, along with long-lived fluctuations. The losses in credibility of both fiscal and monetary measures heightened risks that were strongly demonstrated by the CDS, the credit default swap market, too, as it is demonstrated below by Figure 5.

Due to Hungary's high level of financial and economic integration, the output drops in developed economies have soon led to adjustments in the private sector and to an economic downturn in Hungary as well. However, because of the country's large net external debt, the level of adjustment of private and public sectors in Hungary was somewhat faster when compared to other larger CEE countries. At the same time, this relatively rapid adjustment has managed to lower the external financing requirement, it, in short order, fiscal tightening did massively contribute to the deepening of the recession. In 2009, the ratio of external financing requirement to GDP was expected to decrease to 0.9 per cent compared to 7.6 per cent in the previous year, then to improve further slightly in 2010. Moreover, there are still downside risks to the country's external financing requirement in the two years ahead.

Figure 5. Spreads on sovereign debt in selected CEE countries (Hungary, Bulgaria, Romania, Croatia), 2008-June - 2010 Sept. / basis points/



Source: Thomson Reuters.

Notes: CEEMEA is a composite index calculated from the 15 most liquid sovereign CDS-spreads in the CEEMEA region.

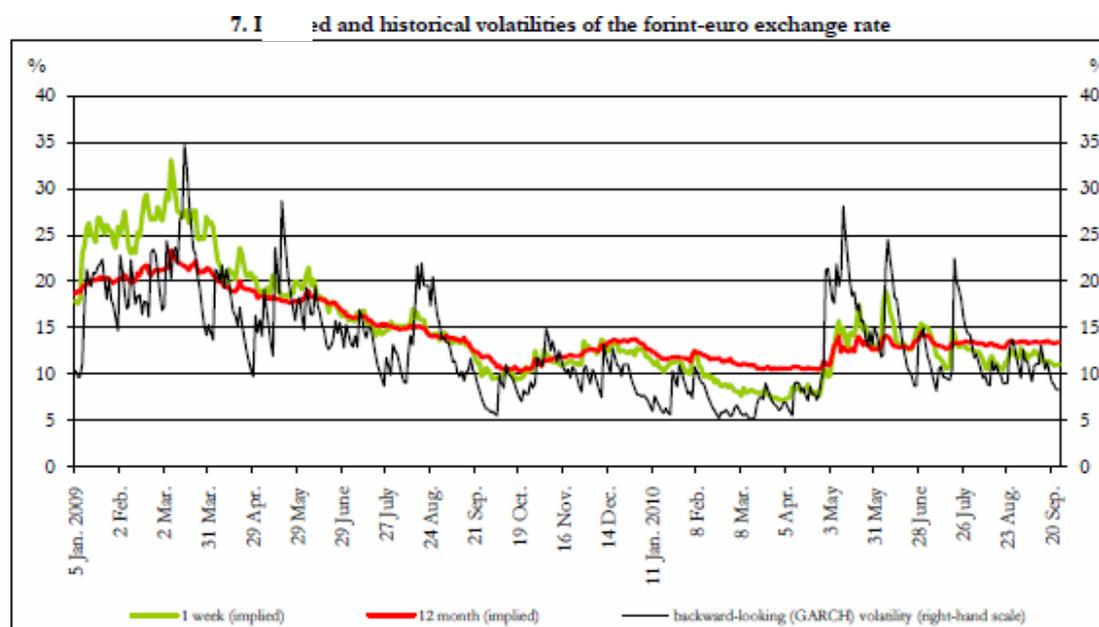
<sup>11</sup> International Monetary Fund, *Regional economic outlook: Europe*, Washington, D.C., October 2009.

Even though the appetite for risk has moved away from its crisis-induced lows, Hungary faced a significantly more volatile external lending environment in the aftermath of the crisis<sup>12</sup>. Interest rate spreads on sovereign bonds have increased, and interest rates themselves have become more volatile. One should note that high spreads and high volatility in interest rates are often observed together<sup>13</sup>. While global factors and market liquidity clearly played a role, investors were increasingly differentiating among countries according to their fundamentals and the soundness of their policies. Taking their cue from the crisis, investors have become more ‘conscious of tail risks’<sup>14</sup> and charge higher risk premiums. Thus, even with the dissipation of the global financial shocks, interest rate spreads and volatilities related to country-specific vulnerabilities of Hungary were exceptionally high and they are likely to remain elevated in the medium term.

In addition, even if Hungary’s political instability has been somewhat eased, after the firm parliamentary and municipal election victory of the right wing coalition, businesses and investor confidence in general have remained in their wait-and-see stand. Rating agencies gave their negative twist in their opinions, particularly when Fitch Ratings and others instigated to downgrade Hungary several times. At the end of March 2009, Standard and Poor’s lowered credit ratings of Hungary even to ‘BBB minus’ from ‘BBB’. This was a definitely bad signal for the owners of new funds that had been attracted to Hungary to help in the process of convergence towards the euro zone. For the country to have reached the sub-investment grade was the lowest point in a decade of catching up and western modernization efforts. Uncertainty never disappeared.

If there was one sure indicator of the long time evolving uncertainty around the Hungarian economic performance, public and private performance alike, well, for little surprise, it was the wildly moving expectations fully incorporated into the volatility index of the HUF/Euro exchange rate. As it is shown with remarkable strength in Figure 6, covering the crisis driven month between 2009-2010, the volatility measure was sliding on the 10+ % scale most of the time.

Figure 6. Historical volatilities of the forint–euro exchange rate (weekly, monthly, yearly) to be interpreted as risk perceived by the market), %



Source: Bloomberg.

Notes: GARCH is weighted volatility calculated using historical data; implied volatility (based on foreign exchange option quotes) can be interpreted as an indicator of risk perceived by the market.

<sup>12</sup> International Monetary Fund, *Regional economic outlook: Europe*, Washington, D.C., October 2009.

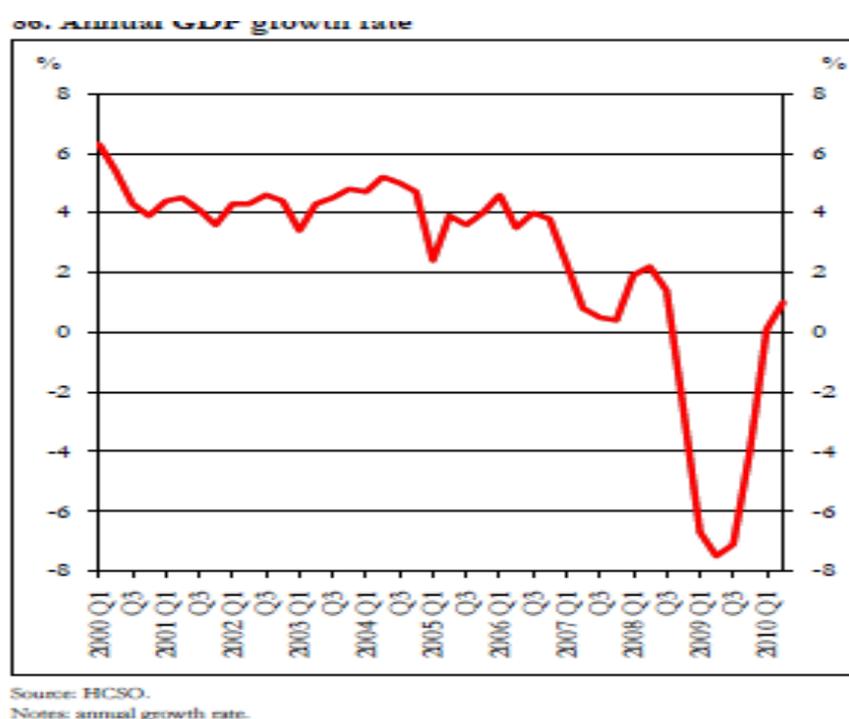
<sup>13</sup> Fernandez-Villaverde, Jesus, Gueron-Quintana, Pablo A., Rubio-Ramirez, Juan, and Uribe, Martin, ‘Risk Matters: The Real Effects of Volatility Shocks,’ *NBER Working Paper No. 14875*, Cambridge, Massachusetts: National Bureau of Economic Research, 2009.

<sup>14</sup> Blanchard, Olivier J., ‘Current and Anticipated Deficits, Interest Rates and Economic Activity,’ *NBER Working Paper No 1265*, Cambridge, Massachusetts: National Bureau of Economic Research, 1984.

We have to mention first that emerging economies of the CEE region even before the global financial crisis were operating in a more volatile environment than the euro area. The supply side and the external environment has also been more volatile historically owing to the substantial structural changes associated with the transition from a centrally planned to a market economy, higher exposure to world trade and financial flows relative to GDP, and weaker policy transmission mechanisms<sup>15</sup>. And CEE countries that receive large capital inflows into the banking and the corporate sectors and run large current account deficits, what was true for Hungary of the pre-crisis period, are vulnerable to the changes in investor sentiments leading to large changes in the exchange rate or in country risk spreads or both.

The strong dependence on foreign funds and on exports did not seem to help the dampening economic growth paths. True, the lasting sluggishness in economic growth was and is to be explained by many domestic weaknesses, structural and institutional.<sup>16</sup> The accounting for those could be subject for another analysis.

Figure 7. The Worsening GDP growth performance of the Hungarian economy, 2000-2010 (% YoY)



## Conclusions

It was our contention that it is useful to view the global crisis of 2007-2009 as a series of shocks of different nature composed of three interdependent and mutually reinforcing crises: a *financial crisis* (financial institutions suddenly finding masses of nonperforming assets on their balance sheets), a *liquidity crisis* (the sudden unavailability or dramatically higher cost of credits that previously were routinely granted on reasonable terms), and a *crisis in the real economy*. This was clearly a world economic phenomenon, general crisis escape from which was hardly possible for small participants. If an economy was caught with additional strains in its build up, then the shocks hit much harder. External orientation did not help but made things worst for a while.

<sup>15</sup> International Monetary Fund, *Regional economic outlook: Europe*, Washington, D.C., October 2009.

<sup>16</sup> In 2007 Hungarian performance in all basic macroeconomic statistics was worse than the typical point of reference, the V-3 (Poland, the Czech Republic, and Slovakia) countries: GDP growth in Hungary was significantly below un-weighted V-3 average (below 2 per cent compared to above 6 per cent in Poland, the Czech Republic and above 10 per cent in Slovakia); inflation – above 7 per cent in Hungary, under 3 per cent in V-3; current account deficit was under 7 per cent in Hungary while in the V-3 countries it was under 5.3 per cent.

The Hungarian economy in the crisis period was characterized by an initially high external debt, wide current account deficit, large external financing requirement, and still-excessive fiscal deficits, maturity and currency mismatches in the financial system, both within the individual household as well as corporate sector. Hungary was too sensitive to movements in international capital markets since a considerable proportion of financing depended on flows from the western European parents to their Hungarian daughter-banks. In addition, foreign currency denominated loans accounted for a large portion of household and private sector credit as high domestic interest rates led them to take up credits in low interest currencies<sup>17</sup>. As a result, both the household and the corporate sectors' net foreign currency liabilities increased at the worst possible time, raising indirect risk to the banking system.

One of the economy's vulnerabilities was that Hungary's government debt was to a large extent foreign-owned<sup>18</sup>. A surge of foreign borrowing allowed the country to run large current account deficits in 2006 and 2007 (7.5 and 6.5 per cent of GDP, respectively) As in 2006 the Hungarian budget deficit reached more than 9 per cent of GDP. In addition, this figure outlines particularly large budget deficits within general elections' years, what can be attributed to the 'political business cycle' prevailing in Hungary.

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## Endnotes

<sup>i</sup> When the Internet bubble burst in late 2000, the Fed cut its policy rate from 6.5% to 3.5%. After the terrorist attack of September 11, 2001, the Fed continued to lower interest rates, all the way down to 1% by July 2002, the lowest rate for half a century, where it rested for a full year. For 31 consecutive months, the base inflation-adjusted short-term interest rate was negative. Source: George Soros, *The New Paradigm for Financial Markets: The Credit Crisis of 2008 and What It Means* (New York: Public Affairs, 2008, pp. xiv-xv).

<sup>ii</sup> Leverage is the ratio of risk-weighted assets – mostly loans – to equity. For example, a ratio of 25 to 1 means that \$25 in loans is supported by \$1 in equity. The inverse is the so-called "Tier 1 common capital ratio," expressed in percentage terms, which in this case would be 4%.

<sup>iii</sup> See Alan S. Binder, "Crazy Compensation and the Crisis", *The Wall Street Journal*, May 28, 2009.

<sup>iv</sup> Harvey Golub, *The Wall Street Journal*, December 9, 2008, p. A17.

<sup>17</sup> Horvath, Julius, '2008 Hungarian Financial Crisis', *CASE Network E-briefs*, 01/2009.

<sup>18</sup> International Monetary Fund, *Regional economic outlook: Europe*, Washington, D.C., October 2009.