The Global Economic and Financial Crisis – a comparative assessment of its impact on the CESEE Region and Latin America

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JEL-Classification: F15, F32, G01, G15, G18, H30

1. Introduction

This paper looks at the impact of the global economic and financial crisis on two geographically distant and economically diverse emerging market regions: Central, Eastern and Southeastern Europe (CESEE) and Latin America. Similar to other emerging economies, both regions were initially surprisingly resilient to the global financial crisis for over one year. However, they were both strongly affected by the sharp retrenchment in capital inflows and the collapse of global demand that followed Lehman Brothers' bankruptcy in September 2008. Although there were differences in the channels of transmission and the intensity of the propagation, the short-term outcome in 2009 has been one of the worst recessions in decades for both regions.

To set the stage, it is expedient to recall some key features that characterize the CESEE and Latin American regions and that are important for analyzing the impact of the global crisis on these two regions. First, CESEE and Latin America display some differences in income levels. GDP per capita in 2008 reached on average USD 18,000 at PPP in CESEE, while it was USD 12,000 in Latin America. These levels correspond to somewhat over 50% and about 35%, respectively, of the euro area average. In terms of total GDP, Latin America is three times as large as the CESEE countries covered in this study, given that it has an overall population of 460 million, which compares with 100 million in the CESEE region.

Notwithstanding these differences there were remarkable similarities in the economic development of these regions in the run up to the global economic and financial crisis. Both regions were experiencing booming economic conditions, with rapid GDP and credit growth. Average annual GDP growth was 5% in the CESEE region and 4.3% in Latin America between 2002 and 2008. Both regions were receiving large amounts of capital inflows on the back of easy global liquidity conditions and favourable growth prospects. Economic growth in both regions was led by domestic demand, with private consumption providing the largest positive contribution to GDP growth, followed by investment. Net exports contributed negatively to GDP growth during the 2002-08 period, in particular in the CESEE countries (-1.6% per annum on average in CESEE, however with very wide cross-country variation, and -0.8% in Latin America).

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7 In CESEE we look at nine countries, which can be divided into three geographical sub regions, namely three Central European countries (CEE) Czech Republic, Poland and Hungary, the three Southeastern European countries (SEE) Bulgaria, Croatia and Romania and the three Baltic countries Estonia, Latvia and Lithuania. CESEE euro area countries (Slovenia and Slovakia) are thus not covered in this paper. For the purposes of this study, Latin America means the seven largest economies of the region (Argentina, Brazil, Chile, Colombia, Peru, Mexico and Venezuela).
In addition to favourable global conditions, there were also region-specific features that have underpinned the strong growth momentum before the global crisis. The CESEE countries went through a deep and historically unprecedented transformation from planned to market economies. This implied significant investment needs in physical as well as human capital within a short period of time. In addition, it implied an almost complete redirection of international trade flows towards the EU and a marked increase in the degree of trade openness (chart 1). Moreover, the regional reorientation of trade flows went hand in hand with a shift from resource-based/low-tech exports to medium- and high-tech exports.

**Chart 1: Exports of goods and services**

The issue of regional trade reorientation is closely related to the second key distinguishing aspect of CESEE economies, namely their participation in the European integration process. Except for Croatia – which is expected to join the EU in the next few years – all CESEE countries under review have become members of the Union. This has anchored and promoted economic development in CESEE, although the advent of EU membership may also have contributed to overly-optimistic expectations during the boom years before the crisis and the associated build-up of financial vulnerabilities in some CESEE countries. In addition, the policy tool-box (e.g. as regards the management of capital flows) was constrained by EU accession and the increasing depth of financial integration, including cross-border ownership of financial institutions. Finally, all CESEE countries are sooner or later set to adopt the euro and are thus committed to striving towards the fulfilment of the convergence criteria laid down in the Treaty (ECB 2003).

Latin America was enjoying, during the five year period running up to 2008, its longest and most dynamic growth period ever since the 1970s, having left behind the financial crises that had affected some countries of the region in the late 1990s and early 2000s. A key driver for this performance was the rally in commodity prices that took place during this period, and which meant an accumulated positive terms-of-trade shock for this commodity exporting region of more than 150%. A second key factor to be highlighted when analysing the impact of the crisis on Latin America is the outstanding reduction in financial vulnerabilities that took place over the 2002-08 period, on the back of improved economic policy management in most countries, though not all. Learning from the crises of the 1990s and past policy mistakes, most countries in Latin America pursued sounder monetary and fiscal policies, adopted more flexible (though somehow managed) exchange rate regimes, and paid attention to signs of excessive capital inflows, asset price bubbles, currency mismatches and credit booms.

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8On this issue see also Martin and Winkler (2009).
Against this background, the paper first reviews the macrofinancial strengths and vulnerabilities in CESEE and Latin America in the run up to the global economic and financial crisis in 2007/2008. In doing so, it delves on a broad list of vulnerability indicators which allow a comparison across regions, indicators and time. It is important to keep in mind that the analysis is conducted at a regional level and that considerable heterogeneity exists among countries both in Latin America and – even more so – in CESEE. Therefore, the regional results are not necessarily indicative for the vulnerability profile of individual countries. Section 2 also contains a box investigating the link between vulnerability indicators and the financial and real repercussions of the crisis and it looks to what extent economic policies in both regions helped to mitigate financial vulnerabilities in the run-up to the global economic and financial crisis. This provides the background for section 3, which reviews financial and real economic developments in these countries since the crisis started to impact CESEE and Latin America. Section 4 includes a description and an assessment of the policy responses to the crisis in the two regions. Section 5 concludes.

2. Macrofinancial Strengths and Vulnerabilities at the Beginning of the Crisis

Standard vulnerability indicators can be used to gauge the relative strengths and vulnerabilities of Latin America and CESEE in the run up to the current global crisis. By standard vulnerability indicators we refer to economic variables which according to the literature on crises\(^9\) represent potential risks or which have good properties as leading crisis indicators. In this paper, we do so by comparing the status of those indicators before the current crisis with their relative position before other previous regional and global crises.\(^{10}\) Clearly, these regional averages are not necessarily indicative for the vulnerability profile of individual countries. It is also important to note, that the link between vulnerabilities and performance during crisis periods is neither simple nor straightforward. In fact, empirical evidence from earlier crises episodes is not conclusive on how, when and to what extent vulnerabilities materialize when a shock hits.

More specifically, we are looking at six sets of indicators which are described in more detail in table 1. The cut-off date we use for the current crisis is September 2008 (Lehman collapse), given that the extension of the crisis to emerging countries happened mostly after this event.\(^{11}\) The reference points in time are December 2001 (Argentine crisis) and August 1998 (Russian crisis).

We present the vulnerability indicators as cobweb charts, which can be read as follows: a data point closer to the origin of the cobweb represents a lower degree of vulnerability and a data point farther away from the centre represents a higher degree of vulnerability. Data are normalised to allow a clearer picture of the development of each indicator over time and across regions.\(^{12}\)


\(^{10}\)As a caveat, note that the methodology used allows for an indirect comparison across regions, but not a direct one, as the cobweb charts depict the deviations of each indicator from a long-term average. Also, when comparing vulnerabilities of each region over time, another important caveat is the possible trends in the series, which are not accounted for.

\(^{11}\)For daily and monthly data we use the weighted average of the six months before the month of the respective crisis. For quarterly data we use the weighted average of the four quarters before the quarter of the respective crisis. For Latin America regional aggregates are weighted averages of country data based on World GDP shares. CESEE aggregates are calculated as weighted averages of country data based on each country’s share in regional GDP. Cobwebs for individual CESEE countries are available upon request from the OeNB authors of the paper.

\(^{12}\)Observations are standardized based on the long-term average and the standard deviation of the series. A value above zero means a positive deviation from the long term average expressed in standard deviations. In order to maintain that a cobweb closer to the origin represents less vulnerability some variables are inverted (sovereign ratings, domestic stock index, budget balance, deposit growth, industrial output growth, current account balance, FDI, net portfolio investment flows, net foreign assets, basic balance, return on equity, capital adequacy ratio, long-term foreign exchange deposit rating and relative bank stock price).
Table 1: Vulnerability indicators

<table>
<thead>
<tr>
<th>Group</th>
<th>Indicator</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sentiment indicators</td>
<td>EMBI spreads</td>
<td>Proxies for market and international investor sentiment; also gauges contagion</td>
</tr>
<tr>
<td></td>
<td>CDS sovereign spreads</td>
<td>From a global or emerging market crisis.</td>
</tr>
<tr>
<td></td>
<td>Sovereign rating (average of Fitch, Moody’s and S&amp;P)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Relative stock exchange index (to world index)</td>
<td></td>
</tr>
<tr>
<td>Vulnerability indicators, of which:</td>
<td>All</td>
<td>Measure of balance of payments pressures or the capacity and willingness of a country to deal with its external liabilities (ultimately including the possibility of sovereign default)</td>
</tr>
<tr>
<td></td>
<td>Current account balance</td>
<td>Measure of external financing needs</td>
</tr>
<tr>
<td></td>
<td>FDI and basic balance</td>
<td>Measure of which part of external financing needs is covered by long-term and relatively stable capital inflows</td>
</tr>
<tr>
<td></td>
<td>Short-term debt over foreign exchange reserves</td>
<td>Estimate of the capacity to confront a sudden stop in short-term capital inflows or short-term debt rollovers with central bank resources</td>
</tr>
<tr>
<td></td>
<td>External debt (and external debt service)</td>
<td>Capacity to repay external liabilities</td>
</tr>
<tr>
<td></td>
<td>Net portfolio investment inflows</td>
<td>Measure of potential short-term outflows in case of a sudden stop</td>
</tr>
<tr>
<td></td>
<td>Net foreign assets (NFA)</td>
<td>Structural measure of a country’s position as external creditor or debtor and of the potential impact of a more pronounced depreciation of the currency</td>
</tr>
<tr>
<td>External indicators</td>
<td>All</td>
<td>Indicator of imbalances in an industry with high externalities over the rest of the economy</td>
</tr>
<tr>
<td></td>
<td>Domestic banks’ foreign liabilities over foreign assets</td>
<td>Proxy for currency mismatches in case of a devaluation and the dependence of banks on external sources of funds</td>
</tr>
<tr>
<td></td>
<td>Relative stock price index for domestic banks</td>
<td>Measure of foreign investor sentiment about a country’s banking sector</td>
</tr>
<tr>
<td></td>
<td>Loan-to-deposit ratio</td>
<td>Measure of whether credit is increasing faster than deposits and is financed through other – possibly less stable – sources</td>
</tr>
<tr>
<td></td>
<td>Share of foreign currency loans in total loans</td>
<td>Measure of the currency mismatch of bank clients, and the potential increase in nonperforming loans in case of a strong depreciation</td>
</tr>
<tr>
<td></td>
<td>Nonperforming loans (NPLs)</td>
<td>Gauge of the pressure from nonperforming loans on banking sector balances</td>
</tr>
<tr>
<td></td>
<td>Capital adequacy ratio (CAR)</td>
<td>Indicator of the solvency of the banking sector</td>
</tr>
<tr>
<td></td>
<td>Return on equity (ROE)</td>
<td>Indicator of the profitability of the banking sector</td>
</tr>
<tr>
<td>Banking indicators</td>
<td>All</td>
<td>Indicator of imbalances in an industry with high externalities over the rest of the economy</td>
</tr>
<tr>
<td></td>
<td>Domestc banks’ foreign liabilities over foreign assets</td>
<td>Proxy for currency mismatches in case of a devaluation and the dependence of banks on external sources of funds</td>
</tr>
<tr>
<td></td>
<td>Long-term foreign exchange deposit rating (Moody’s)</td>
<td>Measure of foreign investor sentiment about a country’s banking sector</td>
</tr>
<tr>
<td></td>
<td>Share of foreign currency loans in total loans</td>
<td>Measure of the currency mismatch of bank clients, and the potential increase in nonperforming loans in case of a strong depreciation</td>
</tr>
<tr>
<td></td>
<td>Capital adequacy ratio (CAR)</td>
<td>Indicator of the solvency of the banking sector</td>
</tr>
<tr>
<td></td>
<td>Return on equity (ROE)</td>
<td>Indicator of the profitability of the banking sector</td>
</tr>
<tr>
<td>Fiscal indicators</td>
<td>Budget balance</td>
<td>Signal of pressures from public finances on monetary and exchange rate policies and indicator of financing pressures on the public sector</td>
</tr>
<tr>
<td></td>
<td>Public debt</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Interest payments over budget revenues</td>
<td>Indicator of debt servicing pressures on public accounts and proxy for the sustainability of a certain debt level</td>
</tr>
<tr>
<td>Monetary indicators</td>
<td>Real M2 growth</td>
<td>Measures meant to capture issues related to monetary policies, credit growth and the way it is financed</td>
</tr>
<tr>
<td></td>
<td>Real deposit growth</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Real credit growth</td>
<td></td>
</tr>
<tr>
<td>Real indicators</td>
<td>Industrial output growth</td>
<td>Leading indicator of current and future economic growth</td>
</tr>
<tr>
<td></td>
<td>Nominal interest rates</td>
<td>Variables determining investment and consumption propensity</td>
</tr>
<tr>
<td></td>
<td>Consumer price inflation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Export growth</td>
<td>Proxy for external demand and international competitiveness</td>
</tr>
</tbody>
</table>

Chart 2: Sentiment indicators

Source: JPMorgan, Moody’s, Rich, Standard and Poor’s, Datastream, OeNB, BfE
The sentiment indicators (chart 2) illustrate that both regions were more positively assessed by financial markets in 2008 than before previous crises. Latin America was even better assessed than CESEE, with spreads reaching historical lows right before the outburst of the crisis.13

But has there been a corresponding decrease in external vulnerability behind these optimistic assessments? At least in Latin America the answer is yes, but the conclusion is not so clear for the CESEE region. As chart 3 shows, external vulnerability in Latin America, the traditional Achilles heel of the region, had been reduced considerably.

Chart 3: External indicators

In 2008, Latin America had a more balanced current account, thanks in part to the increase in commodity prices since 2003 and the current account deficit was financed by long-term foreign investment (higher basic balance). Also, Latin America reduced the ratio of short-term external debt to reserves (by increasing reserves but also by actively extending external debt maturities) and switched external debt for domestic debt. This movement was led by the public sector which was instrumental in reducing aggregate currency mismatches. The net foreign asset position has also improved, especially in the public sector. On the other hand, FDI was in 2008 less abundant than it was in August 1998 or December 2001, something explained by the extraordinary inflows due to the large privatization processes of the nineties. Even in countries considered more vulnerable such as Venezuela or Argentina, external vulnerability indicators had improved.

In the CESEE region as whole external vulnerability indicators tended to be worse in 2008 compared to previous crises periods. In particular the Baltics and SEE experienced a considerable widening of their current account deficits. This was partly a result of booming domestic demand as well as adverse developments in global raw material prices. FDI inflows remained large, but – in most cases – were not fully covering the current account deficits, which resulted in a pick-up in external debt levels over time. In particular, short-term external debt increased so that, despite a strong build-up in foreign exchange reserves, the ratio of short-term debt to reserves deteriorated in recent years. Notwithstanding this general picture, some CESEE countries successfully reduced their external vulnerability by strengthening their export base and thus lowering their current account deficits. Also, short-term debt developments show a large cross-country variation.

When looking at banking sector vulnerability indicators Latin America also seems to have performed better than before previous crises (see chart 4). Ratings were higher, credit delinquency

13On market perceptions regarding the CESEE region see e.g. Luengnaruemitchai and Schadler (2007).
rates lower, the share of credits denominated in foreign currency was reduced, banks held a net asset position in foreign currency, and bank loans were on average increasing at similar rates as deposits. Only the banking sector stock exchange index was performing as in 1998, probably due to a bad domestic investor valuation of the sector after two decades of banking crises and also from the fact that many of the strongest banks are foreign owned and are not listed in domestic stock exchanges.

Chart 4: Banking indicators

On the contrary, the increasing loan-to-deposit ratio in the CESEE region signals that deposit growth could not keep up with credit growth, so that banks had to rely increasingly on other refinancing sources, in particular foreign funding. This shows up in an increasing ratio of foreign liabilities over foreign assets (with the Czech Republic and Poland being notable exceptions). In a number of CESEE countries a large share of credits were issued in foreign currency, but again, average numbers hide substantial differences across countries (foreign currency credit in the Czech Republic is e.g. minimal). Against the background of banks’ changing credit business profile (shift from government to private sector financing), bank capitalization moderated slightly over time, although the average capital adequacy ratio remained well above legal requirements. The non-performing loan ratio (NPL) improved also, following transition-related banking reforms and the recent expansion of bank balance sheets due to strong credit growth. At the same time, until 2008, lower provisioning requirements, booming credit growth, rising bank efficiency and better bank governance (a result of the large-scale entry of foreign banks and improved bank supervisory and regulatory structures) led to increased bank profitability.

As chart 5 shows, in 2008 fiscal vulnerability was in both regions less pronounced than before (strongly improving headline fiscal balances, interest payments on public debt clearly below historical averages, and public sector debt more or less at the same level as in previous crises). Moreover, as the primary balances were better and interest payments put less pressure on revenues, debt was probably more sustainable than before, and very low in the case of most CESEE countries except Hungary and to a lesser extent Poland. In the case of Latin America, also the composition of public debt had a positive influence on vulnerability levels (long maturities and less dependence on external or USD linked debt).

As shown in chart 6, monetary indicators for Latin America showed a less favourable situation, and a deteriorating picture for the CESEE region as a whole. In Latin America, real M2 and real credit to the private sector rose before September 2008 at high rates. The rate of increase of deposits was, however, also considerably higher, a factor that limits the potential risks of high credit
expansion. In addition it was believed that such growth was part of a catching-up process to levels of credit over GDP in line with regional per capita GDP. For the CESEE region the indicators suggested a credit boom, as credit rose much faster than deposits, and this was reflected also in real money supply growth, supporting the view that the banking sector had accumulated some vulnerabilities before the current crisis. Again developments were diverse across countries and, as in Latin America, convergence factors have played an important role. In the second half of the current decade, however, levels of private sector credit to GDP had already become fairly elevated relative to the underlying fundamentals and there are indications that credit overshot in some CESEE countries towards the end of the boom.\textsuperscript{14}

\textbf{Chart 5: Fiscal indicators}

Finally, in chart 7 real and inflation indicators are presented suggesting that both regions were better off in September 2008 than before. In particular in CESEE, the monetary stabilization coupled with favourable global inflationary developments have contributed to a more benign inflationary environment and falling nominal interest rate levels. In addition, the deep-rooted economic restructuring of the 1990s and EU integration allowed for a gradual expansion of industrial production capacities and export growth.

\textsuperscript{14}For more details see Backé, Égert and Walko (2007) and Zumer, Égert and Backé (2009).
The general conclusion from this set of indicators is that, even if there are important differences across countries, Latin America was better prepared than in the past to weather the global crisis. Vulnerabilities had been strongly reduced, not only in the banking sector but also in areas which have been the origin of previous crises in the region, like the public and external sectors. Vulnerabilities in the CESEE region as a whole had increased in some areas in the years prior to the current crisis, notably in the external and banking sectors and with respect to some monetary indicators (in particular credit developments). By contrast, sentiment, fiscal and real indicators suggested a decline in the region’s macrofinancial vulnerabilities over time. However, as mentioned above, these regional tendencies hide major differences in levels and dynamics across individual CESEE countries.

Box: Vulnerability indicators and crisis impact – an empirical analysis for EMBI spreads and growth

In this box we make a first attempt to assess empirically to what extent the vulnerability indicators used in the paper can also be used to predict the impact of the crisis. More specifically, we regress the changes in selected financial and real indicators (the EMBI spread and GDP growth rates) after the crises of 1998, 2001 and 2008 on vulnerability indicators before the crises.15

Our dataset comprises 20 countries, 11 from CESEE (we have added Slovakia and Slovenia to the sample used in the rest of the paper) and 9 from Latin America (adding Ecuador and Uruguay to the sample). Our dependent variables trace the initial impact of the crises on financial and real conditions. More specifically, we take the two month average EMBI+/EMBI-Global spreads before the crisis minus the two-month average spreads after the crisis and the difference between real GDP growth rates in the quarters before and after the crisis.16

In line with the analysis above, we have aggregated the 31 vulnerability indicators described in this paper into six major groups (sentiment indicators, external indicators, banking indicators, fiscal (public sector)
indicators, monetary indicators and real and inflation indicators). All the indicators are taken as normalized deviations from the long-run mean up until the moment when the crisis hits. A positive sign always means a decline in vulnerability. We also divide the sample into two sub-regions, CESEE and Latin America, to check for regional differences.

First we calculate bilateral correlations. As shown in the chart, the change in EMBI spreads after the crisis is negatively correlated with sentiment, real and public sector (fiscal) vulnerability indicators before the crisis. Countries where these vulnerabilities are less pronounced before the crisis typically register a smaller increase in risk premia. These effects are, however, mainly driven by Latin American countries. In the CESEE countries, it is mainly the money indicator which is correlated with the EMBI change. EMBI spreads after a crisis do not seem to be correlated with either banking or money vulnerability indicators and external vulnerability indicators are correlated with the change in EMBI spreads only for Latin American countries (chart 1). Turning to post-crisis changes in GDP growth, the correlation analysis suggests that GDP holds up better after a crisis in countries with smaller banking and external vulnerabilities (chart 2).

17 We have added ‘exchange rate misalignment’ to the set of real and inflation indicators. This is defined as the difference between the observed nominal effective exchange rate and the long run (equilibrium) nominal effective exchange rate which maintains the real effective exchange rate.


19 Database summary statistics are presented in the Annex.
Some other interesting issues also arise from the correlations coefficients analysis. First, sentiment indicators are strongly correlated with other vulnerability indicators, confirming the fact that market perceptions typically reward countries that have reduced their ‘actual’ vulnerabilities. Second, the correlation between the sentiment and money indicators is significantly negative. We thus use real deposit growth, a one-sided variable whose increase represents a reduction in vulnerability, as money variable in the regressions.

We estimate two different regressions, one for each dependent variable, following this very simple model:

\[
\text{Reaction}_{t,i} = \alpha + \delta \cdot \text{VIX}_{t} + \beta \cdot \text{Vulnerability}_{t,i} + \epsilon
\]

We also include a common factor VIX representing the effect of each crisis on the reaction of each individual country.

First, EMBI spreads after crises are driven by the VIX change during the crisis and by sentiment and public sector indicators before the crisis (column 1). The coefficients suggest for example that an improvement in the public sector vulnerability indicator before the crisis by one standard deviation dampens the increase in the EMBI spread after the crisis by approximately 177 basis points. In column 7 we present the full model. The signs and significance of public sector indicators and of the VIX do not change. Splitting the sample into the two regions does not materially change the results either except for the sign and significance of money and external indicators in the case of CESEE.

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20 Econometrically, this implies, however, that multicolinearity in the regressions may be a problem. To solve this, we estimate sequentially the model presented below, and eliminate the sentiment indicators from the final estimations.

21 The VIX index measures the volatility implicit in Standard and Poor’s options, and is generally considered an indicator of global financial stress.

22 We pool the data and estimate the model using OLS techniques. To avoid heteroskedasticity we use the standard White correction matrix. Alternatively we could use panel techniques with fixed effect representing individual reaction to a global crisis, but as we have a small time dimension we prefer OLS regressions.

23 This initially counter-intuitive result is dominated by some 1998 outliers in the CESEE countries. Excluding 15% of the extreme EMBI global variations provides a negative and significant coefficient for banking sector indicators. In other words, CESEE countries which have improved their vulnerability in the banking sector have registered a smaller increase in sovereign spreads after the crisis. The real and money coefficients turn to be non significant.
The main results are presented in table 2.

*Table 2: main results:*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Sentiment</th>
<th>Real</th>
<th>Public</th>
<th>Banking</th>
<th>Money (a)</th>
<th>External</th>
<th>VIX</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1)</td>
<td>(2)</td>
<td></td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
<td>(6)</td>
</tr>
<tr>
<td>EMBI</td>
<td>-206.26 (*)</td>
<td>-181.27</td>
<td>-176.61 (*)</td>
<td>30.29</td>
<td>0.76</td>
<td>7.68</td>
<td>3.37 (***)</td>
</tr>
<tr>
<td>LA</td>
<td>0.05</td>
<td>0.32</td>
<td>0.05</td>
<td>30.29</td>
<td>0.76</td>
<td>7.68</td>
<td>3.37 (***)</td>
</tr>
<tr>
<td>CESEE</td>
<td>-141.99</td>
<td>0.36</td>
<td>-190.85 (*)</td>
<td>30.29</td>
<td>0.73</td>
<td>45.34</td>
<td>2.80 (***)</td>
</tr>
<tr>
<td>F-test ( Probability)</td>
<td>0.06</td>
<td>0.32</td>
<td>0.01</td>
<td>0.11</td>
<td>0.00</td>
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<table>
<thead>
<tr>
<th>Variable</th>
<th>GDP</th>
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<td>(3)</td>
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<td>(5)</td>
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<tr>
<td>EMBI</td>
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<td>2.67 (*)</td>
<td>0.20</td>
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<td>-1.53</td>
<td>2.04 (***)</td>
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<td>0.08</td>
<td>0.11</td>
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<td>0.73</td>
<td>0.06</td>
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<td>CESEE</td>
<td>3.18 (*)</td>
<td>3.30 (*)</td>
<td>2.52 (*)</td>
<td>0.92</td>
<td>0.37</td>
<td>0.77</td>
<td>1.99 (*)</td>
</tr>
<tr>
<td>F-test ( Probability)</td>
<td>0.16</td>
<td>0.05</td>
<td>0.05</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
</tbody>
</table>

Second, the fall in GDP after crises appears to be driven by real and external vulnerabilities before the crisis and by the increase in the VIX during the crisis - with the expected sign, but with a less significant impact on the dependent variable. These regularities are maintained in the full model but are largely driven by Latin American countries, where we also observe a positive and significant effect of public sector (fiscal) vulnerabilities (column 8). Except for the VIX index we do not find any significant effect of vulnerability indicators on GDP fall in the CESEE countries.

Turning to the impact of pre-crisis economic policies on the regional strengths and vulnerabilities, economic policies played an important role in containing vulnerabilities in Latin America. Monetary policy achieved low rates of inflation and inflation expectations close to the objectives. Latin American central banks also monitored carefully overall credit growth and took measures to mitigate the emergence of imbalances. For instance, some central banks tightened reserve requirements to curb credit growth, when they perceived that increases in interest rates were ineffective, or were inducing capital inflows. The more credible commitment to exchange rate flexibility, coupled with more stringent oversight of balance sheet currency mismatches, contributed to mitigate further increases in financial dollarization. Authorities also managed actively other risks, such as those posed by episodes of large capital inflows. FDI inflows during the last few years, driven by
improvements in political stability and economic perspectives, were not a cause of concern, but short-term inflows, pushed by high commodity prices and low global risk aversion, posed risks of credit and asset price bubbles and eventually of sudden capital outflows. In this context, most central banks took a number of measures to mitigate these risks, e.g. interventions in foreign exchange markets and price-based capital controls, such as unremunerated and compulsory reserve requirement on some of the financial inflows. When the global financial crisis impacted Latin America, these burdens on foreign capital inflows were removed, so that at the end of the day capital controls have been countercyclical policy instruments. The assessment on fiscal policies is more mixed, as public debt was reduced, but the improvement of fiscal balances was to some extent due to cyclical reasons and increased commodity revenues.

In the CESEE countries, the recent academic and policy debate on capital inflows was strongly conditioned by EU accession and tended to be less sceptical about the risk of capital flow reversals than in Latin America (von Hagen and Siedschlag 2008). The accession process implied the need to lift all capital controls at the latest at the time of EU entry and it resulted in a range of institutional provisions that arguably fostered capital inflows (Lane 2008). Moreover, the region’s increasing financial integration with the rest of the EU, in particular the widespread foreign ownership of CESEE banking sectors also contributed to these inflows and played an important role in boosting credit growth (Herrmann and Winkler 2008). There were also other reasons for the relatively more positive attitude towards capital inflows in CESEE countries. First, a relatively large share of capital inflows were FDI, which are seen as less volatile and more beneficial for economic development than short-term, speculative capital flows (Abiad, Leigh and Mody, 2007). Second, unlike Latin American countries, CESEE economies had less experience with large-scale capital inflows, including their possible negative side effects.

However, most CESEE central banks took measures to rein in overall credit growth and/or the growth in foreign currency-denominated credit. Measures included increases in the reserve requirements, administrative and prudential measures including credit ceilings and a tightening of provisioning requirements. However, such measures often had only limited and at best temporary effects in achieving the desired results.24 Some CESEE countries also used fiscal policy to partly offset the expansionary macroeconomic effects of capital inflows. Overall, however, fiscal tightening was relatively limited in most countries (von Hagen and Siedschlag 2008).

3. The Impact of the Financial and Economic Crisis on CESEE and Latin America

Disruptions in global financial markets were transmitted to CESEE and Latin America through direct, indirect and second-round financial transmission channels (chart 8).25 Losses due to changes in the prices of ‘toxic’ financial asset in the portfolio of financial institutions (the main direct channel of transmission of the crisis) were limited in both CESEE and Latin America because financial sectors in these countries tended to exhibit a low degree of “sophistication”, including a negligible market penetration by complex financial products. In addition, capitalising on the profitable and booming local lending business in largely unsaturated markets seemed more promising for banks in CESEE and Latin America than engaging in foreign structured products for which demand was low or non-existent.

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24 A certain exception in this respect is Croatia which took a host of measures to rein in credit growth.
25 According to Balakrishnan et al., 2009, second-round effects of spillovers from affected emerging economies to developed countries and/or spillovers among emerging economies would be conceivable as well.
Indirect financial channels of transmission are the negative developments in asset prices, money and debt markets and capital flows due to the deterioration of foreign investor sentiment toward emerging markets. Losses of investor confidence hit emerging markets firstly via foreign exchange and stock markets. In some but not all CESEE economies real estate markets also suffered with negative impacts on the real economy. In addition, a weakening of currencies can drive up inflation and pose a challenge for banking sectors in countries with sizeable foreign currency lending to unhedged borrowers. At the same time, increases in risk aversion could reduce the access to financing for governments (but also corporations and banks) on money and debt markets and/or make it more expensive. Finally, a slowdown (or a sudden stop) in capital inflows would hit particularly companies and banks in countries with heavy reliance on foreign funding.

Second-round effects refer to feedback loops from a slump in economic activity which may affect financial institutions (predominantly banks), inter alia via deteriorating credit quality, rising non performing loans, declining profitability and increased problems to retain necessary capitalisation.

Emerging markets went through different stages as the financial and economic crisis intensified. Given no or negligible exposures to subprime or subprime-related assets and the ongoing raw material boom (relevant in particular for Latin America), emerging markets weathered the international financial market turbulences relatively well until mid-September 2008. However, after the failure of Lehman Brothers in September 2008 the global financial market turmoil gained markedly in depth and intensity and waning foreign investor confidence dashed the hope of decoupling. In fact, at the turn of 2008/2009 emerging markets were hit hard via the indirect financial transmission channels, with the CESEE region in many respects being hit even harder than Latin America. At the same time, in light of the slump in global demand the foreign trade channel has started to unfold.

Driven by highly accommodative monetary policies in the industrial world as well as large-scale coordinated support measures (e.g. by the IMF and the EU), global investor sentiment improved starting from the second quarter of 2009 and led to a strong recovery of financial markets in both regions. The real transmission channels (especially the domestic demand channel) operated, however, with some time lag and real economic activity remained weak. It remains to be seen how long the period of weak economic activity will last given feedback loops on the banking system through rising non performing loans and second-round effects on labor markets.

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26See Frank and Hesse (2009).
3.1. Impact on Financial Markets

As argued above, emerging markets were hit hard after the collapse of Lehman Brothers via the indirect financial transmission channels. The CESEE region was in many respects hit even harder than Latin America but financial market and exchange rate developments diverged also within the two regions with national differences largely explained by country-specific political, economic and social aspects, adversely impacting (foreign) investor sentiment.

Since Spring 2009 a general recovery of financial markets could be observed in both regions with Latin America usually experiencing a somewhat stronger recovery than CESEE. At the end of 2009 stock markets in all Latin American countries were for example again at or above pre-Lehman levels. In CESEE, however, even the best performing stock markets reached only 70-75% of their pre-crisis levels. Also as far as exchange rates are concerned, Latin American currencies quoted stronger at the end of 2009 than before the collapse of Lehman whereas the flexible CESEE currencies were still some 10-25% below their September 2008 levels.

In this section we focus on capital flows to the two regions and on banking sector developments. Developments in these financial market segments are likely to have a particularly pronounced and lasting impact on future economic developments in both CESEE and Latin America.

3.1.1. Capital Flows

Emerging economies have also been affected by the financial turmoil via the tightening of global credit conditions, resulting in a slowdown (or temporary reversal) of capital inflows. In order to draw a comprehensive picture of capital flows, we look at total capital flows according to balance-of-payments statistics, external debt statistics and claims and liabilities of BIS reporting banks.

Looking first at total capital flows, the CESEE region as a whole experienced larger adjustments during the crisis than Latin America. However, total inflows into CESEE remained in positive territory. In more detail, in the final quarter of 2008 and the first quarter of 2009 net capital inflows dropped in CESEE from levels above 10% of GDP to around 4% in the first half of 2009 (chart 9). In Latin America, however, net capital inflows shifted into net outflows in the last quarter of 2008 and the first half of 2009. Almost all CESEE and Latin American countries recorded temporary portfolio investment withdrawals which were rather significant in some countries, mainly in the last quarter of 2008. The picture in CESEE changed in the second quarter of 2009, when portfolio investments turned positive on the back of improved global foreign investor sentiment. In CESEE, net FDI inflows decelerated as well, but remained positive in most countries and FDI inflows to Latin America were almost unchanged.

For some CESEE countries, private financial flows were not enough to cover the financing needs in the final quarter of 2008 and some countries thus had to take recourse to IFI/EU credits. This is an important difference with Latin American countries, where financing needs were covered with international reserves. More recently, capital flows show signs of improvement and the worst-case scenario of a financial meltdown neither occurred in the CESEE region nor in Latin America. In this regard, international support measures from the IMF and the EU were

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27 In most Latin American or CESEE countries stock markets are not too relevant for the economic performance. They are generally small and much less important as a source of finance or wealth than alternative markets such as bank loans. They are, however, of considerable value as “thermometers” of market sentiment.

28 A number of CESEE countries had sizeable current account deficits in late 2008, and thus required higher capital inflows at that time, while Latin America’s current account was close to balance.
instrumental in restoring confidence and so was the increased role of emerging economies in the international policy discussions, notably in the G20.

Second, external debt statistics show that the corporate sectors’ gross foreign debt stock (excl. intercompany loans) has fallen or remained stable in absolute terms in most CESEE countries from mid-2008 to the first quarter of 2009. This suggests that fewer or no new credit lines were granted and/or some existing credit lines have not been rolled over or were called due early, although demand side factors might have played a role too. Given the more favourable global environment in the second quarter of 2009, however, this trend seems to have reversed thereafter. In Latin America the corporate sector’s external debt relative to GDP increased moderately in most countries until the last quarter of 2008 or even the first quarter of 2009, but tended to decline in the second quarter of 2009. In this context, however, the IMF’s Global Financial Stability Report (October 2009) suggests that rollover rates of foreign exchange-denominated corporate debt were during the peak of the crisis substantially lower in Latin America than in CESEE.

By contrast, intercompany loans (non-financial corporations) increased or remained stable in almost all CESEE countries during the whole period, suggesting that parent companies continued to provide financing to their subsidiaries. In Latin America, intercompany loans appeared generally less important as a source of finance than in CESEE, but in those countries where they have some importance (notably Brazil or Argentina) they increased marginally during the crisis (until the first or second quarters of 2009). Changes in CESEE banking sectors’ external indebtedness are rather heterogeneous, but overall tended to decrease (especially in the first quarter of 2009). However, it seems that foreign parent banks continued to support their subsidiaries, in some cases as an explicit commitment in the context of international stabilization packages. By contrast, the external indebtedness of the Latin American banking sectors tended to either remain stable or decrease marginally in recent quarters, in the latter cases suggesting that access to foreign funding did become more difficult for Latin American banks. Having said that, banks’ reliance on foreign funding in Latin America is substantially smaller than in CESEE countries when measured as a share of GDP, something that is probably related to the major presence of foreign bank subsidiaries (instead of branches) in Latin America, and also to the low loan-to-deposit ratios prevalent in the region.

Third, looking at claims and liabilities of BIS reporting banks (chart 10, based on the BIS locational statistics), capital inflows to Latin America and in particular to CESEE have remained fairly strong
until and including the first half of 2008. Following the Lehman collapse, however, capital inflows slowed down, with the claims of BIS reporting banks decreasing noticeably in the fourth quarter of 2008 and the first quarter of 2009 in line with the process of global deleveraging. In particular, in CESEE there have been outflows in countries with rather liquid banking systems (especially Czech Republic), implying that parent banks may have temporarily withdrawn liquidity from these markets to meet their liquidity needs at home (Mihaljek, 2009). While banking outflows where sizeable in a few cases, claims of BIS reporting banks have remained surprisingly steady in most CESEE countries, which can be traced back to the stability of parent bank financing (see EBRD 2009, ECB 2009). The liabilities of BIS reporting banks vis-à-vis CESEE and Latin America turned negative in the second half of 2008 (first quarter of 2009). At first sight, this seems to be an indication that tight global liquidity conditions and limited access to foreign funding entailed banks and corporations in Latin America and especially in CESEE to repatriate parts of their foreign assets. In some cases this was in fact supported by central bank measures (e.g. Croatia). A closer look, however, shows that for CESEE a large part of the reduction of liabilities of BIS reporting banks vis-à-vis CESEE is due to transactions of the National Bank of Poland which are related to foreign exchange reserve management (shift out of deposits with foreign banks and into foreign government securities) and balance sheet shortening (presumably to limit counterparty risk).

Chart 10: Claims and liabilities of BIS reporting banks

Overall the global economic and financial crisis had a major impact on capital flows to CESEE and Latin America, although the magnitude of the impact differed, depending on the type of capital inflows and the receiving country. External financing problems mounted in a few CESEE countries in late 2008 and early 2009, and IFI/EU assistance was needed to stabilize the situation. The available data suggest that capital outflows were temporary and that in particular FDI inflows, intercompany loans, and, for some CESEE countries, also multilateral assistance played a positive role since the outbreak of the crisis.

3.1.2. Banking Sector Developments

Banking sectors in CESEE and Latin America remained fairly resilient to the global financial turmoil until autumn 2008. The tight global liquidity conditions (also before Lehman), the slowdown in

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The figures may be distorted by valuation effects apart from exchange rate changes which, however, can not be separately identified.
capital inflows (after Lehman) and banks’ increased risk aversion affected, however, bank lending throughout CESEE and Latin America thereafter.

In most countries credit growth decelerated sharply or came to a halt in 2008 and the first half of 2009. In Latin America credit growth moderated especially in the retail segment, while in CESEE loans to nonfinancial corporations decelerated more strongly. Deposit growth also moderated, in CESEE especially in the Baltic and SEE countries. This can be attributed to worsening labor market conditions and, in a few countries, temporarily waning public confidence in banks. At the same time the share of foreign currency deposits remained fairly stable. In Latin America, deposit growth also slowed down markedly in most countries and some countries (e.g. Argentina) saw a temporary increase in the proportion of foreign currency deposits (mainly U.S. dollar) together with an important deposit flight.

The worsening economic fundamentals amplified credit and foreign exchange risks (especially in many CESEE countries). The deteriorating global economic environment started to take a toll on borrowers’ ability to repay their loans, in particular in countries with depreciating nominal exchange rates and a high share of foreign currency denominated loans (e.g. Hungary, Poland and Romania). Consequently, the share of non-performing loans in total loans started to pick-up throughout Latin America and even more so in CESEE towards end-2008 and increased further in the first half of 2009. In CESEE, this development was particularly pronounced in Latvia, Lithuania and Romania. The increased credit risks and the related higher need for provisioning also started to put a strain on banking sector profitability. In CESEE, profitability indicators deteriorated particularly strongly in the Baltic States and Romania, where the banking sectors even recorded losses in the first half of 2009.

On a more positive note, CESEE and Latin American banking sectors are well capitalized. Despite isolated episodes of individual bank rescues in Latvia and Venezuela banking stability seems not to be at risk in the countries under review. Capital adequacy remained stable at fairly high levels of over 10% in all CESEE and Latin American countries, well above the internationally propagated 8%. This reflects higher capital adequacy requirements in many CESEE and Latin American countries. In CESEE this may also be the result of the dominant position of foreign banks, with parent banks committing themselves to keep their subsidiaries’ capitalization at elevated levels.

3.2. Impact on the Real Economy

Before comparing the real economic impact of the global crisis in Latin America and CESEE, it is essential to account for the different starting points in terms of vulnerabilities at the onset of the crisis. First, as noted above, while most Latin American countries started from a favorable economic and financial situation, some CESEE countries piled up sizeable domestic and external imbalances during the recent boom period. In these countries the real spillovers from the global crisis might have worked not so much as a trigger but more as an amplifier of an economic downturn that was already in train when the global crisis hit. Second, some of the real transmission channels – especially the domestic demand channel – unfolded their full impact with some time-lag. Only in the final quarter

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30This process started already in 2007 in the Baltic States (in line with the earlier start of the economic downturn) and in Croatia (mostly due to restrictive central bank measures).
31Within Latin America, the tightening of banking credit conditions was particularly important in Brazil but the decline in credit growth was cushioned by the pick-up in credit granted by state banks and the national development bank (BNDES). Moreover, the central bank took measures to loosen credit conditions.
32Some countries (e.g. Bulgaria and Croatia) experienced temporary deposit withdrawals by households in late 2008. For further details see Dvorsky, Scheiber and Stix (2009).
33It is important to note, however, that given possible differences in classification rules, the comparability of non-performing loan levels across countries might be limited.
34In the Baltic countries the economic slowdown (triggered by domestic factors) started somewhat earlier.
of 2008, in parallel with the indirect financial transmission channels, the foreign trade channel started to kick in on the back of a slump in global demand. This channel was particularly strong for CESEE, given its trade openness and the large share of manufactured products in CESEE’s exports. Third, despite a high degree of overall synchronization across countries, the various CESEE and Latin American countries seem to differ notably in terms of the relative significance of different channels.

The trade channel appears to have been the most prominent real transmission channel of the crisis for both regions. This is not surprising, given the regions’ high degree of trade integration with the EU, respectively with the US, and more broadly the world economy through commodity markets. The effects of the plunge in foreign trade volumes on GDP depended on each country’s trade openness and trade specialization. Alongside volume effects, sharp (but temporary) downward adjustments in global commodity prices have put additional pressure on exports of major commodity exporters (e.g. Argentina, Chile, Venezuela and Peru). At the same time, imports collapsed on the back of a slump in domestic demand and gloomy export prospects, given the high import content of exports in some Latin American and CESEE economies. However, with imports falling stronger than exports, the contribution of net exports to GDP growth turned positive in most countries.

The slump in domestic demand in Latin America and CESEE in late 2008 and early 2009 was inter alia caused by tightening credit conditions, deteriorating business and consumer confidence, worsening labor market conditions and a slowdown in remittance flows. The composition of GDP growth thus showed major adjustments in domestic demand, especially in the first half of 2009. The biggest adjustments were seen in gross fixed capital formation, which is the most cyclical component and affected most directly by changes in the availability and cost of funding. The slowdown in investment was generally more pronounced in CESEE (especially in the Baltics, Romania and Bulgaria, where this component of domestic demand had shown very strong dynamics in the years before the crisis) than in Latin America, although in this region Argentina, Brazil, Chile and Mexico showed an important slowdown. Developments were similar, albeit not as severe, in private consumption, with the slowdown being more pronounced in the Baltics, Romania and Mexico.

4. The Policy Response So Far

The policy response to the crisis in both regions comprised standard monetary policy action, non-standard monetary and financial policy measures as well as fiscal steps. In addition, international policy measures also played a key role.

4.1. Standard Monetary Policy Measures

Widespread inflationary pressure characterised both regions when the crisis hit emerging markets in October 2008 and most CESEE and Latin American central banks (with flexible exchange rates) were in an upward interest rate cycle. Therefore, monetary policy remained very cautious in most CESEE and Latin American countries until the end of 2008. At that time the severity of the economic downturn became clear and the possibility of deflation could no longer be excluded.

\[35\text{As a notable exception in CESEE, Poland continued to record positive economic growth in 2009. This can be traced back to fairly low initial vulnerability levels, a comparatively low degree of export dependence, a strong temporary fall in the exchange rate, some fiscal stimulus and infrastructure investment, which was partly financed by the EU and partly driven by preparations for the European Soccer Championship 2012.}\]

\[36\text{In some Latin American countries the fall in commodity prices might have added to the slump in GFCF, as investments in the commodity sector explain a substantial portion of industrial investment.}\]
Towards the end of 2008 most CESEE countries with flexible exchange rates started a process of monetary easing (Hungary after a sizeable interest rate hike in October) (chart 11). Except for the Czech Republic, however, rates remain at higher levels than in major industrialised economies. Among the (quasi-) fixed exchange rate countries, Latvia cut its main refinancing rate by 200 basis points over the course of 2009, while other countries eased monetary conditions mostly by non-standard monetary policy measures. At the end of 2008, also Latin American inflation targeting countries (Brazil, Chile, Colombia, Mexico and Peru) reduced interest rates, initially at different speeds, with the majority of them “frontloading” the monetary stimulus.

4.2. Non-standard Monetary and Financial Policy Measures

Authorities in CESEE and Latin America have also taken a range of extra-ordinary policy measures to counter the impact of the crisis on their economies. Broadly speaking, the aim of these measures was to safeguard financial system stability and to avoid – respectively minimise – spillovers from adverse financial market developments to the real economy.

Most CESEE central banks took domestic liquidity easing measures (e.g. reductions of domestic reserve requirements, broadening eligible collateral and increasing the frequency of auctions). At the end of 2008 some countries also agreed on cross-central bank repurchase or currency swap arrangements in order to ease foreign exchange liquidity pressures. CESEE central banks did not, however, undertake credit or quantitative easing measures. Governments in CESEE broadened guarantee schemes for bank deposits in order to prevent bank runs. The possibility of state capital injections into banks has been established throughout the region, but banks have been reluctant to draw on that form of relief and only Latvia was forced to recapitalise a failing bank (OeNB 2009).

37 In addition, some CESEE central banks intervened verbally or through market operations to support their currencies (e.g. the Czech Republic, Croatia, Hungary, Poland and Romania).
38 See Petrovic and Tutsch (2009) for an overview of measures taken in EU countries and Ishi, Stone and Yehoue (2009) for an overview of measures taken in 40 emerging economies.
39 The ECB established repo agreements with Hungary and Poland. In addition, the central banks of Estonia and Latvia signed swap arrangements with Sveriges Riksbank and the Bank of Latvia also with Danmarks Nationalbank.
40 In accordance with a proposal by the European Commission, all CESEE EU countries as well as Croatia now guarantee deposits up to the equivalent of at least EUR 50.000 and some countries implemented an unlimited guarantee.
Most Latin American central banks (notably Brazil, but also others) also set in train a wide range of non-standard monetary policy measures to mitigate the effects of the credit contraction, with particular emphasis on facilitating the provision of dollar funding. This was possible because Latin American central banks had accumulated over USD 500 bn international reserves (about 10% of the regions' GDP), partly as a strategy to self-insure against external shocks and volatile capital flows and partly due to a reluctance to accept the conditionality usually attached to multilateral lending. The strategy was not without costs (or criticism) but this time was nonetheless instrumental to deal with the “sudden stop” of capital flows.

Latin American central banks took measures in many areas including export credit (e.g. Brazil, Argentina), the refinancing of banking or corporate sector liabilities through the provision of U.S. dollars (e.g. Brazil, Mexico and Chile), the extension of local currency-denominated liquidity provision via lower reserve requirements (e.g. Argentina, Brazil, Peru, Colombia and Venezuela), broadening of the range of acceptable collateral to the central bank (e.g. Mexico, Argentina) and promoting state banks to facilitate new lending (e.g. Brazil, Chile). Financial sector rescue packages have so far not been needed in Latin America and financial sector support measures (e.g. Chile, Brazil) have not been anywhere near the same scale as in industrial countries. Latin American central banks also stepped in to mitigate depreciation pressures. In Brazil and Mexico, reserves sold in the spot market for intervention reached 10% and 20% respectively of their international reserves, while intervention in the swap market amounted to an additional USD 32 bn in Brazil. A greater relative effort to sustain the currency was apparent in Peru, where the degree of exchange-rate flexibility is limited by the high level of financial dollarization and the risk of stronger balance sheet effects.

All these measures met at least some of their objectives. International reserves proved effective for (temporarily) addressing specific problems in foreign trade financing, refinancing foreign currency-denominated loans and supplying the market with U.S. dollars. From a broader perspective, the far-reaching changes in capital inflows did not result in a financial crisis in the Latin American region, which is a significant achievement. Government intervention was, however, not able to fully offset the significant tightening of credit conditions in either Latin America or CESEE.

4.3. Fiscal Policy

Fiscal policy responses to the crisis varied within and across the two regions. Generally, the fiscal response was determined by two key factors: First, the shape of government balances at the beginning of the crisis (charts 12 and 13). Second, countries with high external financing needs – mostly in CESEE – needed to take account of a possible weakening of investor confidence which would complicate access to foreign funds.

Looking first at the CESEE countries, the Czech Republic and Poland decided on fiscal stimulus packages of around 1% of GDP in 2009 (broadly in line with the EU and the euro area average). The net impact of fiscal policy measures in Bulgaria, Romania and Hungary is, however, neutral or even deficit-reducing, i.e. procyclical.

A relatively sound fiscal position has allowed most Latin American governments to respond to the global crisis with a moderately countercyclical fiscal policy, which is in sharp contrast with the past. The average size of the fiscal packages (1.3% of GDP) has been above the level in the CESEE. Chile is, however, the only Latin American country which has been able to put a forceful countercyclical fiscal policy into practice, thanks to its fiscal rule that allowed saving funds up to

41For a more detailed account of the measures taken by Latin American central banks please see Banco de España (2009).
42It should also be noted that most CESEE and many Latin American countries are rather small and open economies. A strong fiscal stimulus would thus not only lead to higher domestic demand but also to an increase in imports. This consideration may have been an additional determinant of the fiscal policy response in some countries.
12% of GDP. In addition, the implementation of the expansionary fiscal policy plans has fallen behind schedule in most Latin American countries except Chile.

Chart 12: Public finances in CESEE (2004-2010)

![Chart 12: Public finances in CESEE (2004-2010)](chart12)

**Public Finances in CESEE 2004-2010**


**Budget deficit (% of GDP)**


**Source:** EU Commission - Autumn 2009 Forecast, OeNB.


![Chart 13: Public finances in Latin America (2004-2010)](chart13)

**Public Finances in Latin America 2004-2010**

- Chile, Mexico, Argentina, Brazil, Colombia, Venezuela, Peru

**Budget deficit (% of GDP)**


**Source:** IMF, OeNB, BDe.

4.4. International Support Measures

In addition to national support measures, some countries have received financial support from the IMF and other lenders. In Latin America, in October 2008 the IMF and the US Federal Reserve announced a non-conditional short-term liquidity facility and a swap facility with Brazil and Mexico, respectively. The IMF short term liquidity facility was later changed into the new Flexible Credit Line facility (FCL)\(^\text{43}\) that Mexico and Colombia requested for precautionary reasons, but which has not been drawn upon. Taking into account all multilateral and bilateral financing facilities, México would have at its disposal an amount close to 8% of GDP (Brazil 2.3% and Colombia 3%). In addition, Argentina signed a swap agreement with the People’s Bank of China in the order of 3.4% of GDP.

In the CESEE region, Hungary, Latvia and Romania have received financial support from the IMF, the EU and other international financial institutions. The size of these Stand-By arrangements

\(^{43}\)Following the IMF definition, an FCL is designed for countries with very strong fundamentals, policies and track records of policy implementation and is particularly useful for crisis prevention purposes.
After the collapse of Lehman Brothers in September 2008, CESEE and Latin America were severely hit by the crisis which initially led to massive falls in asset prices including stock prices, fixed income securities, and – in the case of some CESEE countries – also house prices. In addition, nominally flexible exchange rates depreciated substantially in the latter part of 2008. Overall, the more financially vulnerable as well as the more open countries tended to be affected most severely by the spillovers of the global economic and financial crisis in both regions. The financial market turmoil peaked in early 2009 and more recently, CESEE and Latin America saw a recovery of equity markets, an appreciation of exchange rates and a fall in risk premia. Financial markets in most Latin amounts to some EUR 20 bn for Hungary and Romania (18% and 14% of 2008 GDP, respectively), and EUR 7.5 bn (32% of GDP) for Latvia. In the case of Poland the IMF has approved a credit line amounting to some EUR 15 bn (5% of 2008 GDP) under the FCL facility. For Hungary, Latvia, Romania, IFI/EU support packages were instrumental in stabilizing their economies and in sustaining private capital flows but these IFI/EU programs have also helped support private flows to other CESEE countries, although there is no direct evidence underpinning such spill-over effects.

Finally, in early 2009 the ‘Vienna initiative’ was created to co-ordinate the response of the main public and private stakeholders to the financial crisis in CESEE (EBRD 2009). As part of this initiative, EU-based parent banks pledged to refinance and, if needed, recapitalize their CESEE subsidiaries, home governments allowed the parent banks to access national banking sector support packages for operations at home and abroad and International Financial Institutions as well as host-country governments gave assurances of financial and policy support.

Overall, the international support measures for Latin America and even more so for the above-mentioned CESEE countries helped to calm financial markets and contributed to the stabilization of most financial market segments after the first quarter of 2009.

5. Conclusions

This paper has compared the impact of the global economic and financial crisis on CESEE and Latin America. Up to the third quarter of 2008, both regions were remarkably resilient against the global economic and financial crisis. Part of this resilience is reflected by standard vulnerability indicators, which at the onset of the crisis indicated a relatively better position than at the start of previous crises. The main exceptions were the heightened external, banking and monetary vulnerabilities in some CESEE countries, precisely in areas that proved to be particularly sensitive in the context of the global economic and financial crisis. Also, cross-country variation has been considerable in both regions, but even more so within the CESEE region.

It appears that improved economic policies may have played a significant role in containing macrofinancial vulnerabilities before the crisis, in particular in Latin America, where authorities had learned the lessons from past crises and paid substantial policy and regulatory attention to signs of excessive short term capital flows, credit booms and the formation of potential asset price bubbles. By contrast, in most CESEE countries large capital inflows and rapid credit growth were perceived as manageable and supportive to the catching-up process, while downside risks were seen as being contained. Measures to dampen credit growth were taken in a number of countries, but generally, the policy tool-box in CESEE (e.g. as regards the management of capital flows) was constrained by EU accession and the depth of financial integration. Vulnerabilities seem to have played a role as well when it comes to the relative impact of the crisis in the two regions.

After the collapse of Lehman Brothers in September 2008, CESEE and Latin America were severely hit by the crisis which initially led to massive falls in asset prices including stock prices, fixed income securities, and – in the case of some CESEE countries – also house prices. In addition, nominally flexible exchange rates depreciated substantially in the latter part of 2008. Overall, the more financially vulnerable as well as the more open countries tended to be affected most severely by the spillovers of the global economic and financial crisis in both regions. The financial market turmoil peaked in early 2009 and more recently, CESEE and Latin America saw a recovery of equity markets, an appreciation of exchange rates and a fall in risk premia. Financial markets in most Latin

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44 Following the IMF definition, SBAs are designed to help to address short-term balance of payments problems, by enabling countries to rebuild international reserves, stabilize currencies, continue paying imports and restore conditions for strong economic growth, while undertaking policies to correct underlying problems.
American countries recovered to pre-crisis levels or even beyond, but in CESEE in many instances financial markets have still not reached their pre-Lehman levels.

The crisis had a major impact on capital flows to both regions which materialized in particular in the last quarter of 2008 and the first quarter of 2009. However, the magnitude of the impact differed again notably, depending on the type of capital inflows and the receiving country. Overall, capital flows moderated more substantially in CESEE than in Latin America. At the same time, CESEE displayed net inflows also during the crisis, while Latin America recorded outflows in the last quarter of 2008 and about zero inflows in the first half of 2009. This difference, however, is partly due to IFI-EU financial assistance to three CESEE countries. For these countries, international support packages were instrumental in stabilizing their economies and in sustaining private capital flows. More in general, international support measures proved instrumental in restoring confidence and so was the increased role of emerging economies in the international policy discussions, notably in the G20. In CESEE, integration into European banking networks turned out to be an asset (although it certainly also played a role in boosting the boom before the crisis) as a key factor in sustaining overall capital flow dynamics was that intra-group loans of banks remained stable or even expanded.45 In Latin America, in turn, foreign bank funding was generally much less relevant as a source of finance, since most credit was financed by the local deposit base. The worst-case scenario of a fully-fledged regional meltdown has neither occurred in CESEE nor in Latin America.

As a consequence of the crisis, credit and deposit growth decelerated markedly and banks in both regions (but more so in a number of CESEE countries) are now confronted with increasing non-performing loans and declining profitability. Bank capitalization has remained at high levels though in all countries under review. The above-mentioned disruptions in domestic and international financial markets together with the real transmission channels also had a very pronounced effect on real economic developments from late-2008 onwards, ultimately resulting in severe recessions in most countries in both regions. However, the real economic downturn in 2009 is more pronounced in the CESEE region as a whole than in Latin America. This is due to the financial vulnerabilities in several CESEE countries as well as their high dependence on the export of manufactured goods.

The policy response to the crisis in both regions focused on standard and non-standard central bank and financial policy actions as well as on fiscal measures. Standard monetary policy remained very cautious in most countries until the end of 2008 when the severity of the recession became clear and most countries embarked on a process of monetary easing. Nevertheless, in most CESEE and Latin American countries policy rates have remained at higher levels than in major industrialised economies. Authorities in both regions have also taken a range of extra-ordinary policy measures to stabilise financial systems and to reduce spillovers to the real economy. Fiscal policy responses to the crisis varied within and across the two regions and were mainly determined by the fiscal situation at the beginning of the crisis and the threat of a possible weakening of investor confidence. Only a few CESEE countries were in a position to run moderate counter-cyclical fiscal policies, while others even had to engage in procyclical tightening to retain or regain investor confidence. In contrast, relatively sound fiscal positions prior to the crisis allowed most Latin American governments to respond to the global crisis with – at least moderately – countercyclical fiscal policy, although implementation has fallen behind schedule in most countries.

Looking forward, even though the economic downturn seems to have reached a bottom, the pattern of economic recovery is still unclear. According to current projections, Latin America is expected to record, on average, higher growth rates in 2010 than CESEE countries. The main reasons for the better prospects for Latin America over the near-term are the renewed increase in commodity

45 See also Berglöf et al (2009), EBRD (2009), ECB (2009) as well as Herrmann and Mihaljek (2010).
prices, and the more limited impact of the financial shock. Growth projections for the medium term
are broadly similar for both regions, although subject to considerable uncertainty.

The EU anchor has also been beneficial for CESEE countries, as it provides a functioning
institutional and regulatory framework that promotes the convergence process and is expected to
prevent extreme policy slippages. Latin America, in turn, has benefited from policies that have
reduced its vulnerabilities prior to the crisis and have been able to become countercyclical after it,
contrary to past experiences. Latin American countries have a less clearly anchored convergence
process and possibly also slower productivity gains, which may entail additional efforts to
consolidate macroeconomic and financial stability in the years to come.

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Annex

Table 1: main statistics of the sample:

<table>
<thead>
<tr>
<th>Variable</th>
<th>Obs</th>
<th>Mean</th>
<th>Median</th>
<th>Std. Dev.</th>
<th>Min</th>
<th>Max</th>
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<tbody>
<tr>
<td><strong>Dependent</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EMBI change (bps)</td>
<td>55</td>
<td>253</td>
<td>142</td>
<td>372</td>
<td>-303</td>
<td>1287</td>
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<tr>
<td>Real GDP growth change (%)</td>
<td>60</td>
<td>-5.8</td>
<td>-5.7</td>
<td>6.6</td>
<td>-26.4</td>
<td>6.5</td>
</tr>
<tr>
<td><strong>Regressors (a)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sentiment</td>
<td>60</td>
<td>0.215</td>
<td>0.202</td>
<td>0.697</td>
<td>-2.279</td>
<td>1.985</td>
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<tr>
<td>Real</td>
<td>60</td>
<td>0.052</td>
<td>0.066</td>
<td>0.404</td>
<td>-0.789</td>
<td>0.852</td>
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<tr>
<td>Public</td>
<td>60</td>
<td>0.282</td>
<td>0.474</td>
<td>0.791</td>
<td>-1.802</td>
<td>1.894</td>
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<tr>
<td>Banking</td>
<td>60</td>
<td>0.056</td>
<td>-0.002</td>
<td>0.565</td>
<td>-1.073</td>
<td>1.381</td>
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<td>Money</td>
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<td>-0.005</td>
<td>0.010</td>
<td>0.370</td>
<td>-0.834</td>
<td>0.751</td>
</tr>
<tr>
<td>External</td>
<td>60</td>
<td>-0.112</td>
<td>-0.182</td>
<td>0.640</td>
<td>-1.378</td>
<td>1.552</td>
</tr>
</tbody>
</table>

(a) Normalized deviations from a long run average. See text for an explanation of the calculations