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The Effects of the Global Crisis on Emerging Economies[♦]

Jean-Pierre Allegret[♦]

1. Introduction

The subprime crisis and its consequences have led to the most severe financial crisis since the Great Depression (IMF, 2009). In this paper, we focus our attention on two main questions. First, we analyze the transmission of the current financial crisis to emerging economies. Two main features distinguish the current episode from the crises of the late 1990s and early 2000s. On the one hand, the main trigger of the crisis is a shock originated in the financial sector of advanced countries. After an initial period of resilience, the financial turmoil in advanced economies hit emerging markets in late 2008. On the other hand, this crisis is characterized by an exceptional synchronization at a worldwide level. In other words, the subprime crisis has led to a global crisis affecting both financial systems across the globe and economic activity in virtually all countries. Emerging markets have been hit by two major shocks in external drivers: the “sudden stop” of capital inflows and the collapse in export demand. Second, taking into account the fact that many financial crises have long-term damages to the path of economic growth (Cerra and Saxena, 2008; Furceri and Zdzienicka, 2011), this paper studies the responses of policy makers in emerging markets to the financial crisis. We stress that the ability of emerging countries to mitigate the impact of the crisis has been linked to their economic situation before it. In sharp contrast with past episodes of crisis, the majority of emerging markets has been better equipped to respond to the current crisis.

The remainder of this paper is organized as follows. Section 2 considers the transmission of the financial crises in developed countries to emerging markets by distinguishing two main transmission channels: the financial and the trade ones. Section 3 analyzes the monetary policy

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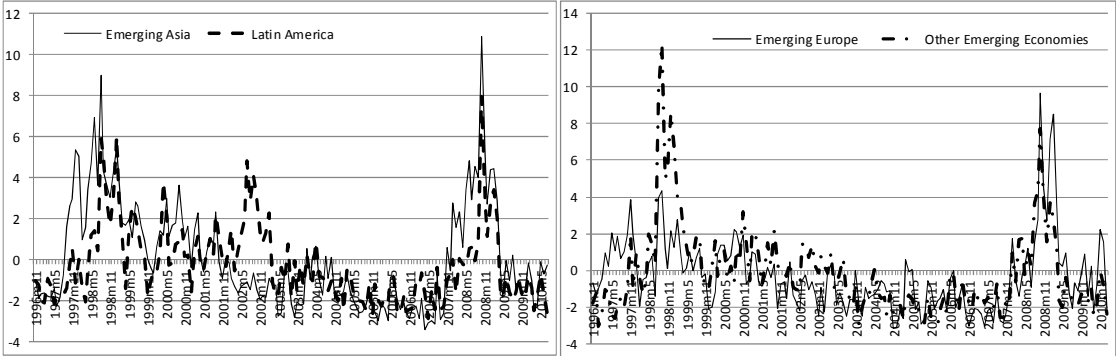
responses in emerging countries to the current financial crisis. Section 4 concludes with some policies implications.

2. The Transmission of financial crisis in developed countries to Emerging Economies

The IMF has built a financial stress index allowing to study to what extent financial stress in developed countries leads to contagion to emerging economies. Balakrishnan *et al.* (2011) define financial stress as a period when the financial system is under strain impairing its ability to intermediate funds from savers to borrowers. More precisely, four main characteristics are associated with financial stress: large shifts in asset prices, a sudden increase in risk perception, liquidity shortages, and concerns about the health of the banking system. From this definition, it is possible to build a financial stress index including indicators such as the stock market volatility, the sovereign debt spreads, the exchange market pressure index (exchange rate depreciations and declines in international reserves) and the stability of the banking system.

Figure 1 exhibits the financial stress index for emerging markets. It fits well the main episodes of financial turbulences that hit these countries over the period.

**Figure 1 Financial Stress in Emerging Countries, by Region
Monthly Data (1996M11-2010M7)**



Emerging Asia: China, India, Indonesia, Korea, Malaysia, Pakistan, Philippines, Sri Lanka, Thailand
Emerging Europe: Czech Republic, Hungary, Poland, Romania, Russia, Slovak Republic, Slovenia, Turkey
Latin America: Argentina, Brazil, Chile, Colombia, Mexico, Peru
Other Emerging Economies: Egypt, Israel, Morocco, South Africa

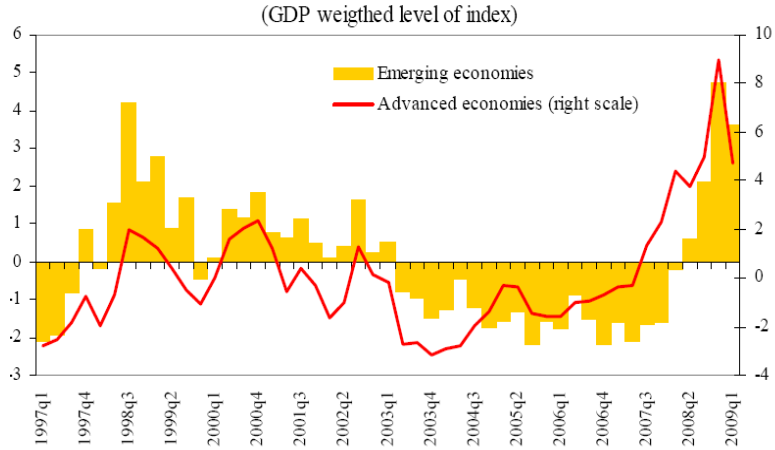
Source: from Balakrishnan *et al.* (2011).

More precisely, four systemic financial stress episodes can be identified. The first is the intensification of the Asian crisis during the last quarter of 1997. The second episode of financial stress occurs from the middle of 1998 with the default of Russian external obligations (August

1998) and the collapse of Long-Term Capital Management (LTCM) (September 1999) to the Brazilian currency crisis in January 1999. The third tension in the financial stress indicator appears in the aftermath of the ICT bubble crash at the beginning of 2000. The fourth increase is more focuses on Latin America during the Argentine default in 2002. Finally, it is important to stress that the subprime crisis has led to a strong synchronization of the financial stress tension. In addition, it is important to note that at the end of the considered period (mid-2010), financial stress in Emerging Europe slightly increases under the impact of the Euro Area sovereign debt crisis.

Figure 1 suggests the presence of a strong comovement of financial stress across emerging economies. That means that common factors play a role. One of these factors could be financial stress in advanced economies as exhibited in Figure 2. This figure shows the relationship between the financial stress in developed countries and the financial stress in emerging economies.

Figure 2 Financial Stress in Developed Countries and Emerging Economies, 1997-2009



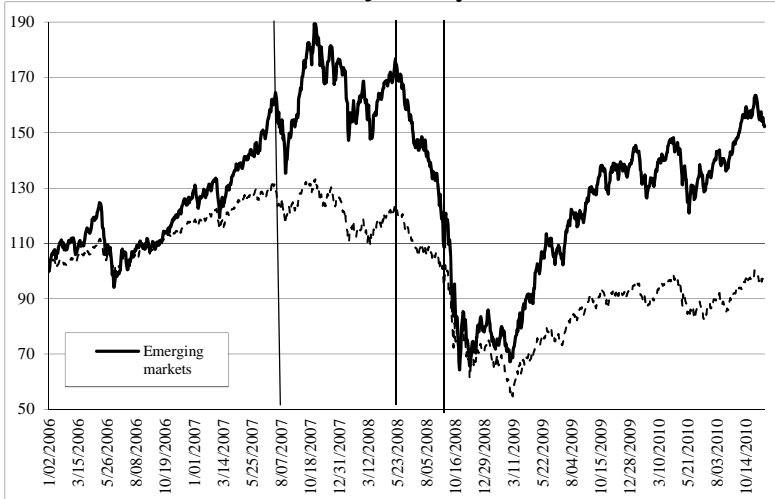
Source: Balakrishnan *et al.* (2011).

The relationship between the two indexes is strong, especially during the current financial crisis. In fact, Balakrishnan *et al.* (2011) show that, on average, close to 70 percent of stress in developed

economies is transmitted to emerging economies. In addition, they find that the transmission is fast: it takes only one to two months to reach emerging economies¹.

Dooley and Hutchison (2009), among others, distinguish three phases in the transmission of the subprime crisis to the emerging markets. During the first phase, from February 2007 to May 2008, emerging markets are decoupled from industrial countries. Thus, equity market performances tend to diverge between the two groups of countries (Figure 3) while emerging markets currencies appreciate against the dollar (carry trade as investors chased high yields in emerging markets) (Figure 4).

Figure 3 Equity Markets Performances in Developed and Emerging Countries, Daily Data, 100 = January 02 2006



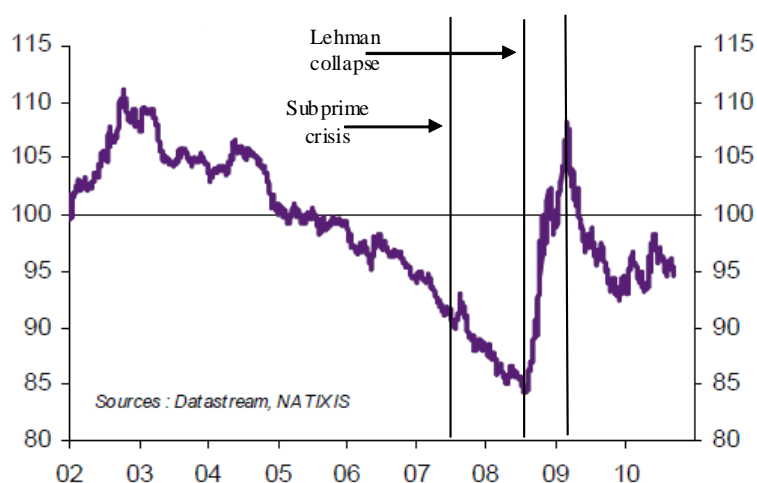
World Index: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Hong Kong, Ireland, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, United Kingdom, United States.

Emerging Markets: Brazil, Chile, China, Colombia, Czech Republic, Egypt, Hungary, India, Indonesia, Israel, Korea, Malaysia, Mexico, Morocco, Peru, Philippines, Poland, Russia, South Africa, Taiwan, Thailand, Turkey.

Source: from MSCI Barra.

¹ The comovement parameters, however, vary substantially across countries, ranging from close to zero for Pakistan, Hungary, and China, to more than one for Chile and Turkey.

Figure 4 Emerging markets: exchange rate against USD 2002: 1 = 100 (increase: depreciation)

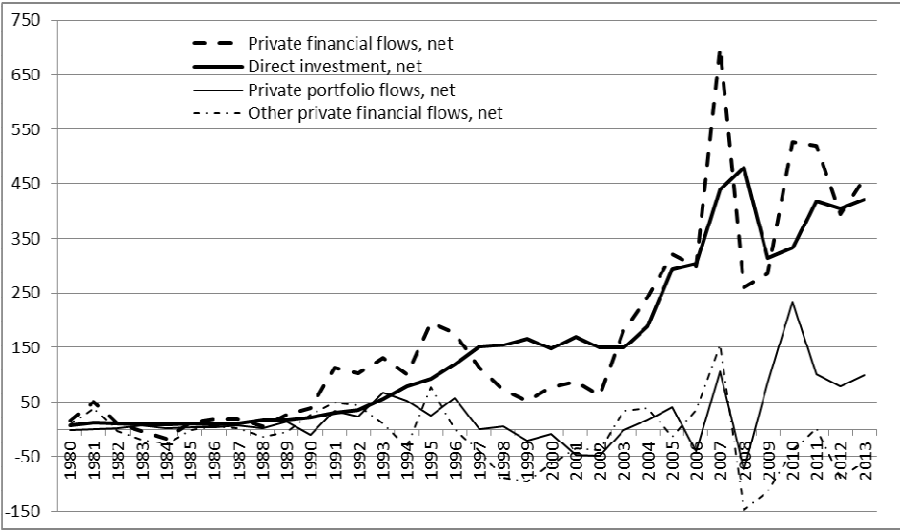


Source: from NATIXIS (2010).

The second phase covers the period from May 2008 to Lehman Brothers collapse on September 15, 2008. During this phase revised expectations about the real effects of the crisis on output in industrial countries and emerging markets occur. Commodity and oil prices begin to turn down sharply after a long period of increase. We see also a rise in default spreads both in the U.S. and in emerging markets in phase 2. All these changes reflect expectations that the financial crisis in the U.S. and Europe could also turn into a long and deep decline in economic activity.

The third phase starts with the Lehman collapse and ends at the beginning of 2009. As exhibited in Figure 3, emerging markets and developed countries equity markets fall together to levels sharply below their pre-crisis levels. Emerging markets currencies against dollar decline (see Figure 4). Indeed, the crisis confidence leads to a sudden stop in carry trade practices. In addition the safe haven characteristic of dollar and the appetite of investors for riskless assets induce a sharp reversal in capital inflows to emerging and developing countries (Figure 5). Once again, we see that the Euro Area sovereign debt crisis has been accompanied by a significant slowdown of capital inflows to emerging and developing countries.

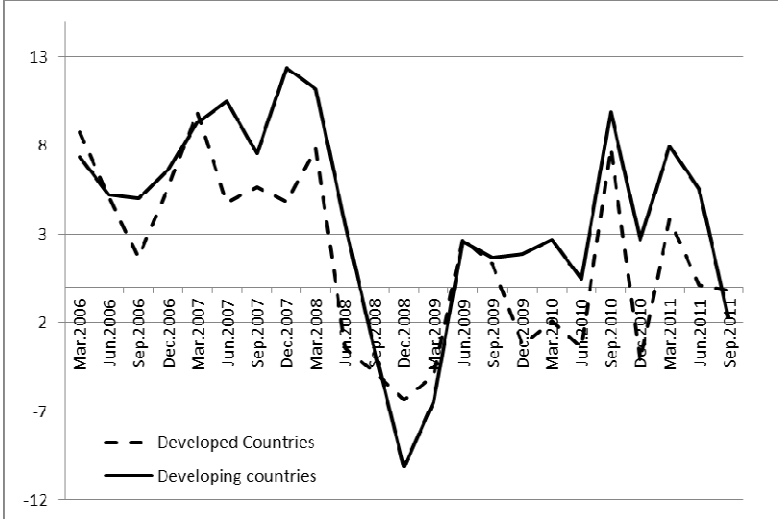
Figure 5 International Capital Flows to Emerging and Developing Countries, net, in USD billions



Source: IMF (2012), *World Economic Outlook Database*, April.

Figure 5 exhibits a striking feature: the main fall in capital inflows concerns both portfolio and other financial flows. Among these others, international banking credit activities are especially important. Figure 6 shows that international banks have more contracted their cross-border positions vis-à-vis developing countries relative to their external positions vis-à-vis developed countries.

Figure 6 External Positions of Reporting Banks vis-à-vis all Sectors, Assets, Quarterly Changes, in percent

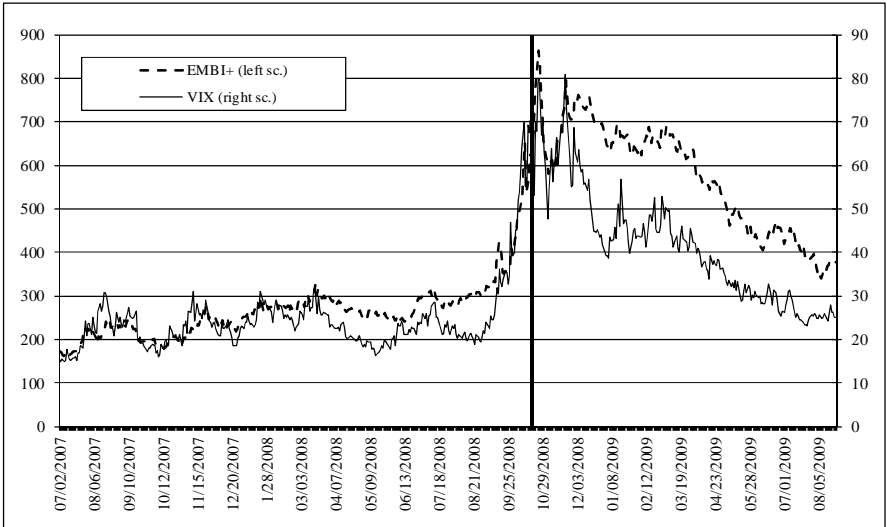


Source: from Bank for International Settlements.

In their econometric studies on fourteen emerging markets² over the sample period January 1, 2007 – February 19, 2009, Dooley and Hutchison (2009) find that sovereign CDS spreads in these countries are strongly influenced by news about the financial crisis and real economic activity emanating from the U.S., especially during the third phase. In other words, external factors exert a strong influence on risk premia in emerging markets. Figure 7 stresses this point in showing the relationship between the VIX index and the EMBI spreads.

The VIX Index measures market expectations of near term volatility conveyed by stock index option prices. Since volatility often signifies financial turmoil, VIX is often referred to as the "investor fear gauge". VIX tends to be high during times of financial turmoil and investor fear. During tranquil periods, VIX levels tend to drop. As a result, this index is an indicator of investor’s perception of risk.

Figure 7 The VIX Index and the EMBI Spreads



Source: from Chicago Board Options Exchange and Argentinean Ministry of Economy and Public Finance

EMBI measures yield spreads (over safe or risk free assets that bear minimal credit risk) on emerging market countries’ debt instruments. The spread is the extra return required to compensate the investor for the additional risks faced when investing in emerging economies rather than in a safe asset (such as a US government bond). EMBI measures the sovereign risk.

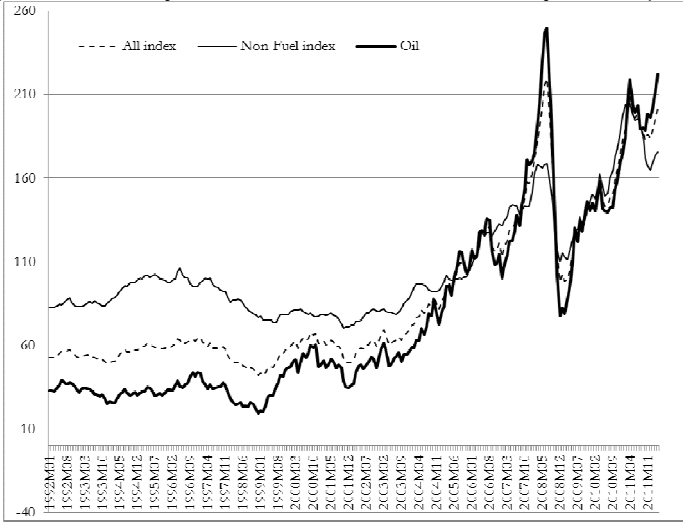
² Argentina, Brazil, Chile, Colombia, Mexico, China, South Korea, Malaysia, Czech Republic, Poland, Hungary, Russia, South Africa and Turkey.

Spreads increase with the deterioration –effective or expected- of fundamentals in the countries issuing bonds; they also increase in periods of international financial strains. EMBI is a proxy for market and foreign investor sentiment and it also gauges contagion from global or other emerging markets crisis.

Figure 7 shows clearly that during the crisis –and more especially after the Lehman collapse- the relationship between VIX and EMBI seems very strong. Indeed, we see that the widening in spreads has been highly synchronized across emerging markets and appears to be correlated with the fluctuations in the VIX index. Testing Granger causality between the two variables, we find that during the period January 1st 2002 – December 31 2007, VIX index does not cause EMBI while over the period January 1st 2008 – August 21 2009 it Granger causes it. In the two periods, contemporaneous correlations between the VIX Index and EMBI are 0.73 and 0.89 respectively.

The trade channel is strongly linked to the evolution of world economy. The subprime crisis has led to a dramatic world activity slowdown that reversed the primary commodity prices boom that occurred since 2004 (see Figure 8).

Figure 8 Primary Commodity Prices, 2005 = 100, Monthly Data (1992M01-2012M03)



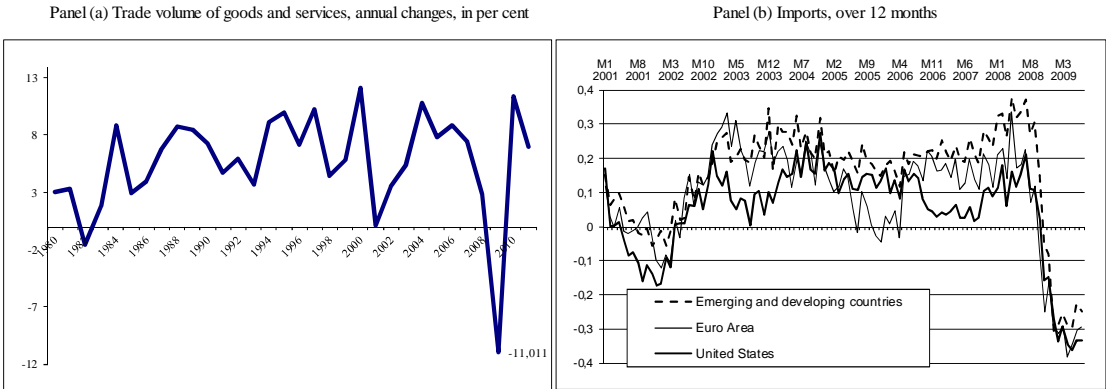
Source: IMF, *IMF Primary Commodity Prices Database*.

For primary commodity-producing countries, the decrease in prices induced a major negative shock on terms of trade. For instance, terms of trade deteriorated sharply in Latin American countries: about 25 percent between their peak of July 2008 and December 2008 (Izquierdo and

Talvi, 2009). In some commodity-exporting countries, notably Chile and Russia, exports fall by more than 40% in the first quarter of 2009.

The primary commodity prices are a part of the trade channel. As showed by Figure 9, the financial crisis has been accompanied by an unprecedented drop in international trade largely driven by a sharp decrease in imports at a worldwide level, and more especially in both the United States and Euro Area.

Figure 9 The World Trade and the Financial Crisis



Source: from IMF, *International Financial Statistics Database*.

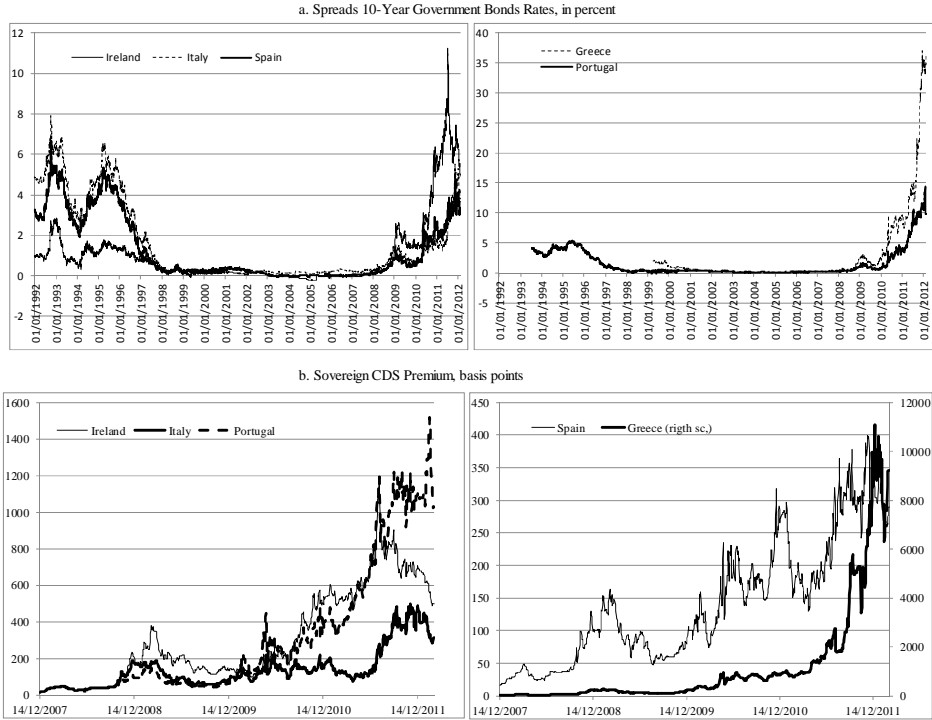
This widespread collapse in world trade is due to three main factors: (i) the recession in developed countries; (ii) the seizing-up of the international credit markets; and (iii) the global integration of production chains.

The recession in developed countries has led to a sharp contraction in economic activity in emerging markets in the fourth quarter of 2008, with double digit declines in exports and industrial production. The decline in trade has particularly strong where exports were concentrated in high-end manufactures and destined for US markets. Economies with the highest share of exports to GDP suffer the most: Hong Kong, South Korea, Malaysia, the Philippines, Singapore and Thailand.

The financial crisis has dramatically deteriorated public finance situation in advanced countries, especially in the Euro Area. Some of these economies suffer from worsening financing condition (Greece, Ireland, Italy, Portugal, and Spain; see Figures 10a (Spreads 10-year government bond

rates) and 10b (Sovereign CDS 5-years spreads)) leading to the emergence of the sovereign debt crisis at the beginning of 2010.

Figure 10 Public Financing Conditions in Selected Euro Area Countries, Daily Data

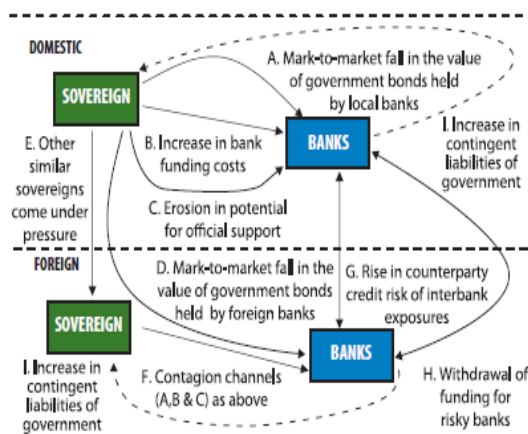


Source: Datastream

If it is too early to assess contagion effects from the Euro Area sovereign debt crisis³, some developments suggest that a worsening in debt crisis may lead to significant spillovers effects in emerging countries, especially Emerging Europe. Figure 11 portrays potential spillovers from the sovereigns to the banks on the one hand, and, in turn, spillovers from banks to sovereigns.

³ Aizenman *et al.* (2012) find mixed results on the contagion of the sovereign debt crisis to equity and bond markets in developing countries.

Figure 11 Spillovers from the Sovereigns to the Banks and Banks to Sovereigns



Source: IMF (2010).

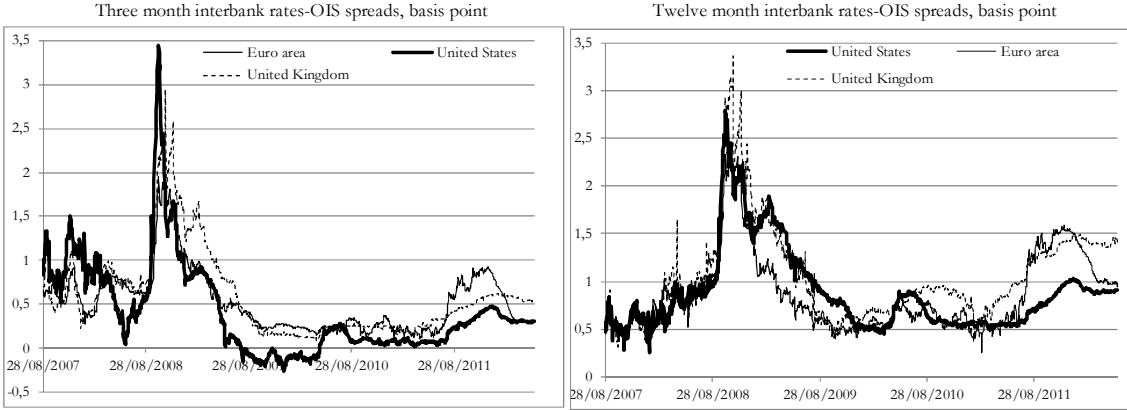
Figure 11 shows that a worsening in debt crisis may destabilize banking sector insofar as banks hold public bonds in their portfolios. Broadly speaking, a significant increase in long-term interest rates may cause capital losses for banks and, in turn, trigger a banking crisis *via* contagion effects due to losses confidence. In turn, banking rescue packages may lead to a negative retroaction effect on public finance. The transmission to the non-financial sectors may rest on the Euro Area banks deleveraging explained by two main forces: the rising banking funding costs and the rules imposed by banking supervision.

The effects of sovereign debt crisis on banks depend on their exposure degree to sovereign bonds. According to OFCE (2011), on average, European banks hold at least 50 percent of public debt from advanced countries. This average hides a significant disparity among European banks: for instance, French banks hold 77 percent of the public debt while this share amounts to 97 percent for Spanish banks. If we focus on countries encountering the strongest difficulties – Greece, Ireland, Italy, Portugal, and Spain- French banking system appears as one of the main exposed (18.9 percent of the GDP if we take into account both public and private assets on these countries). In terms of GDP, German banks assets vis-à-vis these countries amount to 10 percent.

Since the beginning of the Sovereign debt crisis, some indicators show clearly that banks – especially from the Euro Area- suffer from it. First, as portrayed by Figure 12, we observe

tensions on the interbank funding markets. Interestingly, even if tensions have been especially strong in euro markets, the Sovereign debt crisis has affected to a lower extent dollar and pound interbank markets.

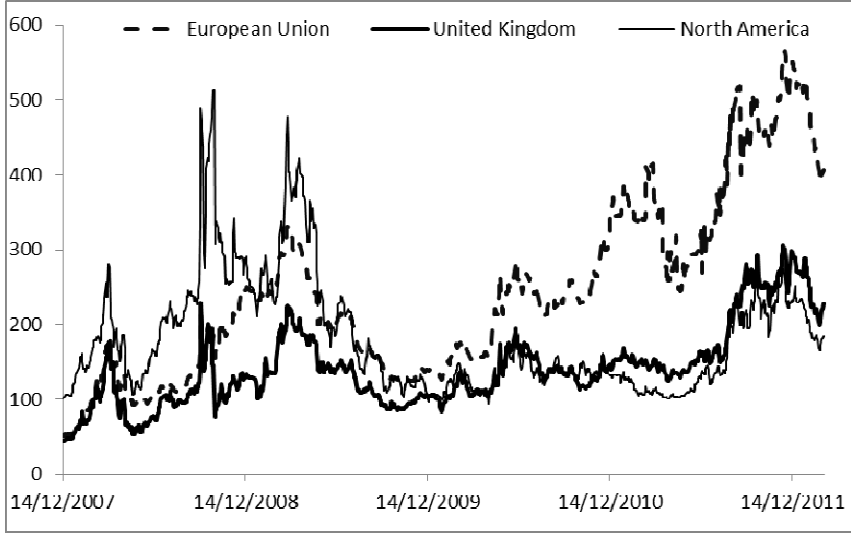
Figure 12 Tensions on Interbank Funding Markets and Sovereign Debt Crisis



Source: DATASTREAM

Figure 13 shows the increase in banking sector CDS beyond European banks suggesting the presence of contagion effects.

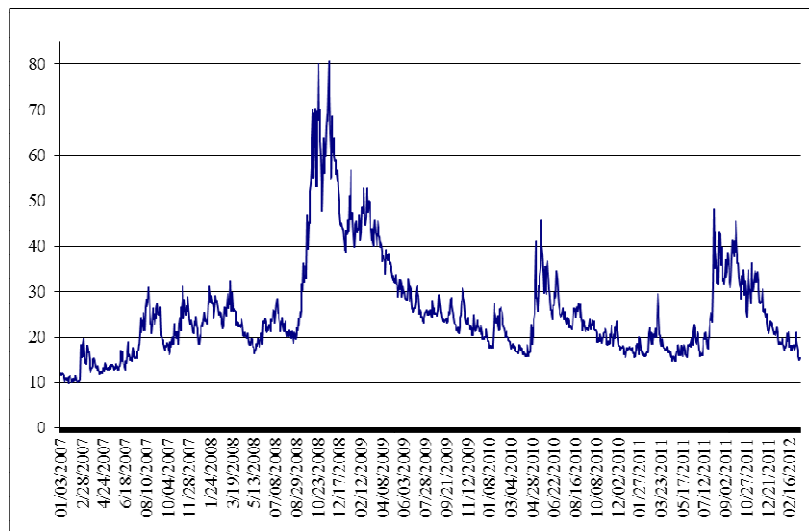
Figure 13 Banking Sector CDS Spreads, Basis Points, Daily Data



Source: Datastream

In a similar way, VIX index has encountered new tensions since the beginning of the Sovereign debt crisis (Figure 14). In other words, the Euro Area crisis has a potential systemic dimension.

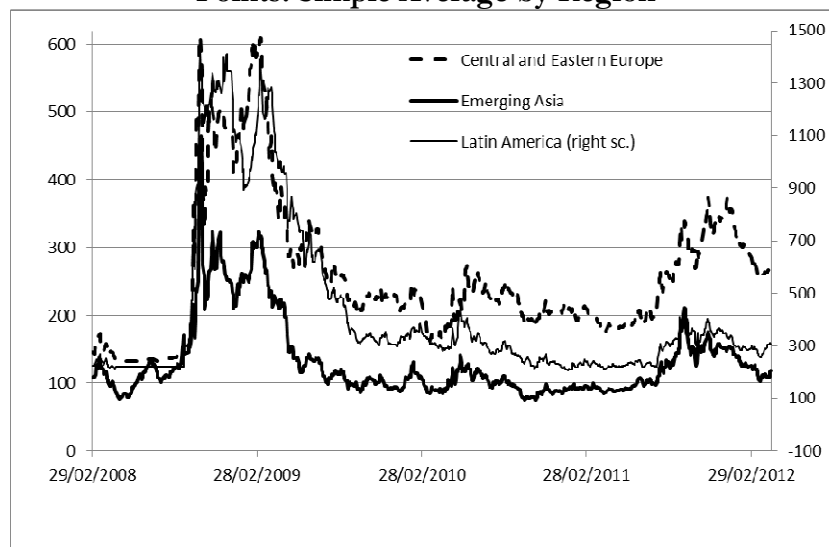
Figure 14 The VIX Index, Daily Data



Source: from Chicago Board Options Exchange

Tensions have been observed on Sovereign CDS in emerging markets as suggested by Figure 15 since 2010.

Figure 15 Sovereign CDS Spreads in Selected Emerging Markets, Daily Data, Basis Points. Simple Average by Region



Central and Eastern European countries: Czech Republic, Croatia, Hungary, Lithuania, Poland, Serbia, Turkey, Romania, Russia

Emerging Asia: China, Hong Kong, Korea, Philippines, Thailand,

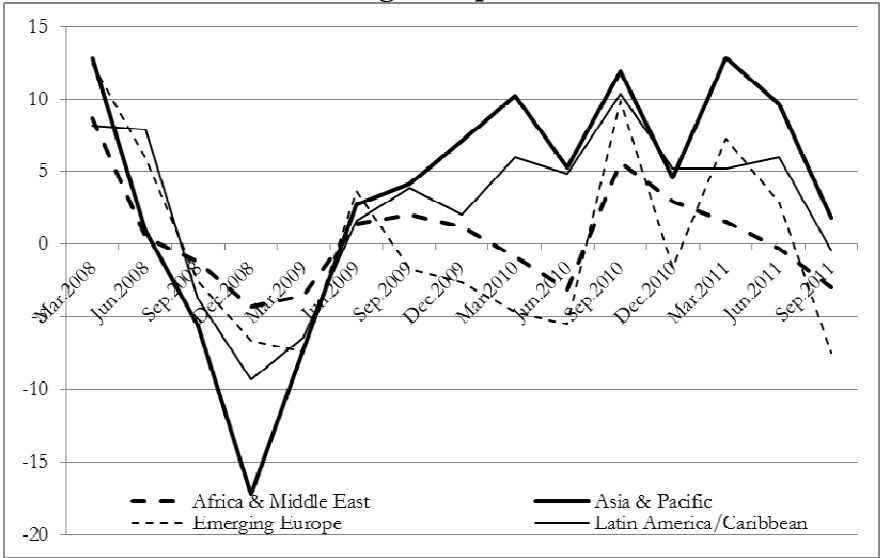
Latin America: Argentina, Brazil, Chile, Peru

Source: Datastream

Banks deleveraging leads to reduction in credit to emerging countries. Figure 16 exhibits the banking external positions vis-à-vis all sectors in different emerging countries regions. After a

significant international credit contraction in the aftermath of Lehman collapse (September 2008), the Euro Area Sovereign debt crisis has been accompanied by a significant slowdown in international banking activity. Largest effects are observed in emerging Europe: Figure 19 shows a reduction in lending to the residents of this region.

Figure 16 External Positions of Reporting Banks vis-à-vis all Sectors, Assets, Quarterly Changes, in percent

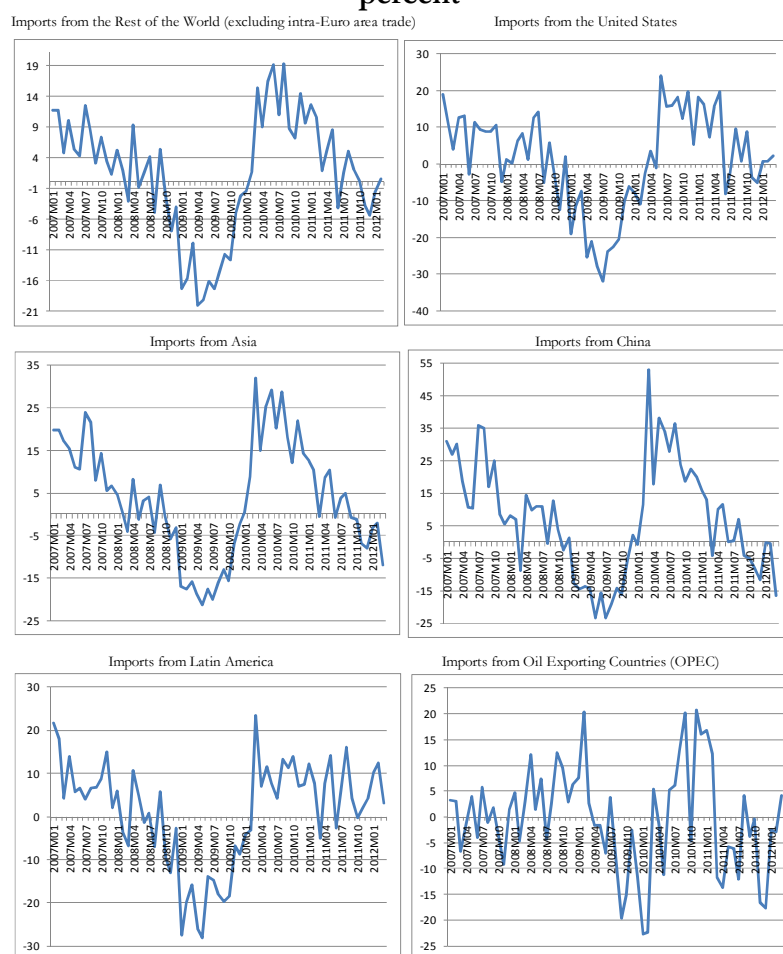


Source: from Bank for International Settlements.

The IMF (2012) has shown that non-Euro Area banks have reduced their credits to emerging markets more gradually than Euro Area ones.

Finally, Figure 17 relative to imports of the rest of the world to Euro area suggests that the negative impact of the debt crisis on the Euro area’s economic activity has led to a significant slowdown of European imports from all parts of the world. Taking into account the interdependences between countries, the sovereign debt crisis may induce negative impact on the world economic activity.

Figure 17 Imports of the Euro area, Growth rate M/M-12 of the volume indices, in percent



Source: Eurostat.

3. The responses of Policy Makers in Emerging Countries to the Financial Crisis

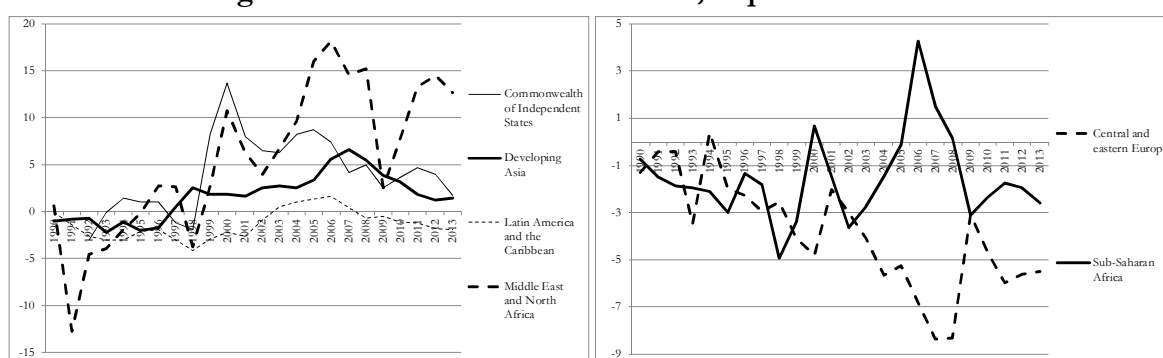
To understand how emerging countries have reacted to the crisis, it is necessary to take into account their pre-crisis vulnerability. Indeed, an important lesson drawn from the crisis is that countries that entered the crisis with better fundamentals were able to respond with more counter-cyclical policy easing⁴. In other words, countries with sizeable domestic and external imbalances have been constrained in their ability to face to the crisis.

⁴ See, for instance, IMF (2010) and Gallego *et al.* (2010). Pre-crisis conditions refer to both financial (ratio of international reserves to short-term external debts, credit booms), fiscal (ratio of primary balances to public debt levels), external (current account deficits and composition of capital inflows) and monetary (exchange rate regimes, initial level of inflation) vulnerabilities.

3.1 The Emerging Markets Vulnerabilities

The financial crisis in developed countries has led to a sharp reversal in capital flows. An important question is to determine to what extent emerging countries are vulnerable to shocks affecting capital flows. Emerging Europe is particularly vulnerable to the financial channel. Indeed, emerging Europe has accumulated large and sustained external deficits, while many countries in Asia, the Middle East, and the Commonwealth of Independent States (CIS) have shifted to surpluses, partly because of the commodity price boom (see Figure 18).

Figure 18 Current Account Balances, in percent of GDP



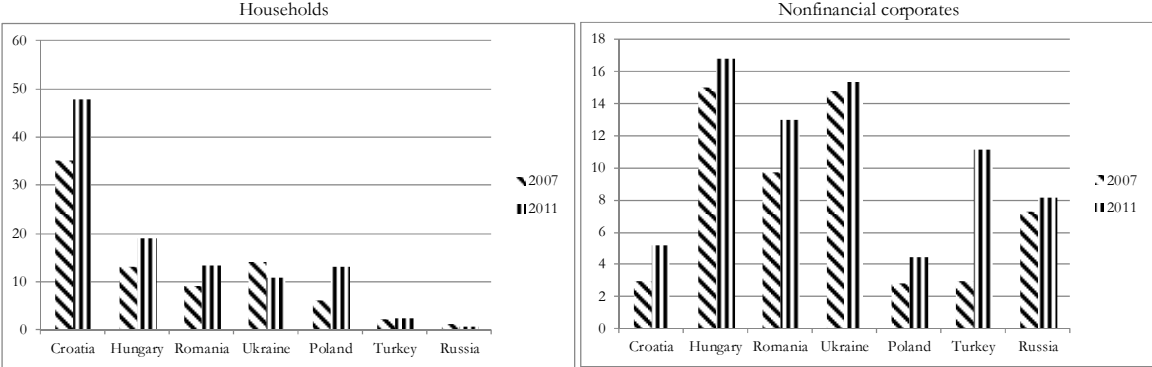
Source: IMF (2012), *World Economic Outlook Database*, April.

Liabilities to advanced economy banks and portfolio exposures to advanced economies show that emerging Europe are more vulnerable to external bank crises, while emerging Asia is more sensitive to external securities-market disturbances. At the same time, Western European banks have increasingly dominated banking flows, whereas North America has been the main source for portfolio investments in emerging and developing economies. As a result, Western Europe has become the most likely source of common-lender effects, and the United States and Canada have become more important sources of securities-market disturbances.

In addition, in some emerging countries, household and firms borrow in foreign currencies leading to currency mismatch insofar as their assets are often denominated in domestic currency. Foreign currencies borrowings rest on two main mechanisms: first, lending interest rates tend to be lower in international financial centers; second exchange rate risks seem low when authorities peg their currency against the dollar (Asian countries in the 90s') or euro (Emerging Europe

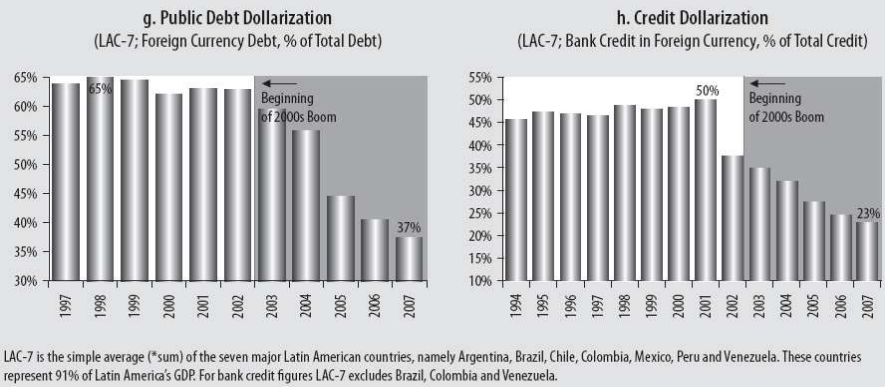
now). These countries are vulnerable to a sudden and large devaluation of their currency against the anchor one. Any devaluation increases the charge of the debt inducing a negative balance sheet effect. While Emerging Europe as a whole increased the currency mismatch (Figure 19), the impressive improvement in fundamentals in Latin American countries allows them to undergo a de-dollarization process as both the share of foreign-currency denominated debt in total public debt stocks and liability dollarization in the domestic banking systems decreased after 2002 (Figure 20).

Figure 19 Loans Denominated in Foreign Currency as a Share of GDP, Selected Countries in Emerging Europe, 2007 and 2011, in percent.



Source: IMF (2012).

Figure 20 The De-Dollarization Process in Latin America



Source: Izquierdo et Talvi (2009).

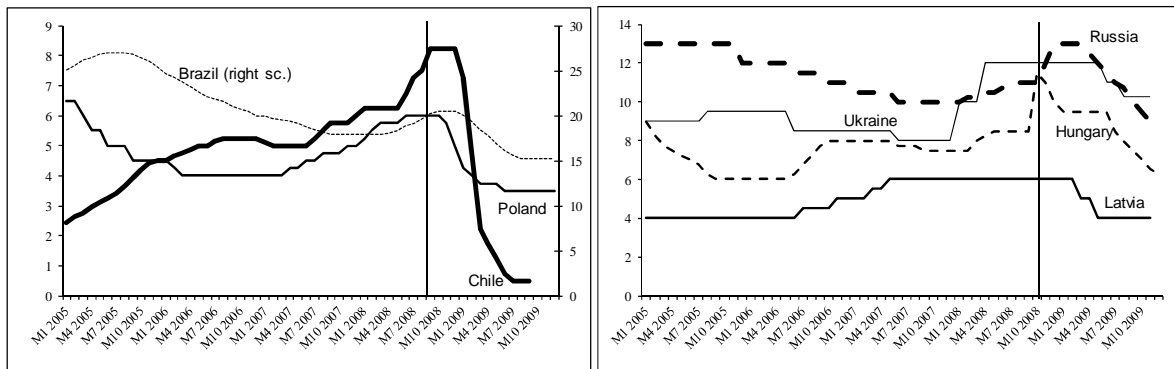
3.2 Monetary and Exchange Rate Policies

Central banks in emerging markets have more room for maneuver than before to conduct an expansionary monetary policy to face to the financial crisis. First, emerging markets are not the epicenter of the crisis. As a consequence, they can decrease their interests without provoking a loss of confidence. The situation was very different in the 90s' when emerging markets were at the center of the financial turbulences. Second, in the majority of emerging markets inflation is under control. Some of them adopted inflation targeting framework and then improved their credibility (Coulibaly, 2012; Takáts, 2012)). Finally, since the end of 1990s', we see a shift of exchange rate regimes towards more flexible ones. More flexibility in exchange rate management allows central banks to assign their interest rate to internal balance. They can conduct more independent monetary policy.

Despite these improvements, there has been no immediate response to offset tighter financing conditions on international financial markets by lowering policy rates. Indeed, until late 2008 or early 2009, in many emerging markets there were continuing concerns about inflationary pressures. Recall that economic activity remained sustained until the end 2008.

Figure 21 compares the evolution of policy rates in countries with low vulnerability (panel a) and high vulnerability (panel b). High vulnerability refers mainly to currency mismatch and to the dependence on capital inflows. The main lesson of this figure is that countries with high vulnerability have responded later to the financial crisis. More precisely, panel b shows that when the shock happened, monetary authorities either increased their policy rates (see for instance the sizeable interest rate hike in October 2008 in Hungary, Russia) or did not change them (Latvia, Lithuania).

Figure 21 Discount Rates in Some Emerging Countries
 Panel (a) Panel (b)

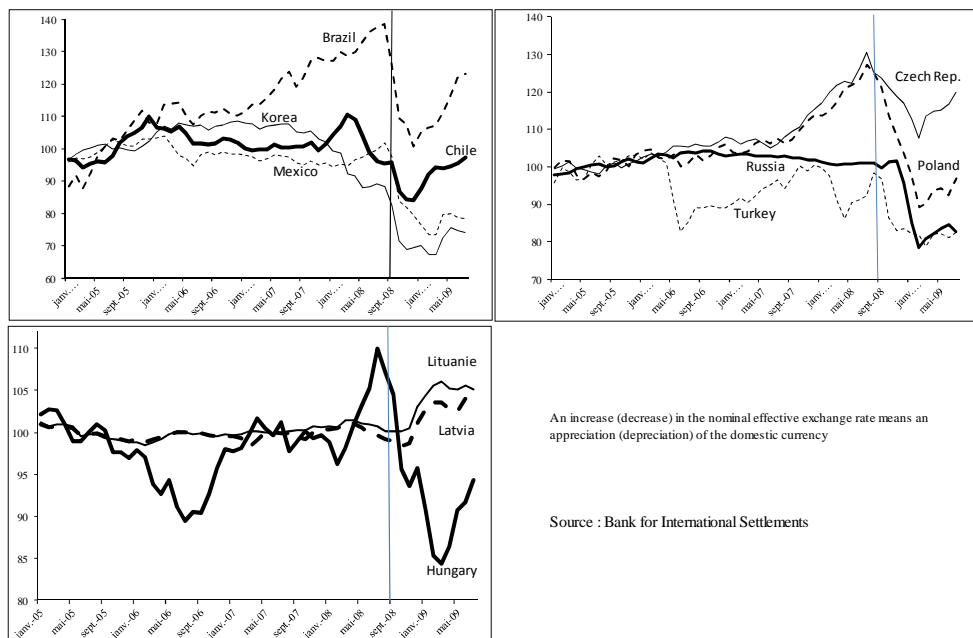


Source: IMF, *International Financial Statistics Database*.

Since late 2008, policy rates have fallen sharply in many emerging markets such as Brazil or Chile. It's clear that countries with pegged exchange rates have been more constrained in their ability to lower policy rates.

At the same time, countries that had more room for lowering interest rates also allowed more exchange rate depreciations (see Figure 22).

Figure 22 Nominal Effective Exchange Rates in Some Emerging Countries, 2005 = 100



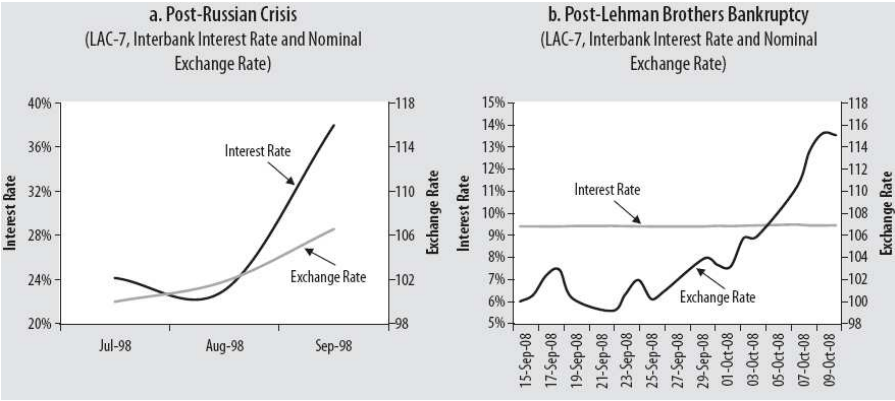
An increase (decrease) in the nominal effective exchange rate means an appreciation (depreciation) of the domestic currency

Source : Bank for International Settlements

This policy reaction in Latin American countries is in stark contrast with the one enacted in the aftermath of the Russian crisis of 1998. While in the former Latin American currencies have

depreciated and policy interest rates have decreased, in the latter pegged exchange rates have limited the size of the depreciation and interest rates have been dramatically increased (Figure 23).

Figure 23 Policy Responses in Latin American Countries



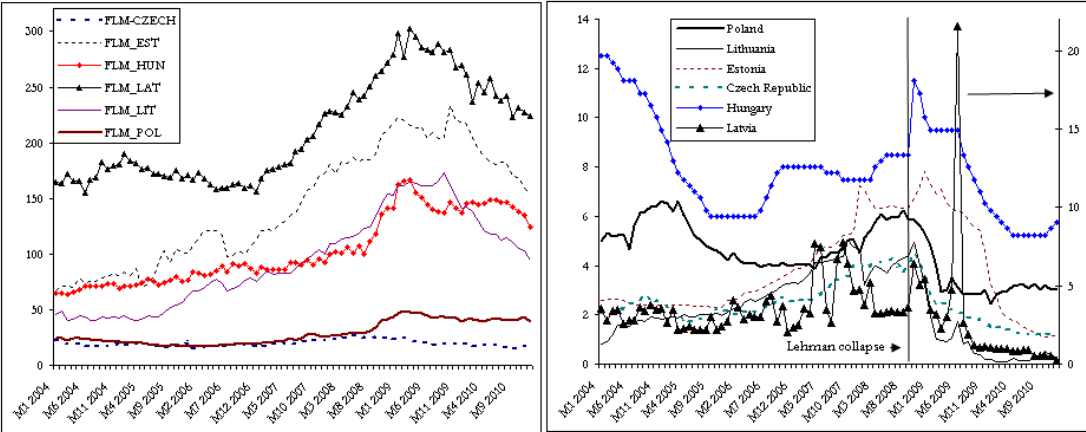
Source: Izquierdo et Talvi (2009).

Allegret *et al.* (2013) analyze adjustment mechanisms and exchange rate regimes during the subprime in new European Union members that stayed outside the euro area. Two sub-groups of emerging European countries are distinguished according to their exchange rate regimes –fixed regimes group (“fixers” including Estonia, Lithuania, and Latvia) vs. flexible regimes group (“floaters” including Poland, Czech Republic, and Hungary)- in order to see to what extent these countries differ in terms of responses to the crisis. Using country specific VAR models over the period January 2004 – December 2010, they find that countries with rigid exchange rate regimes have known a weakest real exchange rate adjustment in the aftermath of the Lehman collapse relative to other economies. In addition, their results suggest that nominal exchange rate shocks tend to have a higher influence on real exchange rate variance in floaters countries relative to fixers. In other words, real exchange rate depreciation in the latter group is very costly since it occurs with an internal depreciation, in other words, with a decrease in real wages.

The responses of the nominal exchange rate in new European Union members to the current crisis confirm the main findings by Cavallo and Izquierdo (2009) relative to Latin American countries. These authors show that more liability dollarization triggers fear of floating and then

constrains the ability of monetary policy to respond to external shocks. Indeed, fear of floating implies that policy makers are reluctant to let the nominal exchange rates to depreciate after negative shocks. Figure 24 estimates the extent of dollarisation-euroisation in the six studied countries. To this end, we use the same methodology as Levy Yeyati *et al.* (2010) by calculating the ratio of foreign liabilities to money⁵. The left hand side of the Figure 24 exhibits these ratios while the right hand shows the money market interest rates. The main striking lesson of this figure is that the higher the foreign liabilities to money ratio (the Baltic countries here), the weaker the immediate monetary policy response to the crisis. In other words, in high vulnerability countries –characterized by both currency mismatch and dependence on capital inflows- once the shock happened, monetary authorities either increased their policy rates.

Figure 24 The Ratio of Foreign Liabilities to Money and the Money Market Interest Rates, 2004M1-2010M12, in percentage



Source: Allegret *et al.* (2013).

4. Conclusion

From the past experiences of emerging countries, the main lesson drawn from the subprime crisis is the fact that, except in Emerging Europe, the improvement in fundamentals at the beginning of 2000 has allowed emerging countries to better respond to the crisis. Such evolution is in stark contrast with previous episodes of financial turbulences. As a consequence, in the majority of emerging countries, the impact of the financial crisis has been relatively short-lived.

⁵ Liabilities to nonresidents* / (Transferable deposits included in broad money* + Monetary base**); * Other depository corporation survey; ** Central bank survey. IMF IFS line 26C/ (line 14 + line 24).

Considering the long-term damages of the crisis in advanced economies, emerging countries must face to new challenges. Even if, as stressed above, the Euro Area Sovereign debt crisis may have systemic destabilizing effects, the main challenge is the dramatic rebound of net capital inflows to emerging economies. The most dynamic component of capital flows has been portfolio equity investment while net credit flows from banks stay at a low level relatively to its pre-crisis one. This rebound rests on push and pull factors.

Among push factors, a key driver is the monetary policy easing in mature markets that leads to low or negative policy rates in real terms. The interest rates differential between emerging and developed countries attracts capital flows into the former.

The main pull factor is the sizeable growth gap between emerging and developed countries. Primary commodity-producing countries benefit from the improved terms of trade.

The challenge for policymakers in emerging countries is twofold:

- on the one hand, past experience suggests that an increase in persistence of flows tends to be followed by flow reversals. In other words, emerging countries are especially prone to boom-bust cycles. From this perspective, the main challenge is to avoid a disorderly market adjustment concerning capital flows;

- on the other hand, massive capital flows into emerging countries raise many concerns for monetary policy. Indeed, not only the exchange rates tend to appreciate in nominal terms, but in real terms too because inflationary pressures due to the increasing in official reserves. This challenge is particularly important in the current context insofar as policymakers face to a dilemma. On the one side, they must increase interest rates in order to mitigate inflationary pressures. But such a reaction may increase capital inflows. On the other side, in order to discourage capital inflows, lower interest rates are necessary. But such an expansionary monetary policy may increase the inflation rates in a context where the growth rate is high.

Few tools are available to face to this dilemma. As a result, the main perspective is a more extensive use of capital controls to contain massive capital inflows. Brazil and South Korea,

among others, have already introduced controls for capital inflows. The IMF does not exclude such a strategy in its advices of economic policy dedicated to emerging countries.

5. References

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