The global crisis and financial intermediation in emerging market economies: an overview[1]

Introduction

Emerging market economies (EMEs) were significantly affected by the global financial crisis. Nevertheless, compared with their experience in previous crises, EMEs displayed remarkable resilience, maintaining robust rates of growth even as the crisis unfolded in advanced economies starting around mid-2007, and containing disruptions to financial markets so as to avoid experiencing crises themselves. The peak period of stress in EME financial markets was also comparatively limited, with severe pressures in the aftermath of the Lehman Brothers bankruptcy in mid-September 2008, and improved stability and signs of recovery starting around the second quarter of 2009. Since then, EMEs have outperformed advanced economies, both in terms of economic growth and in asset price valuations.

On 28–29 January 2010, senior central bank officials from EMEs met at the BIS in Basel to discuss the impact of the international crisis on emerging market economies and how policymakers had responded. This overview draws on that discussion, which highlighted four topics: (i) capital flows and cross-border lending; (ii) financial intermediation in EMEs during the crisis: home-owned versus foreign-owned banks; (iii) the impact of the crisis on local money and debt markets; and (iv) central bank instruments in response to the crisis.

1. Capital flows and cross-border lending

A key feature of financial crises in EMEs in the 1980s and 1990s was a “sudden stop” or reversal of capital inflows.[2] The most recent crisis also saw a sharp reduction in gross capital inflows to EMEs. However, there were important differences from past crises. On the one hand, EMEs were much stronger than in previous episodes of capital inflow reversals. For example, net financing requirements were lower in many EMEs because current accounts were in surplus or balanced (Graph 1).

On the other hand, policies in the EMEs could do little to counter capital flow reversals caused by the crisis in the advanced financial markets. In particular, the sharp declines in cross-border bank lending in the most recent crisis reflected weaknesses in the capital and liquidity positions of major international banks that prompted them to deleverage and reduce financing. This is consistent with the evidence of Takáts (2010) that supply factors played a dominant role in the reduction in cross-border lending in the fourth quarter of 2008.[3] One implication was that EME policy responses, such as large increases in interest rates, would have had little effect in attracting cross-border lending until global financing conditions had stabilised.[4] During the meeting, concerns were also expressed that advanced economies

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[1] This overview chapter was prepared by Ramon Moreno based on contributions by Dubravko Mihaljek, Előd Takáts and Agustín Villar. Comments by Philip Turner are gratefully acknowledged.

[2] See BIS (2009) pp 8–12 for a historical overview.

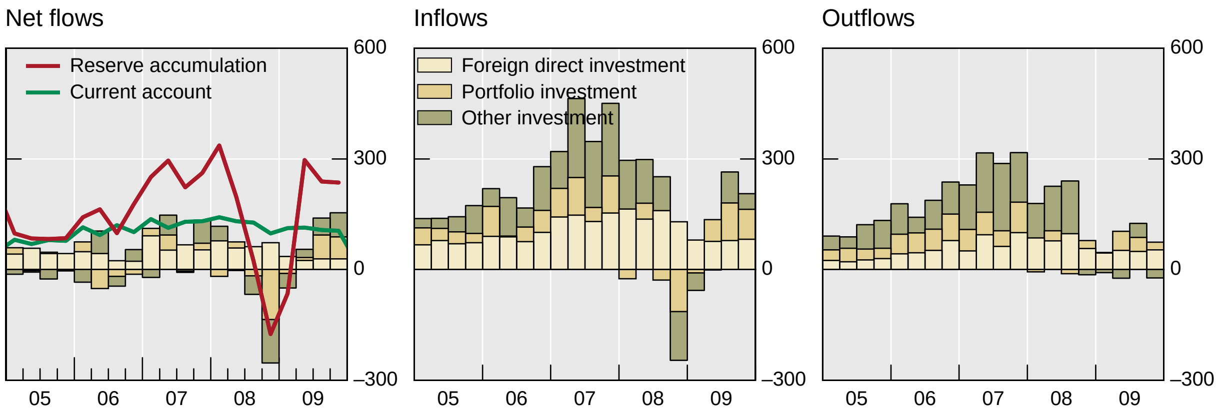
[3] See Takáts (2010). The importance of external factors is also suggested by the correlation between the rise and fall in financial stress reported by EME central banks following the Lehman bankruptcy and the fairly sharp rise and fall in indicators of risk aversion or stress in developed markets. See Moreno and Villar (2010).

might adopt policies supporting financing in their own economies, which could restrict flows to emerging market economies and might imply a need for policy coordination.

Graph 1

Capital flows in Emerging market economies[1]

In billions of US dollars



[1] Quarterly sums across Argentina, Brazil, Chile, Colombia, Mexico, Peru, Venezuela, China, Hong Kong, India, Indonesia, Korea, Malaysia, Philippines, Singapore, Thailand, Czech Republic, Hungary, Poland, Russia, South Africa, Turkey.

Source: IMF IFS; national data.

Notwithstanding these concerns, capital flows to EMEs recovered relatively quickly. First, net and gross capital flows to EMEs rebounded starting around the second quarter of 2009 after declining sharply in the last quarter of 2008 (Graph 1, left-hand and middle panels) indicating an early recovery in foreign investor interest in EMEs. Second, gross capital outflows appear to have played a stabilising role (Graph 1, right-hand panel). They declined in late 2008 and in early 2009, partly counteracting the reduction in gross capital inflows. This contributed to the recovery observed in net capital flows to EMEs in 2009.

2. Bank intermediation: home-owned versus foreign-owned banks[5]

The financial stress caused by the crisis affected bank intermediation in emerging market economies. During the meeting, three aspects were discussed: (i) changes in bank business models (including funding, lending and liquidity operations); (ii) how foreign-owned banks' responses compared with those of home-owned banks; and (iii) securitisation in EMEs since the crisis.

[4] For further discussion of cross-border flows, see the contributions by Central Bank of Argentina (2010), Babicky (2010) or South African Reserve Bank (2010). Ong (2010) discusses the risks associated with cross-border financial intermediation.

[5] For background material on this topic, see Mihaljek (2010).

Changes in business models

EME banks by and large adjusted to the crisis in ways that stabilised their financial positions. On the funding side, they reduced reliance on wholesale markets and sought to attract retail deposits. On the lending side, banks lowered the growth of new lending to firms and households, shifted towards less risky loans and increased their holdings of government bonds. In an effort to boost liquidity, banks shortened the maturity of their assets, relied less on the interbank market and increased their transactions with central banks.[6]

A particular concern was foreign currency lending to households, which was widespread in some central and eastern European countries. At the macroeconomic level, this type of lending was encouraged by the trend appreciation of local currencies, relatively low exchange rate volatility, and high domestic interest rates in some countries. Some participants thought that flexible exchange rates were the best tool to limit the spread of foreign currency lending.

At the microeconomic level, foreign banks undertook foreign currency lending to increase their competitiveness in local banking markets, thus helping to lower financing costs in an expanding market. That is, such lending did not reflect the traditional currency substitution due to macroeconomic instability.

However, there was a certain lack of appreciation by banks of the large currency mismatch risks that borrowers had assumed (ie debts were in foreign currency but income was in local currency). In some cases, controlling the expansion of foreign currency lending was more difficult because views differed on how best to address this issue. However, with the crisis, a consensus in favour of limiting foreign currency lending has emerged.

Role of foreign-owned banks[7]

Some meeting participants reported that foreign and domestically-owned banks adjusted to the crisis (in terms of their funding, lending and liquidity operations) more or less in the same way. Nevertheless, there were some important differences in foreign-owned bank behaviour across EMEs. First, *foreign bank subsidiaries in some EMEs funded their parent banks during the crisis*, apparently to strengthen the liquidity and overall financial position of parent banks. This raised concerns in some countries where foreign exchange markets were under pressure, although parent banks with subsidiaries in central Europe used some of this funding to support subsidiaries in crisis-affected countries in the region. There were also other examples of parents providing support to their subsidiaries in EMEs.

Second, in a number of countries *foreign bank participation in domestic interbank or credit markets was affected.* For example, foreign banks in one EME – apparently on instructions from their parent banks – withdrew earlier than domestic banks from the interbank market at the height of the crisis in the fourth quarter of 2008, preferring to deal with the central bank rather than with other commercial banks. As for credit, BIS statistics show that lending by the local affiliates of foreign banks denominated in domestic currency was remarkably stable during the crisis.[8] However, in a number of EMEs, including large economies like China and Brazil, foreign bank credit growth lagged behind that of domestic banks after the Lehman Brothers bankruptcy. Foreign banks also scaled back credit to certain sectors (eg consumer lending).

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6 For a discussion of funding patterns and credit, see for example Al-Hamidy (2010), Babický (2010), Kozinski (2010) or Moreno (2010a).

7 For discussions of the role of foreign banks see Banai et al (2010), Marzuk (2010) and Sinha (2010).

8 See for example Avdjiev et al (2009), Graphs 4 and 5.

A number of explanations were offered for differences in foreign bank behaviour. One was the nature of the *funding model*.[9] It was suggested that the behaviour of foreign banks that relied on retail deposits for funding was very similar to that of domestic banks during the crisis. The *financial condition of the parent* was also important. In one EME, headquarters financial support was received by a subsidiary of a bank whose parent was weathering the crisis well, but not by a subsidiary of a bank (headquartered in another country) whose parent had been much more severely affected. In another EME, smaller foreign-owned banks whose parents were more exposed to the global financial turmoil were cut off from head office funding and had to reduce their exposures to the corporate sector. Still another explanation was the *strategic importance of the market*. For example, a number of EU-headquartered banks consider central and eastern Europe part of their core market, which creates a strong incentive to maintain a presence, even in the face of significant stress.

Recent experience has also prompted a reassessment of the relative merits of foreign branch banking. From the perspective of EMEs, foreign bank branches were traditionally seen as providing greater incentive to foreign banks to transfer know-how and technology to EMEs. With the crisis, however, subsidiaries came to appear more attractive for EMEs because their assets can be ring-fenced and they can be regulated more tightly than branches in some jurisdictions, ensuring that they maintain a stronger financial position (eg adequate capital). Another reason is that subsidiaries, which tend to lend and fund in the local market, are thought to signal greater commitment.

While a number of EMEs favoured a foreign bank subsidiary approach (even in those cases where foreign bank branches are currently dominant), others still saw a role for branches. One participant reported a reluctance to give foreign-owned banks dominance over some market segments, which could happen if they were granted full national treatment as subsidiaries. It was also noted that with appropriate legislation, depositors of branches could be protected just as well as depositors of subsidiaries.

Foreign banks themselves also face trade-offs in choosing between entering EME markets as branches or subsidiaries. On the one hand, reputation risks are the same whether affiliates operate as branches or subsidiaries, and increased regulation of subsidiaries can impose costs. By these criteria, foreign banks might prefer to set up branches. On the other hand, subsidiaries might have a greater capacity to expand in a rapidly growing market, implying greater profit opportunities.

Securitisation

In most EMEs, securitisation of domestic bank loans was not widespread before the crisis,[10] but it was present in a number of countries (eg Brazil, China and India). Participants' views differed on the merits of encouraging further securitisation. In one case, authorities sought to set up a legal and regulatory framework so as to prevent banks from resorting to potentially risky unregulated or "informal" securitisation. In another case, authorities were concerned that securitisation would further stimulate already rapid (double digit) bank lending, and consequently took no steps to encourage it by providing a legal framework.

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9 How international banks changed their funding patterns is explored in some detail in BIS (2010).

10 For emerging market economies, securitisation has traditionally been a way to reduce the cost of cross-border financing. Risk mitigation for "future flow" securitisation (eg by backing the instrument by revenues collected offshore) has been effective; at least one rating agency reports that for this type of securitisation, the default rate is low compared to the typical rating (BBB) assigned.

3. Impact of the crisis on emerging financial markets[11]

The crisis affected liquidity in various segments of EME foreign exchange (FX) markets (spot, forward, swaps etc) and in domestic financial markets.

Effects on EME forex markets[12]

The effects of the crisis on forex markets appeared to vary across EMEs, although in general both spot and foreign exchange swap markets experienced a tightening in financing conditions. This resulted in a reduction in the number of intermediaries active in the marketplace, as well as shorter maturities in some FX derivative markets, including the cessation of longer-maturity (five- to seven-year) FX swap deals. Another result was improvements in the documentation of transactions, more stringent collateral requirements for swap transactions and the migration of derivatives to exchanges, all of which helped reduce the outstanding notional amounts and possibly reduced risk. In some countries where derivatives markets are small, their contraction was not seen as a major source of concern.

A number of factors influenced the scale and duration of the impact on foreign exchange markets. Possibly the most important were *external factors*, particularly the financial position of parent banks (which in some cases led to cutbacks in limits that the headquarters applied to their EME subsidiaries' FX positions) and changes in global investor sentiment or risk aversion (eg the normalisation of one FX swap market was attributed to the improvement in government bond prices).

The *degree of financial integration and deepening* also played a role. For example, the effects of the crisis on less developed forward markets in some Asian countries appear to have been smaller than in more developed markets. The reasons why different segments of the FX markets developed in different countries are not clear and could be idiosyncratic (eg specialisation of traders who first established the market).

Finally, and as discussed further below, *policy responses* were also important, notably the availability of foreign reserves, foreign central bank swap or repo facilities, or IMF financing.

Effects on domestic liquidity conditions[13]

Difficulties in cross-border financing affected domestic liquidity conditions in EMEs through three channels. First, funding costs in domestic currency increased in several economies as the dislocation of the cross-border funding market prompted financial institutions to fund their US dollar borrowing through the FX swap market. Second, heightened counterparty risk affected borrowing in the interbank market (eg foreign banks were particularly affected). For example, market segmentation appears to have increased in some interbank markets, with some banks paying a higher average interest rate or facing reduced access to credit. Finally, there was a shortening in the maturity structure of banks' funding.

Of particular interest at the meeting was the impact of the crisis on interbank markets and on bond markets.

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[11] For further discussion of this topic and some references to central bank contributions, see Moreno and Villar (2010).

[12] In the immediate aftermath of the Lehman bankruptcy there was also concern about the reduction in trade financing; this is reflected in the policy responses mentioned below.

[13] See BIS (2009) pp 117–30 for an analysis of the impact of the crisis on the liquidity of local interbank and capital markets.

Impact on interbank markets. The crisis effectively shut down interbank markets for longer-term funding in a number of economies, leaving only short-term interbank funding available.[14] Nevertheless, questionnaire responses by central banks suggest that the impact of the crisis on secured and unsecured local currency lending between banks (where the central bank is not the counterparty) was generally limited. Few episodes of stress in the domestic interbank money markets were reported, particularly compared to those reported for the foreign exchange market. In one large EME, there was brief period during which liquidity problems arose in the domestic interbank market after the bankruptcy of Lehman Brothers. This reflected liquidity shortages rather than perceived counterparty risks and could be addressed without a change in monetary policy. While liquidity problems are generally linked to maturity transformation, some participants suggested that the impact is lessened if bank funding is from deposits rather than wholesale financing.

Impact on government bond markets. In some EMEs, the effects on domestic bond markets were relatively limited. In Mexico, however, market uncertainty affecting foreign exchange markets (notably related to losses by firms on derivative positions) spilled over to domestic markets, leading to an increased demand for liquidity, massive withdrawals from mutual funds and sales of securities. This was associated with a sharp decline in demand for 20- to 30-year government bonds. Many issuers could not place new securities. At the time of the meeting, markets were back to normal although liquidity conditions were not the same as before.[15] In another EME where bond markets are comparatively deep, concerns that foreign investors would sell their government bond positions led to a sharp widening in bid-ask spreads that effectively stopped market activity. Authorities responded by offering repo lines with government bonds as collateral.

4. Central bank instruments in response to the crisis[16]

A wide range of tools were employed to deal with the crisis, notably measures taken to support foreign currency financing (eg lending from foreign reserves, foreign exchange auctions based on swap lines with other central banks) and domestic currency financing.

Supporting foreign currency financing

A number of countries implemented foreign exchange market operations to provide foreign currency, in some cases (eg Chile, Turkey) after discontinuing foreign reserve purchases. Foreign exchange market intervention took place in a variety of market segments (eg spot, forward, swaps or repos) that appeared to reflect perceptions of effectiveness or central bank balance sheet positions, and there was a tendency to increase duration (some transactions ranged from about one month to one year). Important considerations in providing support were to target certain priority sectors (eg trade finance, small enterprises), facilitate price

[14] Individual country experiences varied. Fung and Yu (2010) provide empirical evidence showing that stress in US dollar money markets was rapidly transmitted to Hong Kong dollar money markets. In contrast, some other money markets experienced moderate or no effects (see for example Central Bank of Argentina (2010), Ibrahim (2010) or Bank of Thailand (2010)). See Babický (2010) and Sinha (2010) for additional experiences.

[15] See Sidaoui et al (2010) for a discussion of Mexico's experience.

[16] For more on this topic, see Moreno (2010a), this volume and BIS (2009) pp 51–8. Country responses are discussed in a number of papers, eg Al-Hamidy (2010), Bank of Thailand (2010), Central Bank of Argentina (2010), Chung (2010), Guinigundo (2010), Ibrahim (2010), Mesquita and Toros (2010), People's Bank of China (2010), Quispe and Rossini (2010), Sidaoui et al (2010), Sinha (2010), South African Reserve Bank (2010) and Yörükoğlu and Atasoy (2010).

discovery (eg through the use of auctions) and economise on foreign reserves (eg via the use of swaps rather than outright sales).

Most foreign exchange market intervention was financed by drawing on foreign reserves (only Korea also drew on the Federal Reserve swap facility persistently and on a relatively large scale).[17] Nevertheless, views differed on what the crisis revealed about the benefits and costs of foreign reserve accumulation. One view was that the benefits from accumulating international reserves were clearly shown to outweigh the costs. This was particularly so in the case of commodity (eg oil) exporters because of high volatility in export revenues. It was also noted that the standard indicator of foreign reserve cover for short-term external debt has shortcomings: it appeared to be adequate in some countries up to mid-2008, but a shortening of maturities by external lenders led to a sharp decline in this ratio, to below the 100% Guidotti-Greenspan threshold in a few cases.

Another view was that reserve holdings were in fact too high: the amount of foreign reserves used during the crisis was generally limited compared to the stock, and reserve hoarding is costly. Indeed, recently the high costs of sterilised intervention appear to have revived interest in capital controls.

As for alternatives to foreign reserves, a number of countries had obtained access to the IMF's Flexible Credit Line, but views differed about this alternative and possible stigma effects. One participant noted that US dollar swaps of central banks with the Federal Reserves helped maintain market confidence, consistent with some recent empirical evidence.[18] Indeed, such evidence more generally underscores the importance of policy responses in advanced economies in stabilising conditions in emerging market economies.[19]

Regional central bank cooperation was also seen as playing a role. Central banks in Asia and Latin America consulted frequently on conditions in foreign exchange markets. In Asia, a regional foreign exchange swap facility has been set up, drawing on a pool of foreign reserves.

Supporting local currency financing

A big difference from past crises is that many EMEs had more room to ease macroeconomic policies to counter a severe tightening of global financing conditions and an economic downturn. Thus, central banks changed their monetary operations or set up facilities (allowing for wider collateral or extending maturities eg via term lending facilities) to provide domestic currency financing. Some facilities were already in place and could be used immediately, which strengthened confidence in the private sector.

There were also reductions in policy rates, which in some cases very large (eg from 8.25% to 0.50% in Chile). However, as noted by Moreno (2010a), policy rate reductions in some countries took place after most of the market turmoil had passed, so they appeared intended to counter the sharp decline in aggregate demand in EMEs. The pass-through to bank lending rates was in many cases significant, although deposit rates in at least one instance reacted more quickly than loan rates, apparently because risk reassessment took some time.

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[17] Mexico drew on the Fed swap facility once, while the other two EMEs with access to Federal Reserve swap lines (Brazil and Singapore) did not draw on the funds. For further discussion of foreign reserves versus the alternatives, see Moreno (2010b) and Ong (2010). In some countries repatriation of capital by households helped stabilise the currency.

[18] See Stone et al (2009) and Baba and Shim (2010).

[19] See Baba and Packer (2009) and Goldberg et al (2010).

Policy rate cuts tended to depreciate EME exchange rates, but in a number of cases this effect was more than offset by sharp declines in (extreme) risk aversion.

Countries also responded by lowering reserve requirements; among the participants at the meeting, at least 10 countries changed reserve requirements in response to the crisis. In Brazil, lower reserve requirements were an important tool, especially to help small and medium-sized businesses.[20]

The need for appropriate institutional arrangements and the pace for exit strategies were also mentioned, as was the importance of transparency in implementing such strategies.

Factors influencing policy responses and effectiveness[21]

A number of factors influencing policy responses and their effectiveness were cited. First, the *duration and severity of stress*, which in some cases was very brief or limited in its impact. It was also noted that increasing liquidity or lowering interest rates was more effective if the shock was largely from the real rather than the financial sector.

Second, *reduced vulnerabilities*. These included no currency mismatches (attributed in part to floating exchange rates), regulatory measures taken to cool overheating economies before the crisis and sufficient or large international reserves.

Third, *consistency of economic policy*, especially fiscal policy, which was seen as crucial for maintaining stability and allowing for countercyclical policies.

Fourth, *effective communications*. This posed challenges, as technical changes that may have been communicated in a way that was well understood by markets were not always easily understood by journalists. Some central banks hired public relations firms for this purpose.

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[20] For discussions of reserve requirements, see in particular Mesquita and Toros (2010) and Vargas et al (2010). Quispe and Rossini (2010) highlight the use of reserve requirements in domestic and foreign currencies.

[21] For further discussion of the effectiveness of policy responses, see Moreno (2010a).

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