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**Panel comments in Session 6: The international monetary system**

**The implications of cross-border banking and foreign currency swap lines for the international monetary system**

The financial crisis in Iceland throws light on one of the more important fault lines at the intersection between the international monetary system and the international financial system.<sup>1</sup> This fault line was the operation of cross-border banks with large foreign currency balance sheets featuring significant maturity mismatches, but without an effective lender of last resort in terms of foreign currency.<sup>2</sup>

In these brief remarks, I would like to concentrate mostly on this fault line, its implications for the international monetary system, and potential remedies, although, due to lack of time, I will leave aside many other important issues regarding the international monetary system.<sup>3</sup> However, my topic will lead us into other key issues, such as the reserve currency, a global lender of last resort, and the role of foreign exchange reserves.

Back to cross-border banking and the international monetary system. My former colleagues at the BIS and others have described in several articles and reports how foreign exchange risk in cross-border banking (currency mismatches and maturity mismatches in foreign currency) accumulated prior to the crisis, how that risk materialised in a forceful way after the collapse of Lehman, and how the ensuing dollar shortage was prevented from triggering widespread failure of banks to deliver on their foreign currency payments by LOLR operations in foreign exchange, using countries' reserves and the dollar swap lines that were granted on a large scale.<sup>4</sup> The same episode played out in the case of the Icelandic banks, but with a less happy ending, although there was much more to that story that I cannot expand on here, such as hidden vulnerabilities in the capital positions of the banks.

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<sup>1</sup> There are many definitions of the terms *international monetary system* and the *international financial system* and their relationship to each other. I construe the former to consist of exchange rate arrangements, payments and settlement systems across borders, and other international factors that would be included in the definition of a domestic monetary system, including liquidity provision by a LOLR, and the institutions and the rules that apply to all of these. The international financial system then consists of the operations of financial institutions and markets across borders as shaped by market forces and domestic and international regulations. In some sense, capital flows belong to both, as they go through markets and institutions but are conditioned by factors like exchange rate regimes and exchange rate restrictions.

<sup>2</sup> See Guðmundsson and Thorsteinsson (2011). On the financial crisis in Iceland more generally, see Guðmundsson (2010) and references therein and Report of the Special Investigation Commission (SIC) <http://sic.althingi.is/>

<sup>3</sup> Bernanke (2011) and Carney (2010) provide interesting recent analysis of one of the important omitted issues; i.e., the functioning of the adjustment mechanism.

<sup>4</sup> See, for instance, Baba and Shim (2010); CGFS/MC (2010 a-c); Fender and McGuire (2010); McGuire and von Peter (2009); and Moessner and Allen (2010 a and b). Professors Obstfeld and Shin have developed this theme during this conference. See also Obstfeld (2010). For the Korean case, see Park (2010).

Maturity mismatches are, of course, the bread and butter of modern banking, although they make banks vulnerable to runs. In the case of solvent institutions, we have known theoretically since Thornton (1802) – and probably over a century, as a practical policy – how to deal with that vulnerability in a domestic setting: with central bank LOLR operations, later complemented by deposit insurance. This process is facilitated by two factors. First, the funds withdrawn from banks during a domestic run flow in one form or another to the central bank, which can then redirect them back to the banks. Second, central banks have a very large short-run capacity to expand their balance sheets.

In the current setting, it is far from guaranteed that this process can be replicated at the international level. In normal times, of course, managing liquidity across currencies from countries with free movement of capital and relatively developed capital markets is not much of an issue. In these conditions, foreign exchange swap markets can speedily be used to convert liquidity from one currency to another at spreads that closely reflect the differences in domestic money market rates in the two countries concerned. In other words, the covered interest parity condition broadly holds. But in any case, runs are less likely in normal times, and during the peak of the crisis, this process broke down almost completely in many cases, and FX swap spreads skyrocketed afterwards. It became extremely costly, and in some cases almost impossible, to convert domestic liquidity into dollar liquidity. The same scenario played out vis-à-vis the euro for several European countries outside the euro area.

In a situation like this, the home central bank's ability to help banks refinance the foreign liquidity denied them on the market is limited by the size of its reserves or the willingness of its larger neighbours to help. The Icelandic case brought this into sharp relief. Just before their failure, the three cross-border banks had foreign currency balance sheets amounting to almost 7½ times GDP. In comparison, the reserves of the Central Bank, including swap lines with Nordic countries and committed credit lines, amounted to around 35% of GDP. Even if some of the foreign currency liabilities were long-term, the reserves were no match for the bleeding balance sheets of the banks.

The issue here is one of the ebb and flow of international liquidity, which is a monetary issue. Although the provision of foreign currency liquidity through reserves was clearly important during the crisis, most studies seem to support the conclusion that it was the dollar swap lines that made the key difference, especially when they were uncapped vis-à-vis some key central banks. It was to a significant degree the domestic LOLR process replicated at the international level.

Does this mean that we have the solution? At the conceptual level, yes, but at the practical level, no. The swap lines are not a permanent and reliable feature of the international monetary system. Will they be resurrected if similar circumstances arise in the future? Excellent central bank co-operation and strong leadership were involved on this occasion. However, we have seen their existence challenged in political discussion in the US. And remember that, although this time it was dollar liquidity that was needed around the globe, next time it might be other currencies. And then there is the issue of access criteria. Who gets a swap line and who does not? Should the provision of international liquidity be subject to the

decision of one national central bank? It is also possible to turn the question around and ask whether it would ever work for an international process to decide on a major expansion of the balance sheet of a national central bank. After all, the FX swaps amounted to over a quarter of the balance sheet of the Fed at the peak,<sup>5</sup> and then there was the promise of an uncapped expansion vis-à-vis a few key central banks.

What are the alternatives? Certainly, one of them is that the international financial system would change as a result of the problems revealed in the international monetary system. This would entail the contraction of cross-border banking through market processes, with subsidiarisation and local funding being part of it, but also as countries adopt measures to deal with risks by restricting international activities of home banks and placing more strict prudential limits on currency mismatches and foreign currency maturity mismatches. For example, when Iceland lifts its current capital controls on outflows, it will probably impose restrictions on both size and composition of the foreign currency balance sheets of home-headquartered banks. Some might see such restrictions as capital controls in another form, but I see them as prudential rules.

These developments might result in the restriction of significant cross-border banking to larger countries with international currencies. This need not be all bad, as the structure of cross-border banking would then be adjusting to the real risks involved, but I suspect that some smaller countries might not like it. In Europe, at least, smaller countries have the option of joining the EU and the euro area, which would make it safer to be a home base to cross-border banks, not to mention if EU- or EMU-wide supervision, deposit insurance, and crisis management and resolution were put in place for such banks in the future. This might even entail two types of bank licences, one for domestic banks and another for those wanting to have substantial operations across borders.

Increased self-insurance by countries building foreign exchange reserves is also an alternative, and we have seen this happening after the crisis.<sup>6</sup> However, there are well-known drawbacks and limitations to this option.

Another currently discussed alternative is to strengthen the IMF as an international LOLR and, in the process, enhance the role of the SDR as a reserve asset. It would involve making the supply of SDR more elastic and the process more conducive to managing international liquidity. In the grander visions, the SDR would run parallel to the USD as a reserve currency and potentially replace it.<sup>7</sup> Such an arrangement would be a move in the direction of Keynes' original idea of an international clearing union and its currency, the Bancor.<sup>8</sup> This idea merits further research and full discussion, and I note that the IMF is doing substantial work in this area. At this point, however, I see several obstacles.

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<sup>5</sup> Moessner and Allen (2010b).

<sup>6</sup> Moessner and Allen (2010a) report sizeable increases in reserves in the case of Denmark, Sweden, Hungary, and Brazil.

<sup>7</sup> On a much-discussed proposal, see Zhou (2009). IMF (2011) provides an interesting analysis of the issues involved.

<sup>8</sup> See Keynes (1980).

First, we should make the distinction between lending to sovereigns and lending to banks. The IMF has focused on lending to sovereigns, whereas swap lines were actually a form of lending to banks because, from a liquidity standpoint, the foreign central banks were simply intermediaries of the Fed's global liquidity operations, although the counterparty risk was borne by the foreign central banks. In the initial stages of a financial crisis, banks can encounter foreign currency liquidity problems even if the finances of the sovereign are in good shape and there is no balance of payments crisis. Even solid Norway struggled on this point for a few days post-Lehman. The central bank was able to manage with its own reserves, but to be on the safe side, and probably in order to contain the liquidation of US dollar assets, a swap arrangement was swiftly negotiated with the Fed, at the same time that the Fed made comparable agreements with several other central banks. However, as we saw in several cases during this last episode, a banking crisis in a small, open economy will affect the sovereign in due course and may ultimately result in a full-scale fiscal crisis.

Second, the SDR itself is not at present a currency in its own right, but a claim to use other members' currencies or foreign exchange reserves. For the SDR to become a truly international currency on a par with the US dollar, it needs robust payment and settlement systems, and the private sector will have to be induced to use it on a large scale. In addition, if alterations in the supply of SDR are going to be an important tool for managing international liquidity, not to mention using it for LOLR operations vis-à-vis international banks, then the IMF needs to be able to create liquidity or swiftly tap into those that can. Furthermore, speed and scale are of the essence if such an option is to be a viable alternative to the swap lines.

Third, the governance mechanisms for such a new global reserve currency do not exist. It is hard to envision the current IMF Executive Board taking decisions that are more akin to what central banks do, such as setting SDR interest rates if and when it gets a life of its own, or acting quickly to decide on LOLR operations that are basically directed at banks, although probably through national central banks. What is needed is possibly some kind of International Liquidity Committee composed of central bank governors – and perhaps full-time executive directors. Maybe it should meet at the BIS! At least, it seems to me that the arguments for central bank independence that apply to monetary policy carry over to affecting global monetary conditions.

Let me conclude by saying that the expansion of cross-border banking that we witnessed before the crisis was part of the ongoing and at least partly beneficial process of financial globalisation. However, if we do not deal with the risks involved, we face the danger of a major reversal. It is fine to elaborate on grand schemes, and one day they might be realised. In the meantime, what we can expect is some combination of a partial retreat of cross-border banking, increased self-insurance, expansion of regional arrangements, and some partial reforms to the international monetary and financial systems. Speedier and more flexible credit lines at the IMF are certainly a welcome part of the latter. Let us hope that the reforms will dominate the retreat.

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