

International lender of last resort: some thoughts for the 21st century

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How should international liquidity be provided and by whom? Does the world need an international lender of last resort (ILLR)? These questions have been at the centre of debates over the international monetary system for many decades (see the seminal article by Fischer (1999)). They have taken on a new flavour and importance in the last few years, with the significant expansion of both private gross cross-border capital flows and international balance sheets. The financial crisis and subsequent turbulence have confronted emerging market economies (EMEs) with severe tensions and difficult trade-offs for policymakers.

The policy challenge, also, has changed. For a long time, only countries facing specific balance of payments difficulties were confronted with foreign currency shortages. The policy problem was to find the right mix between external financing and domestic adjustments. Conditionality, as defined and implemented by the IMF, was key in this context. While this framework, is, of course, still valid, the problem has become broader. A novel priority is to avoid liquidity disruptions in the global financial system, where private financial institutions engage into cross-border maturity transformation, with flows denominated mainly in a few major currencies.

The aim of this paper is to revisit the issue in the context of modern capital markets with deep financial integration, strong macrofinancial linkages and the expansion of privately created global liquidity.

Reasons to reconsider the issue

Over the last decade, foreign exchange reserves have increased at a broadly constant rate of 13–15% a year. Despite temporary deviations, the persistence of the trend is remarkable and largely independent of the changing economic environment. The growth rate in foreign exchange reserves may be one of the most robust empirical regularities in modern international economics.

No model satisfactorily explains that phenomenon. The ratio of international reserves to other economic and financial indicators of external financing needs has steadily increased, whether the reference is imports, GDP, net or gross external positions, or external debt denominated in foreign currency (the so-called Greenspan-Guidotti rule). All empirical and theoretical models have been powerless to account for this evolution.

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Self insurance

The most common explanation – unless, perhaps to invoke China – is “self-insurance” (see, for example, Obstfeld et al (2010)). It is worth exploring why it may lead to a continuous increase in foreign exchange reserves.

During the 2008-2009 crisis, even countries with flexible exchange rate regimes and very high levels of reserves felt the need to enter into foreign currency swaps with the Federal Reserve. Hence, no other buffer seemed big enough to protect a financially open economy against a systemic shock.

There are four main explanations for such behaviour.

First, the nature (and size) of liquidity needs is changing. During the crisis, foreign exchange reserves were used as a tool for ensuring internal – as well as external – financial stability. National central banks acted as lenders of last resort (LOLR) to their domestic institutions in foreign currencies, especially the US dollar. Foreign exchange reserves were used to help not only banks but in some instances also non-bank corporates who faced funding shortages due to sharp cutbacks in cross-border bank lending. In many cases, those needs put huge strains on available reserves (for instance, the ECB’s reserves would not have sufficed to fund its dollar liquidity provisions operations without the swaps from the Federal Reserve (see Allen and Moessner (2010)).

Second, the nature of global capital flows is changing. The model of global banking is rapidly evolving towards more segmentation with a shift from branches to locally regulated and funded subsidiaries. Cross-border banking flows have diminished compared with portfolio flows. We may be entering a “second wave” of global liquidity” (Shin (2013)), whereby global funds and asset managers drive the volume and direction of capital flows. Those flows may prove even more fickle than bank credit. Studies show that their sensitivity to risk aversion appears to have increased since the crisis (Ahmed and Zlate (2013)). The change may be partly attributed to the growing importance of EME-dedicated funds (open-ended) that allow investors to move in and out quickly, creating strong volatility and putting significant pressure on exchange rates. Receiving countries may want to keep the option to smooth out the adjustment through reserve accumulation and depletion.

Third, and more broadly, liquidity shocks are self-amplifying and perpetuating. Once an institution (or a country) is perceived as vulnerable, the probability of a squeeze or a run increases exponentially. Perceptions become self-fulfilling. Therefore, thresholds matter as they influence perceptions. Thresholds, in turn, may be relative. Reserve holders appear to be judged - by investors and credit rating agencies alike – by the size of their reserves relative to others. Countries may thus feel compelled to accumulate ever-higher reserves, irrespective of their estimated needs (CGFS (2011)). Hence, the apparent disconnect between the demand for reserves and country-specific macroeconomic and financial variables.

Fourth, liquidity shocks are very costly. Once a country runs out of foreign currency, the only option is conditional support from the IMF. Apart from the political difficulties arising from an externally negotiated adjustment, a strong stigma is attached to such a situation, at least in the short run. This stigma may further aggravate the liquidity shortage while the programme is being discussed.

Overall, countries’ incentives are very different – indeed opposite – from those of private institutions. For private financial institutions, there is a tendency to

underestimate liquidity needs in normal times, with the expectation that the lender of last resort will bail them out if a shortage occurs. For countries, the bias goes in the other direction. Without an ILLR, precautionary motives will lead to an over-accumulation of liquidity by the public sector. There is good evidence that this logic is internalised by markets: looking at different countries, especially in times of stress, there appears to be a strong differentiation in sovereign spreads and exchange rate movements according to the level of their foreign exchange reserves (see Aizenman et al (2014) and Bussière et al (2014)).

Costs

Accumulation of foreign exchange reserves, however, comes at a cost to the system. While these costs are not fully internalised by countries (which can be both holders and issuers of reserves), they may be significant.

First, there is an impact on long-term interest rates. Reserve accumulation by EMEs, and their reinvestment in advanced countries public debt, create a worldwide shift in preferences for risk-free assets that may be enough to keep real rates at low levels. Some would argue that this feedback loop creates a permanent disconnect between market rates and the Wicksellian natural rate of interest (see Borio and Disyatat (2011)), and may be partly responsible for the build-up in financial imbalances.

At the very least, the build-up and reinvestment of reserves have a short-term impact on dollar long-term rates. Recent empirical studies (see Beltran et al (2013)) estimate that, if foreign official inflows into US Treasuries were to fall in a given month by \$100 billion, then five-year Treasury rates would rise by about 40–60 basis points in the short run. Once the reaction of private investors to the yield change is taken into account, the long-run effect would be about 20 basis points.

To the extent that central banks care about long-term rates, reserve accumulation does not occur in isolation from monetary policy. It is hard to tell whether future policymakers will show the same activism towards the long end of the yield curve as they do now, or whether the “benign neglect of long-term rates” (see Turner (2013)) will resume as in the preceding decades. Should long-term rates become a permanent part of the set of policy variables, disruptions introduced by movement of foreign exchange reserves may become extremely material.

Second, abrupt withdrawals of reserves have the potential to create significant financial disruptions in advanced countries’ capital markets and banking systems, and did so for brief periods in 2009–10 (Nakaso (2013)). Those disruptions also affect reserve holders, whose reserves may depreciate in value in case they are massively and simultaneously used. Reserves do not represent true “outside liquidity” and reserve holders may be victims of a fallacy of composition (Obstfeld and Rogoff (2009)). Countries might find themselves poorly protected against widespread, aggregate, liquidity shocks.

Finally, one might want to think about the true nature of global capital markets when a significant part of gross cross-border assets and liabilities are located on the balance sheets of public entities whose behaviour may differ from the canonical model of risk-return-maximising financial intermediaries. Foreign official holdings of US Treasuries amount to over a third of the total outstanding. “Such large players can make for substantial interactions even in a very large market..... A world in which

officials hold large portions of the largest bond markets does not strike me as an ideal one" (Caruana (2012)).

The rest of this paper, therefore, is based on the assumption that the central banking community is looking for ways to mitigate, at least partially, the systemic issues raised by reserve accumulation.²

Prospects and thoughts

Two considerations should be kept in mind while exploring the scope for multilateral arrangements for liquidity provision between central banks.

First, the lender of last resort is not meant to provide balance of payment support or ease capital account tensions. Its *raison d'être* is to prevent financial panics and self-perpetuating liquidity spirals. It should not substitute for other institutions and for mechanisms with different purposes. For instance, it is not clear that an ILLR should help a country fend off speculative attacks against its currency. There is still need in the international financial system for a conditional balance of payment support mechanism, as currently provided by the IMF. And there is room for countries to build buffers against country-specific shocks generated by their own policies or even the external capital markets.

Second, there are natural asymmetries in the system. Ultimately, official liquidity, one that is accepted as a medium of exchange by all central banks, is necessarily denominated in one of the reserve currencies. So any lending of last resort function, however symmetrical in design, is likely to involve an asymmetrical increase in exposures between central banks that issue a reserve currency and those that do not. It may therefore carry an element of risk with potential fiscal or quasi-fiscal costs for some participants.

In a domestic setting, the risk incurred by LOLR is eliminated, or reduced, through the provision of collateral. With some exceptions,³ swaps between central banks are unsecured.⁴ This is a major difference between the domestic and the international LOLR role, one that may significantly constrain the design of a

² The president of the New York Fed recently said that he thinks "there is another area we need to work on, an area where very little has been done to date. We need to collectively devise a better international mechanism for facilitating adjustment when the direction of capital flows changes abruptly. The current regime strikes me as inefficient and often ineffective. Holding large cushions of foreign exchange reserves is expensive, drawing down those reserves is often unattractive because of the potential adverse signal that this sends, and EMEs are loath to turn to the International Monetary Fund for resources to cushion the adjustment process. It seems to me that we could design a better global solution of collective insurance – access to liquid resources in times of stress that were not stigmatized and that could and would be used to facilitate adjustment. This could help reduce market volatility and dampen the size of foreign exchange and other adjustments. This is a topic, in my opinion, that deserves greater attention from central bankers around the world."

³ The ECB has concluded repo operations with the central bank of Hungary. See Allen and Moessler (2010, p 70).

⁴ Technically, central bank swap lines are secured with the currency of the swap partner. However, to the extent that the convertibility of foreign, especially EME, currencies may come under question, their value as collateral may fall short of a truly secured transaction.

permanent architecture, and should be a major issue for common work and cooperation in the future.

Experience and lessons from the crisis

The consensus amongst policymakers is that cooperation through central bank currency swap agreements during the crisis has been extremely successful. That consensus is corroborated by subsequent empirical studies (see, for example, Goldberg et al (2011)). This success has fuelled the appetite for more permanent arrangements and revived the aspiration for a “global safety net” in the form of a multilateral network of swap agreements.

However, the crisis experience provides only limited guidance for the future.

In some cases during the crisis, swaps were extensively and effectively used (notably between the Federal Reserve and the ECB). In other cases, such as Mexico, the mere signalling effect of the establishment of a dollar swap line seems to have played a major role.⁵ As such, for most EMEs the clearest positive market moves were observed when the swaps were announced, not when they were drawn down. Here again, the situation is very different from a domestic LOLR. The use of central bank facilities, particularly discount window lending, often carried a stigma during the crisis, whereas the establishment and use of swap lines had confidence-building effects.

The importance of signalling derives from threshold effects (the perceived level of available foreign currency increases suddenly), but also from the symmetrical commitment of both central banks. Just as for foreign exchange interventions, the signal is much more effective when it is bilateral.

However, it does not follow that, because signalling was so important during the crisis, the effect will be the same in the future. It remains to be seen how matters would play out if a permanent regime were to be put into place.

The design of an ILLR: challenges and trade offs

Starting from scratch, and with no political constraints, ILLR arrangements would ideally meet what could be called the “three U” criteria: they should be (i) unconditional, (ii) unlimited and (iii) unsecured. This is obviously unrealistic. One important choice for central banks is to decide which criteria are most important, balancing imperatives and constraints between reserve and non-reserve currencies.

A second choice relates to the structure of the agreement: would a multilateral arrangement be in place permanently (for normal times) or activated only in a crisis? The design would be different for each case. Permanent arrangements would mean that swaps would effectively substitute for reserves. However, a permanent lack of conditionality would magnify problems of moral hazard, potentially resulting in the misuse of such arrangements to delay structural adjustments or to finance unsustainable balance of payments situations. Arrangements valid only in crisis times, in turn, would pose different design issues, particularly for the triggering mechanism, which, if they went unsolved, would not sufficiently reduce the incentive to accumulate reserves.

⁵ See Sidaoui, J (2014): “Lender of last resort: actions, results and lessons from Mexico’s experience during the crisis”, in this volume.

With these trade-offs in mind, some thoughts can be presented on different options for the future.

From the point of view of non-reserve countries, the key is to dramatically reduce the incentive to accumulate reserves. Here, we have one certainty and one question.

The certainty is that swap arrangements must be absolutely and unambiguously unconditional. This does not preclude some prior conditions for membership in a multilateral agreement, but there should be no further obstacles to accessing liquidity as provided for in the agreement once the membership has been granted. This is a key condition if swaps are to fully substitute for reserves during a liquidity crisis. The relevant distinction here is not about the nature of conditionality (ex ante vs ex post, light or intrusive), but whether it exists at all. In the recent past, attempts have been made to address the issue and detach liquidity provision from the mechanisms used to provide balance of payments support. For example, the IMF has multiplied precautionary and flexible facilities with clearly defined ex ante conditionality.⁶

The question relates to potential limits on the amounts made available. According to the pure theory of LOLR, liquidity should be available in unlimited quantities, but against good-quality collateral. As long as swaps remain unsecured, therefore, it is likely that most agreements will have limits. The question then becomes empirical. Do limits matter if amounts are significant in proportion to capital flows? Most likely not, according to evidence drawn from the crisis.⁷

Most existing swap agreements have been subject to both time limits and maximum amounts (those between the ECB-Federal Reserve became unlimited). That may have reflected political economy constraints but does not seem to have reduced their effectiveness. In the future, limits must be perceived as high enough, taking into account the circumstances. Above all, limits may have to be adjusted quickly, without political constraints. This is something that central banks are usually able to do, unlike international institutions such as the IMF.

Moral hazard risk and liquidity

While the absence of conditionality determines the attractiveness of liquidity arrangements for potential beneficiaries, the moral hazard issues and fiscal implications are of paramount importance for reserve-issuing countries. Moral hazard problems may not be insurmountable, provided that the ILLR is activated only in a crisis. The real challenge, in the long run, will be to get a grip on the quasi-fiscal implications of international liquidity provision.

One way to deal with moral hazard would be to distinguish explicitly between the two different risks facing a country: on the one hand, there is idiosyncratic risk, created by national policies and country-specific shocks; on the other hand, there is "systemic" risk, stemming from aggregate liquidity shocks occurring on a broader

⁶ Goodhart (1999) for example, focuses on the potential of international bodies, such as the IMF, to play greater role as ILLR.

⁷ The argument was used by Fisher in his 1999 paper to argue that the IMF could be an efficient ILLR, even without any money creation power and given the constraints on its resources. But that was prior to the expansion of global capital flows.

(global or regional) scale. At the moment, foreign exchange reserves are meant to cover both risks. Ideally, if systemic risk is defined in such a way that it is truly independent of the behaviour or policies of individual countries, protection through a multilateral mechanism would not create any moral hazard.

It may therefore be possible to define and build a framework around the following principles. To address idiosyncratic risks, countries would self-insure by holding a sufficient amount of reserves. Protection against systemic risk, on the other hand, would come from a multilateral mechanism.

Such a mechanism would have the following characteristics.

First, the trigger for activation should depend only on global – not country-specific – conditions. A set of pre-defined market indicators could be agreed ex ante as creating a presumption for systemic stress calling for the activation of the agreement. Or there would be an automatic trigger.

Second, when the agreement is activated, there should be no discrimination between participants to a multilateral agreement whatever their situation at this moment.

Third, there would be preconditions of a “structural” (not a macroeconomic) nature such as the quality of domestic financial supervision and adhesion to globally accepted norms and standards for financial stability. This should avoid the possibility of any country free-riding on the agreement while acquiescing in fragilities within its own financial sector.

Coming now to the quasi-fiscal dimension, we like to think of the LOLR as an independent function, separate from other monetary and fiscal policies. And, if well managed, it should be costless. By lending against “good collateral”, the LOLR should never have to incur a loss. That comforting view makes it difficult to understand the true challenges facing an international provider of official liquidity.

During the first phase of the crisis, most of the questions raised about liquidity provision by central banks related to its potential interference with monetary policy. Beyond the inflation risk trumpeted in the media, there was some concern that liquidity provision could not be fully separated from interest rate policy. These concerns were quickly allayed, in particular when the Federal Reserve was authorised to pay interest on banks’ reserves.

The fiscal implications surfaced only later, when central banks started accepting some credit risk either by softening collateral requirements (as in the euro area) or through specially designed facilities (as in the United States). An old truth resurfaced: because “the line between solvency and liquidity is not determinate during a crisis” (Fischer (1999)), the LOLR necessarily involves some ex ante risk taking.

From the viewpoint of a reserve currency-issuing central bank, a swap is basically an unsecured claim on a non-resident. It therefore entails the risk of a loss. Quantitatively, the issue is not trivial. At its peak, albeit only for a brief period, the outstanding swaps extended by the Federal Reserve amounted to 35% of its balance sheet, and they stayed at over 15% for approximately six months. A global safety net would mean that issuers of reserve assets would potentially accept ex ante a significant expansion of their balance sheet for the benefit of other central banks, with the possibility of quasi-fiscal losses down the road. That fiscal dimension has always been there. It could easily be forgotten when public debt was low or declining. But, in an era of high indebtedness, it can no longer be ignored.

The fiscal dimension of liquidity provision naturally finds its way into the political process. In the United States, Congress and the public have shown great interest in identifying the foreign institutions that benefited from the Federal Reserve's liquidity programmes. In most countries, constitutional arrangements require that any increase in IMF quotas and Special Drawing Right (SDR) allocations be formally approved by parliaments. Even on a domestic basis, it is noticeable that Dodd-Frank has significantly limited the ability of the Federal Reserve to provide exceptional liquidity support to US financial institutions in times of crisis.

Taking a very speculative view, one possible area for further cooperation would be for central banks to cooperate in the definition and setting up of a pool of cross-border collateral that could be used to underpin and secure the expansion of multilateral swap arrangements.

One option would be for participants to build up stocks of collateral in the jurisdiction of the reserve country. Central banks could, for instance, accept foreign (reserve currency) collateral in their domestic liquidity operations. That collateral could, in turn, be "rehypothecated" to the reserve currency-issuing central bank in order to secure swap arrangements.

Regional arrangements

Another approach would privilege regional arrangements, either for pooling reserves or redistributing them through permanent swap agreements. In particular, Asian countries are working on and progressively implementing such schemes through the Chiang Mai Initiative. It should be noted that regional pooling is efficient only when countries are facing asymmetric liquidity shocks within the region. Pooling brings no additional benefits when shocks occur on a global scale and all countries are hit simultaneously.

Nevertheless, there seems to be considerable scope for regional arrangements to prosper in the future. One can expect regional financial integration to proceed, especially in those parts of the world where huge pools of savings are available and are currently intermediated through financial systems located outside the region. With deeper financial integration, the probability of significant portfolio shifts inside one region increases markedly, creating the potential for asymmetric liquidity shocks. The establishment of regional liquidity arrangements may therefore appear very useful as a way of underpinning the development of regional financial markets.

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