

Jean-Pierre Landau: An international financial architecture for the 21st century – some thoughts

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International financial and monetary arrangements are currently extensively debated. For many countries, both advanced and emerging, the crisis has shown that there is a close link between internal and international financial stability. In addition, rebalancing of the world economy stands at the forefront of the G20 policy agenda and there is a perception it may be difficult to achieve under current arrangements.

In this paper, I would like to discuss the foundations for a future international financial and monetary system. One central point I will make is that “financial” and “monetary” aspects cannot be dissociated from one another. To a large extent, international monetary arrangements, as well as current account imbalances, are the by-products of policy choices made by countries on their capital account regimes and financial development. Therefore, one must try and take a long term view, encompassing all aspects of the financial interrelationships between nations. I will only deal tangentially with exchange rate regimes and their implications for monetary policies. Those have been abundantly analysed and discussed in the literature and the policy debate (Blanchard et al., 2005). Instead, I will focus on three topics: international capital markets, the provision of international liquidity and the newly emerging question of an international store of value. These are issues of joint and common interest for all countries, whether emerging or developed, and whether their current account is in surplus or deficit. Getting to a common understanding on those matters would help in making progress on other, more contentious questions. Opinions expressed are solely mine and do not represent the views of Banque de France or the Eurosystem.

What is an international monetary system?

According to an apt definition, an international monetary system consists of (i) exchange rate arrangements; (ii) capital flows; and (iii) a collection of institutions, rules, and conventions that govern its operation (Carney, 2009). Presumably, the purpose of such “*institutions, rules, and conventions*” is to ensure the sustainability and mutual consistency between national policies. There may be also an implicit objective of “fairness” in the sense that, when international imbalances need to be corrected, the burden of adjustment should be equitably shared. Accordingly, an international monetary system should be based on explicit or implicit “rules of the games” to which national economic policies would be subordinated.

This is an ambitious approach and it may seem too normative to some. But it has a long history:

- the gold standard, from which the phrase “rules of the games” originated, was based on mechanisms which imposed automatic and symmetric adjustments in balance of payments, according to specie flows.
- the Bretton Woods system was built around an elaborate framework of rules, disciplines and support mechanisms aimed at ensuring convertibility for the current account – but, crucially, not the capital account – together with fixed but adjustable exchange rates. All these conventions were enforced through IMF surveillance and were supported by IMF facilities

With the generalisation of flexible exchange rate regimes, and the ensuing changes in the IMF articles, the normative approach to the international monetary system was somehow weakened. Capital account liberalisation led to entrust international financial markets with the “disciplining” function. When it became apparent that the discipline would not be gradual and progressive, but, instead, often lead to abrupt capital flows reversal and crisis, the international community attempted to strengthen the IMF surveillance and develop its facilities so as to pre-empt such shocks and make them more manageable. That is, basically, where we are today.

Everything must be done to ensure that IMF surveillance works. But, like any “disciplinary” approach, it meets with three essential difficulties:

- first, diverging interests between countries. At any single point in time, conflicts may arise as to how much adjustment is needed and by whom. Situations when all national policies naturally point in the same direction – such as in the first quarter of 2009 – are very exceptional.
- second, enforcement problems : the IMF has naturally more leverage on countries that need its help than on others.
- those two difficulties combine to produce a perception of asymmetry in IMF surveillance. It may be compounded by a more fundamental and natural asymmetry between surplus and deficit countries, when it comes to implementing adjustment measures. And, some would say, there might also be a de facto asymmetry between reserve and non reserve currencies, although, as I shall mention later, the situation is more subtle.

These difficulties were apparent during the last part of the 20th century. They led to many discussions about the proper role and organisation of the IMF¹. But what makes the “disciplinary” approach almost impracticable today are the changes that have occurred in the world at the turn of the 21st century. The world today stands in stark contrast with both the Bretton Woods era and the period that followed immediately:

- The first – and most obvious – difference is the number of countries that are active participants to the system and have a stake in its functioning. The monetary and financial world is becoming increasingly “multipolar”. While the current system comprises three currency blocs, at least one (the Chinese RMB) and may be other additional systemic currencies will emerge in the future. Greater diversity goes with increased complexity. “Hegemonic” systems are easier to build and manage than multipolar ones where responsibility is more diffuse. So, in the future, one can expect that coordination problems will be more difficult to solve. Charles Kindleberger used to say, “*the international financial system doesn’t work unless somebody takes the responsibility for it*” (as quoted by Fisher, 2008).
- Second, those participants are more diverse from the point of view of their economic structure, their demography, their level of development, and, more importantly, their social choices and preferences. For instance, different saving rates may be seen as resulting from divergent time preferences. Likewise, asymmetries in financial development may, to some extent, reflect different choices and tradeoffs between efficiency and stability in the organisation of capital markets and the architecture of financial systems.
- Finally, linkages between economies, whether through trade, capital or more intangible “confidence” channels are continuously getting stronger as witnessed by

¹ See, for instance, the proposals aiming at separating the “surveillance” and “financing” functions and making the former more independent from the Executive Board.

the speed and amplitude of contagion of economic and financial shocks during the last eighteen months, which took everybody by surprise.

Pending some economic catastrophe, these characteristics will persist over time. A large number of different countries, with different preferences, will permanently be linked and interdependent through active, but imperfect capital markets. Any future international architecture must be compatible with those basic features of today's world which, *prima facie*, create the potential for more complexity and, maybe, instability.

International capital markets and the allocation of savings

Let's suppose, for an instant, that there is a unified, fully integrated, and complete world capital market. Excess saving in some parts of the world would be efficiently allocated to investments in other regions. Risk would also be efficiently shared between agents and countries according to their respective needs and risk appetite. Shocks to GDP and/or consumption would be smoothed over time. And, finally, liquidity would be permanently available for those agents and countries whose solvency was not in doubt. In such a world, balance of payments crisis would not exist. Current account imbalances would not matter as they would reflect savings and investment decisions made by fully informed and non constrained rational agents. This vision may serve as a reference for future reforms: *"The vision that underlies most proposals for reform of the international financial system is that the international capital markets should operate at least as well as the better domestic capital markets"* (Fisher, 1999).

But, of course, we don't live in such an ideal world. Global capital markets are neither fully integrated nor complete. Complete markets do not exist, either at the national or international level, for a broad array of securities. Moreover financial markets are still naturally fragmented by national borders. Specifically, we can identify five important deviations from the model of perfect international markets:

1. Information asymmetries. These are natural features of all financial markets and they give rise to significant frictions through, in particular, adverse selection and moral hazard which prevent many profitable investments to be properly financed. There are good reasons to think that information asymmetries are especially prevalent in international capital markets since "foreign" investors find themselves at a disadvantage when assessing "domestic" projects and investments.
2. Exchange rate risk is, obviously, specific to international capital allocation decisions.
3. So is sovereign risk, always present, if often remote and limited in ordinary times for an increasing number of countries.
4. It is increasingly recognized that differences in financial development play a major role in influencing capital flows and, consequently, current account imbalances. In particular, capital tends to flow from financially repressed economies to countries and markets which provide an abundant supply of safe and liquid assets. For the same reason those countries' currencies are the main vehicle for holding official foreign exchange reserves.
5. Finally, deliberately or not, public policies have a significant impact on the level and national or international allocation of domestic savings. These influences can be direct, as in the case of capital controls. They may be more diffuse, for instance when authorities build up foreign exchange reserves. By doing so, public entities essentially substitute themselves to private agents in managing and allocating part of the nation's net foreign savings. Most likely, their choices and preferences will be different from those of the private sector and, therefore, their intervention would alter the country's external position, tilting it towards holding foreign assets in liquid instruments.

The first three factors – information asymmetries, exchange and sovereign risk – account for the well known “home bias” exhibited by most investors and asset managers who tend to privilege their own domestic assets when deciding on portfolio allocation. They also explain why, until recently, most emerging economies had to live with the “original sin” of not being able to issue public debt denominated in their own currency. Because information asymmetries have been reduced through the development of modern securities markets, emerging economies have somehow freed themselves from this constraint, although less than often assumed (Hausmann and Panizza, 2010).

The last two factors – differences in financial development and public interventions – may be more pervasive and significant. Together, they have a major impact on the composition and direction of capital flows, as well as the level and persistence of global imbalances.

Global imbalances in the 21st century

Current account imbalances have increased both in amplitude and durability during the last decade. In fact, they have become a permanent characteristic of our economic environment. This, by itself, may be a consequence of increased financial integration and greater reallocation of savings across national borders. Since, at the same time, real long term interest rates have kept to historically low levels, the situation has been characterized, as a “saving glut” (Bernanke, 2005), a concept which has come to dominate our thinking about the international economy.

However, for the saving glut to result in growing imbalances, net savings have to be more and more asymmetrically distributed across nations. In addition, for more than a decade now, capital has been continuously flowing “uphill”, i.e. from poor to rich countries with current accounts surpluses in emerging economies mirrored in growing deficits in the US. This is one of the most salient and puzzling features of modern economic history and has attracted a lot of attention.

Some explanations focus on the domestic drivers of private saving behaviours in both emerging and advanced economies. Cyclical factors, such as productivity shocks, or fiscal policies, have likely played a role (Bussière et al. 2010, and Henriksen and Lambert, 2009) But this can only be part of the story. It may well be that saving / investment imbalances are endogenous to the system itself.

According to the “Bretton Woods II” approach (Dooley et al. 2003, 2008, 2009), the pattern of capital flows results from a mutually beneficial equilibrium between two groups of countries. On the one hand, emerging economies which follow an export-led development strategy and seek to prevent appreciation of their real exchange rates by constant foreign exchange intervention (together with capital controls). As a consequence, they accept to accumulate increasing stocks of liquid assets denominated in dollars. On the other hand, the US is happy to get both reserve inflows to finance their deficits and cheap imports to fuel their demand for consumption goods. Such equilibrium is stable by virtue of the mutual benefits it brings to both groups. Moreover, the more it lasts, the more it is impossible to change since both group become mutually dependant through the stock of claims and debts they have reciprocally accumulated. Any significant break, for instance, in the allocation of reserves by surplus countries, would both trigger major exchange and interest rate volatility in deficit countries and lead to significant valuation losses in surplus countries. This “financial balance of terror” is supposed to keep the system in place for a long period of time. Implicit behind this doctrine, however, is the assumption that the creditor country can live with the risk of losses on its reserves and accept that possibility as a price to pay for the success of its growth strategy.

A more recent explanation is provided by the “asset shortage” theory (Caballero, 2006), which helps and explains why asymmetries in financial developments generate both payment imbalances and asset bubbles. According to the theory, the world has a shortage of liquid

and riskless assets. Moreover, the supply of those assets is asymmetrically distributed between regions, with the US providing a large chunk of the total. Hence, there is a structural excess demand for dollar denominated securities, which sustains permanent capital inflows in the US. To the extent that the US financial system does not generate enough “pure” safe assets, this creates an incentive for the financial sector to manufacture such assets from the securitization of lower quality ones, but at the cost of greatly increased financial fragility (Caballero, 2009).

Global imbalances and the policy agenda

Contemporary analysis therefore points to “structural” causes behind the pattern of capital flows and global imbalances (Blanchard and Milesi-Ferretti, 2009). The policy consequences are important.

First, current account imbalances will likely prove more resilient than expected to exchange rate movements or inflexions in macro policies. If the causes are “structural”, significant shifts in demand and relative prices between countries may well lead to suboptimal growth and excess volatility. In the immediate future, “financing” those imbalances should take precedence over their “adjustment”.

Second, global imbalances reflect a mix of different national preferences and inflexions caused by public interventions. One important focus in the policy debate should be to disentangle those two types of structural causes, and eliminate pure policy induced distortions. Obviously, this is no easy task, but, in the end, a crucial one if imbalances are to be addressed and reduced.

Finally, financial development matters. This is one area where preferences differ between nations and public policies have a huge impact. This is also a source of major uncertainty for the future. Will there be convergence or divergence in financial regulation across countries? Will there be a move towards liberalisation of capital accounts or will existing restrictions and controls be maintained in some parts of the world?

Under current international arrangements, this is a matter for sovereign choices: IMF articles, in particular, do not cover capital account convertibility. Nevertheless, in a more diverse, multipolar world, interactions between countries with different financial systems will become more complex and, as the crisis has shown, very destabilizing.

International cooperation should therefore aim at creating an environment where incentives to structural distortions in capital flows are reduced.

Opening the capital account exposes countries to increased financial volatility. The impact, however, is different for capital importers and exporters. Capital importers face the possibility that flows would abruptly dry up, thus inflicting damaging shocks to their financial systems and national economies. Capital exporters accumulate claims on the outside world and, therefore, run the risk of valuation losses (through exposure to country and exchange rate risk). Ideally, an international open capital account regime would protect both capital importers towards sudden liquidity shocks and capital exporters toward abrupt changes in the value of their assets. This is, obviously, unrealistic in the current environment. But these are potential avenues for progress and debate.

International liquidity

The provision of international liquidity has been severely disrupted during the crisis. Emerging (and some industrialized) countries have suffered from acute dollar liquidity shortages which had to be remedied, inter alia, through a network of currency swaps between Central Banks. The crisis is a powerful reminder that liquidity – both domestic and

international – can never be taken for granted. How will international liquidity be provided in the future, and by whom?

These are not new questions. Over the last ten years, the build up in foreign exchange reserves in emerging economies has been spectacular, which is a sign that the supply of international liquidity was seen both as insufficient and uncertain. More recently, Governor Zhu, from the People Bank of China has raised the issue of reserve currencies. According to Governor Zhu, current arrangements for liquidity provision are a source of instability and have played a role in causing the crisis. Governor Zhu has mentioned, in particular, the intrinsic contradiction embodied in the famous “Triffin dilemma”. Because the dollar is the major reserve currency, international liquidity supply depends on the US running a sufficiently large current account deficit which, by itself, aggravates global imbalances and creates instability. Governor Zhu suggested that the role and status of the SDR be enhanced, with the long term objective of creating a “super reserve” currency.

However, international liquidity provision should now be considered in a broader framework. The Triffin dilemma goes back to a period when international capital markets were poorly developed. By then, international liquidity was limited to instruments used to settle payments between official monetary authorities. It was represented by claims on such official entities. By contrast, in today’s world, most international liquidity is privately provided and represented by claims on private institutions. Interbank markets play a crucial role in this process. The more capital markets become integrated at the short end, the more international liquidity is provided by the private sector.

As a consequence, there is a strong continuity and complementarities between domestic and international liquidity. Both depend on the willingness of counterparties to extend credit to each other. Both are subject to aggregate supply and demand shocks with sudden shifts in risk aversion or liquidity preference. Both result from leveraging and deleveraging by private institutions (Adrian and Shin, 2008). When markets seize, counterparty risk is perceived as excessive, uncertainty settles in, financial institutions deleverage their positions towards non residents, and then international liquidity dries up and disappears.

The importance of global private liquidity conditions has been apparent during the period which followed Lehman’s failure. Output and trade fell across the world with astonishing simultaneity. It seemed natural to assume, at the time, that “traditional” forms of contagion – through goods or capital markets – were at work. Policy makers were looking to trade finance as a major channel. However, contagion takes time and cannot fully account for the exceptional synchronization in the drop of output. With hindsight, the phenomenon may best be seen as a global liquidity shock. Net supply of liquidity dried up at the same time everywhere in the world. International banks faced a sudden and ample shortage of dollars. Firms started to hoard liquidity. Investment and, for a part, production, came abruptly to a halt.

When such a shock occurs, public provision of liquidity has to substitute to private provision. In a domestic context, this is the function of the lender of last resort. But when the shortage is about foreign currency liquidity, this role has to be played by foreign exchange reserves.

Foreign exchange reserves

Following the 1997–98 crisis, emerging countries have constantly sought to expand their foreign exchange reserves. The emerging markets’ average reserve ratio has more than quintupled from 4 percent to over 20 percent of GDP since 1990 (Obstfeld et al. 2009, Matteo y Lagos et al., 2009).

One cannot assume, however, that equilibrium has been reached and that the demand for reserves will stabilize. On the contrary, there are strong indications that this trend will persist, or even be amplified, following the crisis.

How much reserves are enough? Theoretical reasoning would balance the benefits of holding reserves against their cost, with some notion that there is an optimum.

On the benefit side, reserves can be detained or accumulated for a variety of motives:

- to smooth out the impact on consumption of shocks on the current account, which is the most basic and traditional motive, even in the absence of international capital flows
- as a result or by-product of foreign market intervention to prevent exchange rate appreciation. This is usually defined as a “mercantilist” motive.
- as precaution against possible abrupt capital outflows (the “sudden stop” syndrome)
- and, finally, to provide liquidity to domestic financial institutions. (Obstfeld et al. 2009). That use of foreign exchange reserves was especially apparent in 2008 when Central Banks in many emerging (and some industrialized) countries put those reserves at work to ease domestic tensions created by dollar liquidity shortages.

The costs of holding reserves are also well identified:

- intermediation of national savings by a public entity is never neutral. By nature, those entities don’t have the same risk appetite and liquidity preference as private agents. A significant part of national savings (up to 30% in some countries) might find itself subject to a “directed” allocation towards liquid instruments denominated in foreign currency.
- as a consequence, there is a direct opportunity cost because foreign exchange reserves’ risk / return profile may be lower than for other, alternative, investments.
- finally, as reserves accumulate, countries are getting increasingly exposed to exchange rate risk and face the possibility of significant valuation losses.

This kind of cost / benefit analysis seems less and less able, however, to account for the true behavior of reserve holders. First there may be immeasurable, but very powerful, benefits such as increased security, lower external interest rates and lower exchange rate variability over the long run. Second, part of the costs may be borne by the system itself and not fully internalized by each individual country. And, finally, new precautionary motives may lead to a fundamental indeterminacy in the demand for reserves.

The future demand for reserves

As mentioned above, during the crisis, foreign exchange reserves were used as a tool for *internal* – as well as external – financial stability. National Central Banks, especially in Latin America, acted as dollar lenders of last resort to their domestic banks.

This function will develop in the future and is bound to impact the demand for reserves. In a sense, countries face the same dilemma as private institutions. They need liquidity in times of stress but it is costly to hold in normal times. Their reactions, however, are opposite. Private institutions tend to underestimate their liquidity needs because, in case of shock, the Central Bank can step in as a lender of last resort. For countries, the bias goes in the other direction. Provision of international liquidity, whether private or official, is contingent, conditional and uncertain. With no international lender of last resort, precautionary motives could lead to unlimited accumulation of liquidity.

This may be seen as major market failure and source inefficiency but is also unavoidable in the current financial architecture. One characteristic of liquidity shocks is that the net demand for liquidity may become almost infinite. Ex ante, no buffer is ever big enough. No amount of reserves will fully protect a financially open economy against a systemic shock. It is noticeable that countries, such as Korea, which possessed very important amounts of

reserves prior to the crisis and has a flexible exchange rate regime, nevertheless felt the need to enter into currency swaps with the Federal Reserve.

Financial openness and integration means that domestic banks will engage more and more into foreign currency operations. In turn, the expansion of international balance sheets will increase the potential demand for liquidity support in case of shocks. This trend should be accepted as a normal consequence of open capital markets and international banking, together with the predominance of a very limited number of currencies in international finance.

As a consequence, past benchmarks used to assess the adequacy of reserves are no longer valid. Current research (Obstfeld et al. 2009) shows that broad domestic money aggregates may be the best explanatory factors for the amount of reserves. Internationalisation of finance has created a fundamental indeterminacy in the demand for reserves, which reflects the indeterminacy in the demand for liquidity.

Multilateral provision of international liquidity: the search for financial safety nets

The rationale for a multilateral source of liquidity provision is straightforward: stabilizing the demand for international reserves would bring huge benefits in terms of world welfare.

At the moment, reserve accumulation can only occur through a conjunction of balance of payment surplus and some degree of exchange rate intervention. In addition, if sterilization proves difficult or impossible, it also leads to unwanted changes in monetary policy. Therefore, precautionary reserve accumulation, however legitimate, unavoidably creates side effects on domestic macro policies as well as spillover effects on other countries.

Now, suppose there is “ex ante” an existing pool of reserve assets which countries could tap into under specific circumstances. If access to this pool is credible and predictable, there would be no need for getting those reserves on the market. The search for precaution would not impact domestic or foreign macroeconomic management. It would be neutral as regards exchange rate regimes and policies. It would reduce the incentive for countries to conduct a whole set of policies such as:

- generating current account surpluses through active exchange rate management
- ring fencing pools of liquidity and capital in local subsidiaries, therefore creating a potential segmentation of international financial markets.
- implementing “soft” capital controls to limit the impact of shocks and diminish the need for reserves

All countries, therefore have a common interest in finding ways to disconnect reserve accumulation from exchange rate management and, more generally, from balance of payment situations and monetary policies

The need for national reserves could be reduced if credible mechanisms exist to provide for the supply of official liquidity on a multilateral basis. Significant progress has been achieved in this direction during the recent period. A dense network of forex swaps has been put into place between major Central Banks in the midst of the crisis. Other recent official initiatives include:

- the creation by the IMF of a new facility – the Flexible Credit Line – aimed at easing liquidity pressures on countries with no fundamental balance of payments difficulties. It has been used, in particular, by Mexico and Poland and has powerfully contributed to restoring confidence. It has marked a decisive step in the evolution of the IMF towards a truly universal provider of international liquidity (and not only for countries facing balance of payments difficulties)

- A new SDR allocation, the biggest ever, for the equivalent of 250 bn USD, which has been enacted by the IMF Executive Board. This will be complemented by a network of voluntary arrangements allowing SDRs to be effectively traded between members.

These are, however, revocable and limited sources of liquidity provision. Swap agreements can be (and have been) terminated. Out of the total, only a small part of the SDR allocation will benefit countries which may effectively need to use them. More may be needed to substitute for national foreign exchange reserves as a permanent insurance mechanism.

Contingent liquidity

The search for new liquidity sources meets with an inescapable moral hazard problem. On the one hand, to be equivalent to reserves going forward, multilateral liquidity must be available *ex ante* and without condition. On the other, there is a danger that fully unconditional liquidity be used to deal with fundamental “solvency” imbalances. In real life, this is not an easy distinction to make. The dilemma is solved, at the domestic level, by the provision of eligible collateral. This may prove very uneasy for international liquidity: transferring ownership of substantial amounts of sovereign assets between countries or to international institutions would meet with huge legal and political difficulties.

This is the rationale for conditionality. But, of course, conditionality creates an uncertainty which is incompatible with the purpose of instant supply of liquidity. A conditional facility will never be a perfect substitute for reserves. Many countries fully eligible to the Flexible Credit Line (FCL) have used foreign swaps instead. Anecdotal evidence suggests that swaps are often perceived as carrying less of a stigma effect.

One way to deal with moral hazard would be to distinguish explicitly between two different risks facing each country: on the one hand idiosyncratic risk, created by national policies and country specific shocks; on the other hand, “systemic” risk stemming from aggregate liquidity shocks occurring on a broader – global or regional – scale. At the moment, foreign exchange reserves are meant to cover both risks. Since systemic risk is not related to a country size or GDP level there is potentially no limit to the demand for self insurance. At the same time, if systemic risk is defined in such a way that it is truly independent from individual countries behaviour or policies, protection through a multilateral mechanisms would not create any moral hazard problem.

It should therefore be possible to define and build a framework around the following principles: countries should self insure against idiosyncratic risk by holding a sufficient amount of reserves. Protection against systemic risk would come from a multilateral mechanism for international liquidity provision.

Of course, the distinction between idiosyncratic and systemic risk may be difficult and involves a broad degree of judgment. But two basic rules should be guiding future work on a multilateral safety net: (1) conditions for access should be specified *ex ante*; and (2) those conditions should be fully delinked from the situation of individual economies. Rather, they should depend on the state of the global economy and international financial markets. From the point of view of an individual country, access should be fully unconditional, once global conditions are met.

A considerable amount of work is currently devoted to devise instruments of contingent capital for financial institutions in times of crisis. The same intellectual framework can be extended to liquidity. What is needed is *contingent liquidity* i.e. liquidity available to nations in times of aggregate shocks to the international financial system. This raises two questions: where would such liquidity come from? How could it be mobilized?

As to the source, a possibility would be to create a process of periodic general allocation of SDRs, according to a predetermined schedule. Those SDRs, however, would not be

immediately available for use by their beneficiaries. Rather, they would be “frozen” and unblocked only in pre – specified circumstances (Landau, 2009). Criteria for use would not be defined on the basis of individual countries’ situations, but on consideration of the conditions prevailing in the global economy and international capital markets. If properly constructed, such a scheme may provide, for no cost, the kind of insurance that countries are currently seeking by building excess reserves.

How would countries access to this new source of liquidity? The traditional approach would allocate contingent liquidity to countries according to their quota shares in the IMF. However, those are very imperfect representations of countries’ liquidity needs especially in times of crisis. Taking inspiration from the contingent capital literature, one could imagine that countries could “buy” the access to contingent liquidity in crisis times by paying, in normal times, a premium to the issuer (the IMF?). This could prove less costly than accumulating excess reserves. Going one step further, and transposing an idea from Caballero and Kurlat (2009), the IMF could issue tradable instruments giving access to contingent liquidity once it has been activated. If broadly traded between public entities, the price of such instruments would give a useful indication of underlying systemic tensions in international financial markets.

Regional arrangements

Another approach would privilege regional arrangements either for pooling reserves or redistributing them through permanent swap agreements. Asian countries, especially, are working on and implementing progressively 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. Also, regional arrangements cannot avoid the moral hazard problem that all multilateral schemes are facing.

Nevertheless, there seems to be considerable scope for regional arrangements to prosper in the future. First, they can act as useful complements to more global schemes and be articulated with (and supported by) IMF facilities. Second, one can expect regional financial integration to progress, especially in those parts of the world where huge pools of savings are available and 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 development of regional liquidity arrangements may appear very useful to underpin the development of regional financial markets.

Stores of value

One consequence of the crisis has been to cast doubts on the ability of some assets, up to now considered as riskless, to serve as reliable stores of value. The ability of the private sector to create “safe” assets through financial innovation has proved largely illusory (Caballero, 2009). So, in the period to come there may be both an increased demand worldwide for risk free assets and much less certainty on their future supply.

The search for a liquid instrument which would also provide a reliable international store of value has been going on for many decades. When discussions were held to build the Bretton Woods system, Keynes proposed the creation of a new international currency, the “Bancor” which could serve both as a source of liquidity and a store of value. Thirty years ago, there was extensive discussion in the IMF on the creation of a substitution account. This was a mechanism through which countries could exchange their reserve currencies against SDRs, and get a protection against exchange rate risk. Most recently, Governor Zhu has reopened the debate and suggested, over the long run, the creation of a new “super reserve” currency, while, in the meantime, enhancing the role and status of the SDR.

There are good arguments to create international instruments providing a reliable store of value:

- First, the safer investors feel about the risk-return profile of their holdings, the bigger the exposures they are prepared to accept. In that way, structural characteristics of the International Monetary System have an influence on the sustainability of global imbalances.
- Second, once uncertainty on relative values settles in, it would likely be accompanied by extreme volatility as investors, whether public or private, constantly reshuffle their existing portfolios between countries and currencies in order to manage their exposure.
- Finally, and most important, many oil and commodity producers face an intertemporal choice between extracting resources and keeping them on or under the ground. According to standard economic reasoning (the Hotelling rule), one important determinant is the return earned on financial assets, to be compared to the expected commodity price increase over the long run. The possibility of large valuation losses on financial assets makes it optimal to reduce the rate of extraction, which would durably lower the supply of oil and other commodities.

However, there are also practical and conceptual difficulties:

- A choice would have to be made as to the true nature of the “super reserve currency”. Would it be a basket of existing monies or a new “fiat” currency? If the “super reserve” is a basket of existing currencies (such as the SDR today) it would basically serve as an instrument for diversification of foreign exchange reserves (or private portfolios), and such a diversification can easily be achieved by using existing currencies. On the other hand, the “super sovereign” could be issued as such as a fiat currency. Then, the international community would have a basic choice. Either the new currency could be made “strong” and never depreciate against any other major existing currencies, which probably means that its supply would be severely restricted. Or, the “super sovereign” would be issued according to pre-specified rules, and depreciation against existing currencies could not be excluded. It would ensure regular supply of international liquidity, but could only provide partial protection against exchange rate volatility and valuation losses. There is an important trade off, there, which is the essence of a new “Triffin dilemma” and which cannot be avoided when looking at the public supply of international liquidity, whether by one nation or within a multilateral framework.
- More fundamentally, a new currency which would provide a reliable store of value would, in fact, grant its holders a collective guarantee against exchange risk. That guarantee would benefit surplus countries and would be given by deficit countries. This issue was intensely debated when the substitution account was discussed and negotiated within the IMF, more than 25 years ago. It became clear, at the time that it would not be accepted by many countries unless some explicit, binding and symmetric rules on balance of payment adjustments were agreed upon simultaneously. Most likely, those questions would be raised again today and the creation of a new reserve currency would have to be part of a broader framework.

Conclusion and provisional policy lessons

Looking at the next decade, one can project two alternative – and polar – scenarios for the evolution of the international financial system.

First, a scenario of progressive and partial fragmentation: no significant capital account opening would occur in many parts of the world. On the contrary, new barriers could be erected either in the form of capital controls or through national regulations forcing financial

institutions to ring fence local pools of capital and liquidity. There would be little convergence in domestic financial systems and regulations. Foreign exchange reserves would keep growing, both in absolute and in percentage of world GDP.

This scenario may be seen as the only realistic response to increased diversity in a multipolar world. Such an evolution could also be defended on the ground that the assumed benefits of financial harmonization and integration have not really materialized (Rodrik et al. 2008). Furthermore, the crisis has shown that no financial system can claim to be intrinsically superior and countries could feel justified in adopting and promoting their own models.

The systemic consequences, however, are not clear. In such a world, current account imbalances would be heavily influenced by public actions and policies. Regulatory competition would dominate the localization of financial activities and the allocation of savings. In the absence of some “rules of the game”, tensions would naturally arise between countries, most likely through conflicts about exchange rate regimes and policies.

An opposite scenario would see the progressive opening of all capital accounts, together with some (more or less intensive) convergence in financial systems and regulations. This would allow for the emergence of a unified world capital market, an efficient allocation of savings across countries and a smooth financing of current account imbalances. Such a scenario could prove attractive both for capital exporters (through better returns on excess savings) and capital importers, which may not have the option of isolating themselves from international capital markets anyway.

Experience shows, however, that an open international financial system is not inherently stable and, therefore, very dependent on a strong infrastructures and conditions. The move towards a financially open world would, at the very least, have to be supported by robust arrangements on international liquidity provision.

Pending ambitious reforms, a lot can still be done to provide investors with stable stores of value. One very promising avenue would be, for countries which have surplus savings, to develop their own internal stores of value by expanding the range of safe and liquid financial assets available to domestic and international investors. By doing so, they would achieve several goals at the same time. They would bring more efficiency in the financing of their own domestic needs. They would provide their own investors with a broader range of choices. They would also eliminate some of the currently existing incentives to export capital in order to protect its value. They would contribute to reduce the “asset shortage” with all its negative consequences, including international imbalances and the financing of asset bubbles. Financial development in many countries would address both the causes of international imbalances and some of the roots of the financial crisis.

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