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International Liquidity: The Fiscal Dimension

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Abstract

All schemes to enhance global liquidity require a higher level of fiscal support and coordination from the international community. Loans to troubled sovereigns or financial institutions imply a credit risk that ultimately must be lodged somewhere. Expanded international lending facilities, including an expanded International Monetary Fund, require an expanded level of fiscal backup. The same point obviously applies to the European framework for managing internal sovereign debt problems, including proposals for a jointly guaranteed euro zone sovereign bond. Even attainment of a significant role for the Special Drawing Rights depends upon enhanced fiscal resources and burden sharing at the international level.

Keywords: International liquidity; Sovereign debt; Euro zone crisis; Fiscal union; International Monetary Fund; Special Drawing Rights
JEL Classification: F33, F34, F36, H87

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I. Introduction

The ultimate origin of the 2007–09 financial crisis, in particular the causal role of the international monetary and financial system, remains a topic of heated debate. What is undeniable, however, is that the development of the crisis, as well as its aftermath, revealed numerous weaknesses in the infrastructure of global monetary and financial relations. These weaknesses, which plainly influenced the cross-border transmission of the crisis and the official policy responses, are the focus of ongoing reform efforts.

While these efforts encompass several closely related areas—ranging from the surveillance of global imbalances and exchange rates to coordination of financial supervision—my main focus here will be on the nature and adequacy of international liquidity. The topic is a time-honored one, but the challenge of liquidity provision has evolved in form and become more urgent as world finance has evolved.

Because liquidity crises typically are generated by and, in extremis, themselves can generate solvency concerns, the burden of their prevention and (if prevention fails) management inevitably falls at the door of the fiscal authority, as forcefully stressed by Goodhart (1999). In an international context, moreover, this fact inevitably raises questions of international cost sharing by fiscal authorities and private market participants—as the 2010–11 sovereign debt crises in Europe have made painfully clear. Indeed, the problem of allocating fiscal burden ramifies into every facet of the debate over international liquidity.

II. International Liquidity: Then

The adequacy of international liquidity was a major factor in Bretton Woods era debates over reforming the international monetary system. But four main features of the period—the U.S. dollar's link to gold, the par value exchange rate system, the tighter regulation of domestic and especially international financial transactions, and the more limited development of financial markets in general—made the terms of debate quite different from what they are today.

Through the demise of fixed exchange rates in the early 1970s, gross foreign exchange reserves constituted the most important source of international liquidity. Subject to policy conditionality, reserves could be supplemented by International Monetary Fund (IMF) resources, and for a subset of richer countries, by foreign exchange swap lines that were developed during the 1960s to counter speculation against fixed exchange parities. Defense of fixed exchange rates furnished the main motivation for holding reserves, and in an environment of limited private international credit, such defense was correlated with the need to finance imports when export earnings proved inadequate. In a rapidly growing world economy, feasible increases in monetary gold could not possibly meet countries' demands for international reserves. Holdings of dollars therefore fulfilled marginal global reserve demands, implying that the supply of world liquidity would be tied to ongoing U.S. balance of payments

deficits.

This system, however, contained an inherently self-destroying dynamic, summarized by Triffin's famous dilemma: either the world supply of liquidity would be inadequate, or foreign monetary authorities' U.S. dollar holdings would expand beyond the amount the United States could redeem in gold at the statutory dollar peg of US$35 per ounce. Triffin's tipping point—the point at which global reserves exceeded the value of U.S. gold holdings at the US$35 per ounce price—was in fact reached as early as 1960 (see Eichengreen [2011]). The subsequent history of the Bretton Woods system was characterized by increasingly desperate attempts to stave off dollar devaluation.

At its root, the Triffin problem was fiscal. As late as 1970, the world's reserve holdings of U.S. dollars implied a claim on U.S. gold equal to 4.2 percent of U.S. GDP, at a time when the gross U.S. federal debt stood at only 28 percent of GDP. While this fiscal burden was not insuperable if the US$35 per ounce gold price could be maintained, the United States would have had to buy more than all the world's monetary gold to redeem global dollar reserves, thereby driving the world price to infinity and itself into state bankruptcy.

The most innovative attempt to solve this dilemma was the Special Drawing Right (SDR), which has received renewed attention recently as a possible linchpin of a reformed international monetary system (for example, Zhou [2009]). The SDR was launched on January 1, 1970 following passage of the First Amendment to the IMF Articles of Agreement the year before. The SDR provided an unconditional supplement to other financial resources that might be obtained through the IMF—unconditional because, unlike in standby arrangements, a country's use of its SDRs is not generally subject to IMF policy conditionality (only to the payment of interest to the IMF). SDRs were to be distributed ("allocated") to Fund members in proportion to their IMF quotas, and they could be exchanged with other Fund members for needed currency reserves. SDRs thus would supplement liquidity by allowing for more efficient reserve pooling by IMF members. The hope was that SDRs would supplement and eventually even displace U.S. dollars in reserves, allowing global reserves to grow at an adequate pace without as much need for U.S. payments deficits.

III. International Liquidity: Now

Since the 1970s, dramatic changes in the international monetary and financial landscape have changed the factors motivating global liquidity demand, both qualitatively and quantitatively. The gold–U.S. dollar link is long gone, exchange rates are much more flexible throughout much of the world, domestic finance has been widely and extensively liberalized, and cross-border financial transactions have grown dramatically.

For the industrial economies that were the major holders of U.S. dollar reserves in

the 1960s and 1970s, easier credit market access and floating exchange rates made SDRs largely irrelevant. Between 1981 and 2009, the (unheeded) calls for further SDR allocation came from the developing world. But the events of 2007–09 and after have shown that the need for international liquidity remains acute, even for the rich countries. The sources of this need differ from those of the Bretton Woods years—but they are familiar from the experience of emerging market economies (EMEs).

For the richer countries, immersion in global capital markets has generated international liquidity needs in two main areas of vulnerability: the support of financial institutions and the funding of sovereign debt. The two are closely related, as support of the private financial system can swell government debt, while a fiscally strained government may face difficulty in credibly underwriting financial stability. Both factors played big roles in past EME crises, as just noted, but their appearance as a threat for advanced economies is related to the latter group's much more extensive degree of financial liberalization and development.

A prime indicator of that development is the rapid growth of the gross foreign asset and liability positions of advanced economies. Potentially at least, this process carries an ever-increasing risk of balance-sheet crises. Figure 1 shows data for the three largest high-income currency areas. In both the United States and the euro zone (panels [1] and [2]), external gross asset and liability positions nearly doubled in relation to GDP after the late 1990s, with the euro zone's levels of both being higher (even after netting out the extensive intra-European positions of the individual member countries). For both regions, a negative net international position has grown much more gradually and remains moderate. Japan's case (panel [3]) shows considerably slower growth of gross liabilities. Over 1999–2009, less than half of Japan's increase in gross foreign assets is matched by increased gross liabilities. Japan's net international investment position stood at more than half of its GDP in 2009.

The acceleration of gross position growth for the euro zone over 2004–07 represents in part a dynamic process through which Europeans added U.S. asset-backed securities (ABSs) and corporate bonds to their portfolios, financing these purchases (in the aggregate) via sovereign debt issuance and interbank borrowing (see Bernanke et al. [2011]). The resulting positions led to substantial turmoil in 2007–09 in European U.S. dollar funding markets, turmoil that well illustrates the first area of global financial vulnerability mentioned earlier.

European banks, lacking a base of retail U.S. dollar deposits, financed dollar ABS purchases through short-term wholesale dollar borrowing, but in the crisis found themselves unable to roll over the dollar loans or to swap euros into dollars on reasonable terms (McGuire and von Peter [2009]). The banks' toxic assets were illiquid; selling them would have forced realized losses and contributed to the general fire-sale dynamics under way at the time. On the other hand, even more sales of euros (supplied

by the European Central Bank [ECB]) for dollars would have accentuated the safe-haven dynamics driving the dollar upward. We now know that the Federal Reserve lent dollars extensively and directly to European banks that had access to its discount window; but the extension of swap lines to foreign central banks was a major supplement to that process. In the process, the ECB and other central banks assumed the credit risk of the emergency loans—thus shifting part of the potential fiscal burden as a global last-resort lender off of the Fed's shoulders. Had the ECB, for example, made large losses on its lending, some consortium of euro zone fiscal authorities would have had to assume the ultimate liability to the Fed, as well as any cost to or recapitalizing of the ECB.

Different channels through which capital inflows can generate sovereign debt problems—the second vulnerability area mentioned earlier—are illustrated by the recent experiences of some smaller euro zone countries. The data in Figure 2 extend only through 2007, and are drawn from the updated database of Lane and Milesi-Ferretti (2007). Panel [1] of Figure 2 shows that the Greek case follows a pattern familiar to past sovereign debt crises in EMEs. Although there is financial deepening after accession to the euro zone, the main story is the rapid buildup of net external liabilities—mostly intertemporal trade as opposed to intratemporal trade, in the terminology used in Obstfeld (2004). Large current account deficits have mirrored large fiscal deficits, and these have brought net external liabilities as well as government debt to high levels relative to GDP, much higher than the levels EMEs have been able to tolerate without crises in the past (Reinhart, Rogoff, and Savastano [2003]). The run-up in liabilities is all the more surprising because, in common with EMEs that must borrow in foreign currency, individual members of the euro zone have no inflation or devaluation option to reduce the real value of debts, only some form of default. The eruption of a crisis is no surprise; what is more surprising is that it did not occur earlier, and the delay must be ascribed in part to the expectation of support from European partner countries.

Ireland points up the perils of having a large, internationally exposed banking sector (panel [2] of Figure 2). The exorbitant ratios of external assets and liabilities to GDP—both as high as 13 in 2007!—overstate the risks to the Irish fisc, as much borrowing was done by international banks located in Ireland, but with minimal connection to the Irish economy. Yet the liabilities of these banks of direct systemic importance to Ireland, once partially assumed by the Irish government in a bid to stem the domestic banking crisis, were sufficient to spark a sovereign debt crisis, notwithstanding Ireland's moderate level of net external liabilities. The lesson is clear: gross liabilities, especially those at short term, are what matter. Even those offsetting assets that happen to be owned by the debtors may well be illiquid, or saleable only at impaired values.

Portugal (panel [3] of Figure 2) shows a picture combining the most worrisome

characteristics of both Greece and Ireland: higher gross assets and liabilities relative to GDP than Greece, and thus higher liquidity risk, but a comparable level of net foreign liabilities, roughly equal to GDP already in 2007.[1]

The policy response to the sovereign debt crises of these three countries has followed the model used many times in EMEs, including IMF involvement, with the added twist that European Union institutions—the ECB, the euro zone countries through the European Financial Stability Facility, and the European Commission—have also stepped in with financial support and their own demands on the borrowers. These include (at least so far) a rejection of outright sovereign debt restructuring, in part because restructuring might imperil banks elsewhere in Europe as well as the capital of the ECB, which has heavily underwritten the banking systems of the crisis countries and made direct support purchases of distressed sovereign debt.[2] The future institutionalization of such European support, including the implied pooling of fiscal resources, remains a work in progress.

Among high-income countries, sovereign debt problems have been most dramatic in the euro zone, but non-euro countries such as Iceland have also encountered difficulties. Governments that issue debt and whose financial institutions borrow primarily in the currency that the domestic central bank prints would not require foreign currency liquidity in order to make debt payments. Such countries could still encounter sharp inflation and depreciation pressures in the face of big fiscal imbalances, and might desire access to foreign exchange for intervention purposes, as the United Kingdom did when it negotiated IMF standby arrangements in the mid-1970s.

The euro zone's problems are singular in that members share a central bank and cannot individually use devaluation to aid adjustment. Instead, a stricken euro zone member must rely on internal deflation. But internal deflation raises the real value of debts, itself a destabilizing trend. To make matters worse in the current situation, the redistribution to creditors from debtors is more severe when gross liabilities are higher—and the expansion of leverage has been one consequence of the financial liberalization within Europe (and globally) both before and after the euro's introduction. I believe, however, that the euro zone crisis is at heart a crisis of globalized finance, and that broadly similar crises are possible in the future on a grander scale.

All the preceding considerations point to high future international liquidity needs.

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[1] Banco de Portugal reported the country's net international investment position to be −108 percent of GDP at the end of 2010.

[2] In the euro zone's current crisis, both aspects of financial vulnerability described above are in play: financial institutions in the debtor countries are dependent on the ECB's last-resort support, while their governments are dependent on official loans to avoid default.

Given the extent of financial integration in the developed world, any realistic forecast must consider the possibility of large-scale support for advanced countries. In addition, more demand will continue to come from countries currently classified as EMEs, which are growing more rapidly than richer countries and already account for more than half the world's output, measured at purchasing power parity (PPP). EME gross financial flows—private and official alike—account for a significant and growing share of global financial activity, though these flows are not yet near the levels of gross flows among advanced countries. Thus, the growth of the EMEs will add increasingly to the need for international liquidity, and, as I now discuss, in ways likely to strain the world financial system unless reforms are put into place.

IV. Meeting Future Liquidity Needs

After the widespread financial crises of the late 1990s, developing countries and especially EMEs embarked on a path of rapid foreign reserve accumulation. In part, reserve growth reflected export-oriented growth strategies, but another motivation was to build precautionary liquid hard-currency balances that could be deployed in the event of an internal or external financial crisis. Accordingly, as the EMEs' financial sectors grew, so did their holdings of reserves (Obstfeld, Shambaugh, and Taylor [2010]). Figure 3 depicts the evolution of reserves since 1990. Advanced country reserves have risen moderately over two decades, but the reserves of emerging and developing countries have grown explosively and now stand at around one-third of the holders' group GDP. This means, of course, that poorer countries' reserve holdings constitute a comparable fraction of the GDP of the advanced countries—large enough to materially affect the latter countries' capital markets.

For the holders, the great attraction of reserves is that they provide instantaneous and unconditional liquidity. But even at the level of the individual holder, there are downsides: reserves may come at a high quasi-fiscal cost (costs also incurred if reserves should depreciate against domestic currency), and these costs may be incurred even if the marginal liquidity value of the reserves is illusory (because the reserves have short-term private foreign-currency debt as an offsetting counterpart on the national balance sheet).

Beyond these individual costs, however, national self-insurance through holdings of gross foreign reserves carries significant potential systemic costs. Reserve accumulation may influence interest rates in reserve centers—helping to fuel international resentments about "exorbitant privilege" that often fail to recognize the root of the problem in systemic congestion. Similarly, official portfolio shifts between different currencies, or between asset classes within currency areas (think of Chinese purchases of euro zone sovereign debt), can alter exchange rates and bond prices, possibly in destabilizing ways. Individual countries' reserve gains may be strategic complements, in the sense that one country's gains lower the relative perceived

financial stability of its neighbors, in turn raising their marginal benefit from reserve accumulation. In this case, a non-cooperative equilibrium will entail excessive accumulation by all. A further coordination problem arises when countries compete to keep their currencies weak and limit domestic demand, so as to generate balance of payments surpluses. Finally, in a global crisis, a country may exacerbate problems elsewhere when it draws on its reserves. For example, withdrawals of bank deposits in a foreign center may worsen liquidity problems there. The basic point is that actions which enhance the apparent financial resilience of the individual country may well, at the same time, undermine that of the international financial system as a whole.

Another drawback of a system based on gross reserve holdings is the potentially limited supply of suitable reserve assets. The possibility has been emphasized by Farhi, Gourinchas, and Rey (2011), and is reminiscent of the Triffin dynamic, in that the very logic of reserve accumulation implies an ineluctable process of destabilization for the system of self-insurance. Emerging and developing countries have historically faced more limited credit market access than the richer countries, hence their greater demand for reserves, yet their economies are growing more rapidly and likely will continue to do so for some time. The relatively low-risk assets in which they hold reserves, however, are limited in supply. For example, eligible reserve assets could be direct central government liabilities, or other assets such as bank deposits that implicitly come under a government guarantee. What makes these assets "safe" is the creditworthiness of their guarantor, including its predictable (and preferably low) propensity to try to inflate away the assets' real values.[3] But no government can assume the corresponding liabilities to an unlimited extent. A government willing increasingly to issue safe liabilities and invest in risky assets eventually becomes more certain to encounter fiscal problems in a systemic crisis—precisely the moment its creditor will wish to liquidate its supposedly safe claims. Thus, it appears infeasible for the emerging and developing countries to satisfy their long-term reserve demands on the basis of a few rich and creditworthy reserve issuers whose economies are shrinking as a fraction of world GDP.[4,5]

These considerations help explain why some central banks are seeking to increase their holdings of gold, reversing a decades-long trend, although the resulting likely

[3] Safe assets should be informationally insensitive assets, in the sense of Gorton and Pennacchi (1990). But as the recent crisis showed, putatively informationally insensitive assets (such as AAA tranches of mortgage pools) may become sensitized to information, and therefore unsafe. The same might happen to agency debt or large bank deposits were government guarantees to become doubtful.

[4] Of course, assets that are safe for one reserve holder may not be for another. Libya, to take an extreme example, currently has fewer safe reserve options than most other countries.

[5] In a related vein, Alan Greenspan reportedly worried around 2000–01 that if U.S. government surpluses eliminated the federal debt, the Fed would be forced to invest the domestic portion of its portfolio in risky private-sector assets.

effect on the metal's price illustrates the systemic dangers that result. As central banks move into riskier asset classes, the chances grow that these assets' prices will come under pressure, eliciting destabilizing official asset sales.

The preceding problems of self-insurance could be overcome through reforms creating more low-conditionality international liquidity through a central institution such as the IMF. The Fund's recent development of the Flexible and Precautionary Credit Lines are limited steps in this direction.

Such new facilities enhance the IMF's traditional role of lending to governments facing balance of payments pressures. The Fund's recent participation in loan programs for Greece, Ireland, and Portugal is something of a new departure, not only because of the close cooperation with European authorities, but because the programs have no explicit balance of payments dimension. The IMF is lending euros to countries that use the euro but cannot print it, assuming parts of fiscal and enforcement burdens that its co-lenders would rather not shoulder in full.

Alongside the IMF, however, there is also a need for facilities that provide direct, multiple-currency support to financial institutions, as central bank swap lines did starting in 2007. National central banks are unlikely to provide facilities such as these except on an ad hoc, discretionary basis. But if this is the case, then the resulting uncertainty would make such potential credit lines a poor substitute for the liquidity offered by gross reserves. A more predictable architecture might have central banks provide credit lines in their currencies to the IMF or the Bank for International Settlements (BIS), for on-lending directly to national central banks.[6] Under such a system, the central banks of reserve centers would create outside liquidity during crises, denominated in such currencies as the borrowing central banks needed. Of course, in setting up such a system, measures to mitigate the resulting moral hazards are critical. As a partial safeguard, the IMF could extend the facilities only to national central banks meeting specified standards of supervisory diligence and independence from political interference. Further discussion of similar ideas can be found in Truman (2008, 2010), Obstfeld (2009), and Farhi, Gourinchas, and Rey (2011), among others.

A complementary but more limited step would enhance the allocation of liquidity for example, through reserve pooling. Under such a scheme, Chinese reserves, for example, could be deployed quickly in aid of countries the IMF deemed worthy of liquidity support.

All of these schemes to enhance global liquidity require a higher level of fiscal support and coordination from the international community. Loans to troubled sovereigns or financial institutions imply a credit risk that ultimately must be lodged somewhere. Expanded lending facilities, including an expanded IMF, require an

[6] Central bankers would prefer the BIS. It has some experience in this area, and is more distant from political pressures than the IMF.

expanded level of fiscal backup. The same is obviously the case—and has been contentious—in the design of the future European Stability Mechanism. Proposals for a shared euro zone sovereign bond (Juncker and Tremonti [2010]) likewise place fiscal demands on the financially strong countries that would be the ultimate guarantors of the jointly issued debt.

Through the resulting guarantees, the more creditworthy countries subsidize the others, at some actual fiscal cost to themselves, and an even greater potential cost in the event a member government gets into trouble. Globalized finance leads to an inherent interdependence of stability risks, which in turn justifies an internationally coordinated response. This response includes the joint provision of necessary fiscal resources, as well as political mechanisms for allocating fiscal burdens in ways that discourage free-riding.

V. Possibilities for the SDR

Article VIII of the IMF Articles of Agreement enjoins member countries to promote the goal of making the SDR "the principal reserve asset in the international monetary system." Recent proposals by current and former international policymakers likewise have suggested that a reserve currency system should somehow be based on the SDR, one objective being to dislodge the U.S. dollar from its privileged reserve currency role, which is alleged to be potentially destabilizing as well as unfair. Would such a system be superior to the current one, and in particular, provide more effectively for international liquidity needs? The question is difficult to answer in the absence of a specific blueprint for achieving the end to which Article VIII aspires.

In the event, SDRs have never been more than 6 percent of global reserves, and even the large allocations of April and September 2009 restored them only to a share below 4 percent (Figure 4). Several factors prevent a much larger role for SDRs in the current international monetary system, with fiscal obstacles among the primary ones. That does not mean the SDR's role could not be marginally larger, and perhaps even usefully so.

At present the SDR mechanism functions largely as a reserve-pooling arrangement, useful in reallocating global liquidity from countries with ample liquidity to those with more urgent needs. A country holding SDRs can trade them to other Fund members, or to prescribed SDR holders such as the BIS, for hard currencies.[7] But the mechanism does not create new liquidity, in the form of higher supplies of high-powered reserve currencies, as might be needed during a global crisis. When countries sell SDRs to the U.S. Treasury for U.S. dollars, for example, the Fed creates the dollars, accepting in return SDR Certificates issued by the Treasury. The

[7] SDR transactions between countries usually are voluntary, but from time to time the IMF may "designate" certain countries with strong external positions to accept SDRs.

latter are dollar-denominated, so that the Treasury bears any currency risk. However, the high-powered dollars so issued are (normally) automatically sterilized, and in any case the quantities involved are typically small. For example, on May 4, 2011, the Fed held only US$5.2 billion in SDR Certificates. SDR purchases of dollars from the United Kingdom would, likewise, not create new dollar liquidity.

The SDR's value is linked to that of a basket of the four principal reserve currencies, to stabilize the value of IMF members' claims on the reserve pool. But the SDR is not itself a currency that can be bought and sold in private markets. This is a critical point, because it implies that SDRs cannot be used directly in market operations. The obstacles to creating a private SDR market are large—see Eichengreen (2011) for a discussion—and though the IMF could perhaps begin to promote this end by issuing SDR bonds in private markets, large-scale IMF borrowing would greatly increase the need for fiscal backstopping by member countries.

If countries held more SDRs and fewer reserve currencies, some of the problems of large-scale gross foreign reserve holdings, discussed above, might be mitigated. The main proposal for large-scale replacement of currency reserves with SDRs is through a substitution account, under which countries deposit currency reserves with the IMF in return for SDRs (for example, Kenen [2010]). This scheme, however, merely transfers any financial burden to the IMF, which itself could earn low returns on its currency balances (in cases of exorbitant privilege) and bear the risk of exchange rate changes. In other words, someone still must pay the cost of the reserve system, even if the threat of official runs on one or more reserve currencies is reduced.

How can IMF members share this cost? Plans for a substitution account foundered on this rock in 1979–80; the scale of the problem is even greater now. As has been true in the euro zone, absence of a centralized fiscal power hobbles the provision of public goods that might enhance systemic financial stability. (Of course, individual countries are free now to choose reserve portfolios that reproduce the SDR basket, though on average they hold a higher weight of U.S. dollars.)

If SDRs can be created only through the allocation process and not through substitution, then under current arrangements, the extent to which they can replace currency reserves is inherently self-limiting. This Triffinesque problem sharply circumscribes the potential for realizing the lofty goal of the IMF's Article VIII. Roughly speaking, because SDRs are merely claims on hard-currency reserves and cannot be used in private markets, their emission has no further value once the value of outstanding SDR claims is sufficient to purchase the outstanding stock of gross currency reserves.[8]

The situation would be different if SDR claims could be presented directly to

[8] I am taking it for granted that, for example, the U.S. Treasury and the Fed would not willingly agree to the large-scale creation of SDR Certificates under current law.

central banks in return for their own currencies, as Truman (2008, 2010) has proposed, because this change would make the outside supply of reserve currencies elastic in a crisis. Such a system would reproduce the stabilizing properties of the network of central bank swap facilities set up during the recent global financial crisis, but it would be predictable rather than ad hoc and all countries, not just a select few, would have access.

An equivalent mechanism could be set up without reference to the SDR at all, simply by instituting lines of credit from central banks and administered by the IMF, as suggested above. Such credit lines would complement expanded flexible IMF loan facilities for sovereigns. The advantage of working through the SDR as Truman suggests is that SDRs already exist—the sunk cost of negotiation and national ratification was paid long ago. However, even under Truman's plan, existing national legislation would probably need to be amended. And the implications for treasuries and central banks of potentially large foreign exchange losses and gains would need to be sorted out.

Likewise, even the current SDR-based reserve-pooling arrangements could be accomplished, perhaps in a more flexible and need-based way, by explicit reserve pooling. Pooling would allow relaxation of the current quota-based SDR allocation formula. Another advantage of this approach is that countries would not need to offset the currency risk taken on through SDR transactions with opposite, possibly costly, forward-market transactions. The costs of these could become significant were SDRs to become more important as a reserve category.

VI. Conclusion

While I have focused on the international liquidity system and the fiscal requirements for improving it, its redesign cannot be accomplished in a vacuum and indeed would require challenging complementary reforms.

An enhanced international liquidity safety net, whether based on the SDR or on some system of credit lines centered on the IMF, would enhance the IMF's power. It therefore calls for complementary reforms in governance structure. These would be aimed at increasing the voice of emerging and developing countries, in line with their growing weight in the world economy. As part of a reformed international monetary system, the IMF's macroeconomic and financial surveillance powers would have to be upgraded. This change would add greatly to the need for reformed IMF governance.

Recent experience shows the potential for banking problems quickly to morph into big fiscal problems with externalities for financial institutions abroad. This is a problem for any globalized financial system, not just the euro zone with its common currency. Thus, internationally coordinated lender of last resort support, with the coordinated fiscal backup that is implied, requires some sort of common framework of financial supervision and regulatory enforcement. The international supervisory

system must provide a strong brake to the several forms of moral hazard, and to be effective, supervision must be closely coordinated internationally, with the support of clear guidelines for resolving cross-border financial institutions and sharing the resulting costs. The euro zone's failed (but largely continuing) attempt to leave national supervisory regimes in place offers a vivid example. Limitation of moral hazard also demands some sort of predictable system for orderly debt restructuring in cases of insolvency, including potential cases of high-income countries.

The trilemma described by Schoenmaker (2011) applies quite broadly: if one wishes to enjoy financial integration, one must give up national autonomy in financial regulation or give up financial stability. Even more generally, to function effectively, globalized markets require the support of globalized institutions of governance, including institutions of fiscal coordination.

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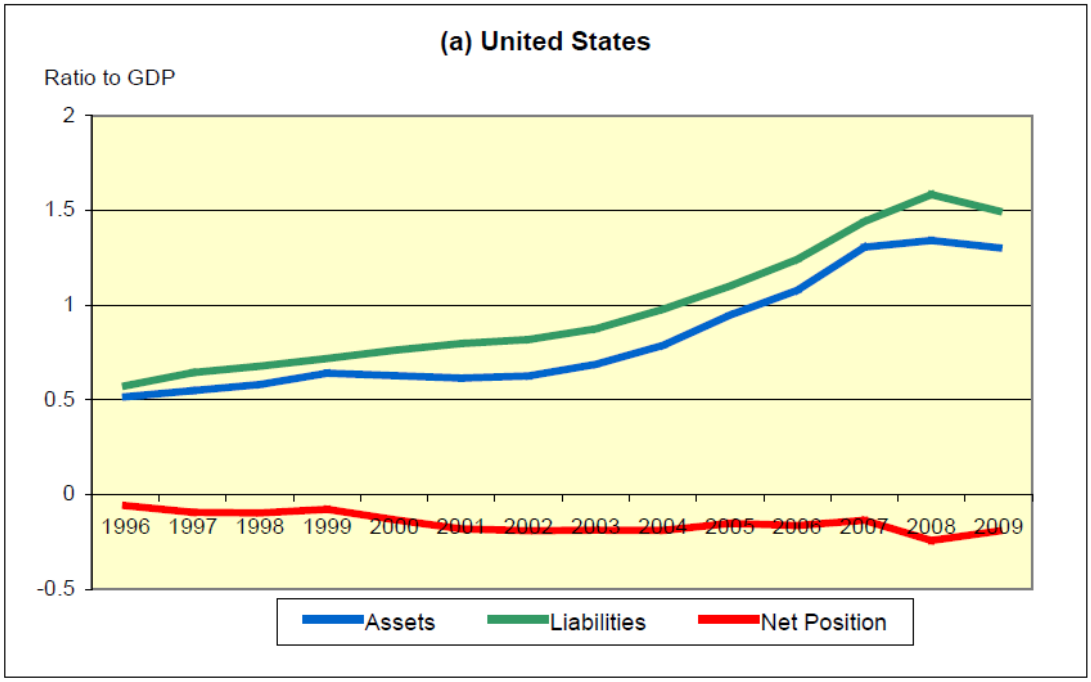
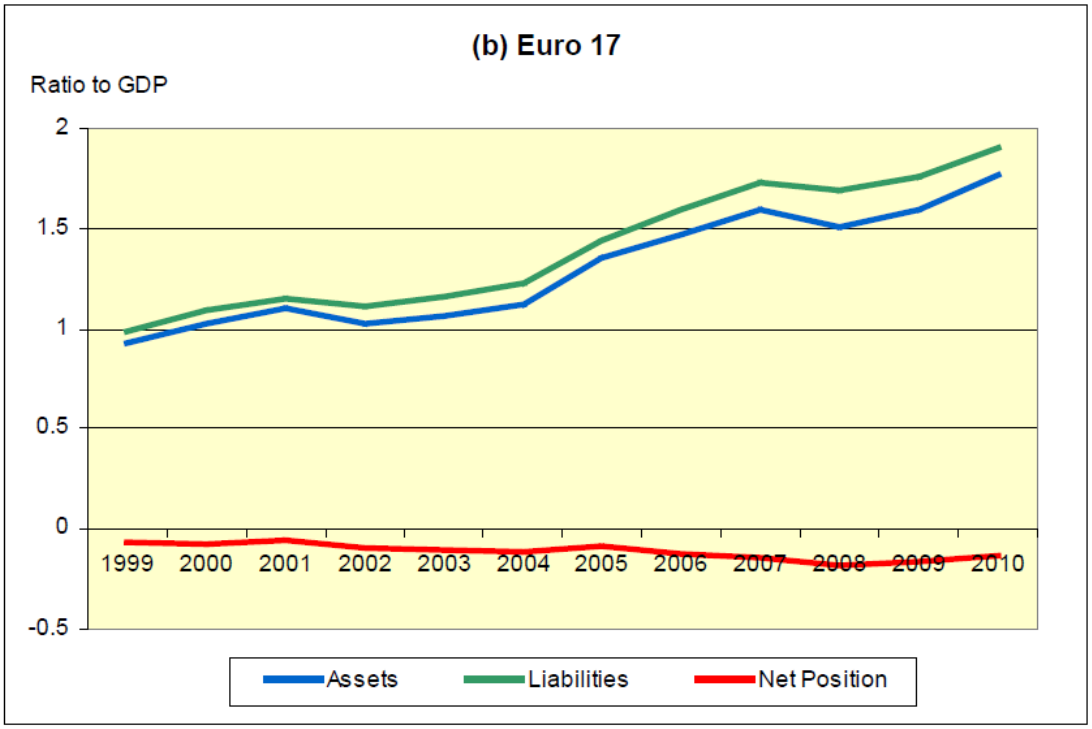
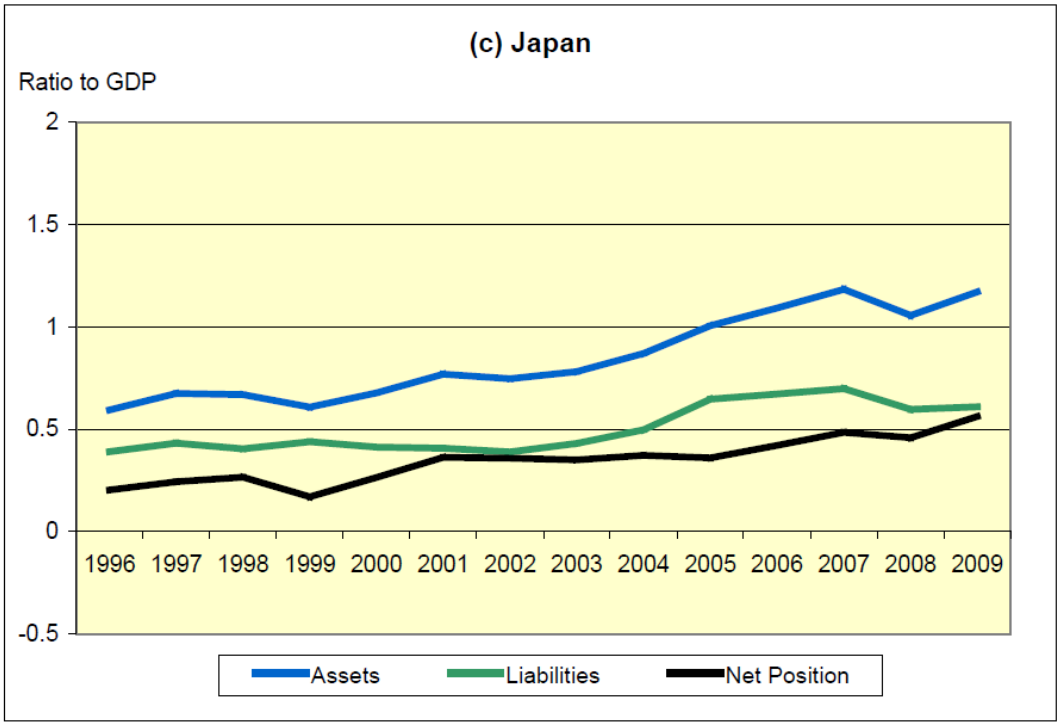
Figure 1: Gross and Net International Positions, Large Currency Areas

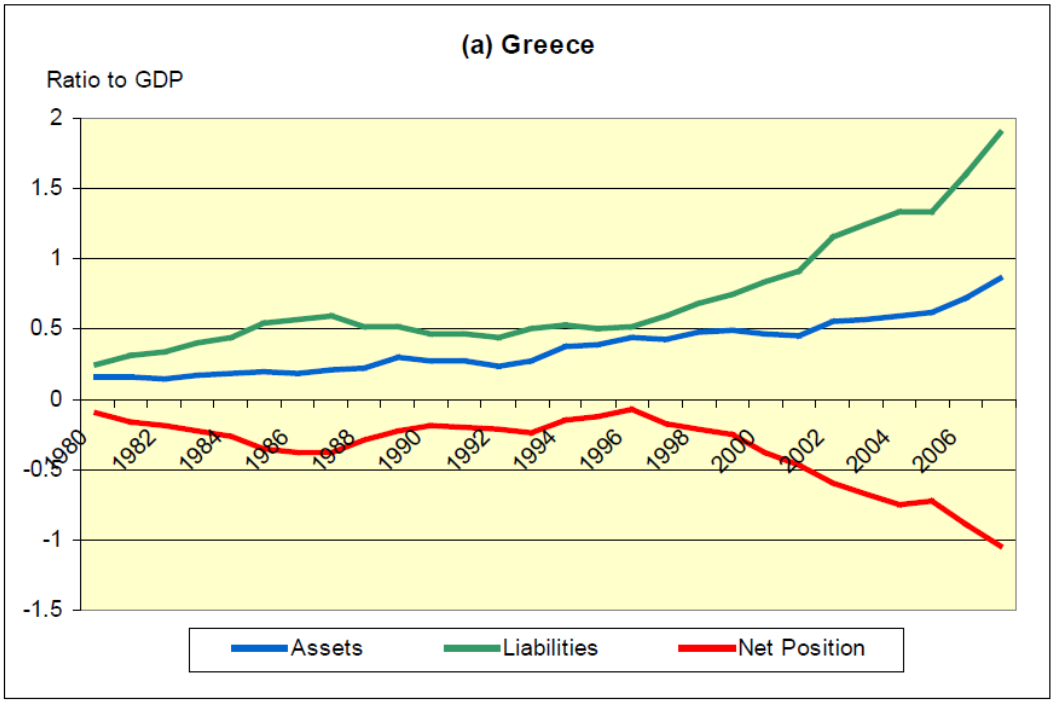


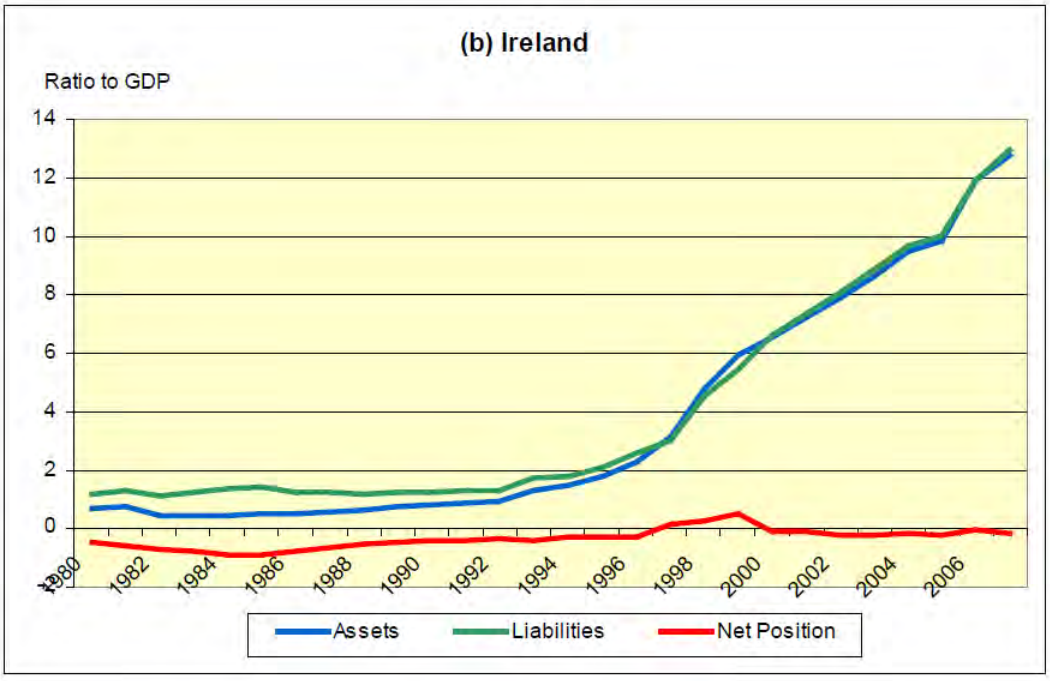


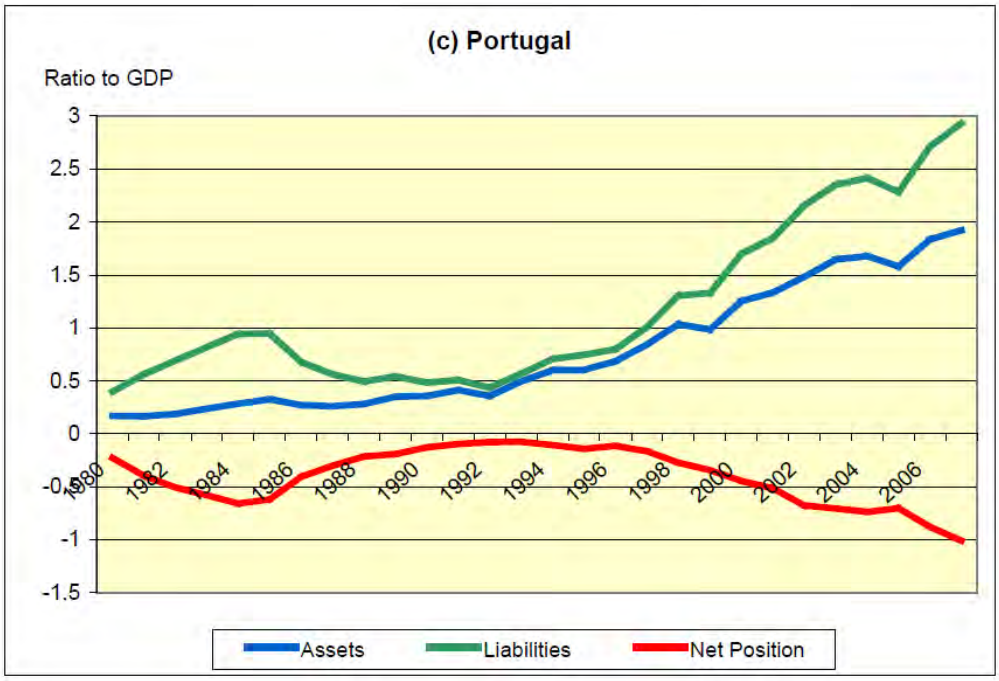


Sources: (a) http://www.bea.gov, accessed May 2, 2011; (b) http://sdw.ecb.europa.eu, accessed April 29, 2011; (c) http://www.boj.or.jp/en/statistics/br/bop/index.htm/,accessed April 29, 2011 and http://www.esri.cao.go.jp/en/sna/kakuhou/kekka/h21_kaku/23annual_report_e.html, accessed April 29, 2011.

Figure 2: Gross and Net International Positions, Euro Zone Crisis Countries

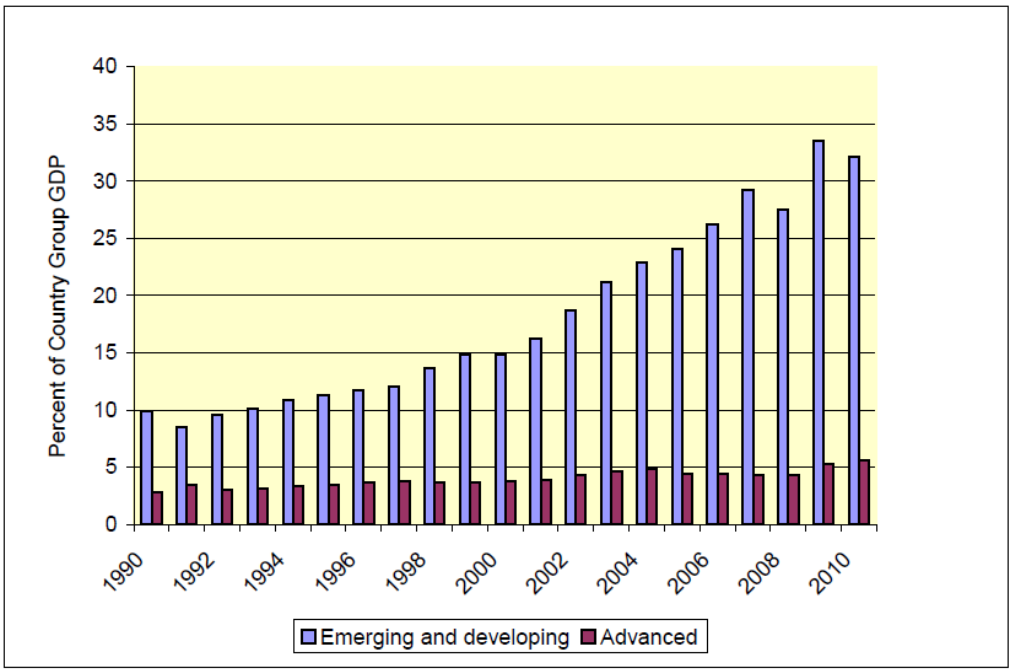






Source: http://www.philiplane.org/EWN.html, accessed May 2, 2011.

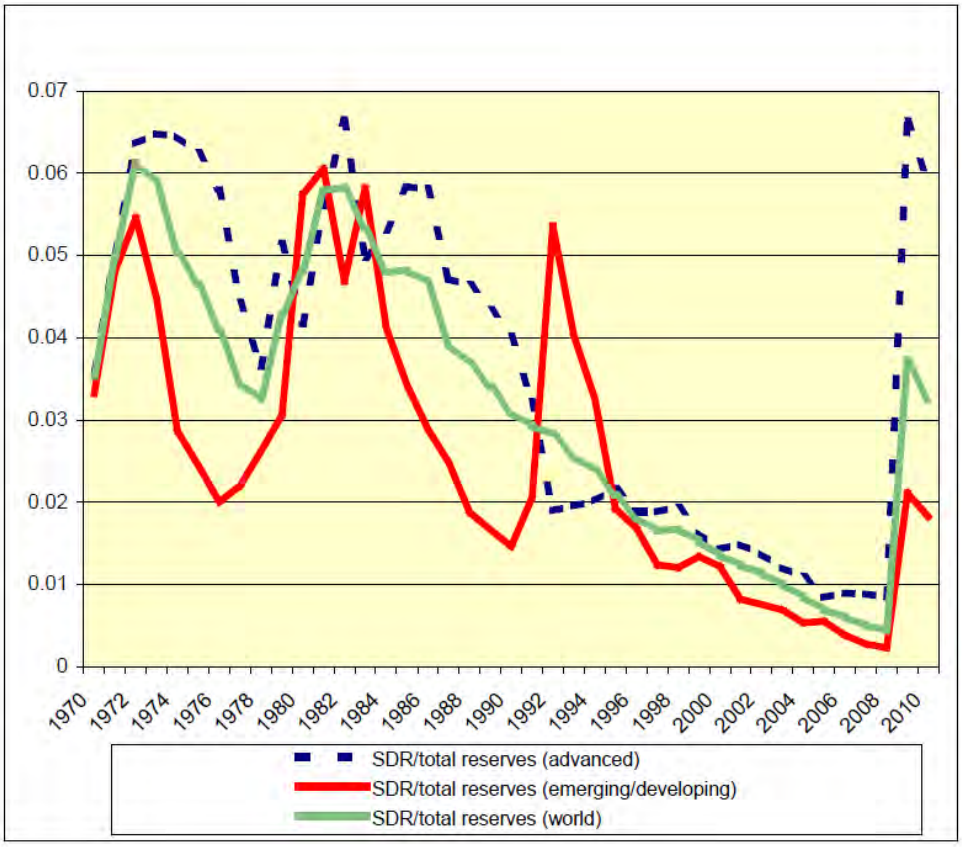
Figure 3: Foreign Exchange Reserves of Emerging/Developing and Advanced Countries



Note: The "advanced" group excludes Hong Kong, Korea, Singapore, and Taiwan but includes the Czech Republic, Estonia, Slovenia, and the Slovak Republic.

Sources: IFS (May 2011) for reserve data (which include gold valued using national methods); WEO (April 2011) for GDP data.

Figure 4: SDR Holdings in Relation to Total International Reserves: Advanced Countries, Emerging/Developing Countries, and World



Source: IFS (March 2011).