

The case for international monetary reform

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Introduction

The conventional view on global imbalances is based on a few basic propositions: that (i) they are the ultimate cause of the financial crisis, and (ii) mainly the result of overspending in the US and currency manipulation in China; (iii) the overall policy objective should be to *rebalance* which requires that deficit countries should save more and surplus countries less, and (iv) that exchange rate flexibility should be enhanced. Traditionally, overspending used to be blamed on government budget deficits, so the policy prescription would call for reduced government spending. But since the crisis, regulatory failure appears to have emerged as a new culprit. Financial regulation failed to detect and stop excessive credit growth which in turn made it possible for US households to over-consume. Now that financial reform legislation has supposedly fixed that problem in the US, attention appears to have shifted onto global imbalances and exchange rate flexibility.

However, what is not discussed as much is the downside of raising savings to *rebalance* in the midst of an anemic recovery. Economists often talk from both sides of their mouths to deal with the problem: Spending should be raised in the short run to revive growth when in a slump, but needs to be curtailed in the long run when the economy recovers. But, the short run fix takes us further away from the long run objective and it is never clearly spelled out how one goes from the former to the latter without tripping along the way.

It is possible that the conventional view suffers from an even deeper problem, for it assumes a world that no longer exists. It implicitly presupposes an *international* economy consisting of distinct national economies with their own separate systems of financial intermediation tied to one another mainly through trade. But, in a world of free capital flows why should the net demand for national currencies and thus the market determination of exchange rates depend solely on trade balances? The conventional view would only make sense in a world where financial assets are traded mainly to move goods; where central banks control credit growth and where the current account rules the roost. Of course, none of this is consistent anymore with the increasingly *transnational* world we inhabit, a world that is interconnected through financial flows and global production networks; one where the notion of global financial intermediation is no longer an empty supposition.

All of this suggests looking at global imbalances from the capital account side, which provides a very different understanding of the nature of the problem we face. Think of Bernanke's "savings-glut" thesis—and, ignore its frequent Pollyanna-ish use. It basically says that the U.S. credit boom that led to overconsumption and thus the ballooning trade deficits was in turn caused by money flowing into the US from the rest of the world through its capital account. In other words, it was ultimately the capital inflows that fueled the credit expansion and brought long-term interest rates down, making it possible for U.S. households to overspend and thereby be the engine of world growth. In this view, what needs to be done to restore world growth is not as obvious as in the conventional view. Here, US overspending, along with the trade deficit it gave rise to, appears to have been a "solution" to a deeper

¹ We would like to thank Shari Spiegel, Manuel Montes, Rudi von Arnim and Lance Taylor for their helpful comments on an earlier version of this paper.

problem involving excessive savings in the global economy, where the US real estate boom was perversely functional in creating much needed demand. This implies that the trouble was not with global imbalances per se, but the unsustainable way they were recycled and what they were used to finance.

Now, global intermediation is in crisis. Its main fault lines were exposed as early as the Asian crisis and the US dot.com stock market debacle. As it progressively became harder to recycle funds back to the rest of the world from the US, intermediation could only be revived in a lopsided way by absorbing much of the incoming funds within the US, and that is exactly what the US housing bubble made possible. But, that in turn eventually wrecked the balance sheets of US households and banks, putting global intermediation in jeopardy anew. The short term fix not only wore off but ended up compounding the underlying problem by seriously injuring confidence in the reserve asset. The policy challenge today is therefore to revive global intermediation on a sound footing, and that is why in our view international currency reform is an imperative that is better addressed sooner than later. Whether it is on sound footing or not ultimately depends on what the recycled funds are used to finance. That is why the real challenge is to find a way to continue recycling dollar reserves such that they finance development in poor countries rather than speculation and overconsumption in the rich. An international currency reform not only can help achieve that but also restore confidence in the reserve asset, benefiting everyone including the rich. By contrast, pushing with the conventional policy prescription to *rebalance*, we are afraid, will cause the world to drift towards deglobalization, which implies a global economic slump comparable only to the Great Depression in length and depth.

Part I, below, focuses on the nature of the threat the world economy faces. Discussing how and why global intermediation has come under stress, it tries to make the case that reviving intermediation in a sustainable way requires that the international monetary system be reformed. In Part II, the different reform proposals that have so far been advanced are critically discussed in terms of both their real world relevance and their effectiveness in reviving intermediation on a sound footing. That is followed by a discussion of a set of proposals of our own which we believe are viable in the current environment. We end with a few concluding remarks.

I. The threat the world economy faces

I.1. Rise of global financial intermediation

Two distinct forms of intermediation at the global level can be distinguished in the early post WWII era. One involves long term US investment abroad with foreign borrowers owing debts directly or indirectly to US banks whose liabilities are held by US based creditors – the holders of bank deposits who would normally want to stay in dollars. Since banks' receipts and deposits are both denominated in dollars, currency mismatch was not then an issue. US short term borrowing throughout the same period is the second form of intermediation. Here the roles are reversed between foreigners and US entities. Debts are still denominated in dollars and banks receive dollar payments, but now creditors are foreigners who need to be induced to hold their deposits in dollars since they have no specific reason to do so. While the first form of intermediation was larger and more important than the latter during the early part of the post WWII era, the latter acquires an importance comparable to the former by the 1980s, turning currency mismatch in the banking system into a potential problem.

Beginning with the 1990s, the two forms of intermediation are intertwined as short term borrowing becomes increasingly the source of funds that finance a rising proportion of US long term investment in other countries. The US progressively begins to function like a *hedge fund*, issuing short term liabilities to foreigners to finance riskier, higher yielding long term investments in the rest of the world. During this time, the overall US current income account deteriorates as US entities begin to get an ever smaller share of interest income from total dollar denominated debts worldwide since much of this is now passed onto foreigners. Even though the US net asset position eventually turns negative in the new century, its net income flow in the current account remains positive - a fact consistent with its role as the world's banker/hedge fund - and even rises more recently.²

None of these changes imply a reduction in other countries' demand for dollars. On the contrary, they suggest that the rest of the world's need for dollars increased, not only to trade and service debt, but also to invest their surplus funds. But, now, foreign entities that have no special preference for dollars become the holders of the liabilities that finance the dollar-denominated long term debt held by borrowers in mostly developing economies. This means that currency mismatch, only a potential problem in the 1980s, turns into a pervasive one by the 1990s, increasing the downside risk of exchange rate volatility.

In sum, by the 1990s, global intermediation can be defined by the following three salient features. One is the "exorbitant privilege" the US enjoys on account of the fact that the dollar is the international reserve currency.³ This historically gave rise to the need for large US trade deficits as a requirement for reserve accumulation in the rest of the world, which posed a threat to the confidence in the dollar as Triffin had recognized in the 1960s.⁴ The second is a global system of financial intermediation in which the US role as the world's banker⁵ evolved from being simply the issuer of the reserve currency to, increasingly, being the issuer of interest-bearing short term liabilities to the rest of the world. Finally, with the spread of capital account liberalization central banks lose much of their ability to control credit expansion in their respective countries. Variable price assets become the main conduit for capital flows and, compared to the fixed price bank loans of the 1980s, blur the distinction between borrowing and the sale of equity, making long term investment much easier to reverse and speculation less costly.

In other words, just as the importance of capital flows increased that of 'national intermediation' declined. Countries could acquire the reserve asset (dollars) in three possible ways: by running trade surpluses, borrowing or attracting capital. Dollars accumulated unevenly in the hands of a few successful exporters - first Japan and Germany, then China,

² The increase in net US current income in recent years has largely been due the substantial capital gains in US assets abroad due to the depreciation of the dollar. See, Lane & Milesi-Feretti (2008) for a detailed discussion of these valuation effects on the US external position. The improvement of the US net income position in its current account after its net asset position had turned negative has also given rise to the mistaken notion that its overall external deficit is illusory (Hausmann & Sturzenegger 2006).

³ The term is often used more broadly to refer to the fact that the US earns a higher return on its international assets than its liabilities to foreigners. The folklore has it that it was first used in a speech given by President De Gaulle, though Valéry Giscard d'Estaing might actually have been the one who coined the term when he was the Finance Minister in 1965 (Gourinchas & Rey 2007).

⁴ For our take on Triffin's dilemma and its "resolution," see D'Arista & Erturk (2010).

⁵ The term originates from Kindleberger (1965).

the oil exporters and a few others.⁶ Less successful exporters on the other hand had to compete against each other in making themselves more hospitable to foreign investment as attracting foreign capital became their only option to avoid deflation. The US, as the middleman, dispersed the surplus funds it attracted from the first set of countries to the latter, and later increasingly became a generator of such funds through money creation.

1.2. Global intermediation in distress

The viability of any system of financial intermediation requires that banks and other financial units can issue new liabilities with ease to retire maturing debt. However, once banks and financial institutions around the world come to hold vast quantities of dollar denominated assets against liabilities that need not be in dollars, their net worth becomes vulnerable to prolonged dollar weakness that ebbing confidence in the dollar is liable to cause.⁷ In the shorter run, the liquidity of the system also becomes highly sensitive to bouts of currency turmoil. That in a nutshell explains why many international banks found themselves precariously squeezed for liquidity when the financial crisis elevated their currency mismatch risk.

European and Japanese banks with massive amounts of dollar denominated assets accumulated since the late 1990s⁸ relied mainly on short term foreign currency swaps – but, also, on wholesale borrowing in the interbank market and from money markets funds as well - to hedge their dollar exposure. As the financial crisis broke out the FX swap market came under stress (Baba and Packer 2009) and the interbank market seized up while money market funds drastically contracted (Baba et al 2009), forcing banks to scramble for dollar funds to rollover their short term funding positions.⁹ As the markets for many of their dollar assets (such as structured mortgage-based securities) had also dried up, banks found that the maturity of their assets effectively lengthened just as the maturity of their liabilities were rapidly shortening.

The logjam was finally broken by the international swap agreements the Federal Reserve brokered which enabled central banks to lend dollars on demand to the banks in trouble in their respective countries (McGuire & von Peter 2009; Obstfeld & Shambaugh 2008). The Federal Reserve effectively acted as the lender of last resort both in the US and abroad and succeeded dampening the global liquidity crisis. In the aftermath, however, it was much less successful in addressing the insolvency crisis, which still persists. The overall viability of the payments system remains dependent on the Federal Reserve's continuing to hold a massive volume of assets whose market value is yet to recover. In fact, fresh injections of liquidity and a further lengthening of the Federal Reserve's balance sheet are now in the works and still more injections can be called for to deal with future funding difficulties banks might experience both in the US and elsewhere. Past a certain threshold, however, such injections pose the risk of undermining confidence rather than bolstering it, which might then

⁶ Incidentally, the prevention of currency appreciation was quite often the *sine qua non* of their success. The link between an undervalued real exchange rate and growth shows up in cross-country regressions (Rodrik 2008).

⁷ Note that the trade weighted dollar exchange rate index rose steadily from mid-1995 to mid-2001, and began its descent afterwards, again, falling steadily, till the breakout of the crisis in 2008.

⁸ "The outstanding stock of banks' foreign claims grew from \$10 trillion at the beginning of 2000 to \$34 trillion by end-2007, a significant expansion even when scaled by global economic activity" (McGuire and von Peter 2009).

⁹ Yet another complication was the withdrawal of dollar reserves emerging market central banks kept with commercial banks to assist their own banks that were experiencing funding difficulties.

paradoxically necessitate larger rounds of liquidity injections that can eventually destabilize the reserve asset itself. We are now at a point where the fear has risen in financial markets that that will happen, which in itself is destabilizing.

This seems to be the gist of the constraint monetary authorities are facing in the US today. It used to be thought that the exceptional ability to issue liabilities in its own currency makes the US immune to the potential conflict between domestic policy objectives and international payment obligations that so often bedevils policy makers in other countries. That is hardly true today, if it ever was. It is evident that US economic policy autonomy has been shrinking rapidly and is likely to continue to do so, though it remains doubtful how well that is recognized by US policy makers themselves.

Unsurprisingly, during the strong dollar era prior to 2001 the destabilizing effects of currency mismatch and exchange rate instability were mainly felt in emerging economies. Throughout the 1990s it was primarily (though not exclusively) the emerging economies that were plagued by sudden stops and abrupt capital flow reversals that culminated in one currency crisis after another. With the benefit of hindsight these episodes can be seen as the early signs of trouble for global intermediation as a whole, and thus a precursor of the financial crisis that eventually hit the US and other advanced countries at the core of the system.

1.2. A look at the data

In this section, we look at the gross flows of funds in and out of the US as a circular flow. Accordingly, we organize the US balance of payments data¹⁰ on the assumption that all incoming funds into the US were in the nature of short term borrowing,¹¹ which in turn are drawn on (in part) to make investments in other countries either directly through FDI or indirectly through the purchase of foreign securities. Thus, we lump together the outflow of FDI from the US and private US purchases of foreign securities, and call it, for the purposes of this discussion, *US long term investment*.

Once the gross flows are organized as defined, it becomes possible to identify synchronized cyclical turning points in the data. For instance, when we look at *US Long Term Investment* (Graph 1) we observe a steady rising trend - though interrupted by a sharp increase in volatility at the time of the Asian crisis - that is not reversed until it reaches its pinnacle in 1999 (Graph 2), a year before the burst of the dot.com bubble and the steep fall in the stock market. We then observe a declining trend that is only reversed after the end of the 2001-2 recession, which also coincides with the turnaround in the stock market. The third phase is the period of the housing bubble that reaches its apex prior to the outbreak of the financial crisis and again precedes the turning point in the stock market by almost a year as it did in the first turning point. A similar periodization is also evident in the gross inflow of funds into the US (Graph 2), especially when official flows are deducted (Graph 3). It can also be seen that the latter are inversely correlated with the former, especially, after 2000 (Graph 4).

¹⁰ We use seasonally adjusted, quarterly data: Table 1 in [US International Transactions](#), released by the Bureau of Economic Analysis on September 16, 2010.

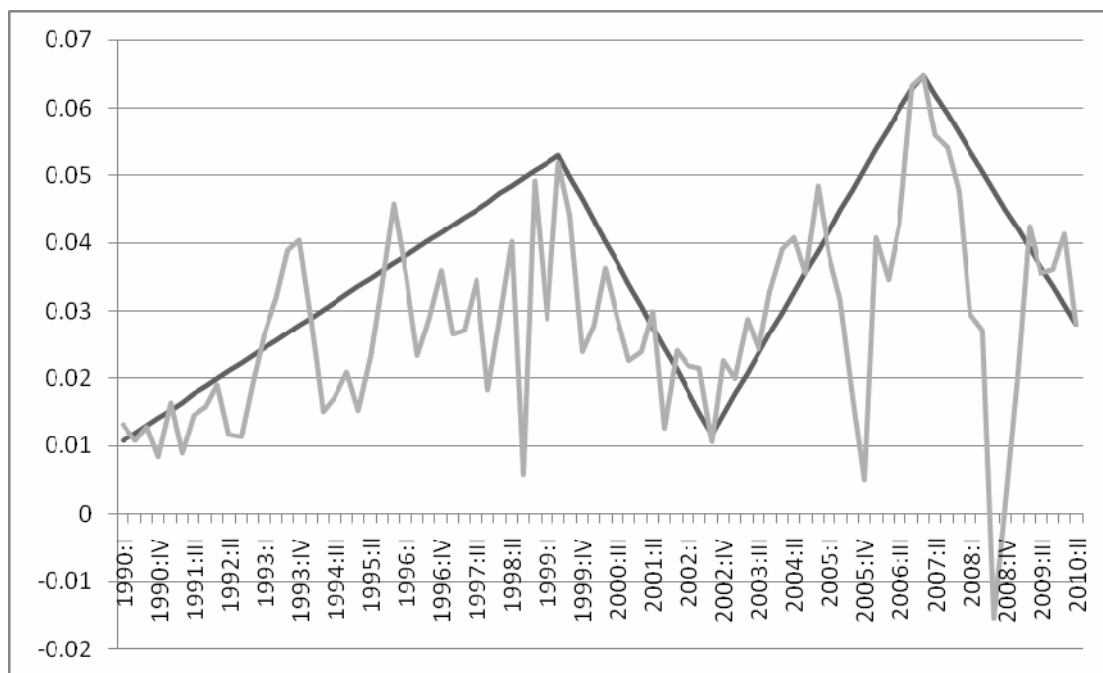
¹¹ That is, with the exception of FDI, which we assume would have a different modality. Thus we lump together officially and privately owned US assets by foreigners, Lines 56 and 63, respectively, but deduct Foreign Direct Investment by foreigners in the US (Line 64).

The dates of the turning points for these two series are summarized in Table 1.¹² Of course, it is too early to tell if the bottom in the fourth turning point in Table 1 in fact marks the end of a declining trend. It might be more likely that the declining trend is still continuing as depicted in Graphs 3, and that the rebound in the two respective series is simply due to the “dead cat bounce” effect. It is also interesting to note that the US current account is not synchronized with the turning points in these gross flows, except for the third turning point associated with the financial crisis – and, possibly, the fourth if it turns out there is one. The first two turning points in the gross flows appear only as inflection points in the current account time series (Graph 5).

Table 1: Turning points in gross flows of incoming and outgoing funds

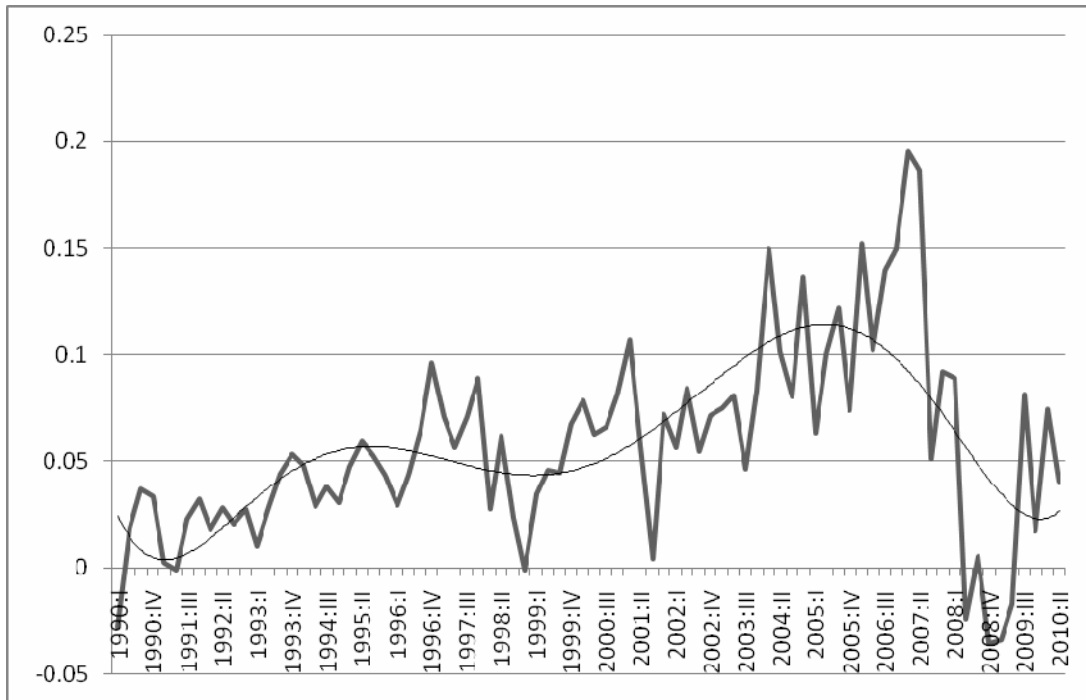
| Turning Points | LTInv | STB (Private) | S&P Index |
|----------------|---------|---------------|-----------|
| 1. Peak | 1999(2) | 2001(1) | 2000(2) |
| 2. Bottom | 2002(3) | 2003(2) | 2002(3) |
| 3. Peak | 2006(4) | 2007(2) | 2007(3) |
| 4. Bottom (?) | 2008(3) | 2009(1) | 2009(1) |

Graph 1: US long term investment as a ratio of GDP

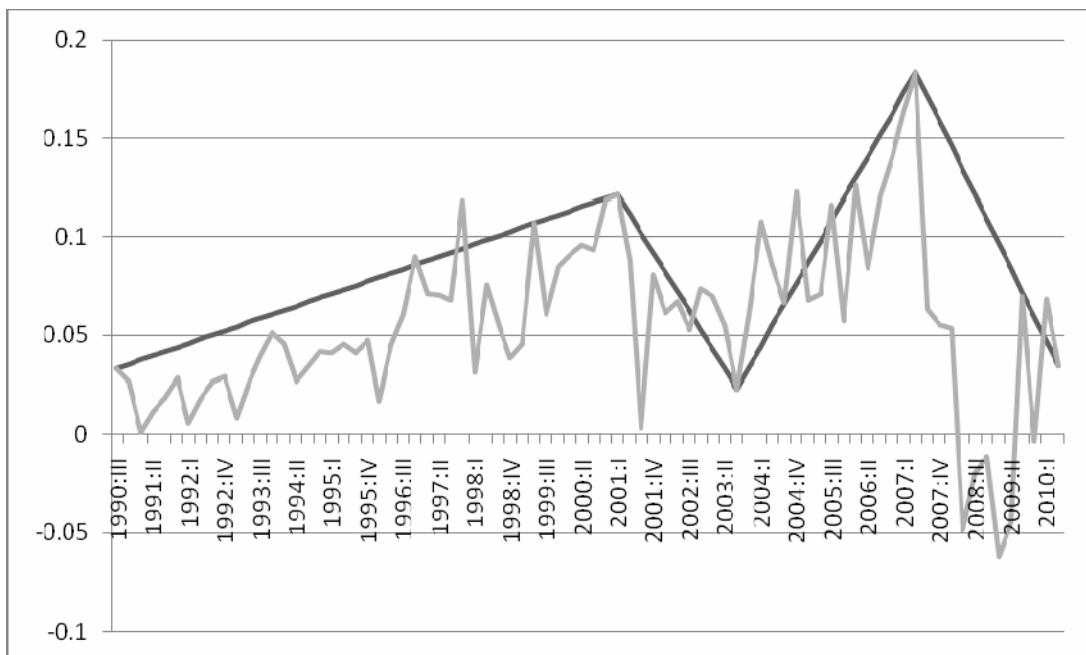


¹² The first column refers again to “US Long Term Investment” (Lines 51+52), while the second column refers to US private “short term borrowing” (Line 63) only. The third column gives the dates of turning points in the S&P Index of the NY Stock Exchange.

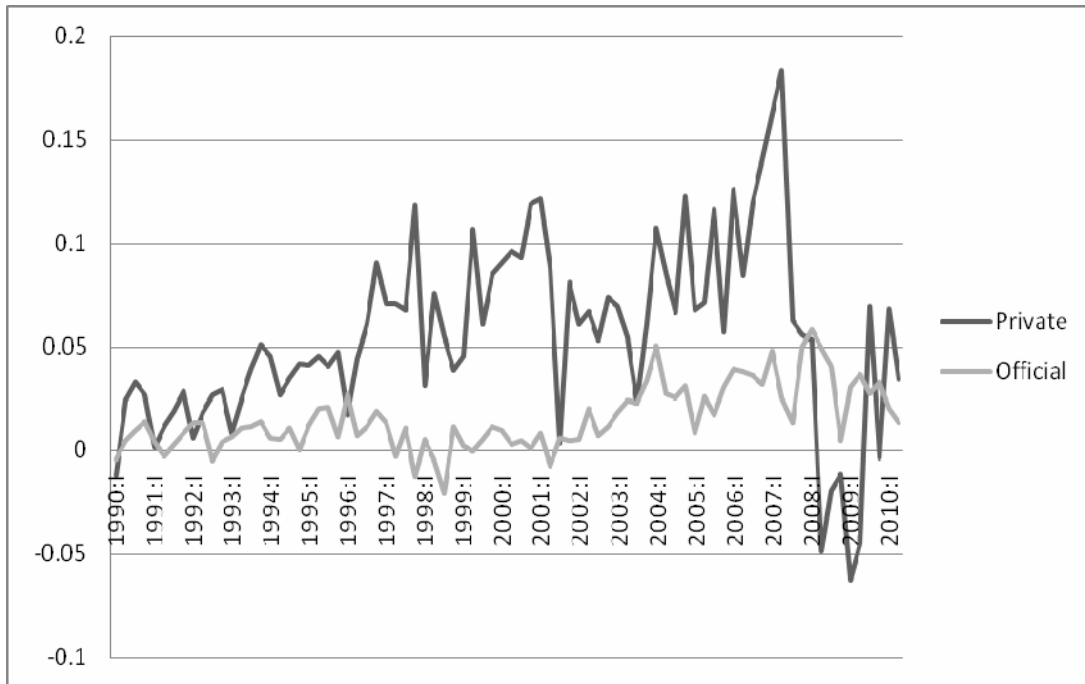
Graph 2: US short term borrowing as a ratio of GDP



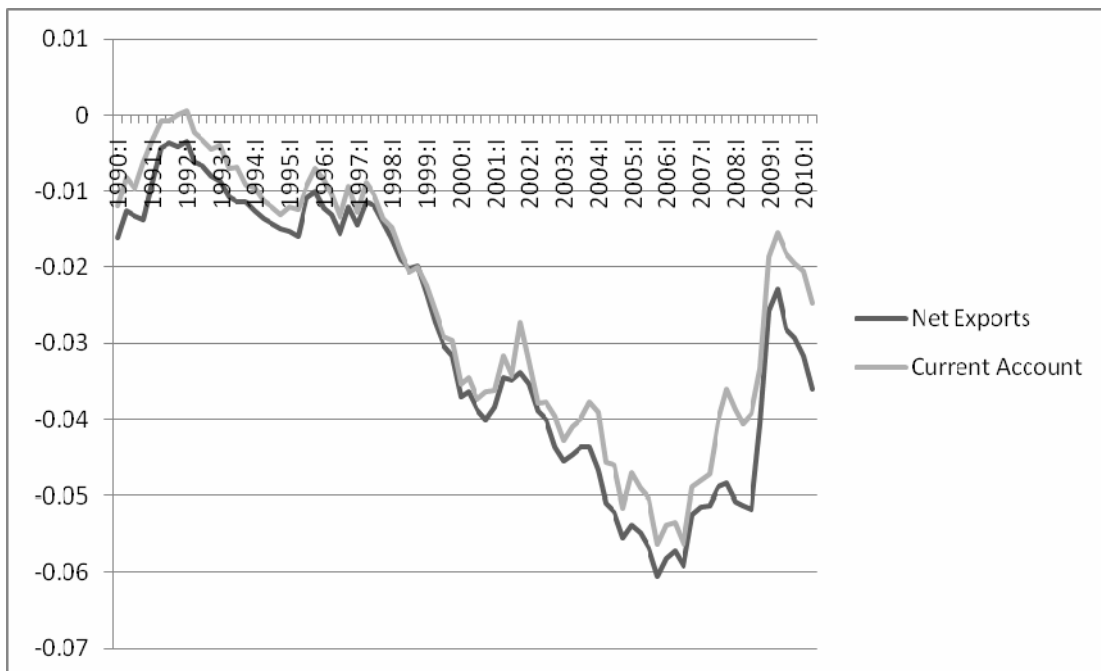
Graph 3: US short-term private borrowing (line 63) – ratio of GDP



Graph 4: Official (line 56) and private (line 63) flows into the US



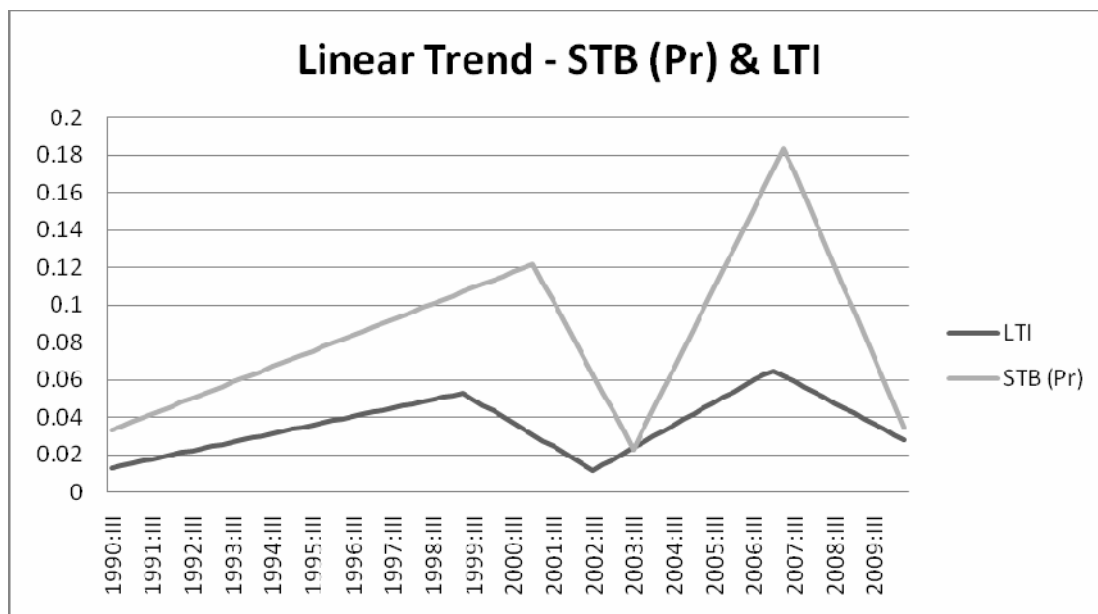
Graph 5: US current account balance and net exports



The overall picture that emerges from these graphs shows that global intermediation suffered its first setback following the Asian crisis and the ensuing dot.com debacle. There was a marked contraction in the volume of intermediation roughly around the dot.com debacle when both outgoing long term investment as well as the short term borrowing fell steadily - Graph 6 reproduces the linear trend lines from Graphs 1 and 3 above to make this easier to track. This was in part the result of the collapse of investment after the Asian crisis in the

region (Felipe, Kintanar, and Lim 2006),¹³ the fallout from the bursting of the dotcom bubble and the broader cumulative effect of rising currency and contagion risk in the emerging countries, arguably a reflection of the fact that the economies that were the recipients of significant capital flows would soon experience abrupt capital flow reversals and run into crisis throughout the 1990s.

Graph 6: Long-term investment and short-term borrowing – linear trend lines



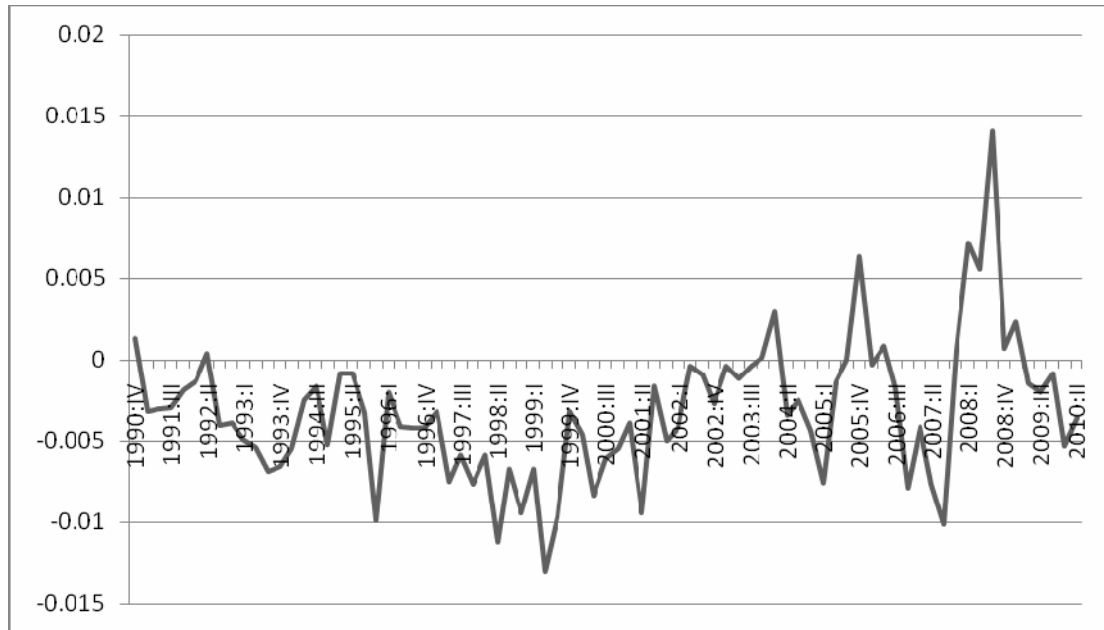
The beginning of the US recovery towards the end of 2002 appears to have jumpstarted global intermediation, thanks in part to the steady increase in official incoming funds during the interim (Graph 4) which basically amounted to the monetization of US debt by Asian central banks – most notably, in Japan. However, this second phase of intermediation associated with the US housing bubble was much less effective in dispersing funds than the first. In the 1990s, incoming funds rose faster than outgoing funds, yet the rate of growth of both were comparable. By contrast, the rate of increase in outgoing funds lagged far behind that of incoming funds in the period after 2002 (Graph 6). Bernanke’s (2005, 2007) ‘savings glut’ was as much the result of the outgoing funds’ failure to increase in tandem with incoming funds, and explains why global intermediation became increasingly lopsided as a significant portion of potentially outgoing “long term investment” turned inward to exploit the greater reservoirs of US creditworthiness. But, of course, that also meant that the epicentre of debt build up shifted onto the US with all its ill-effects that have since become all too familiar.

In this second, lopsided phase of intermediation the growing importance of official incoming funds also stands out. While Graph 7 shows their relative magnitude in relation to outgoing funds, what we have termed US Long-term Investment fell steadily until the period around the Asian crisis and rose thereafter in ragged cycles that reached a higher peak at each successive burst. The inverse relationship between private and official incoming funds is again observable, but is more pronounced in this latter period with the successive dips in the latter part of the trend line in Graph 7 corresponding to periods when private flows picked up. Since the collapse of Lehman Brothers, the cumulative total official inflow has been almost

¹³ For a broader discussion of the causes of the global decline in investment, see Pagano & Rossi (2009)

three times as large as private incoming funds. In the period 2000 – 2008, it was exactly the reverse: the private inflow was roughly three times as large. During 2000 -2003 - the last period when the marked fall in private incoming funds was partially compensated by a rising official inflow - the ratio was even higher in favour of private inflows. While this needs more work to fully substantiate, it seems clear that the relative importance of newly created liquidity - through monetization of US debt first in Asia and later in the US after the crisis – has markedly increased as funds have been going back and forth like a ping pong ball between the US and abroad.

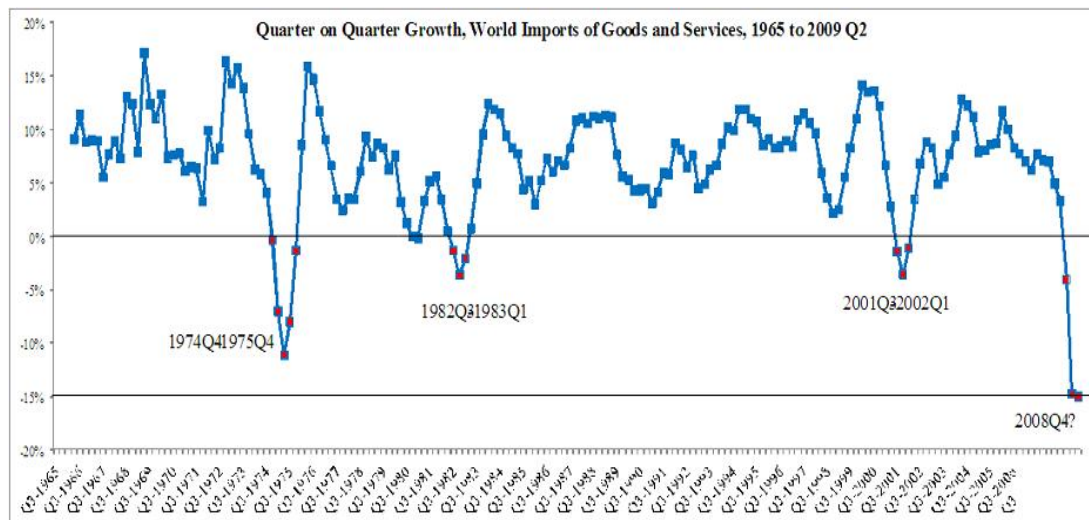
Graph 7: Ratio of official inflows to outgoing us long term investment



After the first bout of quantitative easing, the ‘carry trade’ reversed, making the dollar the funding currency in search of yield overseas. Thus, the speculative capital inflow overseas became an increasingly more important source of funds compared to trade surpluses, and reserve accumulation picked up as central banks scrambled to prevent their currencies from appreciating against the dollar and thereby pushed up the demand for US financial assets. But, a part of the funds recycled through reserve accumulation abroad returned to the US only to leave it anew in search of yield overseas again – hence, the ping pong analogy.

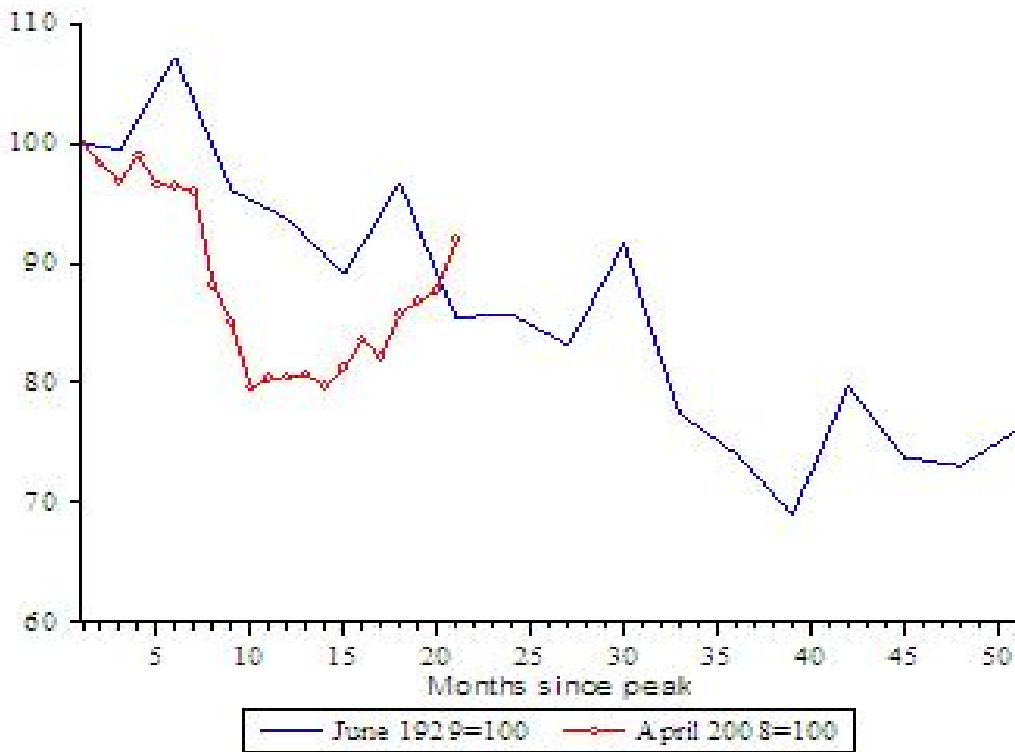
From the point of view of the threat of global disintermediation, what was even more worrisome was, of course, the dramatic collapse in global trade (Graph 6) after the crisis broke out, falling 20% below its previous peak - steeper than the contraction experienced during the Great Depression (Graph 7). With the revival in world industrial production world trade continues to recover, but still remains below its previous peak at the beginning of 2008 (Eichengreen & O’Rourke 2010). It is thought provoking that this time around there was no ‘Smoot-Hawley Tariff Act’ to blame.

Graph 6: Contraction of world trade



Source: Baldwin & Taglioni (2009)

Graph 7: World trade now and during The Great Depression



Source: Eichengreen & O'Rourke (2010)

1.3. Currency reform?

In our view, international currency/payment reform is important because it can potentially reverse the trend towards disintermediation, and provides the means to repair the confidence in the reserve asset while avoiding deflation. It might become politically viable in two different ways. One is through the enlightened leadership of the US and international cooperation, perhaps at the level of the G20. This route appears increasingly unlikely today,

given the persistent lack of interest on the part of policy makers in the US. The other route might be more indirect, involving the roundabout impact the rising cost of inaction could have on decision makers and the overall policy debate, especially in the US where arguably the full implications of the current impasse - 10% unemployment and stagnation for years to come - have not yet been fully factored into the political equation.

However, it is also entirely possible that US policy makers might respond in a shortsighted way to their growing inability to revive aggregate demand through asset purchases and increased government spending, by seeking solace in a weak dollar. In fact, barring international reform, an inflationary collapse of the dollar and a slide into a multicurrency system can be said to be in the US interest – analogous perhaps to going off the gold standard in 1933 – as it could free its hand to reflate its economy and mitigate its debt overhang. The dynamic that can bring this about can be quite similar to what is described in the second generation currency crisis models. In the European crisis of 1992-3, the conflict speculators perceived between fixed parities and changes in the direction of macroeconomic policies that appeared likely in the light of unexpected economic developments was perceived to be the main problem. Speculators attacked the currencies of those countries they thought could gain more from abandoning fixed parities than defending them. Governments ended up *ratifying* these speculative attacks by changing course, even though their original policies would have been viable had it not been for the attack on the currency.

On the other hand, a collapse of the dollar and slide into a multicurrency system is hardly in the best interest of developing countries. From their point of view, the challenge is to put to use their large reserves of dollars to revive a form of financial intermediation that can assist development. If this cannot be achieved globally because of the intransigence of the US, regional efforts to establish monetary unions in Latin America and South East Asia can perhaps provide a second best solution. The large cache of dollar reserves they have accumulated provides them with historical opportunities that hitherto were never available.

II. The Current Debate on Reform

Views on the kinds of reforms needed and how quickly they should be adopted vary widely. The 2009 *Report of the United Nations Commission of Experts on Reforms of the International Monetary and Financial System* sees reform as urgent and argues that a new global reserve currency is “an idea whose time has come”. Their report echoes the view of many that using assets denominated in national currencies as reserves is a system that creates global payment imbalances and inequities by channeling capital flows away from developing countries to countries that issue reserve currencies.

Others, however, believe it likely that there will be an ongoing evolution of the current system. Some think that shifts in investment patterns will determine change – that, for example, a preference for long-term investments could develop which would reduce the need to hold short-term liquid assets as reserves (Feldstein 2009) - while others see evolution as inevitable because they doubt that far-reaching reforms can be implemented. For example, staff economists at the IMF do not argue that the current system should continue - they argue, in fact, that the level of instability is an indication of “a need to look for more durable remedies” (Mateos y Lago et.al., 2009). Nevertheless, their skepticism about the political will for change leads them to accept the probability that the current system may endure for some time if suitably strengthened.

Many think there will be a shift away from a key currency to a multicurrency system and assume that increasing the number of currencies in which international reserves are held will add diversity and increase stability. Even so, most concede that adding currencies will require deep and liquid financial markets for those currencies, their wide use in private sector transactions and the ability of public sector investors to hold the amount of national financial assets denominated in those currencies necessary to satisfy the demand for reserve assets (ibid.)¹⁴

Opponents of a shift to a multicurrency system think it will increase exchange rate volatility, that the expansion of international reserves denominated in any national currency results in cumulative current account deficits for a reserve currency country and is therefore inherently unsustainable (Greenwald and Stiglitz 2008, Ocampo 2009, D'Arista 2009). Nevertheless, a multicurrency system is the most likely outcome of the failure to develop a coordinated approach to reform.

In the following sections, we describe and analyze the trends in thinking about reform reflected in current discussions and proposals. The first section describes the problems caused by previous experiences with multicurrency systems; the second discusses various proposals for expanding the use of special drawing rights (SDRs) as an alternative to reserves based on national currencies, and the third offers proposals for creating new non-national reserve assets not based on the SDR and issued by international agencies other than the IMF.

II.1. Problems and weaknesses inherent in multicurrency systems

Multicurrency systems are not new. That was the system that emerged after the collapse of the Bretton Woods agreement in the early 1970s. During that decade, the dollar and most of the currencies of Western Europe were used as reserve and transaction currencies and shifts from one currency to another resulted in a high level of exchange rate volatility that disrupted trade. Central banks in major industrial countries other than the US attempted to redress the problem by intervening in foreign exchange markets to moderate the appreciation or depreciation of their currencies or those of other countries. Most of the intervention was intended to support a weak dollar but the 65 percent increase in reserves in 1971 and further increases throughout the decade demonstrated how counterproductive this policy tool would prove to be. The buildup in reserves contributed to global inflation and severely weakened, rather than strengthened, the dollar (Dam 1982).

Then as now, the effects of central bank currency intervention were not understood and the outcome was not as intended. In a currency-based international monetary system, foreign exchange reserves are invested in interest-bearing credit instruments and thus increased holdings of reserves expand credit in the country in which those instruments are issued. In other words, when a central bank buys another country's currency with the intention of pushing up that currency's value, it acquires a bank deposit denominated in that currency which it can hold as a deposit or reinvest in securities such as government bonds issued in that country. The act of holding or investing the currency the intervening central

¹⁴ There is already a problem in terms of investments in euro denominated reserves. The assets preferred by public investors are government securities and, while all government securities in the euro area are denominated in the same currency, the credit-worthiness of the securities of individual countries is questioned. Since the development of a euro government bond backed by all EU members is unlikely at this time, euro reserve holdings are likely to be concentrated in a few countries. Moreover, as Greenwald and Stiglitz (2008) have argued, given that the EU's growth and stability pact tends to restrict expansionary policies, a significant shift of reserve holdings into euro-denominated assets could result in strong deflationary pressures if those governments fail to respond effectively.

bank has acquired results in an addition to the recipient country's credit supply. If the acquired currency had weakened because of expansive monetary or fiscal policies, intervention would augment that expansion and cause a further weakening of the currency.¹⁵ Given the procyclical effects of intervention, it is no wonder that the 1970s – a decade of intervention and rising global reserves – was also a decade of inflation.

A shift to a multicurrency system in the 1930s created the opposite problem – the damaging deflationary consequences of the extinction of reserves that occurred in that period. After World War I, the movement of gold to the US that occurred during the war and the decline in gold production made it increasingly difficult for European countries to acquire sufficient gold backing for their currencies to resume gold convertibility. Central banks had held some foreign exchange reserves before the war and, in 1922, many accepted the recommendation of a monetary conference in Geneva to expand the use of foreign exchange reserves to economize on gold.¹⁶ While the Bank of England resumed gold convertibility in 1926 and persuaded several other European countries to do the same, most industrial countries continued to acquire foreign exchange assets as reserves and, by the end of the decade, these reserve assets had grown to about 42 percent of the total reserves of 25 countries (Grubel 1977).

Germany's drift into recession in 1929 prompted the Bank of France to sell its holdings of Deutsch mark assets and forced Germany to suspend gold convertibility. As economic conditions worsened world-wide in 1931, the French central bank converted its other foreign exchange reserve holdings into gold, driving other countries to follow. Fears that the Bank of England would suspend convertibility led to a self-fulfilling prophecy: a run on the Bank forced suspension in September 1931. At that point, several European countries (France, Belgium, Switzerland and the Netherlands) converted sterling assets into still-convertible dollars and created a run on the dollar. Between mid-September and the end of October, the Federal Reserve lost \$755 million of gold. In a futile attempt to stem the hemorrhage and bring gold back, the Fed raised the discount rate from 1 ½ to 3 ½ percent – a blunder widely viewed as deepening the recession in the US and the rest of the world (Kindleberger 1984).

The post-WWI multicurrency system became the critical channel for transmitting economic collapse in the 1930s. Holdings of foreign exchange reserves fell from 42 to 27 percent between 1929 and 1931 and fell further to 8 percent by 1932. The implosion in international monetary reserves caused sharp contractions in money stocks and credit in the major national economies and in cross-border trade and investment (Grubel 1977).¹⁷

¹⁵ Conversely, when intervention is undertaken to dampen the value of a currency, the intervening central bank sells its holdings of assets denominated in that currency, withdrawing funds from that country's credit markets, causing interest rates to rise and, contrary to the original intention, raising the value of the currency. The sell-off of dollar assets by European central banks in the early 1980s in response to the stronger dollar helped push US interest rates and the dollar higher than would have been the case absent intervention.

¹⁶ There was no formal international agreement but some countries acted legislatively on this recommendation at the national level and many others simply resumed buying foreign exchange from their own financial institutions (Grubel 1977).

¹⁷ Eichengreen (2009b) agrees that the erratic shifts that occurred destabilized and ultimately destroyed the interwar reserve system. Nevertheless, he thinks having a number of alternative currencies in a system is positive because it puts pressure on policymakers to maintain investor confidence and, in his view, "that's not a bad thing". Such an optimistic assessment of the ability (or willingness) of policymakers to respond to such pressures – especially when faced with waves of speculative flows – is not supported by evidence of responses in the 1930s or more recently.

Over the last decade, the growth in carry trade transactions as channels for capital flows has introduced some elements of a multicurrency system with significant effects in terms of the growth of international reserves.¹⁸ Rising inflows of investment in emerging economies has been a primary cause of reserve accumulation in recent years and a mechanism for increasing the volume of capital flows as the investment of reserves fed liquidity back into the national markets of strong currency countries and into external (a.k.a. euro) markets. Large inflows into Japanese equities, for example, prompted the Bank of Japan to offset its mounting stock of dollar reserves by relaxing restrictions on lending in yen by Japanese banks in March 2005. The result was an even larger buildup in yen/dollar carry trades than occurred before the 1998 collapse of the Long Term Capital management hedge fund. The buildup in holdings of dollar assets depressed dollar interest rates, led to a search for higher yields that resulted in historically high capital flows to emerging economies in 2006 and 2007 and in additional reserve accumulation by these countries.

The enormous buildup in carry trade positions invested in a variety of assets (including sub-prime mortgages) issued by both advanced and emerging economies played a significant role in the global financial crisis in 2007 and 2008. Unable to maintain access to the immense volume of credit needed to support their bloated balance sheets, global financial institutions precipitated the implosion that followed as lending dried up across the global economy, asset prices plunged and trade suffered a steeper contraction than in the early years of the 1930s.

The shift toward a multicurrency system is already underway and, if left to market forces, is likely to involve a diversification of currencies in reserve holdings as well as in private international investment. But it is doubtful that such a development will lead to stability or, given previous experiences with multicurrency systems, help prevent future crises. Thus, as many have urged, consideration of alternative monetary systems is both reasonable and, perhaps, urgent.

II.2. *The SDR as a reserve asset*

There have been several attempts to revive interest in expanding SDR issuance since it was first introduced in the late 1960s and they have become more frequent since the onset of the financial crisis.¹⁹ While the proposal for a substitution account to replace dollars with SDRs – first offered in the late 1970s when the US seemed unable to stem the fall of the dollar – has been revived (Kenen2009), the discussion has advanced to explore ways to create a new SDR-type global currency. Recent proposals focus on ways to move a non-national reserve asset that is already in existence into the center of the international monetary system. Those who support such a move believe it is necessary to replace a system that is inherently unstable and inequitable and see expanding the use of the SDR as the most feasible path to reform.

The substitution account is viewed by some as a first, feasible step toward reform. Its objective is to cushion a potential sharp fall in the value of the dollar that would lower the value of global reserves and precipitate contractions in credit and asset values throughout the

¹⁸ Cross-border carry trades involve borrowing in a low interest rate currency for investment in higher yielding assets denominated in another currency. As the build-up of carry trade positions increased, so did exchange rate volatility since sales of the funding currency cause it to depreciate and purchases of the investment currency result in its appreciation. Since the mid-1990s, the yen, euro and dollar have all been used at various times as funding and investment currencies in amassing carry trade positions with higher-yielding emerging market assets attracting large shares of investment in the mid-2000s.

¹⁹ For a discussion of the origin and history of SDRs, see IMF (1987) and D'Arista (2009).

global economy. It would do so by creating a means to convert dollars into SDRs by having the IMF exchange holdings of US Treasury bills held in reserve accounts for SDRs and paying interest on the SDRs from interest received on the T-bills. Since the US would be paying interest on its securities in any event, the transfer would not result in a cost to the US Treasury. But if the objective of creating the account is to maintain the value of dollar reserves, the US could potentially face a substantial cost because it would lose the ability to depreciate its currency and thus lower the value of its debt. When the substitution account was first proposed in the 1970s, the US was unwilling to accept the burden of guaranteeing the value of the dollars held in the substitution account on a par with an SDR that was backed by 16 currencies at that time. But as historically high interest rates pushed up the value of the dollar in the early 1980s, interest in SDRs waned (Helleiner 2009).

Given the growth in global reserves, it is even less likely now that the US would assume the burden of maintaining the value of dollar reserves held in a substitution account. But new proposals that include sharing the exchange rate risk (Kenen 2009; IMF 2009) create new problems and inequities. If all IMF member countries shared the risk in proportion to their quotas in the Fund, the largest holders of dollar reserves would benefit the most and would be subsidized by other countries. But sharing the risk in proportion to the size of countries' reserve holdings would place the burden on the largest holders without providing them with benefits sufficient to encourage participation. Sharing the risk would have been a feasible proposal at the end of the 1970s when most dollar reserves were held by a large group of industrial countries. The current level of concentration makes an agreement on a substitution account less likely.

Additional SDR Allocations The new allocation of SDRs in mid-2009 in response to the agreement by the G-20 raised the share of the SDR in non-gold reserves from 0.5 to 5.0 percent. The call for a new issuance had been made by the governor of the Chinese central bank, Zhou Xiaochuan, together with a proposal to include the currencies of all the major economies in the SDR basket, weighted in terms of GDP and backed by real assets held in a reserve pool that would allow subscription and redemption as desired (Helleiner 2009). Only the allocation itself was adopted and some see it as a marginal accomplishment and doubt more can be done to promote its role as the primary reserve asset unless some of the limitations inherent in SDR issuance can be overcome.

One of those limitations is the fact that the SDR is not liquid; it cannot be openly traded for national currencies and buying or selling SDRs for national currencies requires consent from the countries issuing those currencies. As a result, SDRs are useless in terms of responding to a run on a country's currency, an economic downturn or a natural disaster. To increase its liquidity, some propose establishing a settlement system between the SDR and other currencies and encouraging IMF members to peg to and invoice in SDRs. But increasing its role and usefulness will also require encouraging, promoting and/or subsidizing private sector use of the SDR (IMF 2009).²⁰

Barry Eichengreen argues that the critical mass required to make the SDR liquid would involve its "commercialization" through a process that would allow SDRs to be issued and redeemed by governments and private banks as well as the IMF. He suggests that the IMF be authorized to undertake the role of market-maker, buying and selling SDRs at spreads comparable to those on the dollar. This is, in effect, a proposal to make the SDR the key asset used in international payments as well as international reserves. But he concedes that

²⁰ Steps in that direction might include encouraging the denomination of international trade and investment transactions in SDRs with settlement in one of the component currencies – a strategy used in Europe when the ecu was the unit of account before the introduction of the euro.

this would require time for the IMF to evolve into a global central bank and lender-of-last-resort (Eichengreen 2009a). In the meantime, his view is that the dollar will remain “first among equals” into the future since the market for US Treasury securities is the “single most liquid government bond market in the world” (Eichengreen 2009b).

Because he accepts the limitations inherent in moving the SDR to the center of the payments system, Jose Antonio Ocampo advocates focusing on expanding its use in the global reserve system while continuing the use of the dollar in international payments.²¹ His primary concern about SDR issuance is that it should be aligned with development and proposes that larger allocations be given to those with the highest demand for reserves and that the IMF be authorized to use unutilized reserves to buy bonds from developing countries.²² In his view, allocations should be countercyclical – loaned during crises and automatically extinguished when loans are repaid – and unused allocations be treated as deposits that can be loaned to other countries as needed. Included in his proposals is the suggestion that generous overdraft or “drawing” facilities be created that can be used on an unconditional basis by all member countries and that the IMF be authorized to suspend the right of countries with large surpluses or excessive reserves to receive SDR allocations (Ocampo 2009).

Bruce Greenwald and Joseph Stiglitz (2009) also advocate penalizing surplus countries by taxing the substantial and regular issuances of SDRs they propose²³ and using the tax for global financial aid. They address the liquidity problem by requiring each member country to guarantee it would convert SDRs into its own currency. Alternatively, they suggest that a group of countries could form a new system to which they make annual contributions in their own currencies and receive “global greenbacks” in return.²⁴ This would ensure convertibility and so could be used in a crisis to provide resources available to all members of the group. Because it could be initiated at a regional level, it would serve as a means to build a new monetary system from the ground up – an advantage also noted by Ocampo (2009) and the Report of the UN Commission of Experts (2009).

The Greenwald and Stiglitz plan assumes that global greenbacks would be held initially by central banks but that “a more ambitious version” would allow them to be held by individuals. This is yet another acknowledgement of the need to create a link between reserve assets not based on national currencies and those used in private international transactions but the institutional arrangements necessary for such an evolutionary development to take place are missing here as in an earlier proposal by Stiglitz (2006).

The Report of the UN Commission of Experts (2009). Many of the elements of the above proposals are included in Chapter 5 of the UN Commission’s report. The Report would, however, provide a new global reserve currency that could be managed by the IMF or by a new institution – a “Global Reserve Bank”. One version of the proposal would create a

²¹ This would, however, perpetuate many of the problems associated with the buildup of dollar liabilities. If used in transactions (and held as reserves) by the foreign *private* sector, foreign holdings of dollars would continue to create distortions in capital flows as US credit markets would continue to be the center for the temporary investment of funds used in payments.

²² George Soros has also proposed that rich countries give their unutilized SDRs to poor countries to relieve debt and finance low carbon investments, and proposes that the IMF use its \$100 billion gold reserve to guarantee repayment (Harraban 2009).

²³ Given global reserves of about \$3 trillion in 2008 and an average rate of growth in trade of 7 percent, they suggested annual increases in SDR issues of \$200 billion.

²⁴ The authors do not discuss how the currencies contributed to the agency would be invested or how they might affect credit in national economies.

world-wide system of swaps among central banks with the contributions in their currencies as backing for the global currency. Another version would have the international agency issue the global currency to member countries like the IMF issues SDRs but with no backing other than the commitment of member countries to accept it in exchange for their own currencies. Yet another version would designate these issues of the global currency as deposits in the Global Reserve Bank and authorize the Bank to use them to buy government securities or lend them, providing backing for the global currency in the same way national currencies are backed by the assets of national central banks.

This last institutional arrangement provides for paying interest on deposits created and allocated by the Global Reserve Bank out of the interest on loans or government bonds to encourage member countries to hold reserves with the Bank. Allocations would be determined by the size of member countries' GDP or their needs and carry penalties to prevent countries from running large surpluses that are not used to create global demand.²⁵

The UN Report suggests some of the elements needed to make a non-national currency reserve asset effective. For example, like a system based on national currencies, the institution that issues the asset must have the authority to create credit and must use some form of backing that can channel credit to the recipients. In other words, the institution must be a monetary agency – unlike the IMF that functions more like a Treasury operation dependent on taxpayer funds. If structured as a monetary agency, the institution would have the potential to evolve into a global central bank issuing liabilities in sufficient amounts and with sufficient credibility to be used by both public and private sectors for international transactions. But, as Eichengreen points out, that evolution will take time.

A Modified SDR Proposal. The above proposals lay out important goals that must be met if a reserve system based on non-national currencies is to evolve. It is likely that further institutional arrangements will be proposed that can hasten that evolution. In the meantime, we offer the following outline of a modified SDR-type plan that might serve as an effective transitional step in moving toward a new system. The plan would be structured as follows:

- The international agency would issue a reserve asset to central banks of member countries in exchange for securities issued by their Treasuries. Those securities would serve as backing for the reserve asset.
- The value of the asset would reflect the aggregate market value of all members' currencies. The amount of reserves issued to a given country would be determined by its shares of global population, trade and output. The governance of the international agency should reflect those same weights.
- The international agency could provide liquidity to member countries by exchanging its holdings of government securities with central banks of other member countries for their currencies or selling them to private or public investors.
 - For example, the agency could sell the government securities of country A to investors in exchange for the currency of country A or that of any other country at its discretion. It could then exchange the currency acquired with the government or central bank of country B in exchange for that country's reserve assets.

²⁵ Several other alternative proposals in the Commission's Report include the basic one of increasing SDR issuance on a regular or countercyclical basis, providing all financing for crises in SDRs and extinguishing them as loans are paid back, and investing some of the SDRs in bonds issued by regional development banks. The Report also advocates using these proposals in regional arrangements.

- In such transactions, country A's reserve balance would be unaffected and the agency's holdings of country B's securities would remain unaffected. However, the agency would now have a loan to country B on the asset side of its balance sheet and a liability to country A for the securities sold. When the loan by country B is repaid (in country A's currency), the proceeds would be used to reconstitute the agency's holdings of country A's securities. Thus there would be no change in the value of the agency's balance sheet and no expansion of global liquidity.
- New issues of reserve assets would, however, expand credit in member countries and expand global liquidity. Redemptions of countries' holdings of reserve assets by the international agency in exchange for their government securities would contract credit. Thus the international agency would have countercyclical powers to issue and redeem reserve assets.

One benefit of this modified system is that it fosters development by absorbing Treasury debt in exchange for reserve assets that can back credit expansion in the domestic economy. Countries that have not been able to engage in fiscal stimulus would be able to do so. Another benefit is that it can supply the means of payment for international transactions to countries that do not issue widely tradable currencies. Equally important, it can respond as a lender-of-last-resort in currency crises. Finally, unlike the euro, it moderates the intrusion on national sovereignty of a new regional or global currency. Countries would still use their own national currencies at home but would be able to acquire international reserves without borrowing from foreign private financial institutions or earning reserves by promoting export-led growth at the expense of domestic demand.

II.3. Alternative Global Reserve and Currency Reforms

The commercialization of the SDR proposed by Eichengreen would, in time, move the international reserve and payments system toward a structure that would function like a global central bank and lender-of-last-resort. But it could also lead to the adoption of a single currency in the global economy that, as recent experience with the euro suggests, has important drawbacks. But there are other potential institutional and instrumental structures that move beyond the SDR-based proposals that are the current focus of discussion and they, too, should be explored. We offer the following reform proposals in an effort to encourage others that will expand the menu of options and enlarge the debate.

Creating a public international investment fund for emerging economies. The investment of emerging economies' current account surpluses in the US and other major national and international financial markets assured not only that these poorer countries would be financing the rich but that some portion of those funds would be recycled back to those same creditor economies in the form of foreign acquisition and ownership of their financial assets and productive facilities.²⁶ This channel for returning savings back into these countries often tends to undercut the potential for those savings to support development.

The primary channel for flows to emerging economies is foreign portfolio investment and reflects the shift toward a dominant role for institutional investors in global financial markets. More often than not, however, portfolio investment has tended to change prices and exacerbate volatility in secondary markets rather than provide long-term financing for economic expansion, while outflows often trigger and intensify currency crises. Moreover,

²⁶ For a discussion of the spill over effects of these patterns of capital flows, see D'Arista and Griffith-Jones (2006).

many developing countries that need long-term financing for infrastructure and other basic components of development strategies do not have markets that can absorb foreign portfolio investment flows nor the credit standing to attract them. What is needed is a new channel for portfolio investment to provide flows that are stable, in amounts appropriate to the size of a country's economy and directed toward the goals of development rather than solely toward the short-term profits of investors.

Creating one or more closed-end funds for emerging market investment through a separate institution under the Bretton Woods structure could constitute an important step toward accomplishing those goals.²⁷ These new funds would issue their own liabilities in national currencies in markets where there is strong demand for portfolio investment and would buy stocks and bonds of private enterprises and public agencies (including development banks) denominated in local currencies in emerging and developing economies. Marketed to both private institutional investors and official investors, they would qualify as international reserve holdings with a guarantee from the multinational agency that issues them and its member countries. Such a channel would enable emerging and developing economies to redirect their external savings back into their own economies rather than into the financial markets of strong currency countries. In addition, their closed-end structure would allow the new agency to make long-term investments and ensure that sales of the funds' liabilities would not disrupt development projects.

In addition to creating a stable channel for financing development, these funds would create a new international reserve asset that, in time, would expand sufficiently to bring about an incremental shift away from reserve holdings based on the financial assets of the wealthier, strong currency countries. Their status as reserve assets would be enhanced by their multilateral (rather than unilateral) backing by advanced and emerging economies.

Creating a New International Payments System. The above proposal addresses one critical flaw in the current international monetary system but, as the overview of the current debate suggests, the current payments system based on national currencies will tend to perpetuate the imbalances that are now constraining effective international financial intermediation. As long as the dollar or other strong currencies remain the means of payment for cross-border transactions, countries will be compelled to rely on promoting exports and shape their economies to ensure that they can earn or borrow key currencies to engage in external trade and investment. It also means that key currency countries must export more than they import to meet the demand for their currencies and accept the resulting current-account deficits and buildup in debt. In other words, the development of payments imbalances is inherent in the structure of the current system.

Ideally, the international payments system should be one in which every country could engage in trade and borrow and invest externally in its own currency. This was a core assumption in Keynes' proposal at Bretton Woods to create an international clearing union (ICU) and one we believe should be revived by creating an institutional structure that can accommodate such a system. Keynes' clearing house platform would be a key element in this structure. For example, an international clearing agency (ICA) could clear cross-border transactions in members' own currencies by crediting and debiting their clearing accounts.²⁸ These clearing accounts would, in fact, constitute the international reserves of the system, held by the ICA and valued using a trade-weighted basket of members' currencies. Thus the clearing process would change the ownership of reserves and reinstate the original intent of

²⁷ For a discussion of the benefits of closed-end funds and other details of its structure, see D'Arista (2000).

²⁸ For details of the ICA proposal, see D'Arista (2000)

the Bretton Woods agreement to maintain public control of international payments. It would preserve the valid role of market forces in determining exchange rates while ensuring that speculators would no longer dominate the process.

A revised clearing house structure could also reintroduce former US undersecretary of the Treasury Harry Dexter White's Bretton Woods proposal to authorize the IMF to engage in open market operations (Boughton 2006)²⁹, permitting the ICA to acquire government securities of its member countries as backing for their reserve holdings. This instrumental structure would give the ICA means and authority to conduct open market operations at the international level, enabling it to help national authorities correct imbalances, carry out exchange-rate adjustments, and promote stability by altering holdings of international reserves relative to national central bank reserves invested in domestic assets. Equally important, it would allow the ICA to act as a true lender-of-last-resort, supplying liquidity by buying government securities of member countries and augmenting their international reserves.

The ICA's ability to create and extinguish international reserves would give it the authority to expand or contract liquidity at the international level. The absence of that authority has become increasingly evident throughout the post-Bretton Woods era as crisis after crisis has damaged the global economy. Establishing an international monetary authority to conduct countercyclical operations was never needed more than now.

II.4. The feasibility of current reform proposals

The institutional and instrumental framework for using SDRs as an alternative to international reserve assets based on national currencies already exists. As a result, the SDR has emerged as the primary element in proposals for reform and there has already been a substantial new issue of SDRs. But this new issue was not large enough or structured effectively to produce results that would test the ability of the asset to provide a transition to a new system.

The creation of closed-end international investment funds discussed above would also be able to use the existing institutional framework to increase the share of non-currency reserves in the system. The World Bank already has authority to issue its own liabilities and even began experimenting with using institutional investment pools to direct flows to emerging economies in the 1990s when it sponsored private investment funds for the purpose. The open-ended structure of those funds undercut their effectiveness as stable sources for longer-term development strategies (as did the focus in that period on promoting privatization) and perpetuated the procyclical effects of portfolio investment. Thus, a minor shift in structure – the creation of closed-end funds – could make this channel effective in achieving both monetary and development goals.

Changes in the instrumental and institutional structure of the existing Bretton Woods agency would, however, be required to implement the more ambitious SDR proposals and the international clearing agency discussed above. Those changes would require new international agreements and approval by national legislative bodies. Moreover, since they include reform of both reserve and payments systems, these agreements would be a major undertaking and require an unusual commitment of political will at the international level. As the agreement for new issues of SDRs suggests, any of the more ambitious reform proposals will likely be initiated in discussions by the G-20. Absent a crisis of global proportions

²⁹ This proposal is also incorporated in the modified SDR plan described above.

involving the international monetary system itself, it is difficult to see how such discussions will come about. Nevertheless, we believe that failure to take those steps – to focus only on the international reserve system – will result in a shift to a multicurrency payments system that, given the size of private international capital flows, will intensify the imbalances and crises that have plagued the current key currency system.

Conclusion

The world economy is at an impasse, and policy makers are at a crossroad in terms of how they respond to the challenge it poses. A win-win solution would require deepening international cooperation and new institutions that would make many of the reform proposals discussed above politically viable. However, inertia and shortsighted policy decisions on the part of the rich and powerful nations, especially the US, might instead push us towards an outcome inferior to what is within reach for all. However, even then, the increased economic power of emerging economies and their financial clout means that they might be able to have much greater influence over their own destiny today than was ever possible before, provided that they manage to act in tandem through global or regional fora.

In a nutshell, the policy challenge emerging market and developing countries face involves the need to address two related but separate problems. One is the challenge of reviving financial intermediation in a way that channels investment throughout the world to promote development and stability. The other is to be able to participate in global trade and investment without having to amass someone else's currency – a requirement that, in the past, forced them to either over-borrow or promote exports at the expense of all else. The large dollar reserves in the hands of emerging economies give them some breathing room from the constraint posed by the latter challenge while providing them with the means to address the former. In fact, any success in financial intermediation that channels investment towards development globally – or at least regionally – can potentially make it easier to reform the international monetary system by creating the assets that can be used as reserves in a new system.

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SUGGESTED CITATION:

Jane D'Arista and Korkut Alp Ertürk "The case for international monetary reform", *real-world economics review*, issue no. 55, 17 December 2010, pp. 58-81, <http://www.paecon.net/PAERReview/issue55/AristaErturk55.pdf>

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