



Special Drawing Rights and the Reform of the Global Reserve System

José Antonio Ocampo

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Abstract

The current global reserve system has three fundamental flaws: first, a deflationary bias as the burden of adjustment falls on deficit countries; second, inherent instabilities associated with the use of a national currency as the major reserve asset; third, growing inequities associated with resource transfers to reserve currency issuing countries, enhanced by the high demand for foreign exchange reserves by developing countries, due to pro-cyclical capital flows and inadequate “collective insurance”. Instead, the system should counter-cyclically issue Special Drawing Rights (SDRs) (to also finance IMF facilities), ensure “development” SDR allocations, and create a complementary network of regional reserve funds.

JEL Classification: F02-International Economic Order, F33-International Monetary Arrangements and Institutions, F55-International Institutional Arrangements.

Keywords: Global reserve system, fiduciary dollar standard, financial volatility, foreign exchange reserves, self-protection.

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* The views expressed in this paper have been enriched by debates in the Commission of Experts of the President of the UN General Assembly on Reforms of the International Monetary and Financial System, of which the author is a member. My views on these issues have been enriched by multiple discussions, particularly with Stephany Griffith-Jones, Jan Kregel, Jomo K.S., Rakesh Mohan, Thomas Palley, Joseph E. Stiglitz, Lance Taylor, Eduardo Wiesner and John Williamson. This paper draws, in part, from a previous and a parallel paper by the author (Ocampo, 2007/08; 2009). Support from the Ford Foundation is gratefully acknowledged.

The debate surrounding the international monetary system has heated up in recent years through three different channels. Prior to the current crisis, attention was focused on the large global imbalances that the world economy had accumulated, as well as on the rationale for the massive accumulation of foreign exchange reserves by developing countries, which were part of that process. When the crisis erupted, attention shifted to the generation of international liquidity and countercyclical macroeconomic policies. The revitalization of the International Monetary Fund was an essential part of this process. This led to the decision of the Group of 20 (G-20) at its meeting in London in April 2009 to inject resources into the Fund on a large scale, including a special emission of Special Drawing Rights (SDRs) equivalent to US\$250 billion, which in turn revitalized this dormant mechanism of international monetary cooperation.

The third channel, the focus of this paper, is the reform of the global monetary system as such and, in particular, of the global reserve system. The proposal by the Governor of The People's Bank of China (Zhou, 2009) correctly placed this issue on the agenda (Helleiner, 2009). Obviously, the biggest concern for the Chinese is the large potential losses to them, as the major holders of US dollar assets, of a disorderly depreciation of the dollar caused, in part, by the expansionary fiscal and monetary policies underway to combat the worst global financial and economic crisis since the Great Depression. Simultaneously with the Chinese call to rethink global monetary arrangements, the Commission of Experts convened by the President of the UN General Assembly on Reforms of the International Monetary and Financial System (Stiglitz Commission) also made a call for deep reforms of the global reserve system (United Nations, 2009b).

Both sets of ideas were taken up at the UN Conference on the World Financial and Economic Crisis and Its Impacts on Development, held in New York on 24-26 June 2009. In particular, paragraph 36 of the Outcome Document of the Conference states: "We acknowledge the calls by many States for further study of the feasibility and advisability of a more efficient reserve system, including the possible function of SDRs in any such system and the complementary roles that could be played by various regional arrangements" (United Nations, 2009a).

This paper argues that a better global reserve system can and should be based on a SDR-based IMF together with a network of regional reserve funds. The next section analyses problems that the current system faces. This leads to closer analysis of the proposed reforms. The last section briefly discusses some complementary reforms.

Problems of the Current System

Three Fundamental Flaws of the System

Since the collapse in the early 1970s of the "dollar-gold exchange standard" established at Bretton Woods, the global monetary system has been primarily based on the use of fiduciary US dollars as means of payment and assets denominated in dollars as the major form of foreign exchange reserves. Although other characterizations are possible, this system can be best termed a "fiduciary dollar standard". Since other national and regional currencies (the euro, in particular) compete with the dollar for this international role, the system can also be described -- but only secondarily -- as one in which alternative fiduciary currencies from a few powerful economies compete with one another as reserve assets and international means of payment. Flexible exchange rates among competing world currencies is another feature of the system.

The financial globalization that began following the collapse of the original Bretton Woods arrangement generated another feature that is more the result of the functioning of the global *financial* system, but has profound implications for the monetary system, especially the fact that developing countries are subject to strong pro-cyclical swings in financing, which generate significant macroeconomic risks (Prasad *et al.*, 2003; Ocampo, Kregel and Griffith-Jones, 2007: Ch. 1). What this implies is that the integration of developing countries into global financial markets involves integration

into a market segmented by risk categories, in which high-risk borrowers are subject to strong pro-cyclical swings (Frenkel, 2008). This combined with the additional risks associated with the pro-cyclical nature of international trade, on which developing countries have increasingly relied. Some pro-cyclical features of international trade patterns, particularly commodity price fluctuations, were old, but accentuated in recent years by the “financialization” of commodity futures markets (UNCTAD, 2009: Ch. 3). In the absence of a global lender of last resort, the risks generated by pro-cyclical finance and trade generated a defensive or precautionary demand for foreign exchange reserves by developing countries – a mechanism that has come to be called “self-insurance”, or better still, “self-protection” – which has also contributed to the global imbalances (Aizenman and Lee, 2007; Carvalho, 2009; Ocampo, 2007/8, 2009; United Nations, 2009b).

As this paper will argue, the current global reserve system is both unstable and inequitable. Like all preceding systems, it lacks mechanisms to mutually offset the balance of payments’ surpluses and deficits of different economies (i.e., global imbalances) without adversely affecting world economic activity. Although most of these macroeconomic effects are contractionary, particularly during crises, the fiduciary dollar standard can also generate expansionary effects during global business upswings. Following conventional terminology, I will refer to these effects as the global “deflationary” and “inflationary” biases of the system, although their actual effects may be on world economic activity -- that is, on the intensity of the world business cycle -- rather than on prices.

More specifically, the system faces three fundamental flaws (Ocampo, 2009). First, it suffers from the deflationary bias characteristic of any system in which the burden of macroeconomic adjustment falls on deficit countries. As this was emphasized by Keynes in the debates that preceded the creation of the Bretton Woods institutions (BWIs), it can be called the *anti-Keynesian or deflationary bias*. The second relates to the instabilities associated with the use of a *national* currency as an *international* currency. As this was emphasized by Robert Triffin in the debates of the 1960s, it came to be called the *Triffin dilemma*.

The nature of this problem was significantly transformed, however, by the transition from the dollar-gold exchange standard to the fiduciary dollar standard. Since the accumulation of international reserves by developing countries basically involves foreign exchange reserves, the system forces a net transfer of resources from those countries to the major economies issuing the global reserve currencies. This third flaw of the system can therefore be called the *inequity bias* which -- as pointed out by the Zedillo Commission, created as part of the preparations for the 2002 Monterrey Conference on Financing for Development -- is a form of “reverse aid” (United Nations, 2001).

Furthermore, the inequities of the system have increased with the huge accumulation of foreign exchange reserves in the developing world over the past two decades as a result of the need for self-protection generated by highly pro-cyclical capital flows to developing countries *and* the lack of adequate “collective insurance” to manage balance of payments crises. However, although such reserve accumulation may be a rational response of each developing country to the problems posed by the global system, it generates “fallacy of composition” effects that contribute to global imbalances, and thus to the potential instability of the system (Ocampo, 2007/08). This interaction between the second and third flaws of the system can be called the *inequity-instability link*. As the three flaws follow a historical sequence, it is therefore relevant to discuss them in terms of the historical debates on the design of the international monetary system.

The anti-Keynesian bias

As already noted, the first of these problems was highlighted by Keynes during the debates that surrounded the creation of the BWIs, particularly the IMF (see a fascinating account of these debates in Skidelsky, 2000: Part Two). The fundamental problem is that the current system, as indeed all international monetary systems that have preceded it, places the burden of macroeconomic adjustment

on countries running balance of payments deficits. These countries have to adjust, either because they lack adequate external financing, or because they view as undesirable the associated increase of their debt ratios or, more generally, their net liability position *vis-à-vis* the rest of the world. Surplus countries may also face pressures to adjust, particularly those associated with the domestic inflationary effects that balance of payments surpluses generate. But the *external* pressures to adjust that they face are weaker or, indeed, non-existent. This asymmetric burden of adjustment, in turn, generates a global deflationary bias. This bias is particularly strong during global crises when the lack of adequate financing forces deficit countries to adjust.

Since Keynes' (1942-43) proposal to create a more symmetric system by establishing an International Clearing Union was not accepted, the Bretton Woods system was born with this inherent flaw. But even a system in which all deficit countries can automatically finance their deficits may still face a deflationary bias in so far as the macroeconomic policy authorities respond asymmetrically to the build up of a net external liability compared to a net external asset position.

The debates surrounding the creation of the BWIs were, of course, overburdened by the expectation that the Second World War would leave the US with a *structural* balance of payments surplus (using the terminology Latin American structuralists later made popular) -- i.e., a surplus that, within reasonable bounds, cannot simply be corrected by exchange rate adjustments -- whereas Great Britain and Western Europe in general would be left with structural deficits. This made the US quite reluctant to adopt a system in which it would have to provide virtually unlimited financing to Europe. The US offered instead a very imperfect substitute, the "scarce currency clause", which has never been used. More important was the acceptance by the US of capital controls as an essential feature of post-war arrangements.

The feared structural surpluses and deficits did indeed materialize in the form of what came to be called the "dollar shortage", with the solution coming in the form of the US providing financing to Western Europe through the Marshall Plan and a regional arrangement, the European Payments Union, both of which paved the way for the eventual restoration of *current account* convertibility, which was more or less complete by 1958 when the European Economic Community was born. The broad-based adoption by European countries of *capital account* convertibility would only come much later, and was only completed in 1990, soon to be followed by a set of major European balance of payments crises.

The Triffin Dilemma

As Kregel (2009) has recently emphasized, the anti-Keynesian bias implies that the most fundamental problem of any international monetary arrangement is the operation of the adjustment mechanism in the face of global imbalances, rather than the specific asset that serves as the international currency. Nonetheless, the role of the dollar at the centre of the system generated problems, which were debated in the 1960s. Robert Triffin (1961, 1968) emphasized the essential issue: an *international* reserve system based on a *national* currency is inherently unstable. Given the importance that the Triffin dilemma has assumed in recent discussions, including its specific mention in the Chinese critique of the current system, it is worth quoting the original formulation at length:

[...] reactions of the outer countries [tend to generate] generalized waves of confidence or diffidence in the future convertibility and stability of the dollar. This makes the position of the center country highly precarious in the long run. It can, in the early phases of the popularity of its currency as a reserve instrument, finance much larger and more persistent deficits than it would be able to incur otherwise. If, however, the center country uses its leeway in this manner, the time is bound to come when other countries will shift from dollar hoarding to dollar dishoarding [...].

On the other hand, if the United States restores full balance in its external transactions, it will cease to feed a world reserve pool [...].

In either case, the use of a national currency as a primer feeder of reserve assets for the rest of the world is bound to introduce a highly erratic and unpredictable factor both in the much vaunted mechanism of balance-of-payments adjustment and in the actual pace of growth -- or contraction -- of the world reserve pool (Triffin, 1968: pp. 87-88).

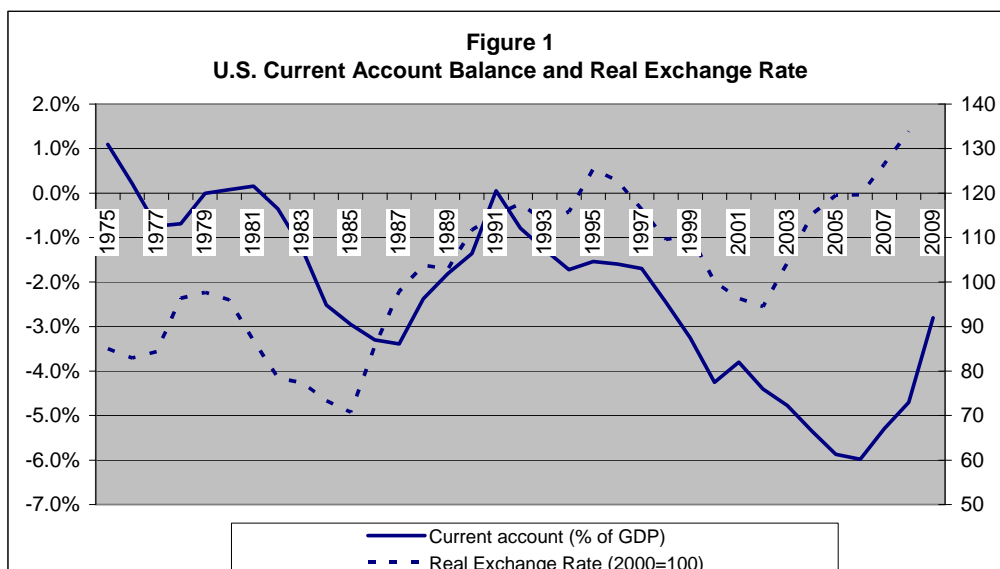
A major issue at the time, of course, was the possibility that other countries could transform their dollar reserves into gold. The attempt to collectively manage the erosion of the gold backing for the dollar through the “gold pool” ultimately proved to be futile (Eichengreen, 2007). This eventually led to abandonment of dollar-gold convertibility in the early 1970s. The discussions of the 1960s therefore focused on ways to create, in a more orderly (or less “capricious”, to use the preferred term at that time) manner, an adequate supply of world liquidity free from the inherent instability generated by the Triffin dilemma. Although different alternatives were suggested, the solution was the creation of a global fiduciary asset -- SDRs -- which was expected to become the main global reserve asset over time (see an account of this history in Solomon, 1977, chs 4-8).

As a digression, it should be pointed out that an interesting alternative proposed in the 1960s was to design a commodity-based reserve system (Hart, Kaldor and Tinbergen, 1964). This idea, which goes back to Keynes’ *Treatise on Money*, had interesting countercyclical features: world liquidity would automatically increase during global business downswings, which tended to depress commodity prices, and automatically decreased during business upswings, when commodity prices boomed. Equally interesting, this countercyclical effect would benefit developing countries, which were largely producers of raw materials and thus most adversely affected by the pro-cyclical pattern of commodity prices.

The transition to the fiduciary dollar standard did not eliminate the Triffin dilemma, but changed its features. The US was now able to run “much larger and more persistent deficits than it would be able to incur otherwise”, without facing the constraint of dollar-gold convertibility, as flexible exchange rates would take care of adjusting the supply and demand for dollars. To the extent that the US does not regard the actual or likely weakening of its currency as a problem to be corrected, as has been typical in recent decades, this has made US monetary policy even more independent than during the era of the dollar-gold exchange standard. It has also implied that, contrary to Keynes’ views, the reduced constraints on US balance of payments’ deficits imply that the fiduciary dollar standard could actually generate an inflationary, rather than a deflationary bias.

The deterioration in the current account since the mid-1970s and the eventual transformation of the US investment position into a net liability position from the second half of the 1980s, are both the result of the greater freedom that the US has to run balance of payments deficits and the inflationary bias that the system generates, at least during business cycle upswings. In this regard, it must be recalled that the US generally ran current account surpluses when the dollar-gold exchange standard prevailed, and dollar liquidity provision to the rest of the world was made through the capital account. The counterpart was, of course, the building of a large US investment position abroad. In contrast, under the fiduciary dollar standard that followed, the US current account deficits became the rule rather than the exception.

As Figure 1 indicates, the joint evolution of the US current account deficit and the real exchange rate of the major reserve currency have been reflected in three dominant patterns over the past three and a half decades: (1) a long-term deterioration in the current account; (2) increasingly intense cycles of both the current account and the real dollar exchange rate; and (3) although exchange rate fluctuations have played an important role in determination of the US current account, major corrections of US deficits have been associated with US slowdowns or recessions which, in turn, had major contractionary effects on the world economy. The correction of the US deficit in 2008 and 2009 is part of the latter pattern.



Source: IMF, *International Financial Statistics*. The real exchange rate is depicted here to show an increase when there is a real depreciation (the opposite convention to that used by the IMF). It is calculated as the inverse of the real exchange rate estimated by the Fund

During the three and a half decades that the fiduciary dollar standard has been in place, the Triffin dilemma has displayed somewhat different characteristics from those in the past, when it was originally formulated. In short, it has shown an inflationary bias during upswings in the business cycle, particularly the most recent ones, and has generated unprecedented -- and, indeed, increasing -- volatility in both the US current account and the real dollar exchange rate. As a result, the dollar has increasingly lost what, in fact, is the essence of a good international reserve asset: a stable value. A major implication of the strong fluctuations in the US deficit is, of course, that the generation of global liquidity has become even more “erratic” or “capricious” than under the original Bretton Woods system.

It should be emphasized that the length and intensity of the most recent -- and longest -- cycle of the US current account has determinants that go beyond the US economy. In particular, although the appreciation of the dollar in the second half of the 1990s helps explain the renewed deterioration in the current account, the magnitude of this deterioration is undoubtedly, associated with the role of the US as the “consumer of last resort” during the major crisis in emerging markets that started in East Asia in 1997. In this context, the 2001 US recession only had minor effects on its current account. Furthermore, the deterioration of this deficit up to 2006, despite the gradual, but strong depreciation of the dollar that started in 2003, can only be explained by the fallacy of composition effects of self-protection in the developing world (see the next section).¹

The length and intensity of this long phase of the US current account deficit that transformed its net investment position into a net liability position -- another unprecedented condition of the country at the centre of the global reserve system -- has, for many years, generated fears that official and private agents may be unwilling to continue to accumulate dollar assets (Summers, 2004; Williamson, 2004). As we will see below, the recent crisis generated some paradoxes in this regard, but the risk to the global reserve system of a reduced demand for dollar assets is of renewed concern. The

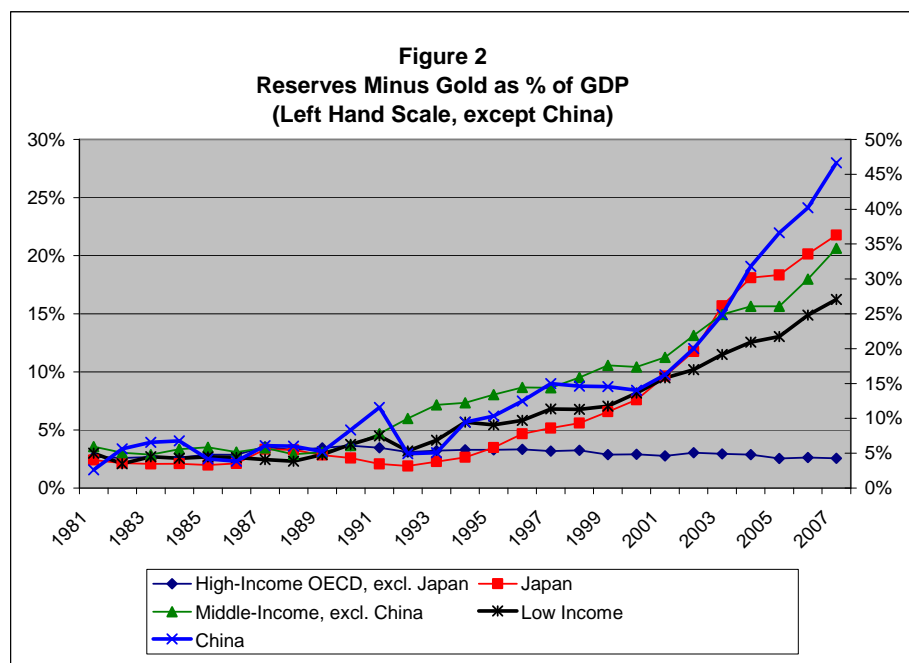
¹ Barbosa-Filho *et al.* (2008) have analyzed the domestic dynamics of this process, which has been dominated by pro-cyclical household (and, more generally, private) borrowing, partly mitigated by countercyclical government borrowing -- in sharp contrast to the traditional story of the “twin” external and fiscal deficits.

views expressed by the Chinese central bank governor in March 2009 are an indication that this risk will continue to be at the centre of concerns regarding the sustainability of the current global reserve system.

From the point of view of the US, its position at the centre of the current global reserve system has had both positive and negative implications. On the positive side, the most important advantage is that it does not face the constraint of dollar-gold convertibility, and thus enjoys greater monetary independence. The system also generates a demand for US Treasury bonds, which helps to finance the US fiscal deficits. As the US has, by now, accumulated important net liabilities with the rest of the world, another interesting advantage is that dollar depreciation generates a positive wealth (real balance) effect, as such a change increases the value of foreign assets owned by US residents, while their liabilities remain unchanged. This also implies, however, that depreciation of the US dollar has a weaker effect in correcting its current account deficit, as the wealth and relative price effects of such depreciation run in opposite directions (United Nations, 2005: ch. I). On the negative side, the fact that US current account deficits are necessary to provide a *net* supply of dollar assets to the rest of the world implies that it does not entirely capture the benefits of its expansionary monetary and fiscal policies (Stiglitz, 2006: ch. 9).

Growing Inequities of the System and the Inequity-Instability Link

The transfer of resources from developing countries to the US that the system requires -- its inequity bias -- was built into its initial post-war design. However, they remained limited as long as developing countries' foreign exchange reserves were not sizable. As Figure 2 indicates, the level of these reserves were not unlike those held by industrial countries up to the 1980s -- about 3 per cent of GDP; China had reserves equivalent to 6 per cent of GDP at the end of that decade.



Source: World Bank, World Development Indicators, based on information from IMF.

In contrast, over the past two decades, such reserves boomed and started to diverge from those of industrial countries, with China the most aggressive. By 2007, it had accumulated non-gold reserves equivalent to 46.7 per cent of its GDP. The boom in reserve accumulation was equally impressive in the rest of the developing world and in all regions (Table 1). By 2007, middle income countries, excluding China, and low income countries held foreign exchange reserves equivalent to 20.6 per cent and 16.2 per cent of GDP respectively.

	Non-gold reserves, % of GDP				Reserve increase, billion dollars		
	1990	1997	2002	2007*	1991-97	1998-02	2003-07
Middle income	4.1%	9.7%	14.9%	27.0%	398.7	318.7	2,742.2
China	8.3%	15.0%	20.0%	46.7%	113.2	148.4	1,239.2
Excluding China	3.7%	8.6%	13.1%	20.6%	285.5	170.3	1,503.1
Low income	3.8%	6.8%	10.2%	16.2%	13.7	18.3	89.7
Europe and Central Asia	...	6.6%	13.1%	24.3%		64.3	631.5
East Asia and Pacific		13.9%	20.5%	41.3%		196.3	1,417.9
Excluding China		12.2%	21.6%	26.0%	0.0	48.0	178.7
South Asia	0.9%	5.6%	12.3%	16.4%	26.9	50.2	109.1
Middle East and North Africa	7.9%	14.7%	20.2%	33.4%	34.0	30.8	150.4
Latin America and Caribbean	4.2%	8.1%	9.0%	12.6%	121.7	-11.4	277.5
Sub-Saharan Africa	4.4%	8.1%	9.8%	16.2%	15.6	6.8	101.2

Source: World Bank, World Development Indicators, based on information from IMF.

The major waves of foreign exchange reserve accumulation clearly followed the two major financial crises experienced by the developing world -- the mainly Latin American debt crisis of the 1980s and the broad-based crisis of emerging market countries that started in East Asia in 1997. In this sense, they can be seen as a response by developing countries to the risks generated by increased openness -- trade opening, domestic financial liberalization, and capital account liberalization. However, although reserve accumulation started after the Latin American crisis of the 1980s, the Asian crisis was the most important turning point. It revealed, in particular, the lack of appropriate global institutions to manage emerging and developing country crises, and the particular deficiencies associated with the only form of “collective insurance” available: highly conditional IMF lending. As a result of this trend, the annual additional demand for reserves by developing countries, excluding China, shot up from US\$299 billion (an average of US\$43 billion per year) in 1991-97 to US\$1,593 billion (US\$319 billion per year) in 2003-07; the accumulation of reserves by China has been equally impressive in the recent period (see Table 1).

The recent pattern of reserve accumulation differs, of course, across countries and regions (see, among others, Akyüz, 2008; Carvalho, 2009; Yu, 2007). The largest group of countries continued to run current account deficits during the 2003-2007 global boom; for them, the only source of reserve accumulation was net capital flows. The second group, which includes China and several major mineral exporting countries, ran joint current account and capital account surpluses. The third are basically oil exporters with strong current account surpluses that are net exporters of capital.

There are three competing explanations for this increase in the demand for reserves by developing countries. The first, which I view as the most compelling, is that reserve accumulation is the result of “self-protection” in a broad sense which, as I will argue below, can also be seen as a countercyclical motive. This interpretation receives its most important support from the fact that the major waves of reserve accumulation have followed the two most important financial crises in the developing world.

A second explanation is provided by the “Second Bretton Woods” literature (see Dooley, Folkerts-Landau and Garber, 2003). According to this school of thought, the basic explanation for reserve accumulation is “mercantilism”, particularly by East Asian countries’ undervaluation of their exchange rates as part of their export-led strategies. A reinforcing factor may be the lack of appropriate mechanisms for exchange rate coordination in export-led economies, which generates incentives to keep exchange rates competitive -- a point made some time ago by Sakakibara (2003) in calling for increasing macroeconomic policy coordination in East Asia. One implication of this view is that, for these countries, the benefits of stable, but weak exchange rates exceed the costs of reserve accumulation. An implication at the global level is that, for the same reason, these countries are willing to continue financing the US current account deficit.

The idea that competitive exchange rates and strong current account balances tend to accelerate economic growth in developing countries has, of course, a respectable tradition in the development literature (see, for example, Rodrik, 2007; Frenkel and Taylor, 2007; Prasad *et al.*, 2008; Frenkel and Rapetti, 2009). However, this interpretation misses one important empirical fact: that reserve accumulation in the developing world is closely associated with fluctuations in capital flows -- i.e., that it tends to smooth out the pro-cyclical capital flows that affect developing countries (Ocampo, 2007/08, 2009). Indeed, one basic explanation provided in the literature for the strong association between a strong current account and economic growth is that it reduces dependence on volatile capital flows.

A third explanation for reserve accumulation is the “financial stability” motive (Obstfeld, Shambaugh and Taylor, 2008). The basic argument is that international reserves are necessary for financially open economies to counter the incentives to eventually transform money balances into foreign exchange (i.e., capital flight). However, the fact that reserve fluctuations are closely associated with capital account cycles means that it is difficult to distinguish this from self-protection.

The self-protection motive can be understood in a broad sense as the attempt by developing countries to manage the strong pro-cyclical shocks they face in a globalized economy. These shocks originate in the pro-cyclical patterns of the capital flows to these countries, but also in the pro-cyclical patterns of commodity prices and the volume of international trade. In this sense, the demand for reserves is the result of application of a broad “precautionary” principle learned from financial crises. In particular, experience indicates that allowing the real exchange rate to appreciate and the current account to deteriorate sharply during foreign exchange booms almost inevitably leads to a balance of payments crisis -- and very commonly to both balance of payments and domestic financial crises -- once the temporary condition of foreign exchange availability comes to an end. It makes sense, therefore, to respond to cyclical swings in export revenues by accumulating foreign exchange during booms to be used during subsequent crises.

In so far as cyclical shocks from the capital or trade accounts tend to generate pro-cyclical macroeconomic policy responses (Kaminsky *et al.*, 2004; Stiglitz *et al.*, 2006; Ocampo and Vos, 2008: ch. IV), active foreign exchange management can be seen as an attempt to increase the room for maneuver of countercyclical macroeconomic policies (Ocampo, 2008; Ocampo *et al.*, 2009: ch. 7). *In this sense, the self-protection motive can be renamed “countercyclical”*. It is also important to emphasize that generally, the “intermediate” policy target is the exchange rate. So, smoothing out the effects of external shocks on the exchange rate is, in a sense, the essential feature of self-protection or countercyclical foreign exchange management.

Interestingly, in the case of capital account fluctuations, the self-protection motive goes beyond the Guidotti-Greenspan rule, according to which countries should keep foreign exchange reserves at least equivalent to short-term external liabilities. Indeed, to the extent that capital account fluctuations involve *medium-term* cycles (Ocampo *et al.*, 2007, ch. I; Ocampo, 2008), the demand for precautionary international reserves should be proportional to *total* external liabilities, with the proportion larger for economies that have liberalized their capital accounts more.

Foreign exchange reserve accumulation is obviously costly, both because foreign exchange reserves have low yields and there are costs associated with sterilizing its domestic monetary effects (Rodrik, 2006). Some alternative strategies should be considered. Saving exceptional export receipts and associated fiscal revenues from natural resource-intensive activities, have long been accepted as good practice, and are equivalent to reserve accumulation. In contrast, exchange rate flexibility to increase the room for maneuver of countercyclical monetary policy, a favorite instrument of orthodox inflation targeting, is *not* a good alternative, as it merely transfers the pro-cyclicality of foreign exchange availability to the exchange rate and is likely to reproduce the risks that self-protection is trying to avoid -- the generation of unsustainable current account deficits during booms.

In this regard, one paradox of macroeconomic policy management that characterizes developing countries in recent decades is that exchange rate flexibility has been generally complemented by active interventions in foreign exchange markets and a rising demand for reserves. This has made flexible, but highly interventionist exchange rate regimes quite common in the developing world. This is not so much a reflection of “fear of floating”, but rather a recognition that, as much as fixed exchange rates, clean floats generate pro-cyclical effects on the economy, albeit of a different nature (Ocampo, 2008).

In this sense, and when the source is pro-cyclical capital flows, a better strategy is to regulate capital flows. In particular, to the extent that controls on inflows are able to reduce the magnitude of reserve accumulation, they reduce the cost of foreign exchange management. In fact, the need to accumulate reserves when capital inflows are excessive, destroys the rationale for capital inflows in the first place, which is to transfer resources to the recipient country. It also undermines the other rationale for capital account liberalization -- to diversify risks -- as countries feel they need larger foreign exchange reserves to protect themselves against capital account reversals.

Obviously, as already pointed out, the choice of self-protection is associated with the fact that the globalized economy we live in lacks adequate collective insurance. Furthermore, available IMF crisis lending is deemed unacceptable by many countries due to the conditionalities typically attached. In the past, these have included adoption of pro-cyclical macroeconomic policies during crises -- which self-protection seeks to avoid (United Nations, 2009b). In this sense, the self-protection or countercyclical motive behind the high demand for foreign exchange reserves by developing countries is associated with both pro-cyclical capital account and trade shocks *and* the perception of inadequate mechanisms at the global level to provide liquidity to developing countries during balance of payments crises.

What matters, from the point of view of the global reserve system, is recognition that self-protection or countercyclical foreign exchange management -- while understandable from the point of view of the individual country -- generates fallacy of composition effects that tend to worsen global imbalances and generate a global deflationary bias. Indeed, if a large group of developing countries follows this route, they generate a current account surplus and an additional demand for “safe assets” that can be used as reserves. They will then have contractionary effects on the world economy unless matched by current account deficits and the supply of such assets by industrial countries. As indicated earlier, during the 2003-2007 global boom, both were supplied by the US, but in an unsustainable way, as the current crisis and renewed fears of loss of value of dollar denominated assets have underscored. This is the essence of the *inequity-instability link*.

Therefore, self-protection is not only costly for individual countries, but also a source of global instability. However, the problem cannot be solved simply by asking developing countries to appreciate their currencies and to generate current account deficits as this has proven to be a risky combination in the past -- as revealed again during the current crisis by the collapse of several Central and Eastern European economies that pursued this strategy. We must start by addressing the reason for the desire for self-protection, namely the strongly pro-cyclical capital and trade flows and the inadequacy of collective insurance for balance of payments crises -- in short, by reforming the global reserve system.

Reforming the System

Alternative Reform Routes

The proponents of the Second Bretton Woods hypothesis have recently argued that the current crisis was not accompanied by a run on the dollar, but rather, by its appreciation (Dooley, Folkerts-Landau and Garber, 2009). However, we should not presume that the current global monetary system is therefore stable. The strengthening of the dollar after the financial meltdown of September 2008 was the result of two factors. The first was the demand for dollars to finance withdrawals from non-banking financial institutions in the US -- an important part of the strong de-leveraging process unleashed by the crisis. The second reason was the “flight to safety” in the context of a limited supply of alternative “safe assets”. In particular, the absence of a unified European bond market and the perception by many agents that the euro is backed by a heterogeneous group of countries of unequal strength has meant that the assets of only a few European countries are considered comparable with those of the US as “safe assets”, but their supply has been more limited. However, with the gradual return to normalcy, downward pressures on the dollar returned in the second quarter of 2009. The yen has also strengthened due to the reversal of the Japanese “carry trade” -- a phenomenon similar to the demand for dollars generated by de-leveraging.

An effect of the crisis with longer-term implications is the reduction of global imbalances. As during previous US recessions, the US current account deficit has been narrowing (Figure 1). With the reduction of commodity prices, the surpluses of several commodity exporting countries were significantly eroded or even disappeared. The collapse of world trade has had similar effects on the surpluses of some major manufacturing exporters, including Japan, some other East Asian countries and, more recently, even China. Nonetheless, although the reduction of global imbalances reduces the risks of collapse of the current reserve system, new risks have been generated by the massive expansion of the US Federal Reserve balance sheet and the large US federal fiscal deficits, which are projected to increase the US public sector debt to levels not experienced since the Second World War. Thus, the global system is certainly not free from a dollar crisis.

One way the system could naturally evolve is, of course, by becoming a fully multi-currency reserve system -- a feature which, as has been pointed out, is already present, but remains a secondary feature of the current world monetary system. The advantage of a multi-reserve currency arrangement is that it would provide all -- but especially developing countries -- the benefit of diversifying their foreign exchange reserve assets. However, none of the other deficiencies of the system would be addressed. In particular, it would continue to be inequitable, as the benefits from the reserve currency status would still be captured by industrial countries (though a few developing countries, particularly China, would be able to benefit from reserve diversification by other countries). But this reform would not eliminate the deflationary or anti-Keynesian bias of the system, nor would it reduce developing countries' need for reserves for self-protection.

The exchange rate flexibility among major currencies is, paradoxically, both an advantage and a potential cost of a multicurrency system. The benefit would be derived from the absence of the major problem the two previous systems faced -- namely, the eventual unsustainability of fixed rate parities. This was, indeed, a major problem that led to the collapse of both bimetallism in the nineteenth century and the original Bretton Woods arrangement based on a fixed gold-dollar parity. However, while substitution among currencies facilitates diversification, it can lead to exchange rate volatility among the major reserve currencies. This may generate the call for fixed parities among the major currencies, which would probably be unsustainable in a world of free capital movements -- and would eliminate the flexibility of the system, which is precisely one of its virtues. Furthermore, all individual reserve currencies would still lack the basic advantage that a global reserve system should have -- a stable value. Given their high demand for foreign exchange reserves, developing countries would suffer disproportionately from the instability of reserve currencies' exchange rates.

The alternative reform route would be to design an architecture based on a truly global reserve asset, which could also have broader uses in the global monetary system. Although some such voices are being heard again, returning to gold, which Keynes called the “barbarous relic”, would be a non-starter. In particular, such a restoration of the role of gold would be inconsistent with the “embedded liberalism” of earlier post-war arrangements -- i.e., that the commitment to free markets is tempered by a broader commitment to social welfare and full employment (Eichengreen, 1996). The opposite approach would, of course, be to return to Keynes’ proposal for an International Clearing Union or a similar solution (see, for example, D’Arista, 1999).

However, the most viable option is to pursue the transition launched in the 1960s with the creation of SDRs, fulfilling the objective then included in the IMF Articles of Agreement of “making the special drawing right the principle reserve asset in the international monetary system” (Article VIII, Section 7 and Article XXII). As Triffin (1968) envisioned, this would complete the transition apparent since the nineteenth century of putting *fiduciary* currencies (or fiat money) at the centre of modern monetary systems.²

This reform should certainly meet the objectives outlined by the Chinese central bank governor: “an international reserve currency should first be anchored to a stable benchmark and issued according to a clear set of rules, therefore to ensure orderly supply; second, its supply should be flexible enough to allow timely adjustment according to the changing demand; third, such adjustments should be disconnected from economic conditions and sovereign interests of any single country” (Zhou, 2009). But, in addition to providing a more orderly international monetary system rid of the Triffin dilemma, which is what these objectives imply, desirable reform should also correct, at least partially, two other problems of the system -- namely, the lack of pressure on surplus countries to adjust, and the specific asymmetries that developing countries face due to pro-cyclical capital flows and the absence of adequate collective insurance.

SDR-based Global Reserve System

The nature of the expectations of SDRs that a reformed system must meet would be different today from what they were when this instrument of international monetary cooperation was created.³ The issue of inadequate provision of international liquidity at the centre of early post-war debates, and also surrounding early discussion of SDRs, is not important now, except in extraordinary conjunctures. If anything, the fiduciary dollar standard has actually exhibited an inflationary bias for long periods of time. However, this underscores the fact that the world still needs a less “erratic and unpredictable” system for providing global reserves (to use Triffin’s characterization), as the call by the Chinese central bank governor -- for a system that ensures an “orderly supply” of the international reserve currency -- indicates. However, other problems also receiving attention in the 1960s continue to be significant or even more important today, particularly the need for a more symmetric system, access to liquidity for developing countries and associated equity issues.

The initial allocations of SDRs in 1970-72 were equivalent to 9.5 per cent of the world’s non-gold reserves (Williamson, 2009). But despite the new allocation made in 1979-81, which brought accumulated allocations to SDR21.4 billion (slightly over US\$33 billion at early August 2009 exchange rates), the total now accounts for an insignificant 0.5 per cent of world non-gold reserves today. The special one-time allocation approved by the IMF Board of Governors in 1997 for SDR21.4 billion, meant to equalize the benefits to new (those that joined after the previous SDR allocations) with old

² The reform could also be implemented by creating a new institution (a Global Reserve Bank) or a new institutional framework on the basis of regional arrangements. See, in this regard, United Nations (2009b: ch. V).

³ See good summaries of the debates of the 1960s in Solomon (1977) and Triffin (1968). An interesting contrast between the role of SDRs then and now is provided by Clark and Polak (2004) and Williamson (2009).

Fund members, will now be finally made effective, thanks to its approval by the United States Congress in June 2009. Following the call made by the G-20 in April 2009, a new allocation equivalent to US\$250 billion was approved by the IMF Executive Board in July 2009. These two allocations will bring the stock of SDRs to approximately 5 per cent of global non-dollar reserves, still a very modest amount.

In recent years, proposals for SDR allocations have reflected two different approaches. The first is issuing SDRs in a countercyclical way, thus avoiding issuance (or even destroying those previously made) during boom periods, when they could feed into world inflationary pressures, and concentrating them in periods of world financial stress, when they would have countercyclical effects (United Nations, 1999; Camdessus, 2000; Ocampo, 2002; Akyüz, 2005; French-Davis, 2007). The second approach proposes regular allocations of SDRs reflecting additional world demand for reserves (Stiglitz, 2006: ch. 9). Considering the increase in reserves over the past two decades, the Stiglitz Commission's proposed allocations would be equivalent to US\$150 to US\$300 billion a year⁴ -- also the magnitude of SDRs to be issued in the long term with a countercyclical approach.

The most desirable reform involves moving to a fully SDR-based IMF with a clear countercyclical purpose. This would involve countercyclical *allocations* of SDRs, which would generate "unconditional" liquidity, together with countercyclical IMF *financing*, made entirely in SDRs, to provide "conditional" liquidity to countries facing balance of payments' crises. The best alternative to fulfill this second objective is the mechanism first proposed by Polak (1979; 2005: chs. 7-8) three decades ago -- IMF lending during crises, which would actually involve creating new SDRs (in a way similar to how lending by central banks creates domestic money, a mechanism heavily used during the current crisis), but such SDRs would be automatically destroyed once such loans are paid for. There would, of course, be limits on the magnitude of such lending, both overall and for individual countries' borrowing.⁵ The combination of these two reforms should, of course, considerably increase the size of the IMF, which has lagged significantly behind that of the world economy since the 1970s, particularly in relation to capital flows (IMF, 2009), and therefore, the provision of collective insurance.

One alternative to combining the allocations of SDRs with the lending capacity of the Fund is to treat those SDRs not used by countries to which they are allocated as deposits in (or lending to) the IMF that can be used by the institution to lend to countries in need. This would also solve the recurrent problem of making more resources available to the IMF during crises. Note, in this regard, that the traditional solution, and that approved by the G-20 in April 2009, has been to allow the IMF to borrow from member states under different modalities. But this mechanism is problematic, as it gives excessive power to the countries providing the financing (Kenen, 2001). Although it would be necessary to use it again during the current crisis, it is sub-optimal relative to quota increases, and both are, in turn, sub-optimal relative to a fully SDR-based IMF along the lines outlined above.⁶ One advantage of such a system is that it would eliminate the need for the IMF to manage a multiplicity of currencies, only a small fraction of which (30 per cent according to Polak's estimates) can be used for IMF lending.

This solution would also make clear what "backing" for SDRs involves. Strictly speaking, as with national currencies, the essential issue is not backing, but the willingness of parties to unconditionally accept fiat money when paid by another party. Backing would be provided by lending and investments made with SDR deposits. During booms, the normal instrument would be bonds from

⁴ The first figure is equivalent to the increase of world reserves in 1998-2002, whereas the second is less than 40 per cent of the much larger increase during 2003-2007. For this reason, the Commission suggests that even US\$300 billion might be insufficient.

⁵ These proposals would eliminate the traditional division between what are called the General Resource and the SDR Accounts. See Polak (2005, part II).

⁶ In turn, the current quota system could be improved by making contributions exclusively in the currencies of the member countries, thus eliminating the obligation by developing countries to make a fourth of their contribution in SDRs or hard currencies. This would make quotas equivalent to a generalized swap arrangement among central banks.

member countries that have a high level of liquidity and can be redeemed in convertible currencies. The agreed mix of such bond purchases could also be the basis of the SDR basket. During crises, of course, part of such bond holdings would be redeemed to generate funds to lend to countries facing balance of payments' crises. Both aspects would mimic the way central banks operate.

These proposals must be complemented by reforms in four other areas. First, the debate on distribution of IMF quota allocations should continue as, despite recent improvement, they do not reflect the realities of the world economy today. Of course, in a fully SDR-based IMF, "quotas" would have entirely different implications to what they have today. In particular, they would not involve actual contribution of resources to the institution, but would still determine the shares of countries in SDR allocations, their borrowing limits and, together with assigned basic votes, their voting power.

Secondly, mechanisms would have to be established to improve adjustments to the global imbalances. Increasing macroeconomic policy coordination would provide part of the solution -- although institutionally based in the IMF, rather than through ad-hoc arrangements (read G-7/8 or G-20). In this regard, the multilateral surveillance of global imbalances launched by the Fund in 2006 was an interesting step in that direction, but it lacked binding commitments by the parties and an accountability mechanism.⁷ On top of that, adjustment pressures on deficits vs. surplus countries must be more symmetric to reduce the deflationary or anti-Keynesian bias. Part of the solution would be to adopt at least one part of Keynes' original plan for a post-war arrangement: the creation of generous overdraft (or in the terminology of the Fund, drawing) facilities that can be used *unconditionally* by *all* IMF members up to a certain limit and for a pre-established time period. Another part would involve penalizing countries with large surpluses and/or excessive reserves, relative to the size or their economies, by suspending their right to receive SDR allocations. Of course, the definition of excessive reserves would have to take into account the exceptional demand by developing countries for reserves.

Thirdly, and crucially, from the point of view of developing countries, the solution adopted must reduce the special asymmetries that these countries face, reflected in the huge disparities in demand for reserves by developing vs. developed economies, which are at the centre of both the inequities of the current reserve system and the inequity-instability links (Ocampo, 2009). This could be done through a mix of two types of reforms: (i) asymmetric issues of SDRs, giving larger allocations to countries with the highest demand for reserves (i.e., mainly developing countries); and (ii) creation of a "development link" in SDR allocations, as proposed by the Group of Experts convened by UNCTAD in the 1960s (UNCTAD, 1965); one possible mechanism would be allowing the IMF to buy bonds from multilateral development banks with the SDRs not utilized by member states, which would then finance developing countries' demands for long-term financial resources.⁸

Finally, it would be essential that IMF credit lines, their conditionalities and the current stigma associated with borrowing from this institution be overcome, so that countries would actually prefer collective insurance over self-protection.⁹ Positive steps in this direction were taken by the IMF in March 2009 with the creation of the Flexible Credit Line for crisis prevention purposes, doubling other credit lines, and eliminating the ties between structural conditionalities and loan disbursements. One basic deficiency of the new line, however, is that it unduly divides developing countries into two

⁷ The discussions of the early 1970s could be illustrative in this regard. The US backed at the time a "reserve indicator" system, under which each IMF member would have been assigned a target level of reserves and forced to adjust to keep reserves around that target (see Williamson, 2009).

⁸ A third alternative would be to use the SDRs allocated to developed countries to finance additional aid for the poorest countries and the provision of global public goods (Stiglitz, 2006: ch. 9; Ffrench-Davis, 2007). This proposal has many virtues, but poses the problem that such transfers are fiscal in character, and may thus require the approval of national parliaments in every case.

⁹ This point has been emphasized by the Stiglitz Commission (United Nations, 2009b), which has also suggested the creation of alternative credit facilities.

categories, those with supposedly good policies and those with ostensibly bad policies, which is not only an unclear, if not arbitrary division, but also increases the risks for countries not classified in the first category, as Dervis (2008) pointed out in relation to its predecessor, the Short-term Credit Line. It also effectively transformed the IMF into a sort of credit rating agency.

Reforms could either limit the use of SDRs as a reserve asset (as it is now) or allow its broader use, as proposed in the past by Kenen (1983), Polak (2005, Part II) and, more recently, by Zhou (2009), among others. In the short-term, however, it may be useful to concentrate on reforming the global reserve system, rather than the broader monetary system. In the short term, this would imply that although the role of the dollar as the major *reserve* asset would be eroded, it would still keep its role as the major international *means of payment*, also creating demands for associated services of the US financial system (Cooper, 1987, ch. 7).

As pointed out recently by Bergsten (2007), and as envisioned in the debates of the late 1970s, it would be useful to create a substitution account, which would allow countries to transform their dollar reserves into SDR-based assets issued by the Fund, to provide stability to the current system. The June 2009 IMF decision to issue SDR-denominated bonds to some emerging economies could be considered a step in that direction. Although part of the potential costs for the IMF of such an account could be financed with its gold reserves and even by the new SDR allocations, it would be difficult, however, to adopt such mechanisms without the US assuming at least part of the associated risks -- a problem that blocked the adoption of this mechanism three decades ago.

The current environment could actually be a good time to introduce these reforms. First, the inflationary risks associated with SDR issues are minimal. Second, the United States would continue to enjoy full policy freedom to pursue the expansionary fiscal and monetary policies it has embarked on, without having to take into account the implications for the stability of the current reserve system. It would also free the US from the need to generate current account deficits to provide world liquidity, which has adverse aggregate demand effects for its economy. And it would continue to enjoy, in any case, the benefits of the use of the dollar as the dominant means of payment in the world.

Complementary Role of Regional Monetary Arrangements

Regional monetary arrangements should be considered part of the broader reform of the international monetary system. Indeed, as I have argued before (Ocampo, 2002), the IMF of the future should be conceived as the apex of a network of regional reserve funds -- that is, a system closer in design to the European Central Bank or the Federal Reserve System rather than the unique global institution it currently is. By providing complementary forms of collective insurance and fora for macroeconomic policy dialogue among regional partners, regional arrangements would help increase the stability of the global monetary system. Such arrangements would also give stronger voice and ownership to smaller countries, and are more likely to respond to their specific demands. This principle is already applied today in multilateral development financing, as the World Bank is complemented by regional development banks and, in some parts of the world, by sub-regional and inter-regional banks (Ocampo, 2006).

In the monetary arena, regional agreements can take different forms: payments agreements, swap arrangements among central banks, reserve pools and common central banks. In the developing world, they include a few regional central banks in West Africa and the Eastern Caribbean, several regional payments agreements (e.g., among members of the Latin American Integration Association), the Latin American Reserve Fund (essentially an Andean arrangement with Costa Rica and Uruguay as well) and the 2000 Chiang Mai Initiative among the ASEAN countries, China, Korea and Japan. The latter is, obviously, the largest of all. Although it was conceived initially as a network of bilateral swap arrangements, it has been committed since 2005 to full multilateralization, and agreed in May 2009 to complete this process, expand its resources to US\$120 billion and finish the design of its surveillance

mechanism. If it evolves into a structured reserve fund, this arrangement could actually issue its own currency which, even if used only as an international currency, would be attractive for many central banks outside East Asia.

The major criticism of these arrangements is that they are ineffective in protecting against systemic events due to likely contagion effects among its members. However, as the experience of the Latin American Reserve Fund indicates, even in a narrowly defined region, contagion does not eliminate the fact that demands for liquidity by members have different intensities and variable lags, making a reserve fund viable and desirable. This also reflects the fact that correlation among some relevant macroeconomic variables (foreign exchange reserves, terms of trade) is not necessarily very high, even if such a fund expands to include other major Latin American countries, whereas correlations in other variables (capital flows, in particular) is high, but not close to unity. Furthermore, lending at the onset of a crisis can actually serve as a preventive mechanism that reduces contagion, and thus, as a powerful mechanism of collective insurance. In narrower terms, reserve pooling is useful if the variability of the reserve pool is lower than that of each of the members' foreign exchange reserves (Machinea and Titelman, 2007; Ocampo and Titelman, 2009).

Regional monetary arrangements should thus be actively promoted by the international community. In this regard, a major incentive to their formation would be a provision that SDR allocations would be proportional, not only to IMF quotas, but also to reserves that developing countries have placed in common reserve funds -- thus making pooled reserves equivalent to IMF quotas for this purpose (United Nations, 1999; Ocampo, 2002). They can also be the building blocks for broader reforms. The Stiglitz Commission has suggested that the new global monetary system could be built bottom up through a series of agreements among regional arrangements (United Nations, 2009b: ch. V).

Complementary Reforms

The design of a SDR-based IMF, together with the promotion of a network of regional reserve arrangements, would go a long way to correct the basic problems of the fiduciary dollar standard under which the world monetary system has operated since the early 1990s. In principle, correcting the Triffin dilemma seems technically easier, whereas reducing the deflationary or anti-Keynesian bias and the inequities of the system *vis-à-vis* developing countries is harder. Any reform of the system is, in any case, politically difficult and would take time. But it is an effort worth making, as the risks that the current system faces are far from insignificant.

Obviously, the reform of the global reserve system is only part of the needed reform of the global financial architecture. Two complementary reforms have been hinted at in other parts of this paper, and should be underscored in this final section.

The first is the need to place the IMF at the centre of world macroeconomic policy management. This role includes strengthening the surveillance of major economies and acting as a forum for macroeconomic policy coordination. It is essential, in this regard, to overcome the traditional reliance on *ad hoc* mechanisms for the latter purpose – the G-5, then the G-7, and now, the G-20. This is the only inclusive way to provide a clear institutional structure for such coordination and to ensure developing countries of voice in associated processes. Indeed, the current crisis provides the opportunity to put the IMF back at the centre of global macroeconomic policymaking, as its original design envisioned, and not only as a mechanism to finance emerging markets and other developing countries' balance of payments needs, the major role it has played since the mid-1970s.

The second is to rethink the positive role that capital account regulations can play in a reformed global financial system. Despite financial liberalization over the past few decades, such regulations are still allowed under the IMF's Articles of Agreement. In particular, well-designed regulations can reduce the risks that developing countries face (in a world in which finance is strongly pro-cyclical), expand the

room for manoeuvre of countercyclical macroeconomic policies and reduce the costs of self-protection. Such regulations could include reserve requirements on cross-border flows, minimum stay periods, and prohibitions on lending in foreign currencies to economic agents who do not have revenues in those currencies. The Fund should be encouraged, not only to tolerate, but to actually advise countries on what regulations to impose in particular circumstances. Indeed, it is hard to understand why the focus on the global regulatory structure that should emerge from the crisis, particularly *macro*-prudential regulations, has neglected this issue, by concentrating exclusively on national prudential regulations (regional in the case of the European Union), leaving aside the risks associated with cross-border flows.

References

- Aizenman, Joshua, and Jaewoo Lee (2007). International reserves: Mercantilist vs. precautionary view, theory and evidence. *Open Economies Review*, 18 (2), April: 191-214.
- Akyüz, Yilmaz (2005). Reforming the IMF: Back to the drawing board. Global Economy Series No. 7, Third World Network, Penang.
- Akyüz, Yilmaz (2008). Current global financial turmoil and Asian developing countries. Global Economy Series No. 11, Third World Network, Penang.
- Barbosa-Filho, Nelson H., Codrina Rada von Arnim, Lance Taylor and Luca Zamparelli (2008). Cycles and trends in US net borrowing flows. *Journal of Post-Keynesian Economics*, 30 (4), Summer.
- Bergsten, Fred (2007). How to solve the problem of the dollar. *Financial Times*, 10 December.
- Camdessus, Michel (2000). An agenda for the IMF at the start of the 21st century. Remarks at the Council on Foreign Relations, February, New York.
- Carvalho, Fernando Cardim de (2009). The accumulation of international reserves as a defensive strategy: Reasons and limitations of self “insurance”. In Stephany Griffith-Jones, José Antonio Ocampo and Joseph E. Stiglitz (eds). *Time for a Visible Hand: Lessons from the 2008 World Financial Crisis*. Oxford University Press, New York.
- Clark, Peter B. and Jacques J. Polak (2004). International liquidity and the role of the SDR in the international monetary system. *IMF Staff Papers*, 51 (1): 49-71. Reproduced in Polak (2005: ch. 9).
- Cooper, Richard (1987). *The International Monetary System: Essays in World Economics*. MIT Press, Cambridge, MA.
- D’Arista, Jane (1999). Reforming the privatized international monetary and financial architecture. *Financial Markets and Society*, November.
- Dervis, Kemal (2008). Fairness for emerging markets. *Washington Post*, 3 November.
- Dooley, Michael P., David Folkerts-Landau and Peter Garber (2003). An essay on the revived Bretton Woods system. NBER Working Paper No. 9971, September, National Bureau of Economic Research, Cambridge, MA.
- Dooley, Michael P., David Folkerts-Landau and Peter Garber (2009). Bretton Woods II still defines the international monetary system. NBER Working Paper No. 14731, February, National Bureau of Economic Research, Cambridge, MA.
- Eichengreen, Barry (1996). *Globalizing Capital: A History of the International Monetary System*. Princeton University Press, Princeton.
- Eichengreen, Barry (2007). *Global Imbalances and the Lessons of Bretton Woods*. MIT Press, Cambridge, MA.
- Ffrench-Davis, Ricardo (2007). SDRs for a globalization with development. Presented at the meeting of Technical Group of the Initiative for Action against Hunger and Poverty, January, Santiago.
- Frenkel, Roberto (2008). From the boom in capital inflows to financial traps. In José Antonio Ocampo and Joseph E. Stiglitz (eds). *Capital Market Liberalization and Development*. Oxford University Press, New York.

- Frenkel, Roberto, and Lance Taylor (2007). Real exchange rate, monetary policies and employment. In José Antonio Ocampo, Jomo K.S. and Sarbuland Khan (eds). *Policy Matters: Economic and Social Policies to Sustain Equitable Development*. Orient Longman, Zed Books and Third World Network, Hyderabad, London and Penang, chapter 11.
- Frenkel, Roberto, and Martin Rapetti (2009). Economic development and the international financial system. In Stephany Griffith-Jones, José Antonio Ocampo and Joseph E. Stiglitz (eds). *Time for a Visible Hand: Lessons from the 2008 World Financial Crisis*. Oxford University Press, New York.
- Hart, A.G., Nicholas Kaldor and Jan Tinbergen (1964). The case for an international commodity reserve currency. UNCTAD, Geneva. Reproduced in Nicholas Kaldor, *Essays on Economic Policy II: Vol. IV of Collected Economic Essays*. Holmes and Meier, New York, 1980, ch. 18.
- Helleiner, Eric (2009). The IMF and the SDR: What to make of China's proposals?. Processed, July, University of Waterloo, Waterloo, Canada.
- International Monetary Fund (IMF) (2009). Review of the adequacy of and options for supplementing Fund resources. 12 January, International Monetary Fund, Washington, DC.
- Kaminsky, Graciela L., Carmen M. Reinhart and Carlos A. Végh (2004). When it rains, it pours: Procyclical capital flows and macroeconomic policies. NBER Working Paper No. 10780, September, National Bureau of Economic Research, Cambridge, MA.
- Kenen, Peter B. (1983). Use of SDR to supplement or substitute for other means of finance. In George M. von Furstenberg (ed.). *International Money and Credit: The Policy Roles*. International Monetary Fund, Washington, DC: ch. 7.
- Kenen, Peter B. (2001). *The International Financial Architecture: What's New? What's Missing?* Institute for International Economics, Washington, DC.
- Keynes, John M. (1942-43). The Keynes plan. Reproduced in J. Keith Horsefield (ed.). *The International Monetary Fund 1945-1965: Twenty Years of International Monetary Cooperation. Vol. III: Documents*. International Monetary Fund, Washington, DC, 1969, pp. 3-36.
- Kregel, Jan (2009). Some simple observations on the reform of the international monetary system. Policy Note 8, The Levy Economics Institute of Bard College, Annandale on the Hudson, NY.
- Machinea, José Luis, and Daniel Titelman (2007). Less volatile growth? The role of regional financial institutions. *CEPAL Review*, 91, April.
- Obstfeld, Maurice, Jay C. Shambaugh and Alan M. Taylor (2008). Financial stability, the trilemma, and international reserves. NBER Working Paper 14217, August, National Bureau of Economic Research, Cambridge, MA.
- Ocampo, José Antonio (2002). Recasting the international financial agenda. In John Eatwell and Lance Taylor (eds). *International Capital Markets: Systems in Transition*. Oxford University Press, New York.
- Ocampo, José Antonio (2006). Regional financial cooperation: Experiences and challenges. In José Antonio Ocampo (ed.). *Regional Financial Cooperation*. Brookings Institution and ECLAC, Washington, DC, chapter 1.
- Ocampo, José Antonio (2007/08). The instability and inequities of the global reserve system. *International Journal of Political Economy*, 36 (4), Winter.
- Ocampo, José Antonio (2008). A broad view of macroeconomic stability. In Narcis Serra and Joseph E. Stiglitz (eds). *The Washington Consensus Reconsidered: Towards a New Global Governance*. Oxford University Press, New York.
- Ocampo, José Antonio (2009). Reforming the global reserve system. In Stephany Griffith-Jones, José Antonio Ocampo and Joseph E. Stiglitz (eds). *Time for a Visible Hand: Lessons from the 2008 World Financial Crisis*. Oxford University Press, New York.
- Ocampo, José Antonio, Jan Kregel and Stephany Griffith-Jones (2007). *International Finance and Development*. Zed Books, London.

- Ocampo, José Antonio, and Rob Vos (2008). *Uneven Economic Development*. Orient Longman, Zed Books and Third World Network, Hyderabad, London and Penang.
- Ocampo, José Antonio, Codrina Rada and Lance Taylor (2009). *Developing Country Policy and Growth: A Structuralist Approach*. Columbia University Press, New York.
- Ocampo, José Antonio, and Daniel Titelman (2009). Subregional financial cooperation: The South American experience. *Journal of Post-Keynesian Economics*, forthcoming.
- Polak, Jacques J. (1979). Thoughts on an International Monetary Fund based fully on SDR. Pamphlet Series No. 28, International Monetary Fund, Washington, DC.
- Polak, Jacques J. (2005). *Economic Theory and Financial Policy: Selected Essays of Jacques J. Polak 1994-2004*. Edited by James M. Boughton, M. E. Sharpe, Armonk, NY.
- Prasad, Eswar S., Kenneth Rogoff, Shang-Jin Wei and M. Ayhan Rose (2003). Effects of financial globalization on developing countries: Some empirical evidence. Occasional Paper 220, International Monetary Fund, Washington, DC.
- Prasad, Eswar S., Raghuram R. Rajan and Arvind Subramanian (2007). Foreign capital and economic growth. *Brooking Papers on Economic Activity*, No. 1.
- Rodrik, Dani (2006). The social costs of foreign exchange reserves. *International Economic Journal*, 20 (3), September.
- Rodrik, Dani (2007). The exchange rate and economic growth: Theory and evidence. Processed, July. John F. Kennedy School of Government, Harvard University, Cambridge, MA.
- Sakakibara, Eisuke (2003). Asian cooperation and the end of Pax Americana. In Jan Joost Teunissen and Mark Teunissen (eds). *Financial Stability and Growth in Emerging Economies*. FONDAD, The Hague.
- Skidelsky, Robert (2000). *John Maynard Keynes: Fighting for Freedom, 1937-1946*. Penguin/Viking, New York.
- Solomon, Robert (1977). *The International Monetary System 1945-1976: An Insider's View*. Harper & Row, New York.
- Stiglitz, Joseph E. (2006). *Making Globalization Work*. W.W. Norton, New York.
- Stiglitz, Joseph E., José Antonio Ocampo, Shari Spiegel, Ricardo Ffrench-Davis and Deepak Nayyar (2006). *Stability with Growth: Macroeconomics, Liberalization, and Development*. Oxford University Press, New York.
- Summers, Lawrence H. (2004). The U.S. current account deficit and the global economy. Per Jacobson Lecture, International Monetary Fund, Washington, DC.
- Triffin, Robert (1961). *Gold and the Dollar Crisis* (Revised edition). Yale University Press, New Haven.
- Triffin, Robert (1968). *Our International Monetary System: Yesterday, Today and Tomorrow*. Random House, New York.
- UNCTAD (United Nations Conference on Trade and Development) (1965). *International Monetary Issues and the Developing Countries: Report of the Group of Experts*. United Nations, New York.
- UNCTAD (United Nations Conference on Trade and Development) (2009). *The Global Economic Crisis: Systemic Failures and Multilateral Remedies*. United Nations, Geneva.
- United Nations (1999). Towards a new international financial architecture: Report of the Task Force of the Executive Committee on Economic and Social Affairs of the United Nations. <http://www.un.org/esa/coordination/ecesa/ecesa-1.pdf>.
- United Nations (2001). *Report of the High-level Panel on Financing for Development* (Zedillo Report). www.un.org/reports/financing
- United Nations (2005). *World Economic Situation and Prospects 2005*. United Nations, New York.
- United Nations (2009a). *Outcome Document of the Conference on the World Financial and Economic Crisis and Its Impacts on Development*. A/CONF.214/3, 22 June.

- United Nations (2009b). *Report of the Commission of Experts convened of the President of the UN General Assembly on Reforms of the International Monetary and Financial System* (Stiglitz Commission). United Nations, New York.
- Williamson, John (2004). The future of the global financial system. *Journal of Post-Keynesian Economics*, 26 (4), Summer.
- Williamson, John (2009). Understanding Special Drawing Rights. Policy Brief, June, Peterson Institute for International Economics, Washington, DC.
- Yu, Yongding (2007). Global imbalances and China. *The Australian Economic Review*, 40 (1).
- Zhou Xiaochuan (2009). Reform the international monetary system. People's Bank of China, Beijing. <http://www.pbc.gov.cn/english//detail.asp?col=6500&ID=178>