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The provision of global liquidity: The global reserve system

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The provision of global liquidity

The global reserve system

José Antonio Ocampo*

October 2014

Abstract: This paper analyses three major problems of the current international monetary system: the asymmetric-adjustment problem, dependence on the monetary policy of the main reserve-issuing country, and the large demand for self-insurance by developing countries. It then proposes two reform routes: transforming it into a fully-fledged multicurrency reserve system or placing at the centre the only truly global reserve asset, the special drawing rights (SDRs). Mixing the two routes may be the only way forward. Under a mixed system, SDRs would become the source of financing for International Monetary Fund lending, but national/regional currencies would continue to be used as international means of payment and stores of value.

Keywords: global currencies, special drawing rights, International Monetary Fund

JEL classification: F02, F33

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1 Introduction

Since the collapse in the early 1970s of the dollar/gold exchange standard established under the 1944 Bretton Woods Agreement, 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 (secure stores of value) and international means of payment. Flexible exchange rates among competing reserve currencies are another feature of the system (with the exception of a recent entrant into that club, the Renminbi).

The reconstruction of global financial markets after their collapse during the Great Depression, which took off with the development of the Eurodollar market in the 1960s, added an additional feature, which is more the result of the functioning of the global financial system, but has profound implications for the monetary system: the strong pro-cyclical swings and outright volatility of finance, and particularly of financial flows across countries. This feature has had strong effects on emerging and developing countries (referred to simply as developing countries henceforth), which are subject to particularly sharp pro-cyclical swings in financing and associated macroeconomic risks (Frenkel 2008; Ocampo et al. 2007: chapter 1; Prasad et al. 2003). This has also been true of peripheral Europe in recent years.

This is 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, also have old roots, but may have been accentuated in recent years by the financialization of commodity futures markets (UNCTAD 2009: chapter 3). In the absence of a global lender of last resort, the risks generated by pro-cyclical finance and trade created a defensive or precautionary demand for foreign exchange reserves by developing countries. The mechanism has come to be called self-insurance (or self-protection) and has important implications for the global monetary system (Aizenman and Lee 2007; Cardim de Carvalho 2010; Ocampo 2010a; United Nations 2009).

As argued in this paper, 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. Conventional terminology refers to these effects as the global deflationary and inflationary biases of the system, but since their stronger effects are on world economic activity (i.e. on the intensity of the world business cycle) rather than on prices, I refer to them here as contractionary and expansionary biases, respectively.

The deficiencies of the global monetary system were at the centre of reform proposals formulated after the outbreak of the North Atlantic financial crisis.¹ They included the proposal by the governor of the central bank of China to gradually eliminate the role that the dollar plays at the centre of the system (Zhou 2009). In turn, the 2008 Stiglitz Commission, convened by the

¹ I follow here the use of this term rather than that of ‘global financial crisis’ because the crisis had global effects but its epicentres were the United States and Western Europe.

president of the UN General Assembly, proposed that reforms of the global reserve system should be at the centre of the global reform agenda (United Nations 2009). The 2010 Palais Royal Initiative, convened by the French government, also presented a series of reform proposals (Boorman and Icard 2011). However, in open contrast to the efforts to re-regulate finance, reforms of the international monetary system did not fully enter into G-20 or International Monetary Fund (IMF) debates.

This paper examines the major problems of the reserve system and analyses the role of special drawing rights (SDRs), the only global currency that has been created. It then explores alternatives to reform the system.

2 Major problems of the current system

The current reserve system has three fundamental flaws (Ocampo 2010a, b). The first is that it suffers from the contractionary bias characteristic of any system in which the burden of macroeconomic adjustment falls on deficit countries. This is the issue emphasized by Keynes (1969) in the debates that preceded the creation of institutions on the basis of the Bretton Woods Agreement, particularly the IMF. I refer to this flaw as the *asymmetric-adjustment problem*.²

The second relates to the instabilities associated with the use of a national currency as an international currency. As this was underscored by Robert Triffin in the debates of the 1960s, it came to be called the *Triffin dilemma*. As we will see, however, the nature of this problem was significantly transformed by the transition from the dollar/gold exchange standard to the fiduciary dollar standard.

As the accumulation of foreign exchange reserves by developing countries as self-insurance 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 highlights the third flaw of the system: the *inequity bias* which, as pointed out by the 2001 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-insurance generated by 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.

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.

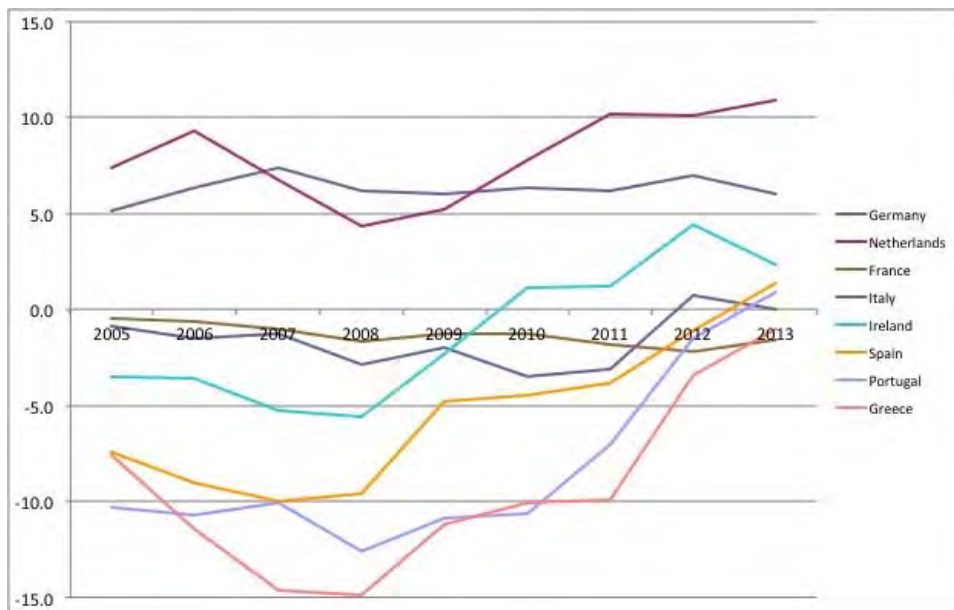
² In my previous work (Ocampo 2010a, 2010 b, 2011), I have called this the ‘anti-Keynesian bias’, to underscore that it has overall contractionary effects on global economic activity during crises.

2.1 The asymmetric-adjustment problem

As already noted, the first of these problems was highlighted by Keynes during the debates that surrounded the creation of the IMF.³ The fundamental problem is that the current system—as indeed, according to Keynes, all international monetary systems—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 regard as unsustainable or 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 expansionary effects that balance-of-payments surpluses generate. But the *external* pressures to adjust that they face are weaker or even non-existent. This asymmetric burden of adjustment generates, in turn, a global contractionary bias. This bias is particularly strong during global crises, when the lack of adequate financing forces deficit countries to adjust.

One of the best examples in history of asymmetric adjustment is that experienced by the Eurozone in the years following the outbreak of the North Atlantic financial crisis in 2007–08. Figure 1 shows the massive adjustment that took place in the European periphery, with some (notably, Ireland and Spain) turning from a large current account deficit when the crisis hit to a surplus in 2013. In contrast, the major surplus economies (e.g. Germany and the Netherlands) kept their large surpluses.⁴ As a result, the net resulting surplus of the Eurozone became one of the major sources of global imbalances by 2013.

Figure 1: Current account surplus or deficit of the Eurozone economies (% of GDP)



Source: International Monetary Fund, World Economic Outlook.

Since Keynes' (1969) 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

³ See a fascinating account of these debates in Skidelsky (2000: part II).

⁴ This is the overall current account position of countries. Owing to the strong recession in the periphery, the Germany's surplus with the Eurozone did decline, but this was compensated by rising surpluses vis-à-vis the rest of the world.

face a contractionary bias insofar as macroeconomic policy authorities respond asymmetrically to the building up of net external liability compared to net external asset positions.

2.2 The Triffin dilemma

Keynes' analysis implied 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 (Kregel 2009). Nonetheless, the role of the dollar at the centre of the system also generated problems, which were extensively debated in the 1960s and came to be known as the Triffin dilemma, following the works of Triffin (1961, 1968). The essential issue, as he emphasized, was that an *international* reserve system based on a *national* currency is inherently unstable. Given the importance that it has assumed in recent discussions, 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 [...].

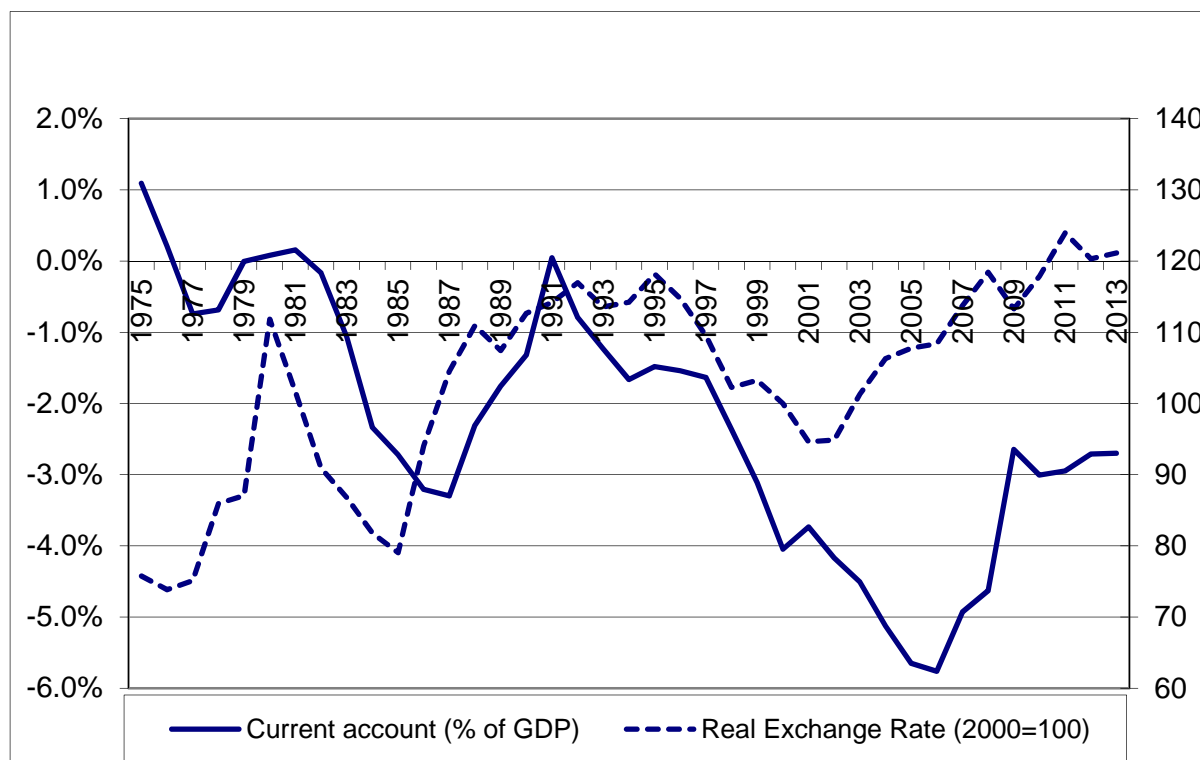
On the other hand, if the United States restores full balance in its external transactions, it will cease to feed a world reserve pool [...].

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: 87–8).

The discussions of the 1960s focused on ways to create, in a more orderly (or, to use the preferred term at that time, less ‘capricious’) manner, an adequate supply of world liquidity free from the instabilities generated by the Triffin dilemma. The main reform was the creation of a global fiduciary asset—the SDRs—which was expected to become the main global reserve asset, an objective that did not materialize, and the world made a *de facto* transition to the fiduciary dollar standard.

As Figure 2 indicates, the joint evolution of the US current account deficit and the real exchange rate of the major reserve currency has been reflected in three dominant patterns since the mid-1970s: (i) a long-term deterioration in the current account; (ii) strong cycles of both the current account and the real dollar exchange rate; and (iii) although exchange rate fluctuations have played an important role in determination of the US current account, major corrections of US deficits—around 1980 and 1990, and in 2008—have been associated with US slowdowns or recessions which, in turn, had major contractionary effects on the world economy.

Figure 2: US current account balance and real exchange rate



Note: 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 thus represented as the inverse of the real exchange rate estimated by the IMF.

Source: International Monetary Fund, International Financial Statistics.

What this implied is that the fiduciary dollar standard did not eliminate the Triffin dilemma but rather changed its features. The United States is now able to run ‘much larger and more persistent deficits than it would be able to incur otherwise’ (Triffin 1968: 87), without facing the constraints that dollar–gold convertibility posed. Indeed, US current account deficits became the rule rather than the exception, a fact that was soon reflected in that country’s transition, in the second half of the 1980s, from a net asset to a net liability position vis-à-vis the rest of the world. The implicit assumption of the new system was, of course, that flexible exchange rates would take care of adjusting the supply and demand for dollars. To the extent that the United States did not come to regard the actual or likely weakening of its currency as a problem to be corrected, this made US monetary policy even more independent than during the era of the dollar/gold exchange standard. This also implied that other countries came to be the subject of the monetary policy of the main reserve-issuing country, which has been managed with no regard to its spillovers on the rest of the world.

Interestingly, and contrary to Keynes’ views, the transition also implied that, given the reduced constraints on US balance-of-payments deficits, the fiduciary dollar standard could actually have expansionary rather than a contractionary bias, particularly during upswings in the business cycle. More generally, it 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, in any case, that the length and intensity of the most recent and longest phase of US current account deterioration, which took place during the 1990s and most of the

2000s, had 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 was 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 global 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 at least partly be explained by the fallacy of composition effects of self-insurance in the developing world (see discussion in Section 2.3).⁵

The transition of the United States from a net investment position into a net liability position was, of course, an unprecedented feature for the country at the centre of the global reserve system, and is in sharp contrast to the conditions that characterized the United Kingdom when it was the centre of the system prior to the First World War. For many years, this has generated fears that official and private agents may be unwilling to continue to accumulate dollar assets (Summers 2004; Williamson 2004). In the words of Mateos y Lagos et al. (2011: 94), ‘growing demand for safe (Treasury) assets would lead to indebtedness, which in time could undermine the confidence that is the basis for its reserve asset status.’ These risks were also at the centre of the views expressed by the central bank of China in 2009 (Zhou 2009). In contrast to this perception, the Second Bretton Woods literature (see Dooley et al. 2003) argued that growing US deficits were matched by a growing demand for dollar reserves by mercantilist developing countries, a fact that made the system stable. The North Atlantic financial crisis showed that dollar assets continue to be perceived as the safest assets. However, this has nothing to do with the Second Bretton Woods literature, but with the fact that the dollar and, particularly, US Treasury securities continue to be the most liquid assets in the world (Prasad 2014). This was reflected at the beginning of the crisis by an appreciation of the US dollar.⁶

From the point of view of the United States, 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. As it has 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: chapter 1). 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: chapter 9).

The Triffin dilemma thus assumed new forms but did not disappear. In the words of Padoa-Schioppa (2011: 64), ‘the stability requirements of the system as a whole are inconsistent with the pursuit of economic and monetary policy forged solely on the basis of domestic rationales in all monetary regimes devoid of some form of supranationality.’ Expressed in different terms, the

⁵ Barbosa-Filho et al. (2008) have analysed the domestic dynamics of this process, which has been dominated by procyclical household (and, more generally, private) borrowing, partly mitigated by counter-cyclical government borrowing—in sharp contrast to the traditional story of the ‘twin’ external and fiscal deficits.

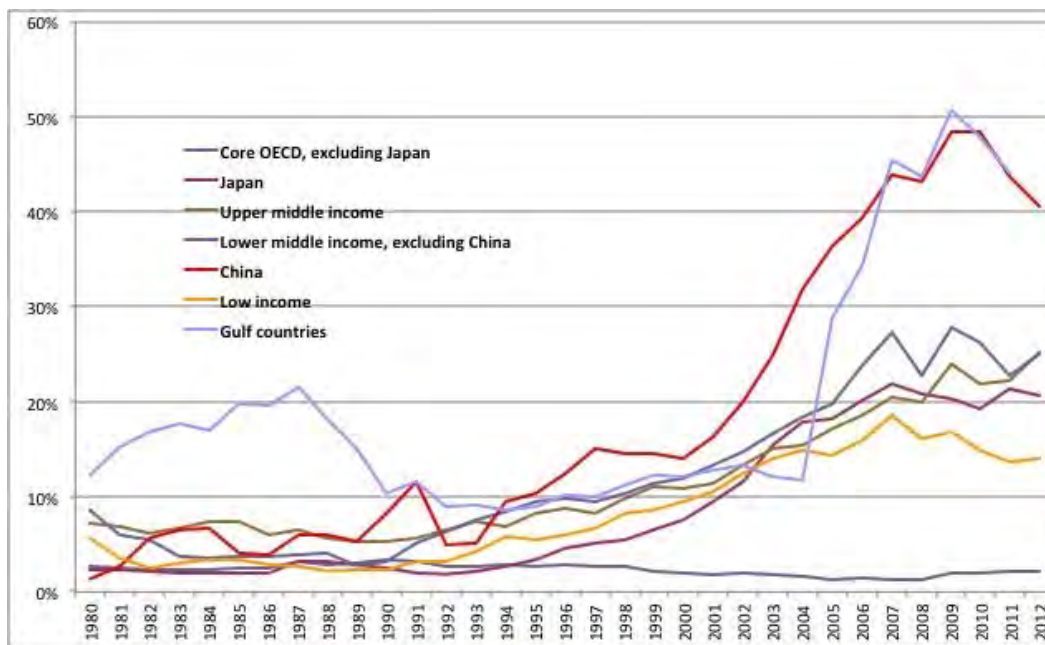
⁶ However, this has nothing to do with the validity of the Second Bretton Woods hypothesis, as argued by its proponents (Dooley et al. 2009).

world economy is hostage to the monetary policy and the balance-of-payments cycles of the major reserve-issuing country.

2.3 Growing inequities of the system and its instability effects

The accumulation of foreign exchange reserves generates a transfer of resources from developing countries to the United States and other reserve-issuing countries. This feature, which is the essence of the inequity bias of the system, was built into its initial post-war design. However, these transfers remained limited as long as developing countries' foreign exchange reserves were not sizable. As Table 1 and Figure 3 indicate, this was true up to the 1980s, when the foreign exchange reserves of low-income and middle-income countries (i.e. developing countries) were only slightly larger as a proportion of their gross domestic product (GDP) than those of high-income countries.⁷ The major exceptions at the time were the (Persian) Gulf countries and other high-income non-OECD (Organisation for Economic Co-operation and Development) countries, a group dominated by Hong Kong and Singapore.

Figure 3: Foreign exchange reserves by level of development (% of GDP)



Note: Total reserves minus gold series.

Source: World Bank, World Development Indicators, based on information from the International Monetary Fund.

⁷ The 2000 World Bank classification is adopted here rather than a more recent one as it reflects much better the relative standing of different countries and regions of the world during the whole period covered in this analysis. Please note that this and the following data thus differ from that presented in Erten and Ocampo (2013), which used the 2011 classification.

Table 1: Accumulation of foreign exchange reserves

	Annual average changes in reserves (in million USD)					Reserves as % of GDP					
	1982-90	1991-97	1998-02	2003-07	2008-12	1980	1990	1997	2002	2007	2012
High income: OECD	39,421	29,674	36,378	105,473	217,602	2.94	3.40	3.47	3.84	3.96	6.16
Core OECD	30,544	4,482	-15,369	407	68,550	2.76	3.33	2.73	2.00	1.29	2.18
Japan	5,985	20,164	48,307	98,320	54,873	2.27	2.53	5.08	11.59	21.87	20.59
Others	2,893	5,027	3,440	6,747	94,180	1.96	1.45	1.77	2.25	2.53	8.51
High income: non-OECD	5,442	17,106	9,571	42,774	52,732	10.42	28.26	40.42	47.62	47.06	49.86
Gulf countries	-1,057	1,306	4,125	74,201	72,400	12.33	10.39	10.04	13.40	45.49	44.07
Others	5,344	16,323	6,901	27,310	51,707	13.97	38.05	51.26	64.52	69.31	92.71
Upper middle income	2,534	26,353	33,000	196,170	179,130	7.22	5.24	8.23	13.37	20.47	25.15
Lower middle income	2,854	29,605	44,869	404,423	422,981	6.49	4.34	11.72	17.38	35.36	34.47
China	3,005	16,168	29,673	247,831	360,168	1.34	8.29	14.99	20.02	43.80	40.49
Excluding China	-151	13,437	15,196	156,593	62,813	8.58	3.18	9.50	14.68	27.26	25.00
Low income	-898	7,318	15,657	74,724	23,672	5.66	2.27	6.63	12.37	18.59	14.08
World	49,353	110,056	139,475	823,564	896,117	3.82	3.84	5.31	6.89	11.48	15.56
Excluding China and Japan	40,363	73,724	61,494	477,414	481,077	4.05	3.97	4.99	5.55	8.20	11.36

Note: Data for reserves as % of GDP for high-income non-OECD countries in 2012 refers to 2011. Country classification according to the World Bank in 2000 (see footnote 7).

Source: World Bank, World Development Indicators, based on information from the International Monetary Fund.

In contrast, over the past quarter century, foreign exchange reserves of developing countries boomed and diverged from those of industrial countries. China was the most aggressive and by 2002 it already held reserves equivalent to 20 per cent of its GDP, which increased to over 40 per cent by 2007. By 2007, middle-income and low-income countries, excluding China, also held reserves equivalent to between 19 and 27 per cent of their GDP, depending on the specific category of countries studied. Reserve accumulation did pay off, as reflected in the reduced vulnerability of most parts of the developing world during the North Atlantic financial crisis. In contrast, the trend for high-income core OECD countries remained fairly constant around 4 per cent of their GDP, with the major exceptions of Japan and high-income non-OECD countries. After the North Atlantic crisis, the gap between developing countries and OECD countries narrowed somewhat, because of some reserve accumulation in developed countries and a reduction in the reserves as a proportion of GDP held by China and some categories of developing countries.

The major waves of foreign exchange reserve accumulation thus followed the two major financial crises experienced by the developing world in the post-Second World War period: mainly the Latin American debt crisis of the 1980s and, even more strongly, the broad-based crisis of emerging market countries that started in East Asia in 1997 and then spread to Russia, Latin America, and Turkey. In this sense, reserve accumulation 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—and particularly, as a way of protecting themselves against global financial instability. It also reflected the lack of appropriate global institutions to manage crises in developing countries and the particular deficiencies associated with the only form of collective insurance available: conditional IMF lending.

There are three competing explanations for this increase in the demand for reserves by developing countries. The first, which is the most compelling, is that reserve accumulation is the result of self-insurance in a broad sense, which includes what I refer to as the ‘counter-cyclical 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 aforementioned Second Bretton Woods literature (see Dooley et al. 2003). According to this school of thought, the basic explanation for reserve accumulation is mercantilism, particularly by East Asian countries that undervalue their exchange rates as part of their export-led strategies. A reinforcing factor may be the lack of appropriate mechanisms for exchange rate co-ordination in export-led economies, which generates incentives to keep exchange rates competitive—a point made by Sakakibara (2003) in calling for increasing macroeconomic policy co-ordination in East Asia. One implication of this view is that, for these countries, the benefits of stable and competitive 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 a respectable tradition in the development literature (e.g. see Frenkel and Rapetti 2010; Frenkel and Taylor 2007; Prasad et al. 2007; Rodrik 2008). However, this interpretation misses one important empirical fact: that reserve accumulation in the developing world is closely associated with fluctuations in capital flows; that is, it tends to smooth out the pro-cyclical pattern of capital flows that affect developing countries (Ocampo 2010a, 2010b). 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 et al. 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 motive from that of self-insurance.

The self-insurance motive can therefore 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, to a lesser extent, in the volume of international trade. In this sense, the demand for reserves is the result of the application of a broad precautionary principle learnt 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 balance-of-payments crises—and, very commonly, to twin 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.

Insofar as cyclical shocks from the capital or trade accounts tend to generate pro-cyclical macroeconomic policy responses (Kaminsky et al. 2004; Ocampo and Vos 2008: chapter 4; Stiglitz et al. 2006), active foreign exchange management can be seen as an attempt to increase the room for manoeuvre of counter-cyclical macroeconomic policies (Ocampo 2008; Ocampo et al. 2009: chapter 7). In this sense, the self-insurance motive can be called the *counter-cyclical motive*. It is also important to emphasize that it is generally associated with intermediate foreign exchange regimes. Smoothing out the effects of external shocks on the exchange rate is, thus, the essential feature of self-insurance or counter-cyclical foreign exchange management.

Interestingly, in the case of capital account fluctuations, the self-insurance motive goes beyond the so-called 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 2008; Ocampo et al. 2007: chapter 1), 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.

Foreign exchange reserve accumulation is obviously costly, both because foreign exchange reserves have low yields and because 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 have their counterparts in reserve accumulation. In contrast, exchange rate flexibility to increase the room for manoeuvre of counter-cyclical monetary policy has been the instrument preferred by defenders of orthodox inflation targeting. But this is *not* a good substitute, as it merely transfers the pro-cyclicality of foreign exchange availability to the exchange rate and is likely to reproduce the risks that self-insurance is trying to avoid, particularly the generation of unsustainable current account deficits during booms.

In this regard, one paradox of macroeconomic policy management that has characterized 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 (a topic that will be dealt with on another occasion). In particular, to the extent that regulations 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, as it does not generate any real transfer of 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-insurance 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 because of the conditionalities typically attached to them. In the past, these have included adoption of pro-cyclical macroeconomic policies during crises, which self-insurance seeks to avoid or at least mitigate. In this sense, the self-insurance or counter-cyclical motive behind the high demand for foreign exchange reserves by developing countries is associated with pro-cyclical capital account and trade shocks as well as with 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-insurance, though rational from the point of view of an individual country, generates fallacy of composition effects that tend to worsen global imbalances and can generate a global contractionary bias. Indeed, if large groups of developing countries follow this route, they generate a mix of two conditions: stronger current accounts and an additional demand for safe assets that can be used as reserves. If the first condition is dominant, contractionary effects on the world economy will be generated unless matched by current account deficits in other (mainly developed) countries. If the second prevails, then they must be matched by the supply of such assets by developed countries to avoid having contractionary effects. In any case, they could reduce interest rates for safe assets, a factor that some have identified as one of the elements behind the asset bubble in advanced countries prior to the 2007–08 North Atlantic financial crisis. Through either of the two channels the inequities of the system can contribute to global imbalances.

Therefore, self-insurance 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. This was revealed again during the current crisis caused by the collapse of several Central and Eastern European economies that pursued this strategy, as well as in the periphery of the Eurozone, although in that case without the ingredient of exchange rate appreciation. We must start by addressing the reason for the desire for self-insurance, namely the strongly pro-cyclical capital and trade flows and the inadequacy of collective insurance for balance-of-payments crises.

3 Special drawing rights

SDRs are defined by the IMF as an ‘international reserve asset’ (see IMF 2014). However, although countries receive interest on holding of SDRs, they also have to pay interest on the allocations they receive. In this sense, SDRs are peculiarly both an asset and a liability, and perhaps should be best considered as a credit line which can be used unconditionally by the holder—that is, an

unconditional overdraft facility. This is, of course, a legacy of the debates of the 1960s, when France, against the view of most countries (including the United States), opposed the idea of creating a pure reserve asset and preferred to create a ‘drawing’ facility similar to the tradition of IMF credit lines (Lombardi and Milsom 2012; Solomon 1982: chapter 8).

According to existing rules, the IMF makes general allocations of SDRs following three criteria: a *long-term* need, of a *global* character, and with the purpose of *supplementing* existing reserve assets. Five-year-period reviews are undertaken to decide whether such a need exists. So far, three general SDR allocations have been made. The first was in 1970–72 for a total amount of 9.3 billion SDRs, and the second in 1979–81 for 12.1 billion SDRs. The last took place in 2009 and included two different decisions: (i) an allocation for 21.4 billion SDRs had been approved by the Board of Governors of the IMF in 1997, which was meant to equalize the benefits of new (those that joined after the previous SDR allocations) and old fund members, but only became effective when the related changes in the IMF Articles of Agreement were approved by the US Congress in June 2009; and (ii) in response to the North Atlantic financial crisis, the G-20 agreed to boost liquidity through new SDR allocations, which involved the issuance of 161.2 billion SDRs, equivalent to US\$250 billion and was approved by the IMF Board in July 2009. Interestingly, although allocations are made according to long-term needs, the 2009 allocations were clearly argued on counter-cyclical grounds (IMF 2009b), and the previous allocations in 1979–81 and the delayed one in 1997 also coincided with crises in the world economy.

As the SDR allocations are made according to IMF quotas, they are much larger for high-income countries. Table 2 shows that, during the first set of allocations in 1970–72, high-income countries received 74 per cent of total allocations, whereas middle-income countries received 16 per cent and low-income countries only about 10 per cent. The distribution improved slightly over time. During the second round of allocations in 1979–81, the share of high-income countries declined to 67 per cent, whereas that of middle-income countries rose to 23 per cent and of low-income countries marginally so. In 2009, the share of middle-income countries continued to rise to 30 per cent, but that of low-income countries fell to 8 per cent. The decline in the share of high-income countries to 62 per cent implied, as in the previous period, a falling share of OECD countries partly compensated by the rising share of non-OECD countries.

SDRs are ‘central bank money’, since essentially only central banks accept them as means of payment and private parties are not allowed to hold them under current rules. In addition, SDRs can be used to pay the IMF and they can be used by a few other international organizations such as the multilateral development banks and the Bank for International Settlement. A core difference of SDRs from other reserve assets is, therefore, that they cannot be directly used to intervene in the foreign exchange market. They have to be converted into the currency needed to undertake those interventions.

Table 2: SDR allocations by level of development (in millions of SDRs)

	Allocations (in million SDRs)			Share in total allocations (%)		
	1970–72	1979–81	2009	1970–72	1979–81	2009
High income: OECD	6,796	7,906	109,095	73.6	65.8	59.7
United States	2,294	2,606	30,416	24.8	21.7	16.7
Japan	377	514	11,393	4.1	4.3	6.2
Others	4,125	4,786	67,286	44.7	39.8	36.8
High income: non-OECD	17	127	3,372	0.2	1.1	1.8
Gulf countries	0	78	2,057	0.0	0.7	1.1
Excluding Gulf countries	17	49	1,315	0.2	0.4	0.7
Middle income	1,507	2,758	55,062	16.3	22.9	30.1
China	0	237	6,753	0.0	2.0	3.7
Excluding China	1,507	2,521	48,309	16.3	21.0	26.4
Low income	913	1,226	15,125	9.9	10.2	8.3
Total allocations	9,234	12,016	182,653	100.0	100.0	100.0

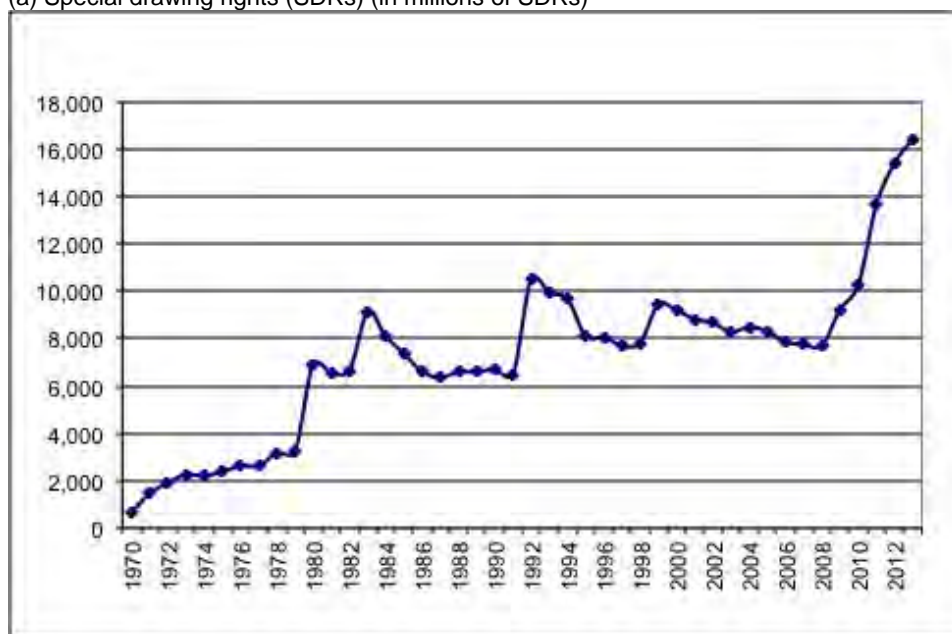
Source: International Monetary Fund, International Financial Statistics.

SDRs can be transacted in two ways: (i) transactions by bilateral agreement between participant countries, after which the IMF typically mediates the transaction; and (ii) transactions by designation whereby if a member country has balance-of-payments needs and there is no country willing to buy its SDRs, the IMF has the legal right to designate members with strong external positions to exchange SDRs for freely usable currencies, up to the point where the holdings of the buying country above allocation (i.e. excess holdings) are equal to twice their allocation amount. This designation mechanism is essential to maintain the liquidity of the SDRs, but it has not been used for over two decades as voluntary arrangements have worked well. This has been facilitated by the fact that some central banks have an active management of their SDR holdings as part of their reserve portfolio strategy and operate in a sense as ‘market makers’. This group of countries includes Austria, Belgium, Denmark, Finland, France, Germany, Japan, Netherlands, Norway, Sweden, Switzerland, United Kingdom, and Venezuela as well as the European Central Bank (ECB). The ECB operates as an additional market maker. All of these participants have two-way arrangements of buying and selling SDRs, except Germany, which has only a one-way arrangement to sell SDRs (IMF 2009b).

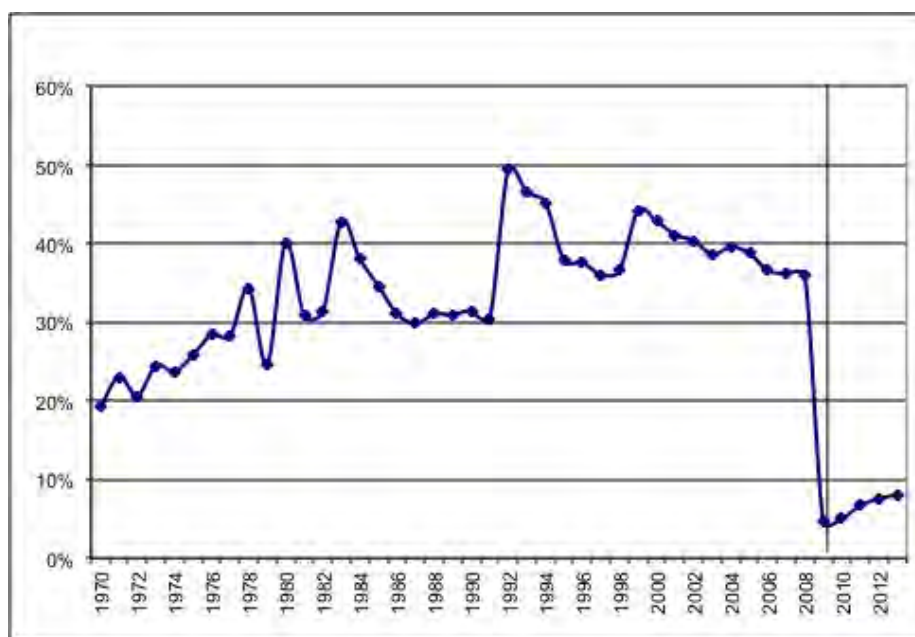
A review of history indicates certain trends in the SDR market that are important for understanding how the market has functioned so far. The first important fact to note is that there is a small but growing amount of SDR transactions that tend to intensify during global crises. Figure 4 shows net SDR drawings by IMF members, estimated as the sum of the absolute value of all net SDR positions by individual countries. It indicates that the use of SDRs grew over time, with accelerations coinciding with periods of global financial stress. They include depreciation of the US dollar in the late 1970s, which even led the United States to use part of its SDRs; the 1980–84 Latin American debt crisis; the crisis of the European exchange rate mechanism in the early 1990s; the series of crises in emerging economies in the late 1990s and early 2000s; and the North Atlantic financial crisis. Over the long-term, the trend in the use of SDRs has been clearly positive. Since the early 1980s they fluctuated between 30 and 50 per cent of total allocations. As a proportion of allocations, the market fell, of course, substantially with the large 2009 allocations, but has since then renewed its upward trend in relative but particularly absolute amounts.

Figure 4: Total net drawings

(a) Special drawing rights (SDRs) (in millions of SDRs)



b) Percentage of total allocations



Source: International Monetary Fund, International Financial Statistics.

Table 3 shows the net SDR holdings of countries according to their levels of income at the peak years of net drawings. Several interesting patterns emerge from this disaggregation. High-income OECD countries, excluding Japan, have in fact been large users of SDR allocations, which indicates that they are important reserve assets even for the richest countries of the world. Such net use takes place during global crises, but is still small relative to the large size of allocations these countries receive. Japan has been mostly a buyer in the market, accumulating SDRs above its allocations. The United States drew almost 2 billion SDRs in 1980 and was still a net seller in 1983, but has been a net buyer thereafter. In turn, high-income non-OECD countries have overall been net buyers of SDRs, except in 1999; the Gulf countries play a large role in this regard.

Table 3: Net SDR holdings by level of development

	Net holdings (in millions of SDRs)						Net holdings as % of allocations to each group					
	1980	1983	1992	1999	2009	2011	1980	1983	1992	1999	2009	2011
High income: OECD	-3,202.8	-3,178.4	-4,233.2	0.1	994.5	-1,944.7	-26.5	-21.6	-28.8	0.0	0.8	-1.6
United States	-1,996.2	-99.5	1,284.7	2,639.4	1,562.5	479.3	-16.5	-0.7	8.7	17.9	1.3	0.4
Japan	640.2	956.6	-96.2	1,043.8	1,090.0	576.0	5.3	6.5	-0.7	7.1	0.9	0.5
Others	-1,846.9	-4,035.5	-5,421.6	-3,683.0	-1,658.0	-3,000.0	-15.3	-27.4	-36.9	-25.0	-1.3	-2.4
High income: non-OECD	-33.9	54.3	138.8	41.2	651.6	240.5	-41.4	37.7	0.9	28.6	18.5	6.8
Gulf countries	-22.6	27.5	121.5	-9.4	116.2	120.5	-27.6	19.1	0.8	-6.5	3.3	3.4
Excluding Gulf countries	-11.3	26.8	17.3	50.5	535.4	120.0	-13.8	18.6	0.1	35.1	15.2	3.4
Middle income	-1,228.6	-1,855.2	-2,251.5	-1,080.0	-720.8	-3,748.4	-37.0	-43.5	-52.8	-24.9	-1.2	-6.3
China	-42.4	83.2	68.3	302.8	990.0	732.5	-1.3	2.0	1.6	7.0	1.7	1.2
Excluding China	-1,186.2	-1,938.4	-2,319.7	-1,382.8	-1,710.8	-4,480.9	-35.7	-45.5	-54.4	-31.9	-2.9	-7.6
Low income	-977.5	-1,877.5	-2,095.9	-1,881.3	-3,895.7	-4,894.9	-56.5	-87.8	-96.7	-86.8	-22.6	-28.4
Total net drawings	-6,917.9	-9,105.3	-10,509.9	-9,455.0	-9,231.9	-13,657.1						
Total allocations	17,230.8	21,249.5	21,278.2	21,376.7	203,902.5	203,902.5						

Note: (-) sign indicates net drawings; (+) sign indicates net holdings. The numbers are totals of each income group in millions of SDRs.

Source: International Monetary Fund, International Financial Statistics.

In any case, developing countries tend to use their SDR holdings more frequently. As seen in Table 3, middle-income countries have had significantly large net drawings in all peak years. China has been the exception, drawing its SDR allocations only in 1980 and accumulating SDRs since then. As a share of allocations to the group, middle-income countries, excluding China, drew much larger shares than high-income countries, ranging from 32 to 54 per cent prior to the 2009 allocation, depending on the peak year. In turn, the use of SDRs in allocations is highest for low-income countries. Before the 2009 allocation, they drew over 80 per cent of the SDRs they were allocated. After the most recent allocation, middle-income and low-income countries have renewed their active use of SDRs, drawing a peak 8 and 28 per cent of their allocations by 2011, respectively (excluding China from the first of these groups).

An analysis of net drawings and net purchases by individual countries indicates that predominantly the high-income countries and oil-rich middle-income countries sold and bought large amounts of SDRs during peak periods (Erten and Ocampo 2013: table 9.4). Among these, the United States was the largest drawer of SDRs in 1980, followed by the United Kingdom, Australia, and Canada. On the net holder side was Japan, followed by Germany, Belgium, Saudi Arabia, and Iran. Saudi Arabia remained among the top five net buyers of SDRs. China joined the net buyers in 1999, and became the third largest buyer in 2008, followed by the United States and Japan. United Kingdom, interestingly, remained the largest seller until 2010, when Ukraine displaced it from that position.

Three major conclusions can thus be derived from studying the market for SDRs. First, despite their low share in allocations, developing countries tend to use their holdings frequently for their balance-of-payments needs. Allocations of SDRs and, particularly, asymmetric allocations—an issue I return to in the next section—would thus have positive development implications. Second, SDRs are, in any case, an important reserve asset for developed countries, as reflected in their dominant role both on the buyer and seller side. Third, the market is very small, however, as at their peak net drawings have only reached slightly over 16 billion SDRs, a minute proportion of global reserves.

4 Reforming the system

4.1 Alternative reform routes

The strength of the dollar in the face of the financial meltdown generated by the bankruptcy of Lehman Brothers in 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 United States—an important part of the strong de-leveraging process unleashed by the crisis. The second 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 meant that the assets of only a few European countries were considered comparable with those of the United States as safe assets, but their supply has been more limited.

However, we should not presume that the current global monetary arrangement is therefore stable. The three major problems of the system are still present: (i) the asymmetric-adjustment problem and the contractionary effects it generates on the world economy; (ii) the dependence of the world economy on the monetary policy of the main reserve-issuing country, which is managed with no regard to its spillovers on the rest of the world, and the longer-term issues associated with US current account deficits and net liability position; and (iii) the large demand for self-insurance by developing countries, which may also have contractionary effects on the world economy, and the growing scarcity of safe assets to satisfy the growing demand for reserves.

One way the system could naturally evolve is, of course, by becoming a fully-fledged multicurrency reserve system—a feature that, as pointed out earlier, is already present, but remains a secondary feature of the current system. The advantage of a multi-reserve currency arrangement is that it would provide all—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 developed countries (though a few developing countries, particularly China, would be able to partly benefit from reserve diversification by other countries). Also, neither would this reform eliminate the contractionary bias of the system nor would it reduce developing countries’ need for reserves for self-insurance.

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 a major problem that two previous systems faced, namely, the eventual unsustainability of fixed rate parities. This was, indeed, a major explanation for the collapse of bimetallism in the nineteenth century and the original Bretton Woods fixed gold–dollar parity. However, although substitution among currencies facilitates diversification, it can also enhance 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 movement 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. This would fulfil the objective included in the IMF Articles of Agreement of ‘making the special drawing right the principal reserve asset in the international monetary system’ (Article VIII, Section 7; 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.

This reform, which will be discussed in greater detail in the next section, would certainly meet the objectives outlined by the governor of the central bank of China: ‘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: 1). 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: 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.

These two alternative routes could be mixed in a number of ways, and in fact this may be the only possible way to reform the system. In particular, SDRs could be kept as purely central bank money, letting the multicurrency system take the functions of means of payment and continue keeping part of the functions as store of value. In turn, to manage the instabilities of a multicurrency system, a substitution account should be created in the IMF, to allow central banks to change their reserve composition without affecting markets. This proposal has been on the table since the 1970s, to manage periods in which countries have been willing to reduce the demand for dollar reserves.

There are, of course, other reform routes. One would be to return to Keynes' proposal for an International Clearing Union or a similar solution (e.g. see D'Arista 1999), or to create a new institution, a Global Reserve Bank (Stiglitz 2006: chapter 9). Independently of their virtues, such proposals do not seem viable in a world unwilling to adopt major reforms.

There have also been proposals to again give a greater role to gold.⁸ However, such a return to what Keynes called a 'barbarous relic' would be a non-starter. In particular, it would be inconsistent with the 'embedded liberalism' of earlier post-war arrangements—that the commitment to free markets is tempered by a broader commitment to social welfare and full employment (Eichengreen 1996).

4.2 An 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 co-operation was created.⁹ 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 during crises with global repercussions, notably the North Atlantic financial crisis. If anything, the fiduciary dollar standard has actually exhibited an expansionary 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 liquidity, to use Triffin's characterization, or a system that ensures an 'orderly supply' of the international reserve currency, if we prefer the formulation of the governor of the central bank of China. 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 allocations made in 1979–81, which brought accumulated allocations to 21.4 billion SDRs (slightly over US\$33 billion at exchange rates at the end of 2013), the total accounts for an insignificant 0.5 per cent of world non-gold reserves prior to the 2009 allocations. These allocations brought the stock of SDRs to approximately 5 per cent of global non-dollar reserves, still a very modest amount.

An ambitious reform to address the problems of the current reserve system and the shortfall of safe assets would thus be to design an SDR-based global reserve system, or at least moving towards a fully SDR-funded IMF. The major advantages of IMF acting as a quasi-world central bank are threefold: (i) sharing seigniorage (e.g. the seigniorage would accrue to the IMF member states according to their quota distributions or alternative SDR allocation formula, instead of the reserve-issuing countries); (ii) delinking the creation of international reserve assets from any particular national or regional currency, thus helping to overcome the Triffin dilemma; and (iii) controlling liquidity in a counter-cyclical way.

⁸ The most surprising was probably the proposal by Robert Zoellick (2010), as president of the World Bank, in the run up to the Seoul G-20 summit: 'The system should also consider employing gold as an international reference point of market expectations about inflation, deflation and future currency values.' This made part of a proposal that also involved the use of multiple currencies.

⁹ See good summaries of the debates of the 1960s in Solomon (1982) and Triffin (1968). An interesting contrast between the roles of SDRs then and now is provided by Clark and Polak (2004) and Williamson (2009). A recent perspective on the role of SDRs is provided by Erten and Ocampo (2013) and the Triffin International Foundation (2014).

Proposals for SDR allocations in recent years have followed two different approaches. The first is issuing SDRs in a counter-cyclical 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 counter-cyclical effects (Akyüz 2005; Camdessus 2000; French-Davis 2007; Ocampo 2002; United Nations 1999). The second approach proposes regular allocations of SDRs reflecting additional world demand for reserves (IMF 2011b; Stiglitz 2006: chapter 9). The two approaches can be combined, as it can be agreed to make regular allocations—say every five years, following IMF practices—that are nonetheless made contingent on global monetary conditions, with the IMF Board deciding when they are made effective.

Proposals of new SDR allocations vary on the basis of the criteria used to estimate them. The most recent IMF report uses three conventional criteria: reserve coverage of imports (which is not important today), coverage of short-term debt, and broad money (IMF 2011b). Their estimates suggest a considerable rise in the projected demand for reserve assets. While the 5-year estimates in 2009 (IMF 2009b) were around US\$700–900 billion, the projection for the same period rose to US\$800–1,600 billion in 2011. On an annual basis, the IMF recommends SDR allocations of US\$350–400 billion to maintain a stable level of supply for global reserve assets. Other proposals have ranged around US\$200–300 billion annually (see Erten and Ocampo 2013: table 5). The Stiglitz Commission, for example, made the case for regular allocations in the range of US\$150–300 billion a year (United Nations 2009: chapter 5). A later recommendation by a group of experts was larger: US\$240–400 billion (Stiglitz et al. 2011). Although these allocations would contribute to the diversification of reserves, SDRs would still represent a small share of reserve holdings. For example, the IMF (2011a) estimated that an annual allocation of US\$200 billion would increase the share of SDRs in total reserves to about 13 per cent by the 2020s.

The most important element of the reform would involve moving to a fully SDR-based IMF with a clear counter-cyclical purpose. This would involve counter-cyclical allocations of SDRs, which would generate unconditional liquidity, together with counter-cyclical IMF financing, made entirely in SDRs, to provide conditional liquidity to countries facing balance-of-payments crises.

One possibility would be the mechanism proposed by Polak (1979, 2005: chapters 7–8) more than three decades ago: IMF lending would be done during crises, creating new SDRs (in a way similar to how lending by central banks creates domestic money, a mechanism heavily used during the North American financial crisis), but such SDRs would be automatically destroyed once such loans are paid. There would, of course, be limits on the magnitude of such lending, overall and for individual countries borrowing. The alternative that I suggest, which would also combine the allocations of SDRs with the lending capacity of the IMF, 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. They can also be used to invest in bonds of multilateral development banks (see discussion later) or other international assets that the IMF Board deems appropriate (e.g. climate funds) but not in Treasury bonds of countries that issue global reserve currencies, as this would unnecessarily congest the demand for alternative global reserve assets. The net balance between SDRs issued and those used by the IMF would be ‘invested’ as short-term assets in the central banks of all member countries in proportion to the quota in the Fund (this is equivalent to the current system in which countries pay an interest to the IMF on SDRs issued, except that in this case payments would be only on the IMF’s net SDR balance).

A crucial advantage of these proposals is that they would solve the recurrent problem of making more resources available to the IMF during crises. Note, in this regard, that the traditional solution has been to allow the IMF to borrow from member states under different modalities. But this mechanism is problematic, as it is not truly multilateral and, as Kenen (2001) pointed out, gives

excessive power to the countries providing the financing. This mechanism is thus sub-optimal to quota increases and both are, in turn, sub-optimal relative to a fully SDR-based IMF along the lines outlined.

This reform, however, requires a change in the IMF Articles of Agreement. Crucial in this regard is the elimination of the division between general resources and SDR accounts of the IMF (Polak 2005: part II), which severely limits the use of SDR allocations by countries and makes it impossible to finance IMF lending by using SDR allocations. Furthermore, another advantage of an SDR-based IMF is that it would eliminate the need for the IMF to manage a multiplicity of currencies, only a fraction of which 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 partly by lending and investments made with SDR deposits but ultimately by the commitment of all central banks to accept SDRs as payments from other IMF members.

4.3 Complementary reforms

These proposals must be complemented by reforms in other areas. Those that specifically relate to the role of SDRs deserve a mention here.

First, it should be emphasized that an SDR-based IMF would facilitate the task of increasing the size of the IMF, which has significantly lagged behind that of the world economy since the 1970s, particularly in relation to capital flows (IMF 2009a). This would, in turn, reinforce the provision of collective insurance. 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.

Second, mechanisms could be built in the design of the system to help improve adjustments to global imbalances (an issue that is beyond the scope of this paper). In particular, global macroeconomic policy co-operation should aim at avoiding the asymmetric-adjustment problem and the contractionary bias it generates. The crucial element would, of course, be larger collective insurance. This could be mixed with a rule that penalizes countries with large surpluses and/or excessive reserves, relative to the size of 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 for reserves by developing countries.

Third, and crucial 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 between developing and developed economies, which are at the centre of both the inequities of the current reserve system and the contractionary bias that large reserve accumulation by developing countries can potentially generate. 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, mainly developing countries; Williamson (2009, 2010) has proposed that these countries would receive 80 per cent of SDR allocations and the remaining 20 per cent would be allocated to industrial countries; an alternative would be to explicitly introduce the demand for reserves into the criteria for SDR allocations; and (ii) the creation of a ‘development link’ in SDR allocations, as proposed by the Group of Experts convened by the United Nations Conference on Trade and Development (UNCTAD) in the 1960s (see 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 the demands of developing countries for long-term financial resources.

Another potential development link that has been proposed by several authors is to use SDR allocations to developed countries to finance additional aid for the poorest countries and the provision of global public goods, such as combatting climate change (ActionAid 2010; Ffrench-Davis 2007; Soros 2002; Stiglitz 2006: chapter 9). 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 on every occasion. Donating SDRs for development or combatting climate change is also costly for countries, since they would still have to pay interest on the donated SDRs to the IMF. Alternatives to manage both problems have been suggested by Bredenkamp and Pattillo (2010), among others, to implement the proposal by former IMF Managing Director Dominique Strauss-Kahn to use SDRs to support efforts to control climate change. According to this proposal, donating countries would place unutilized SDRs as equity into trust funds, which can be the capital of a Green Fund but could also be a development fund with other objectives such as infrastructure. The return on these equity investments would then be used to service the interest payments on used SDRs. A certain over-subscription of the equity of the said fund would, in turn, guarantee the liquidity of the SDRs for each individual country.

Fourth, as envisioned in the debates of the late 1970s, and pointed out more recently by Bergsten (2007) and Kenen (2010), among others, it would be useful to create a substitution account that would allow countries to transform their dollar reserves into SDR-based assets issued by the IMF to provide stability to the current system. Furthermore, this may be an essential complement between SDR reform and a multicurrency system. In a transition similar to the three-stage one envisioned by Kenen (2010), one could think of three periods in which the functions of the substitution account would change until the SDR becomes a fully developed reserve asset. In an early period, countries could exchange the reserve assets they have for SDRs issued for that purpose by the substitution account. The June 2009 IMF decision to issue SDR-denominated bonds to some emerging economies could be considered a step in that direction. In a subsequent period, each country that has a need to intervene in the foreign exchange market would be able to freely transfer some of its SDR claims for the currency of intervention in the hands of the substitution account, or by selling its normal SDR allocations to the country issuing the currency that it needs to access. In a final phase, the substitution account would be consolidated with the general accounts of the IMF and any distinction between the SDRs created through substitution and those created by periodic allocations would disappear. A substitution account could still be kept to help the IMF regulate changes in the demand by central banks for other reserve assets.

A major issue is how the potential losses of a substitution account would be distributed among IMF members, a basic reason why initiatives in that direction have not been approved in the past. It is probably inevitable that the potential costs should be shared between the reserve-issuers (the United States and the Eurozone countries) and the reserve-holders (the majority being developing countries). The primary reason why the latter should share in the costs is that they benefit from the stability in the value of the reserves that the account would offer. That said, those costs are not necessarily very high. Retrospective calculations done by Kenen (2009) indicate that, if the mechanism had been in place in the period 1995–2008, those losses would have been minimal.

Finally, the reform of the system should include regional monetary arrangements (an issue that is beyond the scope of this discussion). 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.

It could be added that 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) and Polak (2005: part II). Indeed, for some analysts, this is essential to transform the SDRs into an asset held by the private sector (Cooper 2010; Eichengreen 2011; Padoa-Schioppa 2011). However, apart from imposing additional demands on the reform of the system, the private use of SDRs could generate problems of its own, particularly speculative changes in the demand for this global reserve asset, and could also create strong opposition to a reform of the system by the United States. For this reason, it may be better to let national or regional currencies continue to play the major role in private transactions. 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: chapter 7). As long as central banks agree to accept SDRs from one another in exchange for convertible currencies, SDRs can perform the function of store of value (reserve asset) as well as medium of exchange in inter-central bank transactions.

References

- ActionAid (2010). 'Using Special Drawing Rights for Climate Finance'. Discussion Paper. Available at: <http://www.usclimatenetwork.org/resource-database/using-special-drawing-rights-for-climate-finance> (accessed 2 August 2014).
- Aizenman, J., and J. Lee (2007). 'International Reserves: Mercantilist vs. Precautionary View: Theory and Evidence'. *Open Economies Review*, 18(2): 191–214.
- Akyüz, Y. (2005). 'Reforming the IMF: Back to the Drawing Board'. G-24 Discussion Paper Series 38. New York and Geneva: United Nations. Available at: <http://www.un.org/esa/ffd/events/2010GAWGFC/6/UNCTADG24.pdf> (accessed 2 August 2014).
- Barbosa-Filho, N.H., C. Rada von Arnim, L. Taylor, and L. Zamparelli (2008). 'Cycles and Trends in US Net Borrowing Flows'. *Journal of Post-Keynesian Economics*, 30(4): 623–48.
- Bergsten, F. (2007). 'How to Solve the Problem of the Dollar'. *Financial Times*, 10 December. Available at: <http://www.ft.com/cms/s/0/75cb5f2e-a729-11dc-a25a-0000779fd2ac.html#axzz39FYNj6Vg> (accessed 2 August 2014).
- Boorman, J.T., and A. Icard (eds) (2011). *Reform of the International Monetary System: The Palais Royal Initiative*. New Delhi: SAGE Publications.
- Bredenkamp, H., and C. Pattillo (2010). 'Financing the Response to Climate Change'. IMF Staff Position Note SPN10/06. Washington, DC: Strategy, Policy, and Review Department, International Monetary Fund. Available at: <http://www.imf.org/external/pubs/ft/spn/2010/spn1006.pdf> (accessed 2 August 2014).
- Camdessus, M. (2000). 'An Agenda for the IMF at the Start of the 21st Century'. Remarks at the Council on Foreign Relations, 1 February. New York: IMF External Relations Department, International Monetary Fund. Available at: <https://www.imf.org/external/np/speeches/2000/020100.htm> (accessed 2 August 2014).
- Cardim de Carvalho, F. (2010). 'The Accumulation of International Reserves as a Defensive Strategy: Reasons and Limitations of Self-Insurance'. In S. Griffith-Jones, J.A. Ocampo, and J.E. Stiglitz (eds), *Time for a Visible Hand: Lessons from the 2008 World Financial Crisis*. New York: Oxford University Press.

- Clark, P.B., and J.J. Polak (2004). 'International Liquidity and the Role of the SDR in the International Monetary System'. *IMF Staff Papers*, 51(1): 49–71. [First published as IMF Working Paper WP/02/217; reproduced in Polak (2005: chapter 9).]
- Cooper, R. (1987). *The International Monetary System: Essays in World Economics*. Cambridge, MA: MIT Press.
- Cooper, R. (2010). 'Does the SDRs Have a Future?'. Available at: <http://scholar.harvard.edu/cooper/publications/does-sdr-have-future> (accessed 2 August 2014).
- D'Arista, J. (1999). 'Reforming the Privatized International Monetary and Financial Architecture'. *Financial Markets and Society*, November: 1–22.
- Dooley, M.P., D. Folkerts-Landau, and P. Garber (2003). 'An Essay on the Revived Bretton Woods System'. NBER Working Paper 9971, September. Cambridge, MA: National Bureau of Economic Research. Available at: <http://www.nber.org/papers/w9971> (accessed 2 August 2014).
- Dooley, M.P., D. Folkerts-Landau, and P. Garber (2009). 'Bretton Woods II Still Defines the International Monetary System'. NBER Working Paper 14731, February. Cambridge, MA: National Bureau of Economic Research. Available at: <http://www.nber.org/papers/w14731> (accessed 2 August 2014).
- Eichengreen, B. (1996). *Globalizing Capital: A History of the International Monetary System*. Princeton, NJ: Princeton University Press.
- Eichengreen, B. (2011). *Exorbitant Privilege: The Rise and Fall of the Dollar and the Future of the International Monetary System*. New York: Oxford University Press.
- Erten, B., and J.A. Ocampo (2013). 'Building a Stable and Equitable Global Monetary System'. In J.A. Alonso, G.A. Cornia, and R. Vos (eds), *Alternative Development Strategies for the Post-2015 Era*. New York: Bloomsbury.
- Ffrench-Davis, R. (2007). 'SDRs for a Globalization with Development'. Paper presented at the meeting of Technical Group of the Initiative for Action against Hunger and Poverty, January, Santiago, Chile.
- Frenkel, R. (2008). 'From the Boom in Capital Inflows to Financial Traps'. In J.A. Ocampo and J.E. Stiglitz (eds), *Capital Market Liberalization and Development*. New York: Oxford University Press.
- Frenkel, R., and M. Rapetti (2010). 'Economic Development and the International Financial System'. In S. Griffith-Jones, J.A. Ocampo, and J.E. Stiglitz (eds), *Time for a Visible Hand: Lessons from the 2008 World Financial Crisis*. New York: Oxford University Press.
- Frenkel, R., and L. Taylor (2007). 'Real Exchange Rate, Monetary Policies and Employment'. In J.A. Ocampo, Jomo K.S., and S. Khan (eds), *Policy Matters: Economic and Social Policies to Sustain Equitable Development*. Hyderabad/London/Penang: Orient Longman/Zed Books/Third World Network.
- International Monetary Fund (IMF) (2009a). 'Review of the Adequacy of and Options for Supplementing Fund Resources', 12 January. Washington, DC: Finance, Legal, and the Strategy, Policy, and Review Departments, IMF. Available at: <https://www.imf.org/external/np/pp/eng/2009/011209.pdf> (accessed 2 August 2014).
- IMF (2009b). 'Proposal for a General Allocation of SDRs', 9 June. Washington, DC: Finance, Legal, and Strategy, Policy, and Review Departments, IMF. Available at: <http://www.imf.org/external/np/pp/eng/2009/060909.pdf> (accessed 2 August 2014).

- IMF (2010). ‘Reserve Accumulation and International Monetary Stability’, 13 April. Washington, DC: Strategy, Policy, and Review Department, IMF. Available at: <http://www.imf.org/external/np/pp/eng/2010/041310.pdf> (accessed 2 August 2014).
- IMF (2011a). ‘Enhancing International Monetary Stability—A Role for the SDR?’, 7 January. Washington, DC: Strategy, Policy, and Review Department, IMF. Available at: <http://www.imf.org/external/np/pp/eng/2011/010711.pdf> (accessed 2 August 2014).
- IMF (2011b). ‘The Case for a General Allocation of SDRs During the Tenth Basic Period’, 10 June. Washington, DC: Finance, Legal, and Strategy, Policy, and Review Departments, IMF. Available at: <https://www.imf.org/external/np/pp/eng/2011/061011.pdf> (accessed 2 August 2014).
- IMF (International Monetary Fund) (2014). ‘Special Drawing Rights’, Factsheet, 25 March. Available at: <http://www.imf.org/external/np/exr/facts/sdr.htm> (accessed: 2 August 2014).
- Kaminsky, G.L., C.M. Reinhart, and C.A. Végh (2004). ‘When It Rains, It Pours: Pro-cyclical Capital Flows and Macroeconomic Policies’. NBER Working Paper 10780, September. Cambridge, MA: National Bureau of Economic Research. Available at: <http://www.nber.org/chapters/c6668.pdf> (accessed 2 August 2014).
- Kenen, P.B. (1983). ‘Use of SDR to Supplement or Substitute for Other Means of Finance’. In G.M. von Furstenberg (ed.), *International Money and Credit: The Policy Roles*. Washington, DC: International Monetary Fund.
- Kenen, P.B. (2001). *The International Financial Architecture: What’s New? What’s Missing?* Washington, DC: Institute for International Economics.
- Kenen, P.B. (2009). ‘Revisiting the Substitution Account’. Policy Dialogue Draft, October. Available at: http://policydialogue.org/files/events/Kenen_Revisiting_the_Substitution_Account.pdf (accessed 2 August 2014).
- Kenen, P.B. (2010). ‘Renovation of the Global Reserve Regime: Concepts and Proposals’. CEPS Working Paper 208, June. Princeton, NJ: Princeton University. Available at: <http://www.princeton.edu/ceps/workingpapers/208kenen.pdf> (accessed 2 August 2014).
- Keynes, J.M. (1969). ‘The Keynes Plan (1942–43)’. In J. Keith Horsefield (ed.), *The International Monetary Fund, 1945–1965: Twenty Years of International Monetary Cooperation*, Volume III: Documents. Washington, DC: IMF.
- Kregel, J. (2009). ‘Some Simple Observations on the Reform of the International Monetary System’. Policy Note 2009/8. New York: The Levy Economics Institute of Bard College. Available at: <http://www.levyinstitute.org/publications/some-simple-observations-on-the-reform-of-the-international-monetary-system> (accessed 2 August 2014).
- Lombardi, D., and S.P. Milsom (2012). ‘The Political Economy of Global Reserve Assets: The Case of the SDR’. Mimeo. Washington, DC: Brookings Institution.
- Mateos y Lagos, I., R. Duttgupta, and R. Goyal (2011). ‘The Debate on the International Monetary System’. In J.T. Boorman and A. Icard (eds), *Reform of the International Monetary System: The Palais Royal Initiative*. New Delhi: SAGE Publications.
- Obstfeld, M., J.C. Shambaugh, and A.M. Taylor (2008). ‘Financial Stability, the Trilemma, and International Reserves’. NBER Working Paper 14217. Cambridge, MA: National Bureau of Economic Research. Available at: <http://www.nber.org/papers/w14217.pdf> (accessed 2 August 2014).

- Ocampo, J.A. (2002). 'Recasting the International Financial Agenda'. In J. Eatwell and L. Taylor (eds), *International Capital Markets: Systems in Transition*. New York: Oxford University Press.
- Ocampo, J.A. (2008). 'A Broad View of Macroeconomic Stability'. In N. Serra and J.E. Stiglitz (eds), *The Washington Consensus Reconsidered: Towards a New Global Governance*. New York: Oxford University Press.
- Ocampo, J.A. (2010a). 'Reforming the Global Reserve System'. In S. Griffith-Jones, J.A. Ocampo, and J.E. Stiglitz (eds), *Time for a Visible Hand: Lessons from the 2008 World Financial Crisis*. New York: Oxford University Press.
- Ocampo, J.A. (2010b). 'Special Drawing Rights and the Reform of the Global Reserve System'. In Jomo K.S. (ed.), *Reforming the International Financial System for Development*. New York: Columbia University Press.
- Ocampo, J.A. (2011). 'Reforming the International Monetary System'. 14th WIDER Annual Lecture. Helsinki: United Nations University World Institute for Development Economics Research (WIDER).
- Ocampo, J.A., J. Kregel, and S. Griffith-Jones (2007). *International Finance and Development*. London: Zed Books.
- Ocampo, J.A., C. Rada, and L. Taylor (2009). *Developing Country Policy and Growth: A Structuralist Approach*. New York: Columbia University Press.
- Ocampo, J.A., and R. Vos (2008). *Uneven Economic Development*. Hyderabad/London/Penang: Orient Longman/Zed Books/Third World Network.
- Padoa-Schioppa, T. (2011). 'The Ghost of Bancor: The Economic Crisis and Global Monetary Disorder'. In J.T. Boorman and A. Icard (eds), *Reform of the International Monetary System: The Palais Royal Initiative*. New Delhi: SAGE Publications.
- Polak, J.J. (1979). 'Thoughts on an International Monetary Fund based Fully on SDR'. Pamphlet Series 28. Washington, DC: IMF.
- Polak, J.J. (2005). *Economic Theory and Financial Policy: Selected Essays of Jacques J. Polak, 1994–2004*, edited by J.M. Boughton. Armonk, NY: M.E. Sharpe.
- Prasad, E.S. (2014). *The Dollar Trap: How the U.S. Dollar Tightened its Grip on Global Finance*. Princeton, NJ: Princeton University Press.
- Prasad, E.S., R.R. Rajan, and A. Subramanian (2007). 'Foreign Capital and Economic Growth'. *Brookings Papers on Economic Activity*, 1(Spring): 153–230. Available at: http://www.brookings.edu/~media/projects/bpea/spring%202007/2007a_bpea_prasad.pdf (accessed 2 August 2014).
- Prasad, E.S., K. Rogoff, S.-J. Wei, and M. Ayhan Rose (2003). 'Effects of Financial Globalization on Developing Countries: Some Empirical Evidence'. Occasional Paper 220. Washington, DC: IMF. Available at: <https://www.imf.org/external/np/res/docs/2003/031703.pdf> (accessed 2 August 2014).
- Rodrik, D. (2006). 'The Social Costs of Foreign Exchange Reserves'. *International Economic Journal*, 20(3) (September). [Originally published as NBER Working Paper 11952. Cambridge, MA: National Bureau of Economic Research. Available at: <http://www.nber.org/papers/w11952.pdf> (accessed 2 August 2014).]
- Rodrik, D. (2008). 'The Exchange Rate and Economic Growth'. *Brookings Papers on Economic Activity*, September. Available at: <http://online.wsj.com/public/resources/documents/rodrik.pdf> (accessed 2 August 2014).

- Sakakibara, E. (2003). 'Asian Cooperation and the End of Pax Americana'. In J.J. Teunissen and M. Teunissen (eds), *Financial Stability and Growth in Emerging Economies*. The Hague: FONDAD.
- Skidelsky, R. (2000). *John Maynard Keynes: Fighting for Freedom, 1937–1946*, Vol. 3. New York: Penguin/Viking.
- Solomon, R. (1982). *The International Monetary System, 1945–1981: An Insider's View*. New York: Harper & Row.
- Soros, G. (2002). 'Special Drawing Rights for the Provision of Global Public Goods on a Grand Scale'. Remarks at the Roundtable on 'New Proposals on Financing for Development, February. Washington, DC: Institute of International Economics.
- Stiglitz, J.E. (2006). *Making Globalization Work*. New York: W.W. Norton.
- Stiglitz, J.E., J.A. Ocampo, S. Spiegel, R. Ffrench-Davis, and D. Nayyar (2006). *Stability with Growth: Macroeconomics, Liberalization, and Development*. New York: Oxford University Press.
- Stiglitz, J.E., J.A. Ocampo, S. Griffith-Jones, J.-P. Fitoussi, H. Gao, Y. Huang, P. Kenen, L. Zhang, J. Li, Y.V. Reddy, U. Volz, R. Wade, B. Wei, J. Williamson, W. Thye Woo, G. Xiao, Y. Yu, and Z. Andong (2011). 'A Modest Proposal for the G-20'. Financial Markets Reform Working Paper. Available at: http://policydialogue.org/publications/working_papers/a_modest_proposal_for_the_g20/ (accessed 2 August 2014).
- Summers, L.H. (2004). 'The U.S. Current Account Deficit and the Global Economy'. The Per Jacobson Lecture, 3 October. Washington, DC: IMF. Available at: <http://www.perjacobsson.org/2004/100304.pdf> (accessed 2 August 2014).
- Triffin, R. (1961). *Gold and the Dollar Crisis* (Revised Edition). New Haven: Yale University Press.
- Triffin, R. (1968). *Our International Monetary System: Yesterday, Today, and Tomorrow*. New York: Random House.
- Triffin International Foundation (2014). 'Using the SDR as a Lever to Reform the International Monetary System'. Report of an SDR Working Party. Available at: http://media.wix.com/ugd/b1cc9b_e4022497973e4a9095ea52e728806824.pdf (accessed 2 August 2014).
- UNCTAD (United Nations Conference on Trade and Development) (1965). *International Monetary Issues and the Developing Countries: Report of the Group of Experts*. New York: United Nations.
- UNCTAD (United Nations Conference on Trade and Development) (2009). *The Global Economic Crisis: Systemic Failures and Multilateral Remedies*. Geneva: United Nations.
- 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, January. Geneva: United Nations. Available at: http://www.un.org/esa/ffd/economicgovernance/EC-ESA_Financial%20Architecture_1999.pdf (accessed 2 August 2014).
- United Nations (2001). 'Report of the High-level Panel on Financing for Development' (Zedillo Report). New York: United Nations. Available at: http://www.un.org/en/events/pastevents/financing_for_development_report.shtml (accessed 2 August 2014).
- United Nations (2005). *World Economic Situation and Prospects 2005*. New York: United Nations. Available at: http://www.un.org/en/development/desa/policy/wesp/wesp_archive/2005wesp.pdf (accessed 2 August 2014).

- United Nations (2009). *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), 21 September. New York: United Nations. Available at: http://www.un.org/ga/econcrisissummit/docs/FinalReport_CoE.pdf (accessed 2 August 2014).
- Williamson, J. (2004). 'The Future of the Global Financial System'. *Journal of Post-Keynesian Economics*, 26(4) (Summer): 607–11.
- Williamson, J. (2009). 'Understanding Special Drawing Rights (SDRs)'. Policy Brief PB09-11. Washington, DC: Peterson Institute for International Economics. Available at: <http://www.iie.com/publications/pb/pb09-11.pdf> (accessed 2 August 2014).
- Williamson, J. (2010). 'The Future of the Reserve System' (Article 15). *Journal of Globalization and Development*, 1(2): 1–10.
- Zhou Xiaochuan (2009). 'Reform the International Monetary System'. Beijing: People's Bank of China. Available at: http://www.maxwell.syr.edu/uploadedFiles/exed/sites/pgppm/Program_Readings/11-10,%20Brown_Reform%20the%20International%20Monetary%20System.pdf (accessed 2 August 2014).
- Zoellick, R. (2010). 'The G-20 Must Look Beyond Bretton Woods II'. *Financial Times*, 7 November. Available at: <http://www.ft.com/intl/cms/s/0/5bb39488-ea99-11df-b28d-00144feab49a.html#axzz14dKEeR16> (accessed 2 August 2014).