

Working paper

# The SDR as an International Reserve Asset

What Future?

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# **The SDR as an International Reserve Asset: What Future?**

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## Executive Summary

The Special Drawing Right (SDR) is an unconditional claim to the hard-currency reserves of other International Monetary Fund (IMF) members and certain other prescribed holders. After the large IMF allocations of August-September 2009, SDRs still account for only 2 percent of lower-income country reserves and less than 4 percent of global reserves.

At present the SDR mechanism functions largely as a reserve-pooling arrangement, useful in re-allocating global liquidity from countries with ample liquidity to those with higher needs. But the mechanism does not create new liquidity, in the form of higher supplies of high-powered reserve currencies, as might be needed during a global crisis. The SDR's value is linked to that of a basket of the four principal reserve currencies, so as to stabilize the value of IMF members' claims on the reserve pool. But the SDR is not itself a currency that can be bought and sold in private markets.

In light of the small scale and conditionality of the international liquidity safety net, including IMF resources, many lower-income countries have chosen self-insurance through accumulation of substantial international reserves, mostly U.S. dollars and euros. The resulting insurance system has numerous drawbacks, however, some at the country level, some systemic. At the country level, reserve holders may earn low returns on their balances of the "privileged" reserve currencies. At the system level, official shifts between reserve currencies could destabilize exchange markets. And there are other potential problems.

If countries held more SDRs and fewer reserve currencies, these problems might be mitigated. The main proposal for large scale replacement of currency reserves with SDRs is through a substitution account, under which countries deposit currency reserves with the IMF in return for SDRs. This scheme, however, merely transfers any financial burden to the IMF, which itself could earn low returns on its currency balances and would bear the risk of exchange rate changes. How can IMF members share the cost? Plans for a substitution account foundered on this rock in 1979-1980; the scale of the problem is even greater now. As has been true in the euro zone, absence of a centralized fiscal power hobbles the provision of public goods that might enhance systemic financial stability. (Of course, individual countries are free now to choose reserve portfolios that reproduce the SDR basket, though most hold a higher weight of U.S. dollars.)

If SDRs can be created only through the allocation process and not through substitution, then under current arrangements, the extent to which they can replace currency reserves is self-limiting. Roughly speaking, because SDRs are merely claims on hard-currency reserves and cannot be used in private markets, their emission has no further value once the value of outstanding SDR claims is sufficient to purchase the outstanding stock of gross currency reserves.

The situation would be different if SDR claims could be presented directly to *central banks* in return for their own currencies, as some have suggested, because this change

would make the *outside* supply of reserve currencies elastic in a crisis. Such a system would reproduce the stabilizing properties of the network of central bank swap facilities set up during the recent global financial crisis, but it would be predictable rather than ad hoc and all countries, not just a select few, would have access.

An equivalent mechanism could be set up without reference to the SDR at all, simply by instituting lines of credit from central banks and administered by the IMF. The IMF could extend the facilities directly to national central banks meeting specified standards of supervisory diligence and independence from political interference. Such credit lines would complement expanded flexible IMF loan facilities for sovereigns. Likewise, even the current SDR-based reserve-pooling arrangements could be accomplished, perhaps in a more flexible and need-based way, by explicit reserve pooling. An advantage of this approach is that countries would not need to offset the currency risk taken on through SDR transactions with opposite, possibly costly, forward-market transactions. The costs of these could become significant were SDRs to become more important as a reserve category.

Denominating more global reserves in SDR would affect exchange rate volatility among the main reserve currencies primarily to the extent that it reduced potential official demand shifts among those currencies. Were more countries to peg to the SDR as a result, however, their effective nominal (and probably real) exchange rate volatility would fall. Adding China's yuan to the SDR basket, given its current policy of heavy management against the U.S. dollar, would effectively increase the dollar's weight in the SDR basket. Since the yuan is not an international reserve currency, the rationale for tying the SDR's value to the yuan at the present time is unclear.

An enhanced international liquidity safety net, whether based on the SDR or on some system of credit lines centered on the IMF, would enhance the IMF's power and thus calls for complementary reforms in governance structure. These should be aimed at increasing the voice of emerging and developing countries, in line with their growing weight in the world economy. An enhanced safety net also could worsen moral hazard on the part of market participants or governments, so the IMF's macroeconomic and financial surveillance powers would likewise have to be upgraded. That change would greatly add to the need for reformed governance.

This paper reviews the history and performance of the Special Drawing Right (SDR) and examines the prospects for expanding its role in the international monetary system. Key questions include: Can the SDR enhance international liquidity, especially that of emerging market economies (EMEs), under the current IMF rules for its management? Is the current SDR mechanism an efficient and effective way of doing so? What changes in the institutional structure for SDR allocation and use could benefit EMEs and the world economy? Are there collateral benefits, aside from liquidity enhancement, to expanding the SDR's role? Are there more effective ways toward these goals? A key point to keep in mind is that the SDR asset is not now, and is highly unlikely ever to become, a currency. Thus, its potential role in supplanting true national currencies as a source of international liquidity is inherently derivative. Efficient means of allocating and creating global liquidity need not involve the SDR at all.

1. *The roles of international reserves and problems of self-insurance through large reserve holdings.* International reserve holdings provide a country with unconditional liquidity in case of need. A need can arise due to a sudden stop in private capital inflows, problems of sovereign borrowing or refinance, depreciation pressure on the exchange rate, or banking system illiquidity. This last set of issues loomed large in the 2007-09 global financial crisis, as banks, notably European banks, found themselves unable to roll over big volumes of short-term liabilities denominated in foreign currencies.

After the financial crises of the late 1990s (in East Asia and elsewhere), many poorer countries embarked on programs of self-insurance through unprecedented accumulation of international reserves. At the end of 2010, the aggregate foreign exchange reserves of

emerging and developing countries stood at over USD 4 trillion. Rich countries have held much lower reserve levels, relying in the past on dependable credit market access. In the recent crisis, however, many rich countries relied on ad hoc central bank swap lines to channel foreign-currency liquidity to credit-constrained domestic banks. Thus, the Federal Reserve, for example, became the last-resort lender of dollars to the world, including several emerging economies. The need for such international support of advanced countries, on so large a scale, was unprecedented. Now that the fiscal solvency even of some richer countries has been questioned, the need for international liquidity *in several key currencies* has been recognized as universal, cutting across income levels. The global scope of the recent crisis was unusual in light of past history, but the rapid progress of financial globalization suggests that global crises could well recur in the future.

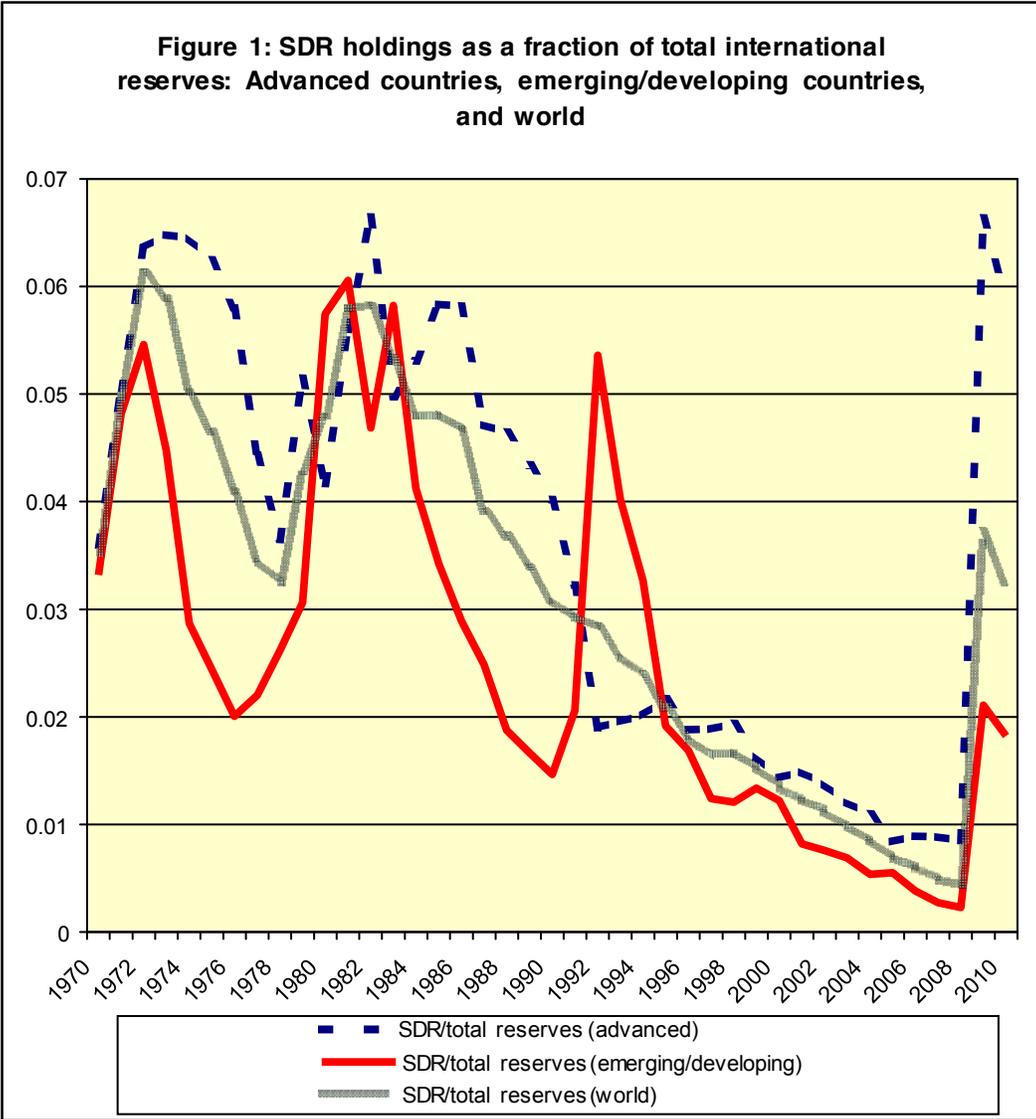
As a response to the resulting liquidity needs, gross reserve accumulation has many drawbacks. At the *individual-country* level it is expensive. In a sterilized purchase of euros or dollars, the Reserve Bank of India would pay interest of 5.75 percent (the RBI's reverse repo rate) on domestic borrowing but earn far less on the foreign exchange it acquired, implying a substantial quasi-fiscal cost (apart from possible changes in the rupee's exchange rate). But the *systemic* issues raised by large-scale self-insurance are even more worrisome. Reserve transactions can affect interest rates, and shifts in reserve portfolios between currencies could cause large and destabilizing exchange rate movements. Central-bank reserve withdrawals could impair liquidity elsewhere during a global crisis. There may be an "arms race" in reserves as countries seek to appear financially strong compared to their neighbors. And if reserves are accumulated through

policy-induced current account surpluses, the resulting global imbalances could have adverse effects abroad.

In light of these drawbacks of self-insurance through reserves, the international community is seeking alternatives (in addition to the very helpful actions already taken to strengthen the IMF). The SDR was designed in the late 1960s precisely to augment international liquidity and ameliorate some of the disadvantages of a system based on U.S. dollar reserves. Thus, the SDR – long viewed as an arcane relic of an earlier international monetary system – has been advanced as a potential basis for global reform.

2. *History of the SDR and its issuance.* The SDR currently is a synthetic unit of value that may be transferred by a holder to other International Monetary Fund (IMF) members (or to prescribed holders such as the Bank for International Settlements) in return for needed national currencies. The SDR was launched on January 1, 1970 following passage of the First Amendment to the IMF Articles of Agreement the year before. The SDR provided an *unconditional* supplement to other financial resources that might be obtained through the IMF – unconditional because, unlike in standby arrangements, a country's use of its SDRs was not subject to IMF policy conditionality (only to the payment of interest to the IMF).

Until the recent big allocation of August and September 2009 following the onset of the global crisis, SDR allocations were infrequent, taking place only over 1970-72 and 1979-81. None of these allocations, not even the most recent one, has pushed the total stock of SDRs to be a large fraction of global foreign exchange reserves. Figure 1 illustrates the numbers, based on data in the IMF's *International Financial Statistics*.



The stock of SDRs has never exceeded 6 percent of global reserves and that global figure declined steadily until 2009 following the 1979-81 allocation. On the eve of the crisis SDRs were less than 0.5 percent of global reserves, and an even smaller percentage of EME reserves, which themselves had expanded rapidly over the years since the late 1990s. In April 2009 the IMF allocated USD 250 billion worth of SDRs as a response to the global crisis, and a further USD 34 billion in a September 2009 special allocation to

endow members that had never received allocations. Except for such extraordinary allocations, SDR allocations are proportional to IMF quotas, so as to achieve an internationally balanced increase in world reserves. Thus, the bulk goes to the advanced economies (which also hold much lower stocks of foreign exchange reserves). Even the nominally large 2009 allocations restored the SDR share in global and EME reserves only to the levels of the late 1980s (about 2 percent for EMEs). Replacement of existing reserves by SDRs, especially for the EMEs, would require a huge emission.

3. *Original rationale for the SDR.* Gold formed the fundamental basis of the Bretton Woods gold-exchange standard. In practice countries held gold or U.S. dollars as foreign exchange reserves (outside the sterling area), exchange rates against the dollar were fixed (but adjustable on occasion), and the dollar price of gold was supposed to be fixed at USD 35 per ounce. With world monetary gold supplies growing more slowly than the world economy, however, U.S. dollars made up a growing fraction of world reserves. The following dilemma motivated the creation of the “paper gold” SDR: Dollar reserves, along with gold, might grow too slowly to fulfill global demand. The gap could be filled by SDRs allocated by the IMF. On the other hand, if global dollar reserve holdings did grow rapidly enough, the Triffin problem – the U.S. inability to redeem all dollar reserves for gold at USD 35 per ounce – would worsen, creating the possibility that central banks would run the dollar-gold link. Transforming dollar claims on the U.S. into SDR claims on the IMF could lessen or eliminate that likelihood. Even though SDRs are not money, they could be used, like demonetized gold, to settle international claims between central banks. Furthermore, it was argued, SDR issuance by the IMF could reduce the world’s dependence on U.S. balance of payments deficits to fulfill international liquidity needs.

4. *Basket valuation of the SDR.* Currently the SDR's value is defined to be that of a specific basket of U.S. dollars, euros, British pounds, and yen. The basket composition reflects basket members' importance in global trade and the shares of their currencies in other countries' global foreign exchange reserves. The basket's membership comprises the four largest countries on those measures, and membership presupposes that the included currencies are "freely usable" – defined as "widely used to make payments for international transactions" and "widely traded in the principal exchange markets" [IMF Articles of Agreement XXX(f)]. For now, this criterion would seem to preclude China's membership in the SDR despite its large share in global trade.

Official SDR basket weights (and components) are subject to re-evaluation and readjustment by the IMF every five years. The current official weights came into effect on January 1, 2011. The new (old) weights are USD, 41.9 (44) percent; EUR, 37.4 (34) percent; JPY, 9.4 (11) percent; GBP, 11.3 (11) percent.<sup>1</sup> These shares down weight the dollar compared to its share in global international reserves (over 60 percent, insofar as IMF and other data are available). According to Treasurer's Department, IMF (1995, p. 3), changes in basket weights must be accompanied by changes in the absolute *amounts* of currencies in the basket ensuring that the value of the new basket equals the value of the old one "on the last business day preceding the day the new basket becomes effective." Thus, there is no risk of capital gains or losses due to re-weighting, and the same principle applies as well to changes in the currencies that the basket includes.

Such changes have occurred on several occasions. Originally the SDR was not linked to a basket at all, as noted above, but instead was a gold substitute intended to reduce

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<sup>1</sup> The *actual* currency weights change over the five-year period, compared to the initial official weights set by the IMF, as exchange rates between basket-member currencies fluctuate.

dependence on dollars. In 1970 the unit was equivalent to the gold content of 1 U.S. dollar at a gold price of USD 35 per ounce. The demise of the par value system in 1973 and the sharp run-up in the market price of gold called into question the practicality of defining the SDR as equivalent in value to a fixed amount of gold. On July 1, 1974, therefore, the SDR became a basket of 16 currencies, and in January 1981, five.<sup>2</sup> The current composition dates from the euro's launch on January 1, 1999.

Conceptually, the basket denomination of the SDR is distinct from its operation, but this denomination does determine the currency resources that can be obtained by exchanging SDRs with other holders or the IMF. The primary rationale for the basket numeraire is that it stabilizes the weighted-average value of each country's SDR assets in terms of the reserve currencies that are most likely to be needed – based on those currencies' importance in world trade and finance. In principle, this stabilization could be accomplished in other ways, without reference to a basket, but the basket approach is convenient for administrative and political reasons. Unfortunately, it can give rise to the misconception that the SDR itself is a basket of currencies. It is not.

5. *How SDRs are actually used: A reserve-pooling arrangement.* The main utility of an SDR to its holder is that the SDR can be exchanged with another IMF member (or a prescribed holder) for a needed currency – euros for exchange intervention purchases, for example, or dollars for on-lending to a domestic bank unable to roll over short-term dollar liabilities. The country offering SDRs reduces its SDR balance and increases its balance of the foreign currency it desires; the country that receives the SDR has the

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<sup>2</sup> The composition of the 16-currency SDR was not constant. At various times it included Saudi Arabia, South Africa, and Iran – choices then based on one criterion alone, importance in world trade.

mirror-image balance sheet change, gaining SDRs but losing an equivalent amount of currency reserves (see Treasurer's Department, IMF 1995, p. 43).

Crucially, the SDR is *not* itself a true currency. SDRs are not traded in private markets and cannot be used to make private payments.<sup>3</sup> They are useful (aside from limited official purposes, such as official transactions with the IMF) only insofar as they can be transformed into true, usable currencies. Moreover, the IMF does not function as a central bank, nor has it the fiscal backing to do so. There is no world government obliged to recapitalize the IMF should its assets fall below its liabilities. The SDR is simply a claim to another official entity's foreign reserves. Evolution of the SDR into a true global currency would require a global central bank with fiscal backup from governments and an incursion into national monetary autonomy. At this juncture, these developments seem politically out of the question. Even a country that pegs its exchange rate to the SDR basket, as some have done, cannot directly intervene in markets using SDRs.

Most exchanges of SDRs are voluntary. However, there exists also a "designation mechanism" through which the IMF may *oblige* members with sufficiently strong balance of payments and/or reserve positions to accept SDRs in exchange for currency reserves from another member. Designation has been deployed infrequently, but it has been used – for example, during the developing country debt-crisis period of the 1980s.

The SDR mechanism can thus best be thought of as a *reserve-pooling arrangement*. By using its SDRs, a country needing hard-currency reserves can get them from another country that either has them in abundance or can easily procure them by borrowing. This

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<sup>3</sup> Eichengreen (2011, chapter 6) gives a thorough discussion of the daunting prerequisites for development of a private market. In the 1990s, the European Currency Unit (ECU) had the great advantage of a foreseeable path to true currency status.

mechanism is potentially very useful (and has proven so in the past) – it enhances the effectiveness of a *given level* of global liquidity by getting reserves from those who value them less to those who value them more highly – but it does not generally create *additional* global liquidity (as would also be true if the IMF were to borrow reserve currencies in private markets in order to augment its loanable resources).<sup>4</sup>

An SDR allocation creates offsetting claims on and liabilities to the IMF. When a country exchanges SDRs for currencies, it pays the IMF interest on those SDRs, while the country that accepts them receives interest from the IMF. The nominal interest earned on an SDR is based on short-term riskless nominal interest paid by the basket components.

*6. Role in the international system so far.* The initial rationale for the SDR collapsed soon after its introduction: Dollar reserves exploded, the dollar-gold link was scrapped, and richer, creditworthy countries both flexed their exchange rates and took advantage of growing world capital markets, where reserves could be borrowed. SDRs remained more useful for the less-developed countries, which did make use of them. But between 1981 and 2009, no further SDR allocation occurred, and even the 1997 IMF decision to equip newer IMF members with SDRs on the same terms as the others languished for many years due to U.S. inaction. The result was the decline shown in Figure 1 – a decline reversed only by the global crisis.

*7. The substitution account proposal.* The Second Amendment to the IMF’s Articles in 1978 set the ambitious goal of making the SDR the “principal reserve asset in the

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<sup>4</sup> Every country has its own institutional structure for managing SDRs. In the United States, the Special Drawing Rights Act of 1968 identifies the Exchange Stabilization Fund (ESF) of the U.S. Treasury as the holder of SDRs. The ESF can obtain dollars to exchange for SDRs by issuing SDR Certificates to the Federal Reserve. Normally, the Fed will neutralize the monetary impact of such purchases from the

international monetary system.” This obviously has not happened, but proposals for a “substitution account” are designed to replace currency reserves with SDRs on a large scale. Such ideas were debated in 1979-80, ultimately to no avail, but they have resurfaced recently (for example, Kenen 2010) as critics of the dollar’s privileged reserve-currency role have sought to dislodge it. Figure 1 shows that substitution would have to be on a huge scale to displace a substantial portion of currency reserves.

Under a substitution scheme, a country such as India might transfer some of its dollar reserves to the IMF, receiving SDRs of equal current value in return. (These SDRs would be created outside the usual allocation process.) Two portfolio shifts occur as a result. India is now long SDRs, and might (or might not) want to readjust its portfolio in private markets. Presumably, its degree of participation in the scheme will already reflect its diversification goals. More importantly, the IMF is short SDRs and long on U.S. dollars, and the substitution account’s solvency is at risk if the dollar depreciates.

Which countries will compensate the IMF for portfolio losses if the dollar declines against the SDR? How will the IMF finance discrepancies between the interest earned on its dollars and that paid on its new SDR liabilities? In the last discussions of 1979-80, some countries involved thought the U.S. should bear the bulk of the costs, but the U.S. was unwilling and others refused to step in. Poorer countries, including India, were reluctant to see the IMF use its gold holdings to support the account – they hoped gold sales might instead subsidize borrowing by poorer countries. So the negotiations failed. It is unlikely that the U.S. would be more willing today, and even less so that the eurozone countries – which lack a centralized fiscal organ – would be willing to underwrite a

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Treasury, precluding any net provision of outside dollar liquidity. Furthermore, there obviously are narrow limits to the volume of dollars the Fed would wish to provide in this way.

euro/SDR substitution account. Once again, the absence of a fiscal authority at the global level creates a difficult coordination problem for a centralized and coordinated move to an SDR-based system.<sup>5</sup> That problem remains today.

8. *Advantages of substitution of SDRs for currency reserves.* Notwithstanding the practical obstacles to a substitution account, a reserve system largely based on the SDR would have some advantages. Through allocating new SDRs (or canceling old ones), the IMF could influence aggregate world reserve growth and perhaps make it less erratic. In addition, central banks would have less incentive for possibly abrupt shifts between reserve currencies – and the SDR would have a more stable value than its components.<sup>6</sup>

Of course, any “exorbitant privilege” of lower interest on dollar reserves would be at the expense of the IMF, which would become the large-scale holder of dollars. This is perhaps why many feel the U.S. should provide any fiscal support needed to keep an IMF substitution account solvent – an idea the U.S. rejected in the past. Similarly, the insurance provided to reserve holders through the basket denomination of their reserves would likewise be an expense of the IMF, and the international community would have to devise some mechanism to share the expense of this global public good.

Even if the SDR displaced the dollar as the main *reserve currency*, the dollar’s dominant *vehicle currency* position – something like 85 percent of all foreign exchange transactions involve the dollar – wouldn’t necessarily decline.

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<sup>5</sup> For an account of the 1979-80 negotiations over a substitution account, see Boughton (2001, pp. 936-43).

<sup>6</sup> Of course, countries are free to diversify now, if they wish, so as to mimic the SDR basket. It is sometimes argued that large reserve holders cannot do so, because they would move exchange rates by their own transactions. However, even big central banks could accomplish diversification gradually, without market disruption, were they (for example) to sell the dollar only when it is strong relative to trend, and refrain from buying it when it is weak, in the latter situation allowing dollar depreciation to reduce the share of dollar reserves through the valuation effect.

9. *Outside liquidity and the SDR.* As noted above, if the SDR functions merely as an “admission ticket” to a pool of extant national reserve stocks, no additional (or *outside*) liquidity is routinely created when SDRs are used – there is merely a reallocation of existing liquidity, which generally will improve the allocation of that liquidity, but will not change the aggregate amount of liquidity available to all countries.

This fact raises a Triffin-like paradox. Suppose the IMF were to allocate more SDRs over time, leading countries to economize on currency reserves. Eventually, there would be more SDR claims to reserves than gross reserves themselves. Absent a private SDR market, more SDRs would have no value at that point. In summary, the extent to which SDRs can replace currency reserves would be self-limiting if the SDR system is exclusively a reserve pooling arrangement, with SDRs created exclusively through allocation. This is not necessarily true when SDRs are issued through a substitution account, because those SDRs could be traded back for the reserve currencies that the IMF holds in the account.<sup>7</sup> Even so, redemption of SDRs for currencies held by the IMF would not create new liquidity – as might be desirable in a global crisis.

The situation is very different if SDR claims can be sold directly to the *central banks* that issue reserve currencies in return for issuing new high-powered deposits. Under that scenario, there is no natural limit to the reserve currency stocks SDRs can purchase, and those stocks would represent outside liquidity for the international system. Truman (2010) suggests that the IMF could be authorized in emergencies to “exchange specially allocated SDR to the central banks issuing international currencies in the SDR basket in

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<sup>7</sup> Of course, the relatively small size of the current outstanding SDR stock leaves ample room for further allocations (see Figure 1). The U.S. Treasury could always supply some dollars by borrowing from the Fed, but as suggested above, the magnitude of such borrowings are likely to be quite limited. Similar limits would apply to other industrial-country governments’ borrowings of dollars to exchange for SDRs.

return for their own currencies.” Such schemes would allow SDR exchanges to increase outside liquidity. Even if the issuing central banks sterilized their SDR acquisitions, as they normally would do absent a global crisis, the scheme would still improve the global allocation of liquidity. Truman’s proposal is designed to allow the IMF to act as an international last-resort lender in multiple currencies, much as central banks did collectively through the network of swap lines initiated by the Federal Reserve in 2007. The swap network had big net benefits by preventing a more severe meltdown of the advanced economies’ banking systems, as well as by mitigating exchange volatility (especially against the dollar) in the most intense phases of the global crisis.

10. *Equivalent arrangements that do not involve the SDR.* Explicit reserve pooling would allow the IMF to capture the main substantive benefits of SDRs – but to reproduce the unconditional nature of SDR liquidity, some tranche of access to the reserve pool would have to be unconditional as well. Ideally, access could be relaxed in crisis situations – with due attention to the moral hazard such expectations could generate among government actors and market participants. For example, China could lend some of its copious dollar reserves to the IMF for re-lending to countries that need liquidity. (This is also the idea of the regional Chiang Mai initiative.) This direct approach has an advantage. After exchanging dollars for SDRs, China might want to restore its original portfolio by shorting the SDR basket components. The need for such costly transactions could be avoided by adopting a currency pooling arrangement *tout court*, in which China’s dollar reserves, if added to the IMF pool, simply become a dollar claim on the IMF. A further drawback of the SDR mechanism is that its capacity to redistribute liquidity among IMF members is limited by the size of SDR holdings – the “admission

tickets” to the reserve-pooling club. An explicit reserve pool could be augmented by IMF market borrowing, and it would be useful to allocate access in a need-based way through a formula more flexible than the quota-based rule used for SDR allocations. Because assessments of “need” are discretionary, and thus politically charged, it is important that voting rights in the IMF, as well as decision-making processes, are reassessed to enhance the perceived legitimacy of IMF decisions throughout the international community. Of course, proposals to enhance the international role of the SDR – thereby conferring more power on the IMF – likewise make reforms in IMF governance more pressing.

As noted above, reserve pooling does not create outside liquidity, which is particularly important during systemic crises. Furthermore, in financial crises, foreign-currency liquidity may need to be deployed rapidly and directly to financial institutions, not governments. Central bank swap lines in multiple key currencies could be run through the IMF.<sup>8</sup> These would mimic the very useful network of central bank swap lines set up during the crisis. Indeed, the IMF might lend directly to central banks that have met specified standards of independence from political interference and supervisory diligence. SDRs might usefully supplement such a system, but they would play no essential role. The system would be symmetric in form and avoid many of the problems implied by large gross reserve positions – for example, there would be no scope for official portfolio shifts between different reserve currencies. But, like the reserve-pooling scheme above, a system of swap lines would require complementary initiatives in IMF governance and in control of moral hazard. Credit lines would have an advantage over

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<sup>8</sup> See, for example, Obstfeld (2009).

reserve pooling in greater elasticity, as well as the creation of outside liquidity. By managing the size of credit lines, the IMF could control the growth of world liquidity.

11. *Would an SDR regime reduce exchange-rate volatility?* Were the SDR to become more important as a reserve asset, individual countries might be inclined to peg to it, thereby reducing the volatility of their multilateral effective exchange rates. The choice to peg to the SDR is, however, logically independent from the choice of a portfolio of reserve assets; countries can peg to the SDR now, although this has not been widespread.

A *systemic* trend of pegging to the SDR by lower-income countries would cause a greater reduction in effective exchange rate volatility for those countries, all the more so as trade continues to expand among them. Only to the extent that exchange rate shifts outside the high-income affect rich countries, however, might there be an impact on the bilateral exchange rates of the four major currencies presently in the SDR basket.

Adoption of an SDR reserve system, even without any increase in pegging to the SDR, might reduce volatility among the SDR basket currencies by reducing fears of shifts among reserve currencies by official holders. Again, however, other equivalent arrangements that do not rest on the SDR could accomplish the same goal.

Some have suggested that in view of China's growing global role, its yuan should become a component of the SDR. Because the yuan is not fully convertible, however, its path into the SDR is murky. Furthermore, and related to the last point, the yuan is not (yet) an international reserve currency, so the rationale for indexing the SDR basket partially to the yuan is unclear. Were the yuan to enter the SDR, though, and if China were still controlling the yuan's nominal dollar exchange rate, one effect would be to reduce the SDRs variability against the U.S. dollar, as well as the variability against the

dollar of any currency pegged to the SDR. With widespread pegging to the SDR among poorer countries, the yuan's effective exchange rate would become more rigid.

India's sizes in world exports and (even more so) reserves are too small for it to aspire to SDR membership any time soon. Hypothetically speaking, however, what consequences would follow? Were India to join, a tendency for other countries to peg to the SDR would then reduce the effective flexibility of the rupee. In that case, bigger changes in rupee nominal exchange rates against the other SDR basket currencies would be needed to bring about a given change in the rupee's multilateral effective exchange rate. The consequent reduction in medium-term exchange volatility might, however, be viewed as an advantage.

12. *International adjustment.* The preceding system would enhance global liquidity but would not mitigate the asymmetric current-account adjustment pressures as between surplus and deficit countries. Could a system based on the SDR further that goal?

As noted earlier, Truman (2010) proposes allowing countries to trade SDRs to central banks for their currencies. In such a system, countries might do the reverse transaction as well: trading currencies back to the issuing central banks for SDRs. If so, the system would contain a symmetric Hume-type adjustment mechanism. A country with a balance of payments deficit might see its central bank buying back money with SDRs, thereby reducing its monetary base. The surplus country buying the SDRs would have increased its base at the time it bought the foreign currency. At present, in contrast, a central bank that issues a reserve currency is not obliged to redeem that currency.

Two obstacles to symmetric adjustment arise. First, the reserve-currency issuer could sterilize the SDR loss, a feasible strategy because it is not pegging its exchange rate.

Second, unlike under a gold standard, the reserve-issuing central bank could simply stop buying back its currency with SDRs once it runs out of them. This suspension of convertibility has no consequence. It is hard to envision a politically viable mechanism for forcing a central bank to change course simply because it is running out of SDRs.

Another strategy, similar to schemes that have been unsuccessfully proposed in the past, would be to restrict countries from holding reserves other than SDRs and then to tax excessively positive SDR balances. Such a regime also seems politically unfeasible.

It is worth noting that if SDRs are gained via substitution rather than allocation, the incentives some countries might have to run current account surpluses for reserve growth remain in place. Allocation of SDRs by the IMF, or creation of swap lines such as those discussed above, would be more effective in discouraging precautionary current account surpluses, and thus in discouraging global imbalances.

*Conclusion.* As currently conceived, SDRs constitute a system for giving countries limited unconditional access to other countries' currency reserves. The SDR itself is not a currency; it is not used in private markets. The basket valuation of the SDR is motivated by denominational convenience, and can be argued to be quite incidental (and inessential) to the main purposes of the SDR. Large-scale substitution of currency reserves for SDRs would have advantages – for example, there would be no danger of official portfolio shifts between reserve currencies – but those advantages would come at a fiscal cost, and disagreement about the sharing of that cost among countries has defeated the substitution account idea in the past. The SDR would be more effective if, as some have suggested, it could be traded directly for reserve currencies with the issuing central banks, thereby resulting in the rapid creation of outside liquidity. Such a system could be effected,

without being based on SDRs, simply through a system of central bank swap lines centered on the IMF. Were such a system instituted, however, the IMF's surveillance capabilities would need to be extended and its governance structure reformed.

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