

International Monetary Fund

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2010

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Available at: https://works.bepress.com/warren_coats/1/

New Global Studies

Volume 3, Issue 1

2009

Article 5

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Abstract

This article surveys the prospects and implications of the potential replacement of the U.S. dollar as the world's key currency by the IMF's Special Drawing Rights (SDR) in the context of current global imbalances.

KEYWORDS: Special Drawing Rights (SDRs), International Monetary Fund, China, United States, international monetary system, trade, global imbalances

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The U.S. dollar is the world's primary international reserve currency. Most international payments are made in dollars, many globally traded commodities (such as oil) are priced in dollars, and almost two thirds of the world's official (government owned) foreign exchange reserves of 6.7 trillion dollars are held in dollars. The only other important currency in foreign exchange reserves is the Euro with 27% of the total.

When central banks want to increase the size of their foreign exchange reserves (as most did after the Asian financial crisis in the late 1990s) they will largely want to do so in dollars and this will result in, and only be possible from, larger than otherwise U.S. trade deficits. The U.S. trade deficit is the means by which the rest of the world accumulates the dollars it wants. This arrangement and the global imbalances it sometime promotes has long been a source of concern.

Both the Governor of the People's Bank of China (China's central bank) and the President of Russia have recently called for the ultimate replacement of the U.S. dollar as the world's reserve currency with one issued by the IMF (the Special Drawing Right—SDR).¹ The SDR was created in 1969, just before the collapse of the Bretton Woods international monetary system, precisely for this purpose. With the abandonment of the gold exchange standard and the floating of the dollar's exchange rate in 1971, the need for SDRs became less pressing. The G20 heads of state meeting in London in early April called for an additional \$250 billion dollar allocation of SDRs, almost an eight fold increase over the current stock of \$32 billion.

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Most people have forgotten what SDRs are (if they ever knew). Like dollars or any other currency, the SDR is both a unit of account and a means of payment. The value of the SDR was originally defined as the market value of 0.888671 grams of fine gold, which in 1969 was equal to one U.S. dollar. Currently one SDR is the market value of a basket of 0.632 U.S. dollars, 0.41 Euros, 18.4 Japanese yen, and 0.0903 Pound sterling. At the time the current basket was adopted (January 1, 2006—its valuation basket or method of valuation is reviewed and adjusted every five years) these amounts reflected weights of 44% for the U.S. dollar, 34% for the euro, and 11% each for the Japanese yen and pound sterling. Over time these weights vary with the exchange rates of the fixed currency amounts in the basket. The U.S. dollar values of the amounts of each currency in the valuation basket are determined in the market each day and added up to determined that day's value of the SDR (see the table below).

¹ Zhou Xiaochuan, "Reform the International Monetary System", Website of the People's Bank of China, March 23, 2009; Dmitry A. Medvedev, "Building Russian--U.S. Bonds" *The Washington Post*, March 31, 2009, Page A17.

Friday, April 03, 2009				
Currency	Currency amount under Rule O-1	Exchange rate ¹	U.S. dollar equivalent	Percent change in exchange rate against U.S. dollar from previous calculation
Euro	0.4100	1.34310	0.550671	0.524
Japanese yen	18.4000	99.85000	0.184276	
Pound sterling	0.0903	1.47460	0.133156	0.470
U.S. dollar	0.6320	1.00000	<u>0.632000</u>	
1.500103				
U.S.\$1.00 = SDR			0.666621 ²	-0.233 ³
SDR1 = US\$			1.50010 ⁴	

Notes:

- (1) The exchange rate for the Japanese yen is expressed in terms of currency units per U.S. dollar; other rates are expressed as U.S. dollars per currency unit.
- (2) IMF Rule O-2(a) defines the value of the U.S. dollar in terms of the SDR as the reciprocal of the sum of the equivalents in U.S. dollars of the amounts of the currencies in the SDR basket, rounded to six significant digits. Each U.S. dollar equivalent is calculated on the basis of the middle rate between the buying and selling exchange rates at noon in the London market. If the exchange rate for any currency cannot be obtained from the London Market, the rate shall be the middle rate between the buying and selling exchange rates at noon in the New York market or, if not available there, the rate shall be determined on the basis of euro reference rates published by the European Central Bank.
- (3) Percent change in value of one U.S. dollar in terms of SDRs from previous calculation.
- (4) The reciprocal of the value of the U.S dollar in terms of the SDR, rounded to six significant digits.

Prepared by the IMF Finance Department

All of the IMF's financial activities, in particular its loans, are valued in SDRs. These SDR denominated loans are not SDRs proper any more than U.S. Treasury bonds are U.S. dollars proper. The SDR amount of credit due to the IMF varies over time as its lending activity varies. IMF loans are actually disbursed to borrowing central bank largely in member currencies (primarily U.S. dollars), but the obligations are denominated in SDRs.

What we might call the SDR proper—the SDR denominated reserve asset allocated by the IMF and the SDR the Governor of the People's Bank of China was referring to—has played a very limited role to date. The IMF has only issued SDR 21.433 billion of them (the equivalent of about \$32 billion at current exchange rates). For perspective, this might be compared with the amount of credit directly created by the Federal Reserve (Federal Reserve Credit) of about \$2 trillion or the \$250 billion allocation (as the creation of SDRs is called) proposed by the G20. The new allocation, by raising the stock of SDRs from 21.4 billion to \$271.4 billion, will provide a very big boost to the SDR.

An SDR allocation is similar to a line of credit. The 250 billion in new SDRs will be “allocated” to IMF members in proportion to their quotas in the IMF, which roughly reflect their economic size and importance in world trade. Bulgaria, for example, with a quota currently of 640.2 million SDRs, which is 0.29% of the total (financial) size of the IMF, would receive an allocation of 725 million SDRs (250 billion times 0.29%). These will be credited to Bulgaria's SDR account with the IMF as additional SDRs owned and held by Bulgaria. At the same time Bulgaria's SDR account with the IMF will record a liability for the same amount. Bulgaria will earn interest at the SDR interest rate on what ever SDRs it holds² and must pay interest at the same rate on its SDR liabilities. If it continues to hold the SDRs it was allocated, Bulgaria will earn the same interest income that it pays on its allocation.³ In short, if it does not use any of its SDRs and does not acquire additional ones in payments from other IMF members or other holders or buy them, its interest income on its SDR holdings and payments on its net cumulative allocations will be equal and will thus cancel out. Bulgaria will enjoy larger foreign exchange reserves at no cost (but with no net interest return). If Bulgaria uses 100 million of its SDRs, its interest income will fall by that amount times the SDR interest rate, but its charges for its net cumulative allocation will remain unchanged (other than from changes in the SDR interest rate). In short, Bulgaria would then have a net charge to the extent of its use of its SDRs. This is the sense in which an SDR allocation is like a line of credit without the commitment charge or risk of cancellation. Conversely, if Bulgaria acquires

² The SDR interest rate is also determined daily on the basis of three month government securities with the same weights as the currency basket.

³ Each new allocation is added to all previous ones and the total is called the “net cumulative allocation.”

additional SDRs from other central banks so that its holdings of SDRs exceed its net cumulative allocation, it will enjoy net income to that extent at the SDR interest rate.

If the demand for SDRs equals or exceeds their supply, countries could use their SDRs directly. The Chinas of the world, with foreign exchange reserves of \$2 trillion (mostly in U.S. dollars), would be happy to accept and hold them in payment for another country's financial obligations or to buy them (rather than dollars) for dollars that the selling country could use to settle obligations with someone else unable or unwilling to accept SDRs. For the past twenty five years virtually all SDRs have been used in this way. Most countries using their SDRs first converted them into dollars by selling them for dollars to another central bank in so called "Transactions by Agreement." However, the system also has a mechanism, so called "Transactions with Designation," by which countries with a strong balance of payments can be designated to buy SDRs for dollars, or Euros (or another freely useable currency) when a holder wishing to sell them for currency cannot find a buyer in a Transaction by Agreement. With the huge allocation now being proposed, it is likely that some users will again need to resort to this obligatory purchase requirement for a while.

GLOBAL IMBALANCES

Twenty years ago as the Berlin Wall came tumbling down the United States imported \$580 billion worth of goods and services from the rest of the world (1989). This was about 11% of U.S. domestic production (GDP). The U.S. paid for most of that by exporting \$487 billion worth of goods and services. The shortfall (trade deficit) of \$93 billion was more than paid for by the net income received by American's from their investments abroad. This modest trade deficit of 1.7% of GDP rose to an unsustainable 5.7% of GDP by 2006. The gradual depreciation of America's overvalued dollar over the last few years has begun to correct this global imbalance and this last year (2008) saw a reduction in the U.S. trade deficit to the still very high level of 4.7% of GDP. Though American imports continued to grow (to almost 18% of GDP in 2008), its exports grew more rapidly over the last few years thus replacing some of the lost consumer spending as households starting to pay off excessive debt and to rebuild their savings. This desirable correction has been temporarily interrupted by a global recession and creeping protectionism in the U.S. and elsewhere.

These large global imbalances contributed significantly to the U.S. housing bubble and the financial crisis it created. Large U.S. trade deficits (the U.S. imported much more than it paid for with exports) financed mainly by Chinese and Japanese trade surpluses invested in the U.S. (mostly U.S. Treasury bills and bonds) kept interest rates in the U.S. low despite large U.S. government

deficits and very low household savings rates. Excessive borrowing and housing demand in the U.S. resulted.

The rapid increase in global trade over the last several decades benefited American consumers and workers around the world. But U.S. trade imbalances (the mismatch between imports and exports and the balancing capital flows to the United States) reached unsustainable levels and will have to contract. There are limits to the number of U.S. Treasury bills the People's Bank of China is willing to hold. It still continues to add to that number but at a slower rate. There is also a limit to the amount of debt the U.S. Treasury can pay interest on and financial markets have already begun to reflect a higher, though still low, probability of U.S. default on its huge and rapidly growing public debt.

The lowering of tariffs and other trade barriers (e.g. transportation costs) permitted this rapid growth in trade, which doubled the incomes of a third of the world's population, something aid could never have accomplished. Why then didn't markets operate to limit trade imbalances to sustainable levels? The failure reflects the failure of government policies in China and the U.S. and elsewhere to play by the rules of international finance and the accumulation of the U.S. dollar in international reserve holdings made this failure easier.

When a country buys more from the rest of the world than it sells, it must borrow to pay the difference or use its reserves of foreign currencies. If the rest of the world is not eager to lend or otherwise invest in the borrowing deficit country, exchange rates will adjust in international currency markets or the "real exchange rate" will adjust via domestic inflation or deflation. The simple market reality is that consumers tend to buy where they get the best deal. When comparing a product of comparable quality produced in China versus the same product produced in Indiana, the price to an American is the dollar cost of producing it in and shipping it from Indiana or the Chinese cost of producing it in and shipping it from China times the exchange rate between the renminbi and dollar. The exchange rate plays a critical role in determining the cost of American exports to the Chinese or of Chinese imports to Americans. Thus the statement that Chinese labor is cheap so of course they can sell it to Americans cheaper, is half (the exchange rate half) meaningless and totally wrong.

The rule of international finance with regard to exchange rates is that governments should not interfere with the exchange rate adjustment process. The market process for maintaining the desired external balance can be illustrated with examples from two opposite exchange rate regimes. The gold standard, the most recent and most important global currency and the time tested example of a fixed exchange rate regime, and a freely floating (market determined) exchange rate with a domestic inflation or monetary aggregate target.

If two countries or the whole world are on the gold standard, the exchange rate of their currencies for each other are determined and fixed by the prices

(exchange rates) of each of their currencies for gold. The rules of a pure gold standard, like those of modern currency boards (e.g. those in Bosnia, Bulgaria, and Estonia), require that the monetary authority passively provides its currency for gold at the officially fixed price of gold or gold for its currency as demanded by the market. With open and free trade, this system insures that the market produces and maintains balanced trade between these two countries or the whole world. Balanced trade here means a trade surplus or deficit just sufficient to satisfy the net desire of residents to invest abroad. Let's leave this complication aside and assume that markets desire on net to invest in their own countries so that market forces produce a balance between imports and exports and let's stick with the example of the U.S. and China representing the rest of the world. How does the gold standard produce balanced trade?

The mechanism can be most easily explained by starting with a balanced situation (equilibrium) and introducing a disturbance. If the value of American exports to China equals the value of America's imports from China at the fixed exchange rate between their currencies (via the gold prices of each), the sudden discovery of oil in China or an increase in the price of oil where the U.S. is an oil importer would raise the value of American imports from China. This introduces an imbalance in their trading relationship and an American trade deficit. The U.S. is no longer able to pay for all of its imports with exports. It must pay for the more expensive oil with gold. Any dollars sold by American importers for Renminbi that are not wanted by Chinese importers to pay for their imports will be sold to the American central bank for gold. This outflow of gold from the U.S. reduces the money supply in the U.S., which lowers the average price level in terms of dollars, that is, the value of dollars and gold are increased relative to American goods and services. This process makes Chinese goods relatively more expensive to Americans, who will thus import less, and American goods relatively cheaper to Chinese, who will thus buy more of them. Gold flows out and the U.S. money supply and dollar prices of American goods and services fall until balance is restored between imports and exports with the higher price of oil. No unsustainable global imbalance is possible, other than temporarily while the "real" exchange adjusts as described above so long as neither country's central bank interferes with this process.

Taking the same example of an oil price increase, but with a freely floating, market determined exchange rate, the adjustment in the real exchange rate that the market demands takes place via a depreciation in the nominal exchange rate of the dollar for the renminbi (i.e. an appreciation of the renminbi). In this case the surplus of dollars in the foreign exchange market described above cannot be sold to the American central bank as was the case with the gold standard. As a result the excess supply in the foreign exchange market drives down the price of the dollar relative to the renminbi. Under both regimes the real

exchange rate adjusts as required to restore trade balance. An unsustainable global imbalance is not possible unless one or the other central banks intervenes in the process.

Normally, in order to import a country must sell its currency in the foreign exchange market for the currency of the country whose goods and services it wants to buy. Similarly when some of its companies export they will only accept payment in their own currency, which requires the country buying them to sell its currency in the foreign exchange market for the currency of the exporter. The U.S. is unique in this regard because it issues the reserve currency of the system. Other countries will accept and sometime hold dollars when they sell their goods and services to the U.S. or to other countries. If they do not use these dollars to import (from the U.S. or other countries) they will invest them in the U.S. buying U.S. securities, often government securities, U.S. companies or shares in companies or even real estate.

The U.S. and China have interfered in the market's natural equilibrating tendency in two ways. China has not wanted to let its currency appreciate against the dollar because its rapid growth is largely driven by exporting, and an appreciation would reduce foreign demand for Chinese exports. Thus the People's Bank of China (its central bank) intervened in the foreign exchange market to buy up the excess dollars resulting from China's trade surplus in order to keep the exchange rate of its currency constant or to slow its appreciation. When the People's Bank buys dollars it does so with its own currency. Under the rules of the game, if the People's Bank wants to peg its nominal exchange rate it must allow the increase in the supply of renminbi in China and the renminbi inflation it would cause when it buys dollars in the foreign exchange market. However, the People's Bank has resisted this alternative means of appreciating the real exchange rate of its currency through what economists call sterilized intervention. The People's Bank prevents the increase in its money supply caused when it buys dollars by buying the renminbi back through the use of other central bank policy instruments such as selling Chinese government securities and retiring the renminbi received for them—hence the term “sterilized” intervention.

The U.S. for its part has kept interest rates higher than they otherwise would be by running large fiscal deficits and as a result of very low private sector savings rates. Such rates encourage China and other countries to invest more in the U.S. than they otherwise would. China points attention to this U.S. pull of foreign investments into the U.S. The U.S. points to the People's Bank's sterilized intervention and undervalued exchange rate as pushing investment into the U.S. of its resulting increase in foreign exchange reserves. The fact that China's exchange rate policy has resulted in rapid and large increases in its foreign

exchange reserves (U.S. dollars) has pushed so much into U.S. investments that U.S. interest rates remained low despite low savings rates and fiscal deficits.⁴

A FUTURE FOR THE SDR?

In the above examples, if the SDR replaced the U.S. dollar as the international reserve asset, any dollars purchased by the People's Bank to preserve its nominal exchange rate (as in the gold standard example) would be sold to the U.S. for SDRs. It would hold SDRs rather than dollars in its reserves. The U.S. could no longer print dollars to satisfy China's demand for reserves. If its holdings of SDR's ran short, it would need to allow the upward pressure on its interest rates in order to increase capital inflows to provide it with the SDR's demanded by China. The market adjustment mechanism would work as described above.⁵ It would be more difficult for the U.S. to undermine the global balance adjustment mechanism as it does now.

The key advantages of the SDR over the U.S. dollar (or any reserve currency issued by a national central bank) are that its value is more stable relative to currencies in general,⁶ its supply is determined by collective decision of the IMF's member countries, it is added to each countries' reserves to the extent of each countries allocation without cost (now countries must sell their goods and services to acquire additional net foreign reserves), and the global supply can be increased without the need for a current account or trade deficit by the issuing country. These are formidable advantages.

Getting from here to there will take more than additional allocations of SDRs, though that will be part of the evolution. Most central bank reserve transactions are not with other central banks. They are with the market. The People's Bank of China buys dollars in the foreign exchange market from banks and other foreign exchange dealers and uses them to buy U.S. government securities in American markets and not from the U.S. Treasury directly. Thus the acceptance and growth of the "official" SDR will require the development of private ones (private SDR denominated financial instruments) and mechanisms

⁴ I have often wondered whether those politicians demanding an appreciation of the renminbi realized that it would raise interest rates in the U.S. when the People's Bank no longer had such large foreign exchange reserves to invest in the U.S.

⁵ This describes a relative imbalance rather than a global shortage of reserves. If as now the world were in recession or suffering a global shortage of reserves (which would otherwise require a global deflation to overcome) the IMF's members could authorize a further allocation of SDRs as the G20 has just recommended.

⁶ The SDR's value could also be fixed to gold, as it was initially, or to baskets of commodities or goods and services. See Coats, 1994.

for linkages between the private and the official ones.⁷ This was the path followed by the Euro (and its predecessor the Ecu).⁸

The extent to which the world chooses to hold and deal in SDRs rather than dollars will reflect the extent to which individuals and governments are more confident in the valuation of the SDR than the dollar or other possible units and the convenience or cost of dealing in the asset. The world has changed its reserve currencies from time to time to align with the dominant economic power of the time, but such changes have always been gradual. If the SDR catches on, its displacement of the dollar would also be gradual, taking place over many years of growing use.

An important advantage of an international currency like the SDR emphasized by the People's Bank Governor is that the U.S. would be subject to much stronger market pressure in the form of exchange rate adjustments that would maintain better balance between imports and exports than is now the case. The U.S. would also face far less risk of the central banks of the world losing confidence in the dollar and sharply reducing their willingness to hold them. As the SDR does not and is not likely ever to exist in currency form, the U.S., and increasingly the E.U. are likely to continue to enjoy the seignorage profits from selling their currency to the citizens of rest of the world.

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