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Implementing a Real SDR Currency Board

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By Warren Coats[1]
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The enormous utility of money is a function, in part, of how widely it can be used for pricing and paying for the things we buy and sell and how stable or at least predictable is its value over time. The United States dollar became and remains the world's common currency for global trade because of the relative size of the American economy, the relative stability of the purchasing power of the dollar, and the extensive development and liquidity of dollar financial instruments. Its use is now well entrenched. As pointed out by Richard Cooper: "It would take both a major shock to the dollar and a viable alternative to dislodge it from widespread use."[2]

The unilateral closing of the gold window by the United States in 1971 brought the world into a costly and trade inhibiting era of floating and unpredictable exchange rates. However, the current dollar standard suffers from several deficiencies beyond exchange rate chaos. The well known Triffin dilemma—that as the trade deficit of the supplier of the international reserve currency grows to meet the world's demand for it, confidence in the currency at some point weakens—only gets more worrisome for the dollar with time, not for the reasons Triffin suggested but because of political/fiscal weaknesses within the U.S. In addition, the Federal Reserve has never given much attention to the impact of its monetary policy decisions on international holders and users of its currency. And the U.S. is increasingly using its control over most international payments to impose its political will (FATCA, payment sanctions, etc.), not always shared by others, on the rest of the world. In today's world of relatively free capital mobility the dollar does

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[1] *Warren Coats retired from the International Monetary Fund in 2003, where he was chief of the Operations Division for SDRs in the Finance Department from 1982 - 88. The basic ideas for the real SDR were first published by the author in 1994 in "In Search of a Monetary Anchor" and further developed in "Real SDR Currency Board", which he presented in Paris on December 11, 2010; Nanjing, March 31, 2011; Astana, May 4, 2011; Buenos Aires, July 1, 2011; and Siena, July 10, 2011. Earlier versions of this paper were presented on* May 17, 2014 in Hangzhou, China at a conference on **70 YEARS AFTER BRETTON WOODS: THE INTERNATIONAL MONETARY SYSTEM** and on May 21 in Astana, Kazakhstan at a the **II WORLD ANTICRISIS CONFERENCE BRETTON WOODS 70: REGAINING CONFIDENCE IN THE GLOBAL FINANCE BREAKING THE CYCLES OF FINANCIAL CRISES OF THE LAST TWO DECADES.** *His most recent book, "One Currency for Bosnia: Creating the Central Bank of Bosnia and Herzegovina," was published in November 2007. He has a Ph.D. in economics from the University of Chicago and lives in Bethesda, Md.*

[2] Richard Cooper, "Does the SDR have a Future?" Aug 2010.

not provide a stable anchor for a global system of stable exchange rates. This is often referred to as the International Monetary non-System.

A growing number of countries and their central banks are expressing concern about the risks to global trade and investment of heavily relying on the currency of one country. The most eloquent and explicit of these statements was given by the Governor of the Peoples Bank of China in 2009.[3] More recently Eswar Prasad stated that: "Emerging market countries are frustrated that they have no place other than dollar assets to park most of their reserves, especially since interest rates on Treasury securities have remained low for an extended period, barely keeping up with inflation. This frustration is heightened by the disconcerting prospect that, despite its strength as the dominant reserve currency, the dollar is likely to fall in value over the long term."[4] The almost certainty of higher inflation rates for the dollar in coming years as the Federal Reserve unwinds its enormous holdings of government and government agency debt in the face of the financing needs of the Federal Government's huge unfunded liabilities ("Thinking about the public debt") will raise dollar interest rates and lower the value of dollar assets held abroad. More recently still the United States has been exploiting the dollar's dominance to force foreign financial institutions to comply with its will with regard to anti money laundering and tax compliance measures (AML-CFT, FACTA, etc.), producing a growing backlash and accelerating a shift from the dollar.[5] [6]

According to James Rickards, in "The Death of Money: The Coming Collapse of the International Monetary System"[7] the willingness of China and other central banks holding over 8 trillion U.S. dollars in their foreign exchange reserves to continue doing so will collapse sometime in the next decade. When it does, he says, this time the dollar's reign as the world's reserve currency will end. Eswar Prasad, on the other hand, argues that the dollar will hang on for lack of a decent alternative.[8]

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[3] Zhou Xiaochuan, "Reform the International Monetary System" March 23, 2009
[4] Eswar Prasad, "The Dollar Reigns Supreme, by Default," March 2014
[5] Alan Wheatley (ed), "The Power of Currencies and Currencies of Power, 2013
[6] Referring to a U.S. fine of almost $9 billion dollars for BNP Paribus' violations of trade sanctions and related crimes, *The Economist* noted that "the announcement raises a raft of questions about the proportionality of penalties, the responsibility of individuals in corporate crime, the duties of firms dealing with objectionable regimes and the reasonableness of America imposing its foreign policy via the international financial system and its dominant currency…. The case appears to be an example of America throwing its financial weight around, using the threat of withholding access to its market and currency to force compliance with its own priorities…. By eagerly exploiting their authority over dollar-denominated transactions, American regulators are increasing the incentives for international banks to set up a payments system based on another currency." *The Economist*, July 5, 214.
[7] Rickards, "The Death of Money", 2014
[8] Prasad, "The Dollar Reigns Supreme, by Default," 2014

Rickards predicts that only a massive allocation of SDRs will save the system and reestablish a new one. Though the Second Amendment to the IMF's Articles of Agreement committed its members to make Special Drawing Rights (SDRs) "the principal reserve asset in the international monetary system" (IMF Article XXII), the commitment was never seriously implemented. As the intended replacement of the dollar in international reserves, the failure of the SDR to grow into that role cries out for an explanation. While the existing SDR has many attractive features—it established a unit of account, usefully defined by a basket of major currencies, for international organizations like the IMF in a world of volatile exchange rates—the allocation process and administrative nature of the asset made it controversial from the outset. For lack of interest from IMF members, the SDR was never adopted for pricing of internationally traded commodities such as oil. Allocating amounts of the asset (as distinct from use of the unit of account) to each member of the IMF that equated their supply and demand at their official value is simply not possible. Hence an unattractive collection of administrative rules for their use was required. Fears that SDR allocations, especially if targeted, might become a soft window for financing economic development drove the final nail in its coffin.

Twenty years ago, I proposed amending the IMF's poorly named Special Drawing Rights (SDRs) in two important ways that I thought and still think would transform their attractiveness and thus countries' willingness to hold and use them.[9] I summarized these proposals more recently as follows: "While many simple and practical steps can and should be taken to promote the use of the existing SDR, I argue that interest in the SDR could be transformed by replacing its valuation basket of currencies with a basket of goods and replacing the allocation of SDRs with issuing them under currency board rules. Rather than buying and selling SDRs for the items in its valuation basket (a la the gold or other traditional commodity standards), the IMF would sell and redeem these "real SDRs" for the basket indirectly (against government or other AAA financial assets of equivalent value)."[10]

These changes would open the possibility for banks and the general public to hold and use SDRs (directly or indirectly) and thus convert the SDR into an actual currency and would ensure that it maintained relatively constant purchasing power for the foreseeable future. Implementing the additional steps outlined below would provide the world with the desired amount of the international settlement currency, which would not be the liability of any one country and thus would not suffer from the Triffin dilemma. Every aspect of the Real SDR currency board proposal as been successfully tested by actual use except for the indirect redeemability for a valuation

[9] I continue to use the name SDR here because much of the infrastructure of the existing SDR is useful and the efforts that launched it in the IMF in the 1970s make the IMF the logical institution to build an improved asset. However, it would probably be wise when amending the IMF's Articles for this purpose to consider changing the SDR's name. Keynes' Bancor would surely be a candidate.
[10] Coats, "Real SDR Currency Board" 2011.

basket of goods (rather than currencies as now), the workings of which have been explained extensively in earlier articles and are illustrated below.[11] Modern currency boards have proven very successful.[12]

The replacement of the U.S. dollar with the Real SDR in international reserves could be accomplished quickly and easily if the IMF's members desired it. Without such political support it would be impossible. While this would constitute a significant reform, the International Monetary System would still suffer from multiple, volatile, and politically sensitive exchange rates. With the establishment of the Real SDR as the global transaction and reserve currency and its use to price globally traded commodities and to denominate private internationally traded and held financial instruments, its adoption as the anchor for national currencies, and hence the establishment of a single (or dominant) global currency would follow naturally, thus removing the costly impediment to global trade of uncertain and volatile exchange rates among national currencies. The proposed system would have much in common with Keynes' International Clearing Mechanism for bancor (see the Annex) but without any monetary policy discretion as its supply would be determined solely by market demand at the fixed value of its real goods valuation basket.

The International Monetary Fund was established 70 years ago in Bretton Woods, New Hampshire in an effort to restore the global system of fixed exchange rates anchored to gold that had served the world so well during the half century before the establishment of the Federal Reserve System in the U.S., and to do so without (or with very limited) trade restriction. The flexibility retained by national central banks under the IMF's gold exchange standard to address short term liquidity needs eventually proved incompatible with countries' commitment to convertibility into gold (via the dollar), especially for the United States upon whose currency the system rested. Following the closing of the U.S. gold window, the major economies increasingly adopted floating (market determined) exchange rates in the belief that wages and prices were too sticky to adjust smoothly to shocks to trade balances. Freed from concern for exchange rates, central banks became more and more aggressive in their efforts to manage their countries aggregate economic performance and with each financial crisis piled on more and more intrusive and costly regulations. There is a growing demand for a return to a firm and credible hard anchor to a system of fixed exchange rates and lifting of much of the regulatory burden of current financial supervision in favor of greater market responsibility for the consequences—good and bad—for its operations and risk taking. The real SDR currency board proposal provides such a system.

In this paper I offer suggestions for the issues involved in implementing this Real SDR reform and thus a first draft of an implementation plan. Implementation is divided into two stages. The first stage establishes the SDR as "the principal reserve asset in the international monetary system" in fact rather than just on paper. The

[11] *Ibid.*
[12] Coats, *One Currency for Bosnia,* 2007

second stage replaces national currencies (or at least many of them) with SDRs directly or once removed via fixed exchange rates, thus returning the International Monetary System to a single (or dominant) currency in the spirit of the gold standard. The many measures that could be taken to promote use of SDRs without amending the IMF's Articles of Agreement (invoicing, SDR denominated private financial instruments, SDR payment clearing and settlement facilities, etc.) have been elaborated in earlier articles (Coats 1982, 1984, 1990, 1992).

Stage One: International Reserve Currency

1. The international community should agree on amendments to the IMF's Articles of Agreement to authorize and require it to issue SDRs under currency board rules. The value of an SDR would be fixed to that of a basket of globally traded goods and commodities chosen following the IMF's existing methodology so as to best stabilize a global consumer price index. Currency board rules would require the IMF to issue SDRs against specified financial instruments at their current market value equivalent in value to the SDRs purchased and to redeem them in the same way. This raises a number of issues that would need to be clarified.

How should the new global central bank be governed? The IMF's existing Articles already provide for the possibility of changing the SDR's valuation basket from currencies to goods and commodities if a super majority of the IMF's members agree to it. They also provide sensible procedures for reviewing and adjusting the valuation basket over time (the basket is reviewed every five years). These procedures should be followed and refined to guide the choice of goods and commodities to include in the valuation baskets and the quantities of each. The basic objective would be to include a relatively small number of goods and commodities that best stabilize the value of an SDR for purchasing a "typical" global consumption basket. This would be a challenging but by no means impossible research undertaking. As the new global central bank would have no monetary policy—the supply of Real SDRs would be determined by the market in light of its demand given the defined value of an SDR—governance would be of somewhat secondary importance. Interest rates would be truly market rates without IMF interference. Nonetheless, existing provisions in the IMF's Articles of Agreement for voting majorities required with regard to different aspects of the SDR should generally be satisfactory.

How would market arbitrage regulate the supply of SDRs? The calculation of the U.S. dollar value of the current SDR currency basket is illustrated on the IMF website: http://www.imf.org/external/np/fin/data/rms_sdrv.aspx . The market value of the proposed goods/commodities basket would be determined in the same general way. If the market values of the fixed quantities in the basket added up to more than one SDR, the items in the basket could be purchased more cheaply from the global central bank issuing them, than in the market. Thus under these

conditions there is a profit incentive to redeem SDRs at the global central bank for an asset equivalent in value to one SDR. If the market value of one Real SDR is, say, 1.1 SDR, then a U.S. Treasury bill equivalent in value to one SDR could be purchased in the market for 1.1 SDRs or from the issuer for 1.0 SDRs. SDRs would be redeemed to take advantage of the better price from the issuing central bank, thus shrinking the money supply and lowering market prices in general until the market SDR value of the basket is the same as its official value.

Who may have SDR accounts with the IMF? Should account holders be limited to IMF member central banks and a few official "Other Holders" (such as the BIS), as now, or opened to international banks meeting specified size and prudential standards? Rather than holding SDRs directly with the IMF, commercial banks could hold them indirectly via a two-tiered system in which national central banks maintain the records of banks' holdings in the second tier fully backed by the central banks holding with the IMF (100% reserve requirement). Either way, it would be important for internationally active banks to be able to hold and make international (or any other) payments in SDRs. As only one or two hundred such global banks would meet the high prudential standards that should be established for this purposes, there is little reason not to allow such banks to open SDR accounts directly with the IMF (or the entire operation could be assigned to the BIS). This would ensure uniformity in the application of the qualification standards and would simplify settlement of such cross-border payments. It would also strengthen the market arbitrage needed to keep the market value of SDRs equal to their valuation basket value. As bank holdings of SDRs would generally be on behalf of their depositors (the general public), the ultimate ownership of (or claim on) these SDRs by the public would constitute an additional tier.

What financial assets may be accepted to buy (issue), or used to redeem, SDRs? In a world of fixed exchange rates, all assets would be denominated in SDRs (directly or indirectly) but their credit worthiness would depend on the name of the issuer. High credit worthiness standards for government and corporate debt securities should be established by the IMF and regularly monitored and adjusted as appropriate. Given recent sovereign debt defaults in Greece and Cyprus, this must be done with considerable care and will be politically sensitive. The sovereign debt of countries participating in an IMF supported adjustment program (i.e. borrowing from the IMF), should be excluded for the duration of their program. The initial substitution of existing foreign exchange reserve holdings by central banks for SDRs (see number 2 below) should use the reserve assets actually held by them that satisfy the acceptable asset standard. Criteria should be developed for the choice of counterpart reserve assets held by the IMF to be used when the public redeems SDRs. The preferences of the redeeming entity should be taken into account. Going forward the accumulation of additional SDRs by payment of government debt or other national debt of the acquiring central bank or commercial bank would avoid the current need to run a balance of payments surplus with the U.S. or other national reserve asset provider. If all SDRs issued by the IMF going forward were against assets of the acquiring country, the supply of SDRs would have no impact on

countries' balance of payments—it would be a truly internationally issued reserve currency.

How would the seigniorage from issued SDRs be allocated? SDRs would be issued in a range of maturities. Issued "on demand" SDRs would not pay interest, but the assets acquired by the IMF when issuing them would. The profit from this spread should cover the operating costs of the SDR Currency Board, and the balance should be distributed to participants in the SDR program by an agreed formula. It would be economically logical to share this seigniorage in proportion to the SDR holdings of each participant.[13] That is the extent to which they are ultimately responsible for the asset counterpart that generates the profits. Such a formula should not distinguish between commercial and central bank holders of SDRs.

How would the risk of loss be allocated (the old substitution account issue)? Initially, the financial assets acquired by the IMF's SDR Currency Board would be denominated in the issuing country's national currency—over 60% of which is U.S. dollars. Over time as these securities mature, their replacements would increasingly be denominated in SDRs (or national currencies fixed to the SDR). Thus ultimately there would be only the maturity risk and no exchange rate risk (assuming that the eligible assets had negligible credit risk). Thus the prospects of loss would be very low. Nonetheless, provisions would need to be made in advance to cover any losses should there be any. While losses might also be shared in proportion to current holdings (the seigniorage sharing formula), a strong case can be made for IMF member countries sharing any loss in proportion to their quotas.

What should happen to allocated SDR? In the current environment, the ability of the IMF to augment world reserve balances with the stroke of a pen has been and could continue to be very useful. The massive allocation in 2009 equivalent to $250 billion U.S. dollars boosted the reserves of all IMF member countries at a critical time. In the future, to the extent that countries peg their currencies to the Real SDR or dollarize with them, central banks will have no need to hold "foreign exchange" reserves for the purpose of defending the exchange rate of their currency. They would continue to need reserves for payment of international obligations of the government (debt service). But countries with balance of payments deficits that have difficulty servicing external debt obligations or that are struggling to adjust rapidly enough to a drain of domestic liquidity caused by the BOP deficit should turn to the IMF for financing from one of its traditional BOP financing facilities with whatever conditionality might be appropriate for reestablishing balance. An important policy question is whether such IMF financing would: a) come from a special allocation of SDRs or b) from existing issued SDRs borrowed from member countries with a sufficiently strong BOP as is done now with their national currencies.

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[13] However, if the global central bank issues SDR notes as well as deposits (though this is unlikely), it will not be possible to know who holds them or where. Thus an alternative formula would be needed with regard to cash.

If SDRs are allocated to finance IMF programs, allocated and issued SDRs would need to coexist. While having the same value, they would differ in several respects. Allocated SDRs pay interest, while issued ones would pay interest in accordance with their maturity. Issued SDRs could be held by banks (and individuals via banks), and allocated SDRs could not be. Allocated SDRs "enjoy" the designation privilege and a few other restrictions that issued SDRs would not. They would need to be, and easily could be, distinguished in the accounts maintained by the IMF. These considerations seem to favor option b. It may thus be appropriate in the long run to phase out and cancel allocated SDR via the procedures provided in Article XVIII Section 2 of the IMF's Articles of Agreement.

2. The above amendments should commit IMF members to exchange their existing foreign exchange reserves for SDRs (i.e. to buy SDRs from the IMF) and to intervene in foreign exchange markets only in SDRs. Over time new external debt and other government (and private sector) contracts would be denominated in SDRs and IMF members would be expected and would have every incentive to settle these payments in SDRs.

How would countries substitute SDRs for their existing reserves? Countries would exchange their existing eligible reserve assets (i.e. those assets approved by the IMF for buying and selling SDRs) for SDRs. Non eligible assets should be exchanged for eligible ones and exchanged for SDRs. This would allow large-scale substitution of U.S. dollar and Euro reserves with SDRs without exerting exchange rate pressure on the dollar or the Euro. Backing SDR liabilities with national currency assets, as would have also occurred with the old Substitution Account proposal in the 1970s, would introduce an exchange rate risk between the IMF's SDR liabilities and its national currency assets. Any fall in the relative value of IMF assets backing its SDRs would need to be made up for by IMF members according to an agreed formula. Sharing this risk in proportion to each member's quota is one approach but doing so in proportion to the national currency assets exchange by each country in the first place would leave the distribution of this risk unchanged from before the substitution. In a recent study, Peter Kenen finds that had the Substitution Account proposed in the 1970s been adopted, the Account would not have resulted in any maintenance of value cost to the U.S.[14]

What interest rates should term SDR notes pay? Current account balances of SDRs would not pay interest. However, most central banks invest their foreign currency reserves in interest earning assets. When a central bank exchanges, say, 6 month U.S. Treasury bills for SDRs, it will expect to receive an SDR asset of comparable maturity and yield. For the initial, one off exchange of existing national currency reserve assets for SDR the IMF should create and issue 3, 6, and 12 month SDRs in amounts that match as closely as possible the maturities of the national currency assets being exchange. It should fix the interest rates on these term SDRs

[14] Kenen, 2010.

in the same way it fixes the interest rate on its existing SDR, i.e. it should take the prevailing market rates for 3 month, 6 month, and one year Dollar, Euro, Yen, and Sterling government securities (appropriately weighted) and apply them to its term SDRs of the same maturity.

After the initial exchange, the IMF should offer any amount of term SDRs of 3, 6 and 12 month maturities the market wants to buy according to currency board rules, with interest rates set at the time of purchase as outlined above.

How should the IMF manage its SDR asset counterparts? If non-reserve asset countries bought SDRs with U.S. dollar (or Euro) assets, it would require a balance of payments surplus visa vise the U.S. to acquire them that has been so problematic under the current system. Thus when ever possible each country should buy SDRs with its own assets and the IMF should manage its asset portfolio to establish and preserve a mix of national assets that match the holdings of SDR of each country's central bank (i.e. replace maturing assets with new assets that fulfill this criteria). Following the initial substitution of national FX reserves with SDRs, the IMF's asset counterpart will not satisfy this criteria and it should adopt a policy of gradually rebalancing until it does. The substitution of initial national reserve assets for SDRs and subsequent evolution and growth of SDRs would result in negligible seigniorage for the IMF, which would depend on the share of "demand" SDR in the total.

3. The IMF should move more vigorously to promote adoption of the SDR for invoicing globally traded commodities such as oil, copper, gold, etc. and should encourage international banks to develop financial instruments denominated in SDRs. World Bank lending and financial activities should be in SDRs. Settlement of obligations priced in SDRs (e.g., purchases of oil priced in SDRs) would naturally be by payment of SDRs. The need to hold reserves of SDRs for such purposes would generate demand for SDR assets in which to hold such reserves, though the development of liquid markets for such assets is likely to take considerable time. A hard peg of the U.S. dollar to the SDR would ensure the rapid acceptance of the Real SDR as it would instantly convert the entire panoply of dollar financial instruments into SDR instruments.

Why should the U.S. give up its reserve currency status? It would gain more than it loses. The U.S. would lose the seigniorage that it earns on dollar banknotes held abroad, if those wanting cash in the world held SDRs instead (should a currency version of SDRs be issued by the IMF, which is unlikely). But if, in the more limited case of simply replacing dollars in foreign exchange reserves and international bank payments with SDRs, the U.S. continued to issue its own currency (whether fixed to SDRs or not), there is no reason to think that the rest of the world would hold fewer dollar bank notes than now. As for the rest, the benefit enjoyed by the U.S. in the global financial system derives from the efficiency and scope of its financial institutions and the perceived safety of American instruments and investments. The U.S. is far from the only country that can borrow abroad in its own currency. If the SDR were the single global currency, all countries would enjoy that

"privilege" to the extent they were considered credit worthy by lenders. Borrowing terms reflect the credit worthiness of the borrower as much if not more than the currency borrowed. The U.S. has enjoyed lower borrowing costs because much of its debt is held abroad, but this would continue to be the case whether that debt was denominated in dollars or SDRs as long as the U.S. government or other U.S. borrowers remained credit worthy.[15] And this benefit would be lost if the credit worthiness of the U.S. government comes into doubt whether denominated in dollars or SDRs. A major cost to the U.S. of supplying its currency internationally is the need to have a BOP deficit, which has resulting in the export of some of its manufacturing employment.

The benefits to the international monetary system of replacing the dollar with the SDR in international reserves and payments would be that: a) IMF issued SDRs would not be a claim on the U.S. or any single national (or regional) issuer; b) the supply would always match the market's demand (if issued under currency board rules); c) the real value of the international invoicing and settlement asset would be stable for the foreseeable future (if the SDR valuation basket is based on real goods and commodities); d) and the costs of exchanging currencies and hedging exchange rate risks would be reduced. The improved efficiency and reduced risks of global trade would further increase such trade, which would benefit all countries including the United States.

The International Monetary System would be truly transformed if the U.S. took the further step of stabilizing or fixing the exchange rate of the dollar to the SDR. If the eurozone took the same step with the Euro, followed by the UK, Japan, China and India and much of the rest of the world, the International Monetary System would have restored a modern version of the old one world currency gold standard. Billions of dollars would be saved annually by eliminating the entire financial industry that now conducts all aspects of exchange markets. The benefit to the United States and the entire world in terms of expanded and more efficient global trade and monetary stability would be enormous. The tightest and thus most credible and durable arrangements would be for the Federal Reserve to adopt currency board rules for a dollar firmly fixed to the real SDR. The adoption of currency board rules for issuing currencies fixed to the SDR by all important countries would restore true market determined interest rates for individual instruments around the world with positive consequences for the efficiency of resource allocation and investment. Sound fiscal and prudential policies would remain as important as now in helping to preserve balance in the financial flows among individuals, firms, and countries, but the politics of exchange rate manipulation and monetary policy manipulation of interest rates would be removed from the list of government interferences with resource allocation. The IMF would

[15] See the presentation by Robert McCauley at the conference on 70 Years After Bretton Woods: The International Monetary System, May 18, 2014, Shangri-la Hotel, Hangzhou (Zhejiang Province, China).

remain the lender of last resort for countries experiencing temporary BOP problems.

Suggested steps to such a system are explored in Stage Two below.

Stage Two: National Currencies – Single Global Currency

All IMF members would be required to adopt and use the SDR as their international reserve and settlement asset as a matter of international agreement. However, each country would determine its own national currency and monetary policy. A country would be free to issue its own fiat currency and to manage it with a floating exchange rate to the rest of the world's stable SDR.[16] However, a currency with the properties of the real SDR currency board I have proposed would be very attractive as the anchor for individual national currencies either fixed to the SDR and issued under currency board rules or as a replacement for the national currency (dollarization). If at least the world's major currencies—the dollar, euro, yen, pound, renminbi—adopted or firmly fixed their currencies to the SDR, world trade would receive an enormous boost and cost saving. The rest would enjoy further benefits by joining as well. The following discusses the implementation issues should all (or most) countries adopt the SDR as their own currency.

Consider two models of a single global currency (SGC).[17] In the first, a global currency board issuing real SDRs (the IMF or BIS), provides the currency, both deposit and bank notes used by all (or some) countries. In the second, some or all individual countries issue their own currencies under currency board rules fixed to the IMF's real SDR.

Once fully implemented, electronic payments within each country would be made in the same ways as now (checks, wire transfers, etc.). New payment technologies, credit/debit cards, PayPal, mobile phone payments, etc., would be developed and integrated as now. Cross-border payments would no longer require the exchange of the buyer's currency for the seller's currency. The buyer's account with its bank would be debited and its bank's account with the global central bank (or its own central bank as an intermediate step) would be debited in favor of the seller's bank's account with the global central bank. The seller's bank, in turn, would credit the seller's account. As with payments from our own individual accounts or our bank's or central bank's accounts with their national or international clearing bank, the challenge is to keep sufficient balances in those accounts to make the desired payments. Such balances can come from temporary borrowing of SDRs, liquidation

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[16] The idea that a country can remedy macroeconomic or structural competitiveness problems by changing the yard stick by which it values its currency abroad is, in my opinion, a strange delusion.

[17] Morrison Bonpasse, The Single Global Currency: Common Cents for the World, 2014

of other assets eligible for buying SDRs, or adjustments to desired expenditures (or loans or other investments).

Cross-border payments with banknotes would depend on whether the paying country has "dollarized", i.e. uses SDR bank notes issued by the global central bank, or has issued its own notes backed by SDRs.[18] National SDR notes might look very similar to the global SDR note—most Americans never noticed the difference between the Federal Reserve Notes issued by, e.g., the Federal Reserve Bank of San Francisco and those issued by the Federal Reserve Bank of Boston—or might look very different. Assuming that the currency board backing of the notes is trusted abroad, merchants and banks abroad are likely to accept these notes without discount (the way U.S. dollar banknotes are often accepted). If not, they would need to be exchanged for the global SDR notes or the foreign national SDR notes before being used abroad, thus losing some of the benefits of the single currency. Country A banknotes accumulating in bank vaults abroad are likely to be deposited with that country's national central bank and returned (for a credit to country B's account with the global central bank) to country A. As payments are increasingly made electronically, this would become unnecessary.

1. The transition: What might the transition look like from the current situation to the fully implemented system described above? Several issues would need to be addressed:

The exchange rate: For countries replacing their currency with the global central bank SDR, bank deposits and existing contracts will need to be redenominated in SDRs (future deposits and contracts will be in SDRs from the outset) and currency notes will need to be exchanged for SDR banknotes (whether domestic or global). For all of these purposes an exchange rate between the national currency and the SDR must be established. In addition, as explained in Stage One above, each country will be expected to exchange its existing foreign exchange holdings for SDRs. These assets, such as U.S. treasury bills, will be exchanged at the global central bank for SDRs of equivalent value.

If the United States has led the way and already fixed (or replaced) the dollar to (with) the SDR, the previously dollar denominated foreign exchange reserves of other countries will already have SDR values. If not, their SDR value will be determined by calculating the current dollar value of the SDR's valuation basket, in the same way the IMF calculates the dollar value of the existing SDR today.[19] That will establish the equivalent amount of, say, U.S. treasury bills in dollars and one

[18] If a country issued its own notes, it would enjoy the seigniorage from such issues. If it (and or its banks) bought the notes from the global central bank for use nationally (on selling them to the public), it would receive its share of the global seigniorage in accordance with the seigniorage sharing formula adopted globally.
[19] The domestic currency price of each component of the SDR valuation basket would be added to determine the domestic currency price of one SDR.

SDR. The same process would be used to determine the exchange rate for currency A and one SDR. That rate would be used for the conversion described above. In redeeming currency A for SDR banknotes at the exchange rate so determined, the national central bank will need to purchase sufficient SDRs from the global central bank to buy up (redeem) the outstanding stock of its own currency. Some will come from the conversion of its foreign exchange reserves into SDR. The rest will be purchased with the domestic assets held by the national central bank (generally the debt securities of its government) if they are eligible (i.e. if acceptable by the global central bank). If they are not eligible, the national central bank will need to exchange them in its domestic market for securities that are eligible. The redeemed stock of the old national currency notes must then be destroyed. If the country has dollarized, the SDRs in circulation will be a claim on the global central bank, which will hold the asset counterparts. If the country has issued its own national SDRs under currency board rules, those SDRs will be a claim on the national central bank, which will hold the asset counterparts.

The conversion process: Many countries have replaced their national currencies with another (e.g., replacement of the USSR ruble with national currencies of the newly independent republics of the former Soviet Union and replacement of national currencies in the EU with the euro), so the process options are well known.

2. The balance of payments

With national currencies fixed to the real SDR, the issue of maintaining a balance of international payments remains as critical as under any other system of international payments. Countries issuing currency according to currency board rules fixed to the real SDR will not be able to adjust either their nominal or their real exchange rates via the equivalent of David Hume's price-specie flow mechanism. The decline in the money supply in the deficit country from a balance of payments deficit will be reversed by market arbitrage that will restore the supply of money to the level needed to keep the value of the currency equal to the official valuation basket for the SDR. Wealth in the deficit country will decline, however, and increase in the surplus country giving rise to equilibrating adjustments in consumption and investment in the two countries (see Annex for details).

3. Banks and the Chicago Plan

The primary motivation for creating central banks historically (aside from their convenience for clearing and settling payments between banks and for issuing currency) arose to provide a lender of last resort to banks experiencing deposit drains. The age old practice of banks lending out some of the money depositors placed with them—so called fractional reserve banking—means that banks themselves create some, and in fact the largest part, of the money supply (commonly defined as currency in circulation and demand deposits with banks—M1). Normally, banks only need to keep a modest fraction of those deposits on hand to satisfy net outflows (when depositors withdraw more than they deposit) and can

safely lend the rest. Banks plan for the liquidity needed for regular seasonal withdraws of deposits into cash. However, if depositors lose confidence in their bank's ability to return their deposits when they want them, they can cause runs on otherwise solvent but illiquid banks in order to get their money ahead of others before the bank runs out. Central banks can supply such banks with all of the liquidity they need to satisfy such depositors and thus end any panic. Deposit insurance is motivated by the same concerns.

Fractional reserve banking also complicates the liquidation of insolvent banks and has led most governments to bail them out (cover losses with taxpayer money) rather than allow them to fail.[20] This practice, and deposit insurance, has greatly weakened the market's discipline of bank risk taking (moral hazard), requiring the development of prudential banking regulations and supervision to take its place. While the United States has a good record of closing insolvent banks promptly as the result of practical legal insolvency procedures, they have not been tested with "too big to fail" banks. Efforts to strengthen prudential regulations after each banking crisis, most recently 2008, have steadily increased the cost of regulation. Whether they have successfully limited bank risk taking, will only be fully tested during the next banking crisis, but there is no doubt the imposition of stricter, more ridged (but not necessarily more effective) lending standards is depriving small and medium enterprises of the credit they need to grow and thus helping to stifle the American economic recovery and that the increased regulatory burden developing under Dodd-Frank legislation is crowding out many smaller financial enterprises, thus increasing concentration over what it was before this latest crisis.

A very different approach is to eliminate fractional reserve banking, returning the creation of money completely to central banks. Such a plan was originally proposed by a number of eminent University of Chicago economists in 1933 and more recently explored in an IMF working paper.[21] The plan would separate and isolate the payment system (making payments by transferring the ownership of demand deposits) from the provision of credit, which would be fully financed from saving (financial investments) rather than from creating money. Beyond the elimination of fractional reserves and the strict prohibition against making payments by transferring other assets, few other regulations on banks' deposit taking would be needed. As much of existing banking regulation derives from the need to protect depositors from excessive bank risk taking with depositor funds, the overall need for financial sector regulation would be greatly reduced as well.

"[Irving] Fisher (1936) claimed four major advantages for this plan. First, it would allow for a much better control of credit cycles, by preventing financial institutions from creating their own funds during credit booms, and then destroying those funds during subsequent contractions. Second, it would completely eliminate bank

[20] Coats and Liuksila, 1999.

[21] Jaromir Benes and Michael Kumhof, "The Chicago Plan Revisited" Aug. 2012

runs…."[22] With regard to the first advantage, this is because "bank deposits can only be created (or destroyed) through the creation (or destruction) of bank loans. Sudden changes in the willingness of banks to extend credit must therefore not only lead to credit booms or busts, but also to an instant excess or shortage of money, and therefore of nominal aggregate demand."[23] The recent empirical study by Benes and Kumhof supports Fisher's claims.[24]

A modern Chicago Plan would also address the major concern for currency boards of the lack of a lender of last resort. None would be needed for demand deposits because they would be 100% backed by liquid central bank money. Deposit insurance would be redundant as well. In the purest versions of the plan, banks would simply hold and transfer deposits of central bank money as trustee, removing any doubts or questions about the ownership of such funds in the event that the bank failed. Lending would be financed by investors that make their savings available through other arrangements than deposits used for payments. Depending on the legal character in the financing of lending and equity investments, financial intermediaries might still fail (e.g., more borrowers might default than was expected and planned for, or because of the maturity transformation in many financial investments between the provision of financing to an intermediary and the recipient of credit). An unexpected increase in interest rates can result in a negative spread between the cost and use of funds and thus losses greater than the intermediaries' capital. Mutual funds or equity holdings would simply lose value rather than fail, a smoother process. However, such failures would not disturb the payment system and thus are less likely to have systemic consequences.[25] Such failures are more likely to be allowed by the regulatory authorities with consequent benefits for the market discipline of excessive risk taking.

While the banking sectors of existing currency board countries have managed through the great recession without significant bank failures (banks knew that they could not turn to their central banks for liquidity and thus invested depositor funds more conservatively), those in countries within the single currency eurozone had a very different experience. While the European Central Bank (ECB) is able to provide limited liquidity support to banks, in particular to allow the settlement of cross border TARGET payments, financial markets freely supplied borrowers (governments and banks) with funds with virtually no risk premium over German borrowing rates. Until recently, markets badly underpriced the ultimate risk of lending to the Greek government and its banks, e.g., presumably because of their

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[22] *Ibid.* page 4
[23] *Ibid.* page 5
[24] *Ibid.*
[25] John Cochrane elaborates such a "narrow banking" scheme in his recent paper, "Toward a run free financial system".
http://johnhcochrane.blogspot.com/2014/04/toward-run-free-financial-system.html

confidence, well founded until recently, that EU institutions would stand behind (bail out) such borrowers. The eurozone experience, illustrates the failure of ever increasing prudential regulation to prevent excessive bank risk taking when lenders expect government bailouts if things go wrong. Fortunately this presumption is changing as shareholders and creditors of failing banks are increasingly required to absorb the losses (bailing in) and market discipline of bank risk taking is increasing.

Many regulators have moved to curtail bank risk taking via a less complete separation of deposit taking and lending than required by the Chicago Plan. The U.S. is implementing the Volcker Rule to limit proprietary trading and the U.K. has ring fenced the deposit taking function from other aspects of traditional banking.

Some version of a modern Chicago Plan or even a less dramatic limiting of bank lending, trading, and investing would strengthen financial sectors globally as well as the case for a single global currency with a value anchored to a basket of real goods and commodities and a supply regulated by currency board rules. The conversion to a Chicago Plan would provide a one time enormous reduction in government debt and a permanent increase in seigniorage revenue to the government. The benefits to the global trading system and the monetary system that supports it and the soundness and resilience of financial sectors would be enormous.

Conclusion

Replacing the U.S. dollar as the principle international reserve currency and the wide spread floating of exchange rates with a real SDR issued under currency board rules has a number of important advantages: a) IMF issued SDRs would not be a claim on the U.S. or any single national (or regional) issuer; b) the supply would always match the market's demand (if issued under currency board rules); c) the real value of the international invoicing and settlement asset would be stable for the foreseeable future (if the SDR valuation basket is based on real goods and commodities); and d) the costs of exchanging currencies and hedging exchange rate risks would be reduced. The improved efficiency and reduced risks of global trade would further increase such trade, which would benefit all countries including the United States.

Countries that fixed the exchange rate of their currency to the real SDR would not surrender monetary policy to another country or an international central bank as the supply of SDRs would be determined by market demand. The U.S. would lose the seigniorage it now enjoys to the extent its banknotes are held abroad but would still enjoy the competitive advantage of its financial sector in supplying the world with efficient, liquid and credit worthy financial instruments. The U.S. would no longer need to shift its manufacturing off shore to generate its BOP needed to supply its currency abroad. The U.S. would lose the political leverage it now enjoys as a result of the critical importance of the dollar in international payments, but its heavy handed use of that leverage is likely to weaken the dominance of the dollar over

time anyway. Similarly, the failure of the U.S. government to rein in its unfunded fiscal liabilities and associated future deficits and keep interest rates and inflation under control is likely to lead other countries to abandon the dollar whether the U.S. agrees to the change or not.

Replacing the U.S. dollar as the world reserve currency with a real SDR is the critical first step to a reformed system. The coming collapse of the dollar predicted by Rickards and the real SDR currency board discussed here provide the "major shock to the dollar and [the] viable alternative to dislodge it"[26] that are needed to push the world into a true reform of the international money system.

Annex: Cross border payments and adjustment

In the long run every household, firm and country can only spend what it earns. This constraint is largely controlled (and is easiest to explain) via the need to maintain sufficient balances in the household's (or country's) bank account. Income (from exports) is deposited to the account and payments (for imports) debited to the account. If the account does not have sufficient funds to pay for what the household wants to buy, it must liquidate other assets or borrow temporarily in order to add funds to the account, or reduce expenditures (adjust). What it borrows now must be repaid later from future income, thus net borrowing over its lifetime must be zero. The famous adjust asymmetry between surplus and deficit households (or countries) arises because deficit household must adjust while surplus households can accumulate assets forever (subject to their income). While true, this ignores the fact that households accumulating assets more rapidly than they would like to will also adjust by increasing their consumption.

Keynes' plans for the international monetary system sought to insure adequate growth in international liquidity while providing more symmetrical pressure for the adjustment of balance of payments imbalances between surplus and deficit countries, while avoiding trade restriction. His proposal for a new international currency—bancor—relied on extending the mechanism of bank clearing to cross boarder payments. Thus to understand the pressures for adjustment generated by this system it is useful to review the (stylized) mechanics of domestic payments through banks in order to understand how they would be extended to cross boarder payments of real SDRs. The system eventually adopted at the conference in Bretton Woods in 1944, was the U.S. dollar based gold exchange standard proposed by Harry Dexter White representing the United States.

When household X pays household or firm Y by transferring funds in its account at bank A to Y's account at its own bank B, household X's account is debited and household Y's account is credited. This is simple if both have their accounts with the

[26] Cooper, *op. cit.*

same bank, but this will not generally be the case. In countries with central banks (currently all countries that issue currency), both banks A and B will generally have accounts with their central bank. Thus funds move from X to Y by bank A paying them from its account with the central bank to bank Bs account with the central bank (information of the transfer is passed down the line enabling bank B to credit Y's account with the amount paid by X). If household X does not have sufficient funds in its account it must add them (perhaps by borrowing them from its bank) or the payment cannot be made. Similarly, bank A must insure that it has sufficient funds in its account with its central bank to cover any potential shortfall between its inflow of payments and its outflow. For that purpose it may need to liquidate other assets, borrow temporarily from other banks, or borrow from the central bank. At the end of the day (the lifetime of the household) X will need to keep its expenditures within its income.

A payment, whether cross border or not, involves the payer giving up something the payee is willing to accept. X gives up the agreed amount of its deposit with bank A and Y accepts a deposit with bank B and banks A and B transfer deposits between them that they hold with their common central bank. In a pure gold standard world if the payment is cross border, banks A and B will hold their reserves in difference central banks and gold will need to be transferred from bank A's central bank to bank B's central bank. The money supply in country A will go down while the money supply in country B will go up giving raise to price adjustments in each that help remove (adjust) the balance of payments imbalance.

When payments are across border we can compare (in stylized fashion) the process as it operates today with how it would operate with SDRs and with a world fixed to SDRs issued according to currency board rules.

Current system: For X in country A to pay Y in country B, household X's bank (A) must buy the currency of country B to deposit with Y's bank (B). Bank B sells its currency to A for A's currency giving bank A a deposit with bank B and visa versa. With floating exchange rates, the FX market clears when the exchange rate balances the supply and demand between each pair of currencies. However, with an exchange rate target or a fixed exchange rate the central bank on the short side of the market must intervene to provide the foreign currency in short supply in order to maintain the desired exchange rate. To do so, of course, it must have reserves of the foreign currency in short supply in the market. In gold standard days a central bank short of foreign currency reserves could buy them with gold. This story is well known.

SDR currency board system: If central banks accumulate SDRs rather than U.S. dollars (or Euros) in their reserves, the process of cross border payments would the same as now except for the possibility of a central bank buying additional reserves (SDRs) from its issuer (the IMF) with an acceptable asset. Now central banks must buy (or borrow) foreign exchange reserves (U.S. dollars) from the market or the reserves of other (non U.S.) central banks. The global stock of reserves can be reallocated but not changed by these activities. The issuance of SDR under currency

board rules gives the market control over the supply of global liquidity.[27] To see the implications of this change, it is instructive to trace the process and adjustment implications of a fixed exchange rate regime (fixed to real SDRs) whose sovereign debt is an acceptable asset for buying SDRs from the IMF.

X pays Y by transferring balances of currency A in bank A to bank B after exchanging them for currency B (all fixed to SDRs). As with any monetary regime, if payments between countries A and B don't balance, the deficit central bank (A in this example) will need to use its reserves of currency B in order to pay to bank B (or its central bank) an asset acceptable to B. Where SDRs are the universally acceptable reserve asset, bank/central bank A will transfer some of its holdings of SDRs to bank/central bank B. If central bank A does not have sufficient reserves of SDRs it can buy them from the IMF with an acceptable asset (its government's marketable debt). If its own government's debt is not acceptable, it will need to borrow an acceptable asset from the market or from another country until it can adjust. In this way (as with the classical gold standard) a payment from X to Y (to the extent it represents net payments from country A to B) normally reduces the money supply of country A and increases the money supply of country B. Reduced liquidity in A relative to B will increase interest rates and reduce prices in A relative to B until balance of payments is restored (taking account of desired, investment motivated capital flows).

Between countries fixed to or using real SDRs, neither the nominal nor the real exchange rate can adjust to remove undesired balance of payments imbalances (i.e., those not reflected desired capital flows). However, under currency board rules, the money in country A lost through the balance of payments will be restored via arbitrage profits from selling acceptable assets to the bank/central bank/IMF for additional SDRs thus preserving its market value relative to the IMF's valuation basket value.[28] The reverse occurs in country B. Nonetheless, a real resource transfer has occurred through the trade balance financed by a reduction in wealth in A and an increase in B. If the use of trade restrictions is to be avoided, as it should be, adjustment must come from changes in relative prices that reduce consumption of imports in the deficit country (A) and increase the consumption of imports in the surplus country (B). The financing of the deficit in A and accumulation of government securities in B reduces wealth in A and increases it in B. These changes in wealth increase interest rates and saving (and investment) in A (i.e., reduce consumption) and the reverse in B. BOP balance in A (and B) reflect the same forces determining the balance between income, expenditures and changes in wealth operating for each family and firm. Capital and labor experiencing excess demand (because of increased exports or whatever) will enjoy increases in wages and relative prices until BOP is restored.

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[27] So does cross-border lending.

[28] Before market prices can respond to the fall in the money supply and initiate the above arbitrage, the resulting excess demand for money by itself is likely to precipitate the purchase of additional balances.

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