

RESURRECTING KEYNES TO REVAMP THE INTERNATIONAL MONETARY SYSTEM

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“the dreams and impractical plans of one generation are often the political and economic dogma of the next” (Keynes 1936).

Abstract

There is a broad consensus that the current, large U.S. current-account deficits financed with foreign capital inflows at low interest rates cannot continue forever; there is much less consensus on when the system is likely to end and how badly it will end. The paper resurrects the basic principles of the plan Keynes wrote for the Bretton Woods Conference to propose an alternative to the current international monetary system. We argue for the creation of a supranational bank money that would coexist along side national currencies and for the establishment of a new international clearing union. The new international money would be created against domestic earning assets of the Fed and the ECB. In addition to recording credit and debit entries of the supranational bank money, the new agency would determine the size of quotas, the size and time length of overdrafts, and the coordination of monetary policies. The substitution of supranational bank money for dollars would harden the external constraint of the United States and resolve the n-1 redundancy problem.

Key Words: Keynes Plan, external imbalances, exchange rates, international monetary system, key currency, supranational bank money.

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1. INTRODUCTION

The international monetary system (IMS) operates in a more complex world economy than in the past. On the one hand, international transactions occur in more open and efficient markets and large monetary unions interact with flexible exchange rates. Furthermore, a significant number of European national currencies has been replaced by the euro, thus eliminating the risk of crises among legacy-currency countries. Finally, the process of industrialization has become more diffused in the world, as a result of globalization and the decentralization of international investment. On the other hand, the IMS architecture appears incapable of delivering external balances - the current account of the balance of payments - and of facilitating smooth adjustments when imbalances are large and persistent. External imbalances last for two main reasons. The first is that their financing is made easier by the liberalized capital movements. The second is that exchange rate changes are not big enough to restore equilibrium in the current account. There is a convergence of interests for maintaining misaligned exchange rates. China and other emerging Asian economies, as well as Japan, undervalue their currencies in relation to the dollar to boost a competitive advantage in their traded goods and to attract foreign direct investments. The United States accepts the overvaluation of the dollar because it can finance a large excess of domestic investment over domestic saving with foreign capital at low rates of interest. The soaring net foreign debt of the United States has yet to trigger a confidence crisis in the dollar. The equilibrium holds because the United States is keen in preserving the benefits of the key-currency and creditor countries are keen in avoiding capital losses on their rising dollar balances. This equilibrium, resulting from the convergence of interest of the two counterparties, is supported by the practice of surplus countries of sterilizing increases in the foreign component of the monetary base.

The critical question is how long can such equilibrium last. While it is difficult to predict the timing of a crisis, the risk is rising that the equilibrium can collapse as a result of a shock in the U.S. financial markets or of a geo-political shock. The shock could work its way through by sparking a confidence crisis in the dollar as a reserve currency that would instigate, in turn, large sales of foreign owned dollar-denominated assets, sharp realignments of exchange rates and either a curtailment of capital inflows to the United States or a sharp rise in its cost of foreign borrowing. Either way, the center country would have to quickly realign domestic consumption with domestic production with adverse consequences on economic growth at home and abroad. The policy reactions to the shock could be further complicated by anti-globalization sentiments and a resurgence of protectionism. In sum, the existing equilibrium may be precarious and has the potential to unleash a world recession.

Our paper resurrects the basic principles of the plan Keynes (1943) wrote for the Bretton Woods Conference to propose an alternative to the current IMS. Here, in brief, are our main points. At this stage of the IMS, there are (at least) two strategies. The first, discussed in Section 2 of the paper, is a conservative strategy, aimed at maintaining the *status quo*. Historical experience suggests that the IMS must be centered on a key-currency issued by a dominant country with a deep financial market and a range of short-term instruments accessible by nonresidents. Confidence crises in the key currency are overcome by realignments of exchange rates and cooperative interventions by central banks. The trouble with the conservative strategy is that there is no coherent plan on either stopping the deteriorating dollar standard or of accelerating the replacement of the dollar by another key currency. The euro is the natural candidate, but financial and more importantly political integration in Euroland is still incomplete.

The alternative strategy, discussed in Section 3, is a proactive one. This strategy rests ultimately on a supranational money, but not as a starting point. The underlying assumption of the proactive strategy is that the costs of adopting gradually a supranational monetary system are less than the expected costs related to the collapse of the existing IMS. The alternative strategy rests on the fundamental principles of the Keynes Plan, namely gradualism, banking approach, complementarity, multilateralism, and symmetry of adjustment. Bancor lost to the dollar at Bretton Woods, not because of any intellectual inferiority, but because the United States was the dominant power and the large net creditor of the war-ravaged rest of the world. Yet, some of the ideas of the Keynes Plan have reemerged among U.S. policy makers whenever the dollar has been under strain and the United States has sought cooperative solutions to get out of the impasse (James 1996, ch. 13). Given the extreme U.S. external imbalance and the risk of sharper dollar depreciation in the exchange markets, it would seem that a proactive strategy would be received with some interest by the center country.

In Section 4 of the paper, we draw from the Keynes Plan to propose a supranational bank money (SBM) created by a New International Clearing Union (New ICU) against short-term domestic assets provided by the Federal Reserve System (Fed) and the European Central Bank (ECB). The spirit of the Keynes Plan is preserved in that the New ICU would operate with multilateral settlements of debit and credit entries among central banks and would extend temporary credit to deficit countries. The New ICU could be established either as a separate institution or imbedded within an existing international organization such as the International Monetary Fund or the Bank for International Settlements.

2. THE CONSERVATIVE STRATEGY

From Bretton Woods to the dollar standard

Bretton Woods broke down because the center country, the United States, was unwilling to provide a stable inflation rate to the system. The center country abused the privileges emanating from its national currency functioning also as the key international currency. U.S. monetary authorities, when faced with stark choices between domestic and international objectives, placed the former above the latter. Triffin (1960) was the first to recognize the fundamental flaw of the gold-dollar standard. Given the relative fixity of monetary gold, the demand for international liquidity was primarily satisfied by the reserve country issuing short-term, liquid, dollar-denominated liabilities. Yet, two moneys linked by fixed official exchange rates fall prey to Gresham's Law. Under Bretton Woods, gold became the scarce money.¹ The dollar conversion clause became increasingly non-credible as dollar liquid liabilities rose relative to the U.S. owned gold stock.² Attempts to share the burden of the dollar conversion clause with other central banks, through the operation of the Gold Pool, did not last. Ultimately the burden fell predominantly on the United States. A Gentlemen's Agreement of not exercising the conversion clause had also ephemeral effects. The incentives of each player to deviate from the objective of preserving the system were overwhelming.

France was a particularly recalcitrant player in objecting to the "exorbitant privilege" that the United States enjoyed as a result of having an international currency. The corollary of the "exorbitant privilege" principle was that the United States could embark on expansionist policies without suffering balance-of-payments crises to which all other

¹ The price of gold was set at the 1934 value of \$35 dollars per ounce and remained constant even though the Bretton Woods Agreement envisioned a price change in case of a fundamental disequilibrium.

² In the 1960s the United States lost almost half of its gold stock.

countries were instead subject. The guns-and-butter policies of the United States in the 1960s were a prime example of this soft budget constraint.

The issuer of an international currency bears costs as well. These arise from the provision of a stable purchasing power of the currency and the constraints placed on the central bank to achieve such a stability. In particular, exchange rate stability must be more important than objectives of high employment and output stabilization. If domestic objectives instead prevail, the reserve currency country abuses its privileges and deviates from the long-run solution. The United States, ultimately, found the costs of being a reserve currency country too large relative to the benefits of having a key currency and produced an inflation rate that was neither consistent with the fixed dollar-gold conversion price nor with the preferences of major players like Germany (Fратиanni and Hauskrecht 1998).

While Bretton Woods is long gone, the United States still enjoys the benefits of a key currency. One benefit is that foreign monetary authorities are willing to accumulate U.S. liquid dollar liabilities, primarily in the form of U.S. government securities and dollar deposits with U.S. banks.³ The result is that the United States can finance its Federal debt at a lower cost than if its currency were not also an international currency. The “interest rate subsidy,” in turn, gives the U.S. government an incentive to either expand expenditures for given tax rates or reduce tax rates for given expenditures. U.S. budget deficits, or net government dissaving, rise. Unless the private sector offsets the higher government dissaving with higher net saving, the country as a whole will experience a decline in saving over investment and, consequently, a rise in the current-

³ For an interpretation of the United States behaving as the world’s banker (borrowing short and lending long), see Depres, Kindleberger, and Salant (1966); for an interpretation of the U.S. banking system behaving as the world’s central bank, see Frатиanni and Savona (1972).

account deficit. Thus, in the absence of Ricardian equivalence, the interest rate subsidy implies higher current-account deficits and larger foreign debt.

Same play with new actors

An important school of thought, led by Dooley, Folkerts-Landau and Garber (2003), believes that the current IMS behaves substantively like the old Bretton Woods system; in other words the conservative strategy continues. The periphery countries of the old Bretton Woods have graduated to a regime of flexible exchange rates but new actors have appeared on the scene and are playing the role of the old actors. Asia is the new periphery of the system and pursues an export-led development strategy. The new periphery pegs their currencies to the dollar at an undervalued rate. In contrast, the old periphery -- consisting of Europe, Canada and parts of Latin America-- interacts with the center with flexible exchange rates. The United States, for its part, has no exchange rate policy. The different strategies of the two peripheries yield different propensities to accumulate dollar-denominated foreign reserves. The old periphery has dismantled controls on capital flows and on the foreign exchange market and focuses on optimizing returns and risk on its net foreign assets. It worries about the sustainability of U.S. current account deficits and foreign debt. The new periphery, by contrast, cares mostly about exporting to the United States, has extensive controls on capital flows and the foreign exchange market and cares little about returns and risk on its net foreign assets. It is willing to accumulate rising amounts of U.S. short-term liabilities at prevailing exchange rates.

In this triangular relationship, the excess of U.S. investment over saving is financed by the excess of saving over investment of the new periphery. The latter is willing to finance the excess of U.S. consumption over production so long as it is guaranteed access to its market. The risk of a sudden dollar depreciation and of capital

losses on the accumulated dollar reserves is deemed secondary. The new periphery believes that it is in the interest of the U.S. government not to disturb this equilibrium, for the alternative implies a rise in U.S. interest rates and a U.S. recession. On the other hand, the old periphery balances its domestic saving with domestic investment and has stopped accumulating dollar-denominated international reserves by having adopted flexible exchange rates.

There is some merit in this interpretation of the international monetary system. Table 1 shows that the large and rising current-account deficits of the United States are to a significant extent offset by the current-account surpluses of China, Japan and oil-exporting countries. The current account of the euro area, on the other hand, has been roughly on balance. These external imbalances reflect differences in saving and investment. In the United States, saving as a ratio of GDP (S/Y) has been steadily falling since 2001, while investment as a ratio of GDP (I/Y) has risen, albeit slightly. In 2006, I/Y exceeded S/Y by 6.3 percentage points; see IMF (2007, Table 43). S/Y and I/Y of the newly industrialized Asian economies are almost a mirror image of those in the United States. In the euro area, S/Y and I/Y are roughly in line with each other.

[Insert Table 1 and 2 here]

Table 2 underscores the propensity of the new periphery to set undervalued exchange rates with respect to the dollar and to accumulate foreign reserves. This propensity has risen dramatically since the start of the new millennium and has financed a growing share of US current-account deficits.⁴ These data understate the true extent of central bank financing of US current-account deficits because central banks use also anonymous transactions in their foreign exchange market interventions (Roubini and

⁴ In 2000, foreign monetary authorities accumulated \$43 billion of dollar reserves against a U.S. deficit of \$417 billion; in 2006, the accumulation of dollar reserves was a whopping \$440 billion against a U.S. deficit of \$811 billion.

Setser 2005, p. 6). Figure 1 displays total holdings of foreign exchange or the stock of international reserves. These reserves have been growing at an average annual rate of 11 per cent over the period from 1995 to mid 2007, with a sharp acceleration taking place since 2003 when China began increasing sharply its stock of international reserves. At the end of 2002, Chinese reserves were \$ 286 billion; two years later they more than doubled to \$610 billion; two years later they almost doubled again to \$1066 billion; during the first half of 2007 they rose by more than \$ 300 billion. The upshot is that the Chinese share of international reserves in the world has gone from 5.3 per cent in 1995 to 26.4 per cent in 2007.

[Insert Figure 1 here]

The softness of the US external constraint can be measured by the proportion of U.S. imports of goods and services plus income payments financed by increases of U.S. liquid assets (primarily short-term US government securities and deposits with U.S. banks) held by foreign monetary authorities; see Figure 2. For almost half a century, foreign central banks financing has accounted, on average, for approximately 6.5 per cent of total US imports, but have been higher when the dollar has been weak against major currencies and lower when the dollar has been strong; see Figure 3. Financing ratio rose up to 40 per cent in the first half of the seventies in concomitance with the end of Bretton Woods and the first oil shock; declined to less than one per cent as the dollar experienced a sizeable appreciation in the first half of the eighties; rose again with the depreciation of the dollar after 1985; settled to an average of 4 per cent in the nineties and rose to an excess of 15 per cent with the latest dollar weakness.

[Insert Figures 2 and 3 here]

Dooley et al. believe that the system can continue as it is for quite some time. Roubini and Setser believe that the system has a high risk of unravelling soon.⁵ Among the reasons for a quick end, these authors mention the distortions arising in the United States from excessive consumption and employment in interest-sensitive sectors, an over supply of non-tradable and an under supply of tradable goods, the difficulty of sterilizing large purchases of dollar assets by China so as to keep inflation under control, and the rising risk of capital losses on dollar reserves.

Eichengreen (2004) also finds the system unstable for a variety of reasons but the most important being the following three. The first is that the new periphery is less cohesive and less homogenous than the old Bretton Woods periphery. The Asian countries do not share the historical background and institution building of post-war Europe and are less inclined to create suitable collective-action mechanisms aimed at preserving the current system. Bretton Woods, in full operation, lasted a little more than a decade, from 1958 to 1971. The new Bretton Woods is likely to break down sooner. The second is that, today, the world has in the euro an attractive alternative to the dollar, whereas under Bretton Woods the alternative to the dollar was a moribund pound. The exit of a dollar standard is less costly today than in the sixties. The third is the weaker commitment of the center country to preserve the value of its liabilities. Under Bretton Woods the United States was committed to convert dollars into gold at a fixed price; no such commitment exists today. In fact, US policies can be best characterized as benign neglect with respect to the exchange rate and external deficits.

⁵ The actual prediction is that “there is a meaningful risk the Bretton Woods 2 system will unravel before the end of 2006” (p. 3).

3. A PROACTIVE STRATEGY

At the root of the problem is an IMS that cannot find a stable international money that would not only fulfill the traditional functions of accounting unit, means of payments and store of value, but also guarantee symmetric, yet smooth, adjustments by surplus and deficit countries alike. The gold-exchange standard, chosen at Bretton Woods, was a second best compromise by electing the national currency of the dominant country to become the reserve currency of the system, albeit with a gold convertibility clause. As we have seen in the previous section, the asymmetry deriving from the dual role of the dollar as both a national and international currency proved to be unstable in the long run. The ensuing dollar standard has been even more asymmetric than the gold-dollar system: the center country has continued to operate with an even softer external constraint and has gained the added benefit of having been released from the gold convertibility obligation.

The notion that the ideal IMS should be linked to a supranational money has been a recurrent theme of the literature ever since the Keynes Plan.⁶ The principles of this Plan remain timely because the fundamental causes of the instability of the IMS that Keynes tried to address in his Plan are as valid today as they were in the early Forties⁷; and were subsequently confirmed by the crisis of the gold-dollar standard. Furthermore, the structural changes that have impacted the world economy make the reform of the IMS more urgent and more feasible along the lines of Keynes' principles.

⁶ Early writers inspired by Keynes include Triffin, Bernstein, Day, among others; see Grubel (1963), Machlup (1966), Horsefield (1969).

⁷ On the feasibility of Keynes Plan to solve the current fundamental imbalances in the international payments system see also Costabile (2006) and Rossi (2007). On the evolution of Keynes' ideas on international monetary policy and on their lasting relevance see Alessandrini (1977).

Keynesian principles

In the *Treatise on Money* Keynes argued that the ideal solution for the IMS (which he called the “maximum” arrangement) is the constitution of a supranational bank of national central banks:

“Its assets should consist of gold, securities and advances to central banks, and its liabilities of deposits by central banks. Such deposits we will call supernational bank money (or S.B.M for short)” (Keynes 1930, p.358).

At the same time, Keynes was conscious of the difficulties of realizing this project:

“Is the system of supernational currency management of the future to be born ready-made or gradually evolved? Probably the latter” (Keynes 1930, p.354).

These two citations imbed the important principles of gradualism and the banking approach. By gradualism Keynes meant flexibility in accepting lower degrees of “supernational management” so long as improvements were envisioned in the future towards the ultimate goal. As a case in point, Keynes redrafted the Plan five times to make it more politically acceptable.⁸ He gave his approval to the final Agreement signed at Bretton Woods, so significantly different from his Plan, with his famous dog metaphor.⁹ On one principle, however, Keynes would not compromise, namely that the IMS would create “...the least possible interference with internal national policies” under an open regime of international trade (Keynes 1943, p. 19).¹⁰

⁸ The first draft was dated September 8, 1941; the last one, which we refer as Keynes (1943), was issued by the British Government as a White Paper in April, 1943; see Horsefield (1969) and Moggridge (1980).

⁹ The metaphor was used by Keynes in his speech delivered to the House of Lords on May 23, 1944: “The loss of the dog we need not too much regret, though I still think that it was a more thoroughbred animal than what has now come out from a mixed marriage of ideas. Yet, perhaps, as sometimes occurs, this dog of mixed origin is a sturdier and more serviceable animal.”

¹⁰ This objective was constantly recalled by Keynes: “It is the policy ... directed to an optimum level of domestic employment which is twice blessed in the sense that it helps ourselves and our neighbours at the same time. And it is the simultaneous pursuit of these policies by all countries together which is capable of restoring economic health and strength internationally” (Keynes 1936, p. 349).

Keynes relied on the banking approach to find the best compromise between the requirements of financing external imbalances and the obligation of surplus and deficit countries to correct them. For that he envisioned a supranational settlement system, the International Clearing Union (ICU), where national central banks would keep deposits denominated in bancor, the supranational money valued in terms of gold at fixed but alterable exchange rates. Bancors were to be created against gold (G_{icu}) delivered by the member countries to the ICU and overdraft facilities (OD) extended by ICU to deficit-country central banks. The balance sheet of ICU can be written as

$$(1) \quad G_{icu} + \sum OD = \sum \text{bancor},$$

where \sum sums over the n participating central banks. We have expressed (1) in terms of the i th currency by defining one bancor equal to one unit of gold and the spot exchange rate between the i th currency and bancor also being equal to one.

Whereas the creation of bancors through transfers of gold to the ICU does not alter the stock of monetary base in the world, their creation through the overdraft facility does. The ICU activates OD when a deficit country has depleted its initial stock of bancors: the deficit country borrows from the ICU and bancors are credited to the surplus country. This mechanism is the direct outcome of the banking approach adopted by the Keynes Plan and paves the way to the other Keynesian principles of complementarity, multilateralism, and symmetric responsibility of adjustment. To see this point, consider the balance sheet of the i th central bank expressed in its own currency:

$$(2) \quad \text{Bancor} + \text{OR} + D = B + \text{OD},$$

where the stock of bancor supplements other international reserves, OR, the monetary base is denoted by B and its domestic component by D.

Under the Keynes Plan, bancor gradually replaces gold and deemphasizes the role of key currencies without emasculating them.¹¹ National currencies retain their means-of-payment function, are used as intervention currencies by the monetary authorities in the exchange markets, and are counted as reserve assets:

“Central banks can deal direct with one another as heretofore. No transaction in bancor will take place except when a member State or its Central Bank is exercising the right to pay in it (...). Thus the fabric on international banking organization... would be left as undisturbed as possible” (Keynes 1943, p. 29).

Define now with BP a balance-of-payments imbalance on an official settlement basis. This definition implies that central banks intervene in the exchange markets using a key currency, say the dollar, to stabilize exchange rates. In the normal bilateral settlements, a deficit-country central bank ($BP < 0$) loses dollar-denominated assets while a surplus-country central bank ($BP > 0$) gains them. Under the bancor system, the deficit country can exercise the right to pay in bancor by drawing down on its stock of bancors or by increasing its OD exposure with the ICU. The surplus country would see an increase in its stock of bancors or a decrease in its OD exposure with the ICU. Thus, bilateral credits and debits are multilateralized.

Under the Keynesian multilateral principle all countries are treated symmetrically vis-à-vis the ICU. This applies also to the key-currency country, which loses much of its privilege of financing external deficit with its own currency because reserve assets denominated in the key currency are limited to “working balances for the daily management” in the exchange markets.¹² Creditor-country central banks can exchange bancors for dollar-denominated assets (say US T-bills) at the ICU, which would then

¹¹ Keynes proposed a gradual demonetization of gold through one-way convertibility from gold into bancors. He left the decision to the discretion of central banks, hoping in the increasing preference for bancor. This prudence can be explained by the desire of Keynes not to alienate the United States, the major holder of gold.

¹² “The monetary reserves of a member State, viz., the Central Bank or other bank or Treasury deposits in excess of a working balance, shall not be held in another country except with the approval of the monetary authorities of that country” (Keynes 1943, p. 24).

charge the bancor account of the Fed. In the end, the creditor-country central bank has more bancors and fewer U.S. T-bills, while the Fed has fewer bancors (or more OD) and a smaller monetary base. Thus, the key currency country faces an external balance constraint related to its bancor position. This is a key result of the Keynes Plan that has not been fully understood and may be worthwhile elaborating it further. As an example, let the ECB be the creditor central bank that wants to replace \$100 worth of U.S. T-bills with bancors. The ECB sells the T-bills to Citicorp for \$100 dollar deposit. The ECB then instructs Citicorp to transfer the deposit with the Fed, a transaction that implies a decline of \$ 100 in U.S. bank reserves and U.S. monetary base, while the Fed's total liabilities remain unchanged.¹³ Finally, the ECB instructs the Fed to sell the \$100 dollar deposit for an equivalent amount of bancors. At this point, the ICU would credit the ECB with \$100 worth of bancors and debit the Fed's bancor account for the same amount. The substitution of bancors for dollar-denominated reserves implies, not only a decline of the monetary base in the United States, but also a fall in the stock of supranational bank money and a hardening of the external constraint. Unless the United States counteracts such a decline, the conversion of dollar assets into international money sets off an adjustment process. It also follows that the the $n - 1$ redundancy problem (Mundell 1968, pp, 143-47 and 195-98) that leaves one degree of freedom to the key-currency country disappears under the bancor system.¹⁴

The Keynes Plan solution for financing balance-of-payments deficits is solved with a supply of international liquidity through ICU that adapts endogenously to demand. However, bancors created through OD raise only temporarily the stock of the world monetary base. As surplus and deficit countries adjust their imbalances, their stocks of

¹³ This is because the reduction in the U.S. monetary base is compensated by an equivalent increase in foreign deposit owned by the ECB at the Fed. According to McKinnon (1974, p. 16; 1996, pp. 173-4), under the dollar standard the Fed enjoys an automatic stabilization.

¹⁴ On this, read Alessandrini (1977).

bancors return to the initial value. Keynes stressed the principle of symmetric responsibility: surplus and deficit countries must share the burden of adjustment. The rule of not sterilizing changes in the foreign component of the monetary base do just that; in equation (2) changes in bancor or OD cannot be offset by changes in D. On the other hand, Keynes was opposed to the blind application of this rule to the point of subordinating domestic equilibrium to the external one.¹⁵ In his view, the rules of the game should be managed in the mutual interests of surplus and deficit countries so as to finance external disequilibria in the short run and to allow enough time for the adjustment process. The implication was that sterilization was acceptable in the short run if domestic circumstances warranted and that shared responsibility of adjustment did not necessarily mean contemporaneous adjustment. The sequence and timing of the adjustment was dictated by the need “to offset deflationary or inflationary tendencies in effective world demand” (Keynes 1943, p. 20).¹⁶

In the Keynes Plan the size of financing, through the overdraft facility, is constrained by quotas assigned to participating countries.¹⁷ Bancor balances that deviate from the quotas are discouraged. The Plan introduces a penalty interest rate on excessive positive and negative bancor balances.¹⁸ Furthermore, there are quantitative limits that are binding for debtor countries and non-compulsory for creditor countries. The participation

¹⁵ “The disadvantage is that it hampers each Central Bank in tackling its own national problems, interferes with pioneer improvements of policy (...), and does nothing to secure either the short-period or the long-period optimum if the average behaviour is governed by blind forces such as the total quantity of gold” (Keynes 1930, p. 256).

¹⁶ On the division of the burden of adjustment, see Mundell (1968, ch.13 and Appendix B of ch. 20).

¹⁷ For Keynes, quotas are calculated as the average of exports and imports of goods and services. In a world of free capital movements, the definition could be extended to include capital flows.

¹⁸ “These charges are not absolutely essential to the scheme. But...they would be valuable and important inducements towards keeping a level balance, and a significant indication that the system looks on excessive credit balances with as critical an eye as on excessive debit balances, each being, indeed, the inevitable concomitant of the other” (Keynes 1943, p. 23).

of creditor countries in the adjustment process poses the greatest challenge.¹⁹ These countries must be convinced to accept bancors in the short run, but not to hoard them in the long run. Yet, Keynes is optimistic:

“The substitution of a credit mechanism in place of a hoarding would have repeated in the international field the same miracle already performed in the domestic field, of turning a stone into bread” (Keynes 1943, p.27).

This aspect of the Keynes Plan is weak and also contradictory, as Robertson points out: "Are we to love, honour, cherish and thank or to kick in the bottom the blokes who hold bancor?"²⁰ The difficulty lies in not having a supranational central bank with autonomous control over the creation of monetary base and with decision-making power in applying the rules of the game. But such an institution would not be accepted, especially by dominant countries. The problem is only partially alleviated by the Keynesian flexible approach to the rules of game. But a managed flexibility cannot be based on the “miracle” of an informal “collective responsibility” to obtain the best compromise between domestic full employment and international stability.

4. OUR PROPOSAL

The feasible alternative to an unfeasible autonomous supranational central bank is to create a cooperative agreement among a restricted group of key countries that find it in their interest to share responsibility to stabilize the IMS. Theory and practice suggests that cooperation is more likely the smaller the number of and the more homogeneous are the participating countries. There are some historical precedents of monetary cooperation among the few. In 1936, the United States, the United Kingdom and France signed the Tripartite Agreement that had the objective of exchange rate stability by imposing mutual responsibility on creditor and debtor countries (Horsefield 1969, volume

¹⁹ On the difficulties to share the burden of adjustment, see Kindleberger (1979) .

²⁰ Minute to Keynes dated 3 March 1943, see Moggridge (1980. p.215).

I, p.6-10). Bretton Woods, while signed by many countries, came about through the cooperative effort of two key countries, the United States and the United Kingdom. Between 1985 and 1987, the G-5 group of countries, composed of the United States, Japan, Germany, France and the United Kingdom, cooperated on exchange rate targets between 1985 and 1987 (from the so-called Plaza to the Louvre agreements).

Our proposal starts with a bilateral agreement between the Fed and the ECB before expanding the agreement to include China. As shown in section 2, China has large current-account surpluses and the Chinese central bank owns over a quarter of the world's international reserves. The agreement between the Fed and the ECB involves the establishment of a clearing institution, called the New ICU, that would operate as in the Keynes Plan with multilateral settlements of debit and credit entries among central banks and overdraft facilities.²¹ The New ICU would issue supranational bank money, SBM, as in Keynes but with the significant difference that SBMs would be backed only by domestic earning assets and not by gold.²² SBMs are created by the Fed and the ECB by swapping part of their domestic component of the monetary base for SBMs. The swap does not alter the world's monetary base.

SBMs, like bancors, differ from SDRs in the fundamental way that SBMs are created on the initiative of the participating countries, whereas SDRs are created exogenously by the IMF as a sort of international helicopter money.²³ SDRs have failed to replace the dollar as “the principal reserve asset in the international monetary system.”²⁴

²¹ The European Payments Union applied the principles of the international clearing union, except the use of a supranational money. It operated from 1950 to 1958 and led to the convertibility of the European currencies; see Yeager (1968, pp. 363-377) and James (1996, pp. 76-77 and 95-99).

²² To emphasize the difference from Keynes' bancor plan we use the denomination SBM, “supranational bank money”, used in the *Treatise on Money* (Keynes 1930).

²³ Since the Rio Agreement of 1967, there have been only two relatively small distributions of SDRs.

²⁴ This is reflected in the IMF Articles of Agreement; see Kenen (1981, p.403).

By allowing central banks to exchange SBMs for accumulated dollar-denominated assets (and, in principle, also international reserves denominated in other national currencies), the New ICU imbeds the spirit of the Triffin Plan (1960) and other authors who have proposed the centralization of international money.²⁵ The New ICU also incorporates the principles of the Substitution Account, first discussed by the Committee of Twenty (1974) and later reconsidered by the Interim Committees of the IMF in 1978-79.²⁶ The Substitution Account never came to light because the United States was unwilling to bear the exchange rate risk arising from an unhedged position of the Fund having dollar assets and SDR liabilities (Boughton 2001, ch. 18). Furthermore, the Substitution Account did not resolve the automatic sterilization of U.S. liabilities. Had the Substitution Account been implemented, we would have avoided the large overhang of dollar reserves that now threatens the durability of the international dollar standard.

In our proposal, the twin problem of exchange rate risk on dollar assets and automatic sterilization is resolved. The New ICU does not bear exchange rate risk because it does not hold open positions in assets denominated in national currencies. As we have already noted, creditor-country central banks exchange SBMs for dollar reserves by selling dollar assets in the open market and by converting dollar deposits at the Fed with SBMs at the New ICU. There are no official unhedged positions and the monetary base of the Fed fully reflects the conversion of SBMs for dollar assets.

New ICU

For simplicity, we assume that there are three dominant countries in the world: the United States, the Euro area, and China. The dollar and the euro are key currencies and the central banks of these two key-currency countries, the Fed and the ECB, agree to create

²⁵ See the exhaustive review essay written by Machlup (1966, pp. 319-339).

²⁶ On this, see Kenen (1981) and Micossi and Saccomanni (1981).

New ICU that issues SBMs backed by dollar and euro domestic assets. The Fed and the ECB transfer a portion of their domestic assets, αD_{us} and βD_{eu} respectively, to New ICU and receive in exchange SBM. SBM, unlike Keynes' bancor, is a currency basket backed by earning assets and has properties that are similar to the SDRs and the European Currency Unit. It is equal to a fixed amount of dollars and euros, $q_{us} = \alpha D_{us}$ and $q_{eu} = \beta D_{eu}$, respectively. SBM, like bancor, circulates only among central banks, at least in the first stages, and its value can be expressed in any of the three currencies:

$$(3) \quad SBM^j = S_{j/\$} (q_{us}) + S_{j/\epsilon} (q_{eu})$$

where: $S_{j/i}$ is the exchange rate between j and i defined as number of units of j per unit of i.

Suppose, for convenience, that SBM is measured in dollars, then the balance sheet of New ICU becomes:

$$(4) \quad \alpha D_{us} + S_{\$/\epsilon} \beta D_{eu} = q_{us} + S_{\$/\epsilon} q_{eu} = SBM^{\$}$$

The exchange of international money for domestic assets does not alter the monetary base of the Fed and the ECB; it simply alters its distribution. For example, the Fed's monetary base, after the exchange, would appear as follows:

$$(5) \quad B_{us} = (1 - \alpha) D_{us} + OR_{us} + SBM_{us}$$

where SBM_{us} denotes the amount of SBM owned by the Fed, valued in dollars, and obtained in exchange of αD_{us} . As in balance sheet (2), OR_{us} denotes other international reserves.

New ICU operates in the spirit of Keynes' ICU. Again, define balance-of-payments surpluses and deficits in terms of the official settlement concept. As an example, we assume that the Euro area is in balance and that China has a surplus equal to γSBM_{us} ; China's surplus is the U.S. deficit. The Chinese central bank intervenes in the exchange

markets and purchases dollar assets that are exchanged for SBM by drawing down the Fed's account with New ICU:

$$(6) \quad \alpha D_{us} + S_{\$/\epsilon} \beta D_{eu} = (1 - \gamma) SBM_{us} + SBM_c + SBM_{eu}, \quad \text{for } 0 < \gamma < 1.$$

where $SBM_c = \gamma SBM_{us}$.

The total stock of SBM has remained the same. Part of the Fed's SBM endowment is transferred to the central bank of China. U.S. liabilities, purchased by China in the exchange market, are sold back on the open market to obtain SBMs; see our discussion on the Substitution Account in the previous section of the paper. China replaces dollar assets with a composite asset bearing an interest rate

$$(7) \quad i_{SBM} = i_{\$} (w) + i_{\epsilon} (1 - w),$$

where $w = q_{us} / (q_{us} + S_{\$/\epsilon} q_{eu})$, $i_{\$}$ and i_{ϵ} are the yields on dollar and euro-denominated assets held by the New ICU.

Thus, China swaps more volatile dollars for less volatile SBMs. The position of New ICU remains hedged since neither the assets nor the liabilities have changed. The monetary base of the central bank of China expands and that of the Fed contracts, assuming that the parties adhere to the rules of the game. Surplus and deficit countries share the burden of adjustment, as prescribed by Keynes.

Next, assume $\gamma > 1$. The United States has an inadequate stock of SBMs to settle its balance-of-payments deficit. As in the Keynes Plan, New ICU has the authority to extend a loan, in the form of an overdraft, to the United States. The value of this overdraft is the excess of Chinese intervention with respect to the stock of SBM owned by the United States, $(\gamma - 1)SBM_{us} = OD_{us}$.²⁷ We are assuming in this case that the overdraft falls within the quota; New ICU's balance sheet would look like:

²⁷ Given that $SBM_c = \gamma SBM_{us}$, for $\gamma > 1$ we have $SBM_c = SBM_{us} + OD_{us}$, where $OD_{us} = SBM_c - SBM_{us}$ and therefore $OD_{us} = (\gamma - 1) SBM_{us}$.

$$(8) \quad \alpha D_{us} + S_{j/\epsilon} \beta D_{eu} + OD_{us} = SBM_c + SBM_{eu}, \quad \text{for } \gamma > 1.$$

With the overdraft, the stock of SBM has expanded. This expansion was to be temporary for Keynes; it serves the purpose of giving the deficit country time to adjust. We recall that Keynes insisted that the external adjustment would not come at the expense of internal equilibrium. Thus, the rules of the game can become more complex depending on economic conditions, as shown in section 3. If inflation prevails, the burden of adjustment falls primarily on the deficit country. If unemployment prevails, the burden of adjustment falls primarily on the surplus country. New ICU has a hedged position and does not incur in exchange rate losses or gains.

5. CONCLUDING REMARKS

Our proposal to reform the IMS and applied to a few critical countries has at least two recent precedents in the literature. The first is McKinnon (1974) who, soon after the demise of Bretton Woods, envisaged a tripartite agreement among the United States, Germany, and Japan to stabilize the relative prices of their currencies; this plan was then updated after the Plaza-Louvre Accord (McKinnon 1996, ch. 22). The basic idea was that the G-3 group of leading countries would agree to harmonize their national monetary policies by partially sterilizing their interventions in the foreign exchange markets. The second is Mundell (2005) who recommends a central bank monetary union among the Fed, the ECB and the Bank of Japan.²⁸ These central banks would manage their currencies as a “platform on which to base a multilateral world currency on which every country would have a share” (Mundell 2005, p. 473). A world currency would be the final step in the evolutionary process of the redesigned IMS. Mundell concludes advocating an

²⁸ Mundell (2005, p. 472) recognizes that “... these areas are too different to have a monetary union. But in terms of economic reality, they are much more similar than the twelve countries that now make up the EMU.”

extreme form of supranational fiduciary money: “[a] world currency [that] would level the playing field for big and small countries alike.” (p.475). While Mundell is aware that this is could obtained only at an unforeseeable end of a long-term evolution, it should be noted that one world money in the present context is not only utopian but also hard to justify on economical grounds. To begin with, the experience of European monetary unification proves that levelling the playing field is a pre-condition rather than an outcome of monetary integration. The process of convergence at the world level appears insurmountable, economically and above all politically. Furthermore, one monetary policy applied to vastly heterogeneous countries is inefficient and amplifies divergences between strong and weak countries.

Our proposal differs from both alternatives. It is more expansive than McKinnon’s in that we introduce a supranational money, whereas McKinnon’s plan does not. It is more restrictive than Mundell’s in that our supranational money coexists with national currencies (key as well as non-key currencies), whereas Mundell’s plan contemplates a central bank union and ultimately one money in the world. Our position, elaborated in the paper, is that an agreement among key-currency countries without a supranational money would not generate a sufficiently robust mechanism for countries to adjust to external imbalances. On the other hand, we judge a clearing union to be more feasible than a central bank union.

Any reform proposal must be judged by the incentives to reform and consequently the likelihood of adoption. There is a broad consensus that the current, large U.S. current-account deficits financed with foreign capital inflows at low interest rates cannot continue forever; there is much less consensus on when the system is likely to end and how badly it will end. Over the short run, China is the critical player in bringing about changes. The United States have no immediate interest in stopping the

benefits from excessive consumption financed with low interest rate capital inflows. Over the longer run, however, the United States may feel otherwise for three reasons. The first is the deterioration in the brand name of the dollar and the erosion in the market share of dollar-denominated assets in official foreign exchange reserves and in global financial markets. Short-run gains from excessive consumption would come at the expense of longer term losses due portfolio diversification away from the dollar by the new periphery. The current U.S. policy of fiscal profligacy and benign neglect can only accelerate the rise of the euro as the alternative key currency in the world. The second is that the dollar standard may come to an end abruptly, followed by a sharp increase in U.S. interest rates. The necessary adjustment would then entail a combination of a sharp reduction in consumption and lower investment in the United States, prompting a deep recession. The rest of the world would suffer as well, especially if anti-globalization feelings in the U.S. Congress were to instigate a wave of protectionism. The third is the political risk. The Chinese government has the resources to purchase large U.S. corporations in strategic sectors, such as energy and pharmaceuticals, or with established brand names (e.g., Coca Cola).²⁹ Governments have different motives than profit-minded private actors; and authoritarian governments behave differently than democratically elected governments. The U.S. government could resist a massive Chinese acquisition of US “industrial jewels.” Yet, the question must be raised about the bargaining power of the United States in preventing such acquisitions given that the Chinese are key buyers of the Federal debt. The continuation of excessive U.S. consumption financed by low interest

²⁹ The process has already begun, in the summer of 2007, with government-controlled Chinese companies becoming sizeable owners, although without voting power, of Blackstone, the U.S. private equity group that controls U.S. companies with very large employment. Lawrence Summers (2007) puts it quite well when he warns that “Apart from the question of what foreign stakes would mean for companies, there is the additional question of what they might mean for host governments. What about the day when a country joins some “coalition of the willing” and asks the US president to support a tax break for a company in which it has invested? Or when a decision has to be made about whether to bail out a company, much of whose debt is held by an ally’s central bank?”

rate capital inflows depends on Chinese participation at U.S. Treasury auctions. This means that U.S. economic policy is being progressively constrained by the undervalued Chinese exchange rate.

An initial realignment of the dollar value of the renminbi and the establishment of target values of the exchange rates are parts of our proposal. While we have argued that the players may have incentives to accept such changes, one must underscore the difficulty of achieving cooperation and of accepting limitations on national economic policy making. Permanent changes cannot be achieved in an institutional vacuum. Cooperation, even when incentive compatible, requires the institutionalization of objectives, ways, and means. In our proposal, New ICU is not simply an office where to record credit and debit entries of the supranational bank money. New ICU, with the agreement of the participating central banks, decides on SBM creation, size of the quotas, size and time length of the overdrafts, and the coordination of monetary policies. Not an easy task, yet feasible. Cooperation is a process. Participating countries need to learn to explore, in a sort of learning by doing, the domain over which cooperation is feasible. On that, we can gain insights from the history of the European Union, in general, and of European monetary unification, in particular. The European Monetary System was neither easy to create nor straightforward to run it. At the moment, cooperation among the Fed, the ECB, and the central bank of China looks far fetched; in 1978, monetary cooperation among the participating countries of the European Monetary System appeared also far fetched. One may also argue that in a G-3 Accord, China is a strange bed fellow. Our answer is that it is time to ask China to play an international role commensurate with its economic power. China, now, is under-represented in international organizations.

Some caution is in order on what could be achieved by a tripartite agreement and the New ICU. The fragility of the current IMS reflects large external imbalance (flows)

and large accumulated dollar reserves (stocks). We have emphasized fixing the flows before fixing the stock since both cannot be done simultaneously without disrupting the economies. It will take time to reabsorb the overhang of dollars.

Finally, our proposal, like Keynes Plan, may have an inflationary bias. The danger is that the New ICU could be too lenient on the size of the overdrafts and the time period over which these need to be repaid. Overdrafts could be renewed to soften the harshness of the external constraint. We recognize this risk but point out that the alternative of pursuing the conservative strategy presents larger risks. No proposal can be panacea; ours is no exception.

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Table 1 Current-account imbalances, billions of US dollars

Country	2000	2001	2002	2003	2004	2005	2006
United States	-415.2	-389	-472.4	-527.5	-665.3	-791.5	-856.7
Euro Area	-41.3	3.2	42.2	35.5	97.5	8.1	-29.1
United Kingdom	-37.6	-31.5	-24.8	-24.4	-35.4	-53.7	-68.1
Japan	119.6	87.8	112.6	136.2	172.1	165.7	170.4
China	20.5	17.4	35.4	45.9	68.7	160.8	238.5
Russia	46.8	33.9	29.1	35.4	58.6	83.3	95.6
Middle East	72.1	39.2	30	59.5	99.2	189	212.4

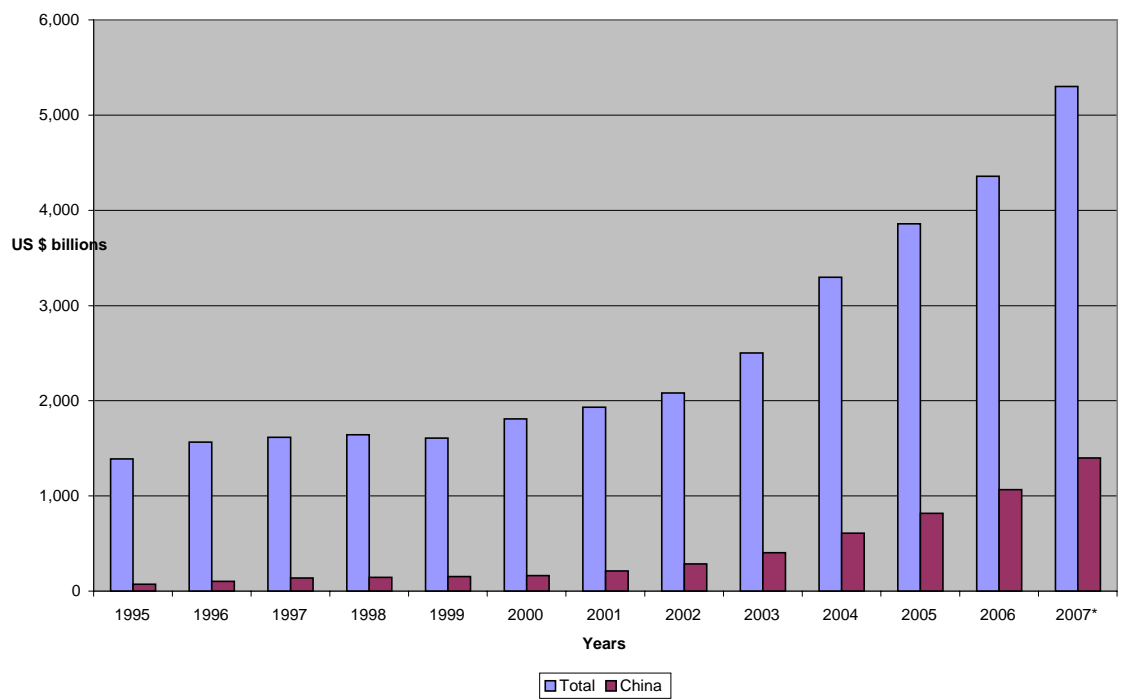
Source: International Monetary Fund, *World Economic Outlook*, April 2007.

Table 2 U.S. current-account deficits and central bank financing, billions of US dollars

	2000	2001	2002	2003	2004	2005	2006
Current-account deficit	417.4	384.4	459.6	522.1	640.1	754.8	811.5
Increase in foreign official assets	42.7	28	116	278	397.7	259.3	440.2
Percentage of central bank financing	10.2%	7.2%	25.2%	53.2%	62.1%	34.3%	54.2%

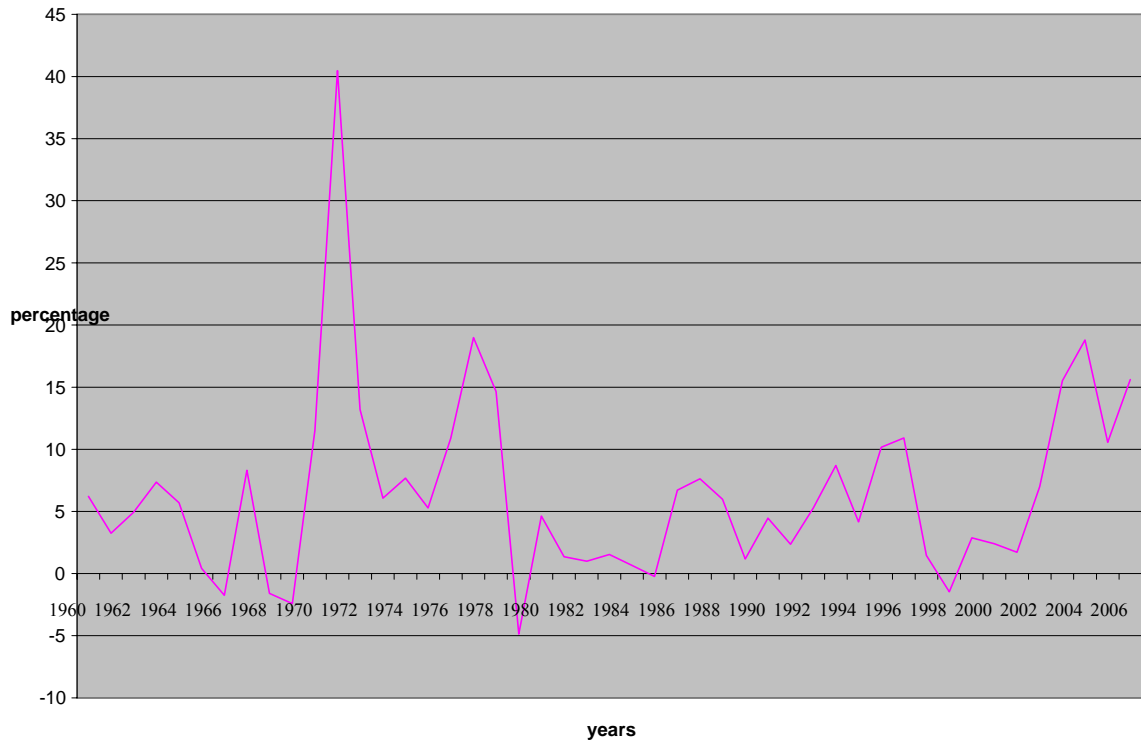
Source: Bureau of Economic Analysis, U.S. International Transactions.

Figure 1 Total and Chinese Holdings of Foreign Exchange



Source: International Monetary Fund, Currency Composition of Official Foreign Exchange Reserves and authors' estimates.

Figure 2: Ratio of foreign central bank financing to US Imports



Source: Bureau of Economic Analysis, U.S. International Transactions.

Figure 3: Trade weighted dollar effective exchange rate



Source: Board of Governors of the Federal Reserve System, Trade Weighted Exchange Index –Major Currencies. The US dollar rose from 1978 (October) to March 1985; declined from March 1985 to the end of 1988 and, more modestly, from 1989 to 1995; rose from 1995 to September of 2001; and has declined since 2001.
