



RESURRECTING KEYNES TO STABILIZE THE INTERNATIONAL MONETARY SYSTEM

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MoFiR working paper n° 1

October 2008

First draft: 30 November, 2007
Second draft: 20 February, 2008
This draft: 26 September, 2008

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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

We adapt the basic principles of the Keynes Plan and 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 (NICU). These principles remain timely because the fundamental causes of the instability of the international monetary system are as valid today as they were in the early Forties. The new international money would be created against domestic earning assets of the Fed and the ECB. The quantity of this supranational bank money would be demand driven and thus would differ from the helicopter-money Special Drawing Rights. NICU would not hold open positions in assets denominated in national currency and consequently would not bear exchange rate risk. NICU would be more than an office where to record credit and debit entries of the supranational bank money. The financial tsunami that has hit the United States in 2007-2008 provides a unique opportunity for a coordinated strategy.

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

JEL Classification: E42, E52, F33 and F36.

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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 Furthermore, a significant number of European national currencies has been replaced by the euro, thus eliminating the risk of crises among legacy-currency countries.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 and 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 and external imbalances. The equilibrium holds because the United States is keen in preserving the benefits of the key-currency and creditor countries are keen in accumulating US assets and 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.

At this stage of the IMS, there are (at least) two strategies. The first one is a conservative strategy, aimed at maintaining the *status quo*. The underlying assumption, supported by many economists and historians, is that the IMS, to work well, 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 non-residents; see Kindleberger

(1973) and Eichengreen (1989) among others. 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 second strategy is a proactive one. This strategy is based on two pillars. The first is that there is an alternative to the hegemonic solution in the form of a cooperative decision-making process (Fратиanni and von Hagen, 1992, Ch. 3). The second is that a progressive reduction of the dual role of the dollar as a national and international currency can be obtained by introducing a supranational money, albeit gradually. Keynes Plan fits in this category. The Plan has been a recurrent theme of the literature.¹ It remains timely because the fundamental causes of the instability of the IMS are as valid today as they were in the early Forties.² From the crisis of the gold-dollar standard to the ongoing international financial crisis events have confirmed the vulnerability of the current IMS and have made the reform of the system more urgent and, at the same time, more feasible along the lines of Keynes' principles. Bancor, Keynes' supranational currency, lost to the dollar at Bretton Woods, not because of any intellectual inferiority, but because the United States was the dominant power and the largest net creditor of the war-ravaged rest of the world. Yet, some of the ideas of the Keynes Plan resurface among U.S. policy makers whenever the dollar is under strain; in those instances the United States seeks cooperative solutions to get out of the impasse (James 1996, Ch. 13). The severity of the subprime crisis, having exposed the financial vulnerability of the center country, may

¹ Reform plans inspired to Keynes Plan include those authored by Triffin, Bernstein, Day, among others; see Grubel (1963), Machlup (1966) and Horsefield (1969).

² On the lasting relevance of Keynes' ideas on international monetary policy, see Alessandrini (1977). On the feasibility of Keynes Plan to solve current fundamental imbalances, see also Costabile (2006) and Rossi (2007).

accelerate the process of de-dollarization in the IMS and enhance the incentives of the United States to seek an international accord of the type we envision in this paper.

Our proposal consists of launching a supranational bank money (SBM) created by a New International Clearing Union (NICU) 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 NICU would operate with multilateral settlements of debit and credit entries among central banks and would extend temporary credit to deficit countries. NICU 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. The paper is organized as follows. In Section 2, we discuss the conservative strategy (the *status quo*) 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. In Section 3, we propose the main principles of a proactive strategy based on a supranational money. The details of our proposal are elaborated in Section 4. Section 5 tackles the issue of incentive compatibility. Concluding remarks are left to the last section.

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.³ The dollar conversion clause became increasingly non-credible as dollar liquid liabilities rose relative to the U.S. owned gold stock.⁴ 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 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.

While Bretton Woods is long gone, the United States still enjoys the benefits of a key currency. 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 Figures 1 and 2. The 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

³ 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.

⁴ In the 1960s the United States lost almost half of its gold stock.

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 1 and 2 here]

The end result is that the United States is financing its Federal debt at a lower cost than if its currency were simply a domestic 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 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-account deficit. Thus, in the absence of Ricardian equivalence, the interest rate subsidy implies higher current-account deficits and larger foreign debt.

The issuer of an international currency bears costs as well, connected with the commitment to supply the “international stability” public good. These costs arise from the provision of a stable purchasing power of the currency and the constraints placed on the central bank to achieve such 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, under a regime of exchange rate stability, too large relative to the benefits of having a key currency. It produced an inflation rate that was neither consistent with the fixed dollar-gold conversion price nor with the preferences of major players like Germany.

The new benign neglect approach

The term “benign neglect” has been used to describe the policy of indifference of U.S. policy makers with regard to U.S. balance-of-payments deficits in the early part of the 1960s.⁵ We borrow this term but add the adjective “new” to characterize the recent and growing literature that takes the viewpoint that the massive current account deficits and rising net foreign debt of the United States are endogenous responses of various economic developments in the world and pose no threat to the stability of the IMS. For example, Dooley, Folkerts-Landau and Garber (2003) argue that the current IMS behaves substantively like the old Bretton Woods system. New actors are now 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 and accumulates foreign reserves.⁶ In contrast, the old periphery -- consisting of Europe, Canada and parts of Latin America-- interacts with the center with flexible exchange rates; its current account has been roughly in balance.⁷ 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

⁵ Balance-of-payments deficits, at the time, were measured either in terms of the official settlement balance or net liquidity balance; see Eichengreen (2000).

⁶ Foreign reserves have risen dramatically since the start of the new millennium and have financed a growing share of US current-account deficits. In 2000, foreign monetary authorities acquired \$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 (U.S. Bureau of Economic Analysis, U.S. International Transactions). 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 Setser 2005, p. 6).

⁷ 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

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. 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; see Figure 3. The new periphery is doing what the old periphery used to do, namely it keeps the US external constraint soft.

[Insert Figure 3 here]

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. absorption over production so long as it is guaranteed access to its market. It is in the interest of both areas not to disturb this equilibrium. The alternative implies for the United States a rise in interest rates and a recession, and for the new periphery a decline in exports to the United States and capital losses on its holdings of international reserves. 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.

In line with the new benign neglect approach, Bernanke (2005) posits the thesis that the large U.S. capital inflows, since the middle of the Nineties, are an endogenous response to an exogenous upward shift of the saving function in fast-growing Asia and oil-producing economies, unmatched by a comparable shift in their investment function. The resulting ex-ante gap between saving and investment is responsible for current-account surpluses in the emerging countries and falling real rates of interest in the world. The industrial world, but primarily the United States, has absorbed the capital inflows generated by Asia and oil-producing countries. Once the shock peters out –and this is

bound to happen with rising consumers' aspirations in fast-growing emerging economies—current account imbalances will return to sustainable levels. In essence, the saving glut hypothesis implies that the large U.S. current account imbalances since the mid Nineties are a temporary and self-correcting phenomenon. It follows that “purely inward-looking policies are unlikely to resolve this issue” (Bernanke 2005, p. 9).

Caballero, Fahri and Gourinchas (2006) refine the argument of the endogeneity of the U.S. external imbalances. In their model, the new periphery enjoys high economic growth rates but has an underdeveloped financial system; the United States, instead, is both a high growth, albeit not as high as the new periphery's, and a high finance area, in turn reflecting a vast and deep financial infrastructure supported by legal safeguards. U.S. net capital inflows serve to satisfy the demand for good financial assets by the low finance new periphery. In essence, current account imbalances are equilibrium outcomes of different financial structures and economic growth.

Authors who are sympathetic to the new benign neglect view of U.S. external imbalances point out that there is an inconsistency between the negative international position of the United States and positive (until recently) net income receipts from abroad. Hausmann and Sturzenegger (2006) reconcile this inconsistency in terms of intangible assets that have been omitted from U.S. foreign assets--such as knowledge, management skills, and brand name--. If those intangible assets were properly measured, net foreign debt would almost disappear according to the authors. But Higgins, Klitgaard and Tille (2006), after analyzing the adjustment methods proposed by Hausmann and Sturzenegger, conclude that “plausible estimates for U.S. intangible capital imply only a small reduction in U.S. net external liabilities” (p. 11). A related argument is that the under-measured U.S. foreign assets earn a higher rate of return than the U.S. pays on its foreign liabilities. Back in the Sixties, Despres, Kindleberger, and Salant (1966) argued

the thesis that the United States was the banker of the world, transforming short-term borrowing into illiquid and long-term lending. Gourinchas and Rey (2005) extend the banker-of-the-world thesis into a leveraged financial intermediary hypothesis. Now, the United States is issuing not only short-term liabilities but also fixed income liabilities that are leveraged to effect investments abroad in the form of illiquid foreign direct investments and equities. The excess return on U.S. assets over U.S. liabilities reflects the “exorbitant privilege” the United States earns because of its special role in the international monetary system.

How long can it last?

The critical question to raise about the new benign neglect view is: How long can U.S. external deficits and dollar supremacy last? Dooley et al. conclude that the system can continue as it is for quite some time. After the onset of the subprime crisis, Bernanke (2007) has written a follow-up to the cited 2005 piece, in which he restates the implications of the saving glut hypothesis and reaffirms “the attractiveness of both the U.S. economy overall and the depth, liquidity, and legal safeguards associated with its capital markets” (p.6). Yet, soon after, he warns that “the large U.S. current account deficit cannot persist indefinitely because the ability of the United States to make debt service payments and the willingness of foreigners to hold U.S. assets in their portfolio are both limited” (p. 7). Bernanke also emphasizes that the rebalances of external imbalances will also require some degree of burden sharing between surplus and deficit countries. However, he is more guarded about the prospect of a gradual and orderly absorption of external imbalances: “signs of progress have appeared but... most countries have only begun to undertake the policy changes that will ultimately be needed” (pp. 7-8).

Roubini and Setser (2005) believe that the system has a high risk of unraveling soon.⁸ 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 deems 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.

The most pessimists about the unsustainability of the U.S. external imbalances are Obstfeld and Rogoff, who in a series of papers predict a large and disruptive depreciation of the dollar.⁹ Frankel (2006), in his comments to Caballero, Farhi and Gourinchas

⁸ The actual prediction is that “there is a meaningful risk the Bretton Woods 2 system will unravel before the end of 2006” (p. 3).

⁹ See, for example, Obstfeld and Rogoff (2005).

(2006), aligns himself with the hard-landing scenario and warns that the U.S. “dependence on foreign central banks may eventually bring about a loss of US global hegemony” (p. 3).

3. A PROACTIVE STRATEGY

While it is difficult to predict the timing of a crisis, the risk is rising that the fragile equilibrium of the IMS can collapse as a result of a shock in the U.S. financial markets, such as the recent subprime crisis, 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 aimed by the conservative strategy may be precarious and has the potential to unleash a world recession.

At the root of the problem is the absence of a stable international money that can fulfil the traditional functions of money and also guarantee symmetric, yet smooth, adjustments by surplus and deficit countries alike. The gold-exchange standard, chosen at Bretton Woods, accepted 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 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.

Keynesian principles

The alternative proactive strategy envisions a gradual introduction of a supranational money to reduce the asymmetries of the key-currency system. This strategy rests on five fundamental principles of the Keynes Plan: gradualism, the banking approach, complementarity, multilateralism, and symmetry of adjustment.

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.¹⁰

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

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

¹⁰ As a case in point, Keynes redrafted the Plan five times to make it more politically acceptable. 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).

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:

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

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 (Keynes 1943, p. 29). To elaborate, define 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 ($\text{BP} < 0$) loses dollar-denominated assets while a surplus-country central bank ($\text{BP} > 0$) gains them. Under the bancor system, the deficit

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. These concerns are no longer valid.

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 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.¹³ 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

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).

¹³ To clarify with 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.

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.

The Keynes Plan solution for financing balance-of-payments deficits occurs with a supply of international liquidity 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 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.¹⁴ 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). If inflation prevails, the burden of adjustment falls primarily on the deficit country. If unemployment prevails, it is up to the surplus country to take an expansionary action.¹⁵

¹⁴ “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).

¹⁵ This point on the division of the burden of adjustment was further elaborated by Mundell (1968, ch.13 and Appendix B of ch. 20).

In the Keynes Plan the size of financing, through the overdraft facility, is constrained by quotas assigned to participating countries.¹⁶ Bancor balances that deviate from the quotas are discouraged. The Plan introduces a penalty interest rate on excessive positive and negative bancor balances.¹⁷ Furthermore, there are quantitative limits that are binding for debtor countries and non-compulsory for creditor countries. The participation of creditor countries in the adjustment process poses the greatest challenge.¹⁸ These countries must be convinced to accept bancors in the short run, but not to hoard them in the long run. Keynes' flexible approach to the rules of game alleviates only partially the danger of hoarding. 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. In our proposal this weakness is overcome by a "formal" collective responsibility, resulting from a cooperative agreement among a restricted group of key countries that find it in their interest to share responsibility to stabilize the IMS.

4. A FEASIBLE COOPERATIVE PROPOSAL

Theory and practice suggest 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 I, p.6-10). Bretton Woods, while signed by many countries,

¹⁶ 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.

¹⁷ "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).

¹⁸ On the difficulties to share the burden of adjustment, see Kindleberger (1979) .

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. China has large current-account surpluses and the Chinese central bank owns over a quarter of the world's international reserves (see Figure 3). The agreement between the Fed and the ECB involves the establishment of NICU, a clearing institution that would operate as in the Keynes Plan with multilateral settlements of debit and credit entries among central banks and overdraft facilities.¹⁹ NICU 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.²⁰ 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.²¹ SDRs have failed to replace the dollar as “the principal reserve asset in the international monetary system.”²²

¹⁹ 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).

²⁰ To emphasize the difference from Keynes' bancor plan we use the denomination SBM, “supernational bank money”, used in the *Treatise on Money* (Keynes 1930).

²¹ Since the Rio Agreement of 1967, there have been only two relatively small distributions of SDRs.

²² 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), NICU imbeds the spirit of the Triffin Plan (1960) and other authors who have proposed the centralization of international money.²³ NICU 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; see Kenen (1981) and Micossi and Saccomanni (1981). 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. NICU 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 NICU. There are no official unhedged positions and the monetary base of the Fed fully reflects the conversion of SBMs for dollar assets.

The New International Clearing Union

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

²³ See the exhaustive review essay written by Machlup (1966, pp. 319-339).

central banks of these two key-currency countries, the Fed and the ECB, agree to create NICU that issues SBMs backed by dollar and euro domestic assets. The Fed and the ECB are high-reputation central banks commitment to price stability. They would agree to pursue similar inflation rates over the medium term and would transfer a portion of their domestic assets, αD_{us} and βD_{eu} respectively, to NICU 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 NICU 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.

NICU 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 NICU:

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

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 NICU. Thus, China swaps more volatile dollars for less volatile SBMs. The position of NICU remains hedged since neither its assets nor its 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, NICU 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, $(\gamma - 1) SBM_{us} = OD_{us}$.²⁴ We are assuming in this case that the overdraft falls within the quota; NICU's balance sheet would look like:

²⁴ 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 $OD_{us} = (\gamma - 1) SBM_{us}$.

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

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. NICU has a hedged position and does not incur in exchange rate losses or gains.

5. INCENTIVE COMPATIBILITY

Any reform proposal must be judged by the incentives to reform and consequently the likelihood of adoption. There is a broad consensus that the 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 two fundamental 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.²⁵

The financial tsunami that has hit the United States in 2007-2008 can only accelerate the de-branding of the dollar and the de-dollarization in the IMS. Given the historical pattern that the United States tends to cooperate when it is in trouble, the current crisis provides a unique opportunity for a coordinated strategy.

A 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, NICU is not simply an office where to record credit and debit entries of the supranational bank money. NICU, 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

²⁵ There is also a 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). 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 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.

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 NICU. 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 stocks since both cannot be done simultaneously without disrupting the economies. It will take time to reabsorb the overhang of dollars.

Finally, the Keynes Plan has been criticized for its inflationary bias. In our proposal, we minimize this risk by having two high-reputation central banks commit to low and similar inflation rates over the medium term. The recent inflation history of the United States and the Euro area suggests that such a commitment is feasible. There is also the concern that NICU might be too lenient on the size of the overdrafts and the time period over which these need to be repaid. This risk is reduced by linking overdrafts to quotas that, in turn, are linked to trade and capital flows. The size of commercial and financial transactions would thus constrain the credit function of NICU.

6. CONCLUDING REMARKS

We have adapted the basic principles of the Keynes plan to propose 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 quantity of this supranational bank money would be demand driven and thus would differ from the helicopter-money Special Drawing Rights. NICU would not hold open positions in assets denominated in national currency and consequently would not bear exchange rate risk.

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.²⁶ 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

²⁶ 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 could be 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 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 supranational money would not generate a sufficiently robust mechanism for countries to adjust to external imbalances. Unlike Keynes, we rely on a formal collective agreement among the few. But we agree with Keynes that a clearing union is more feasible than a central bank union.

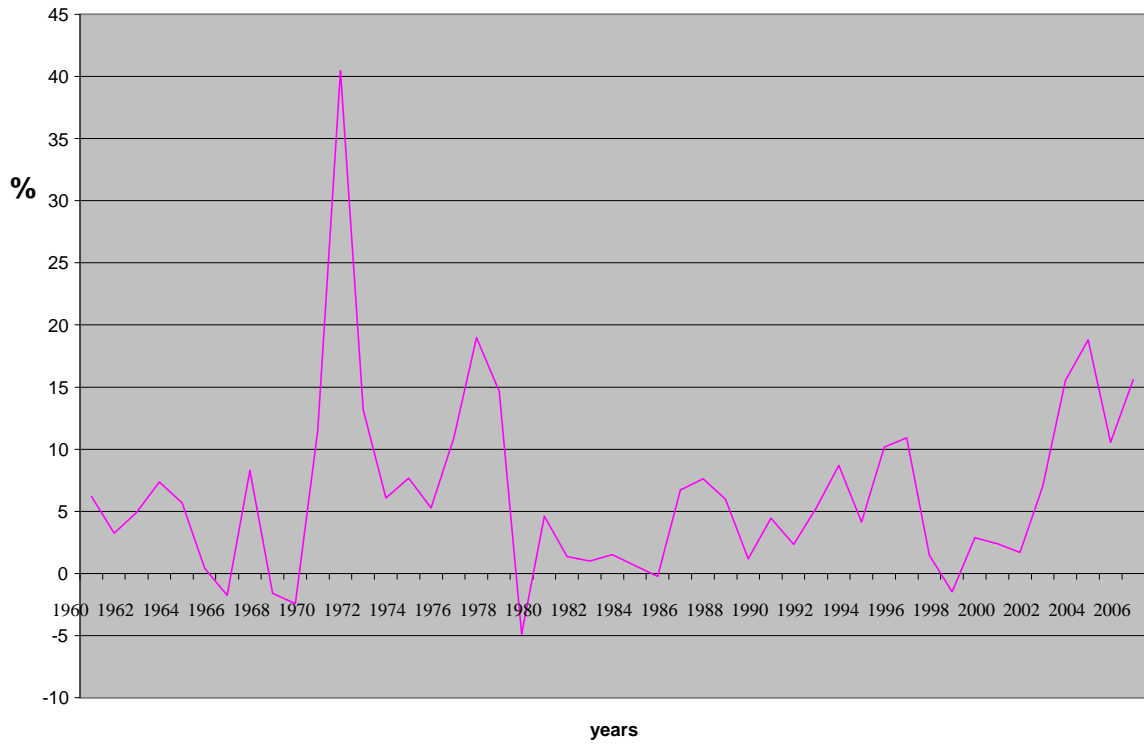
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Figure 1: Ratio of foreign central bank financing to US Imports



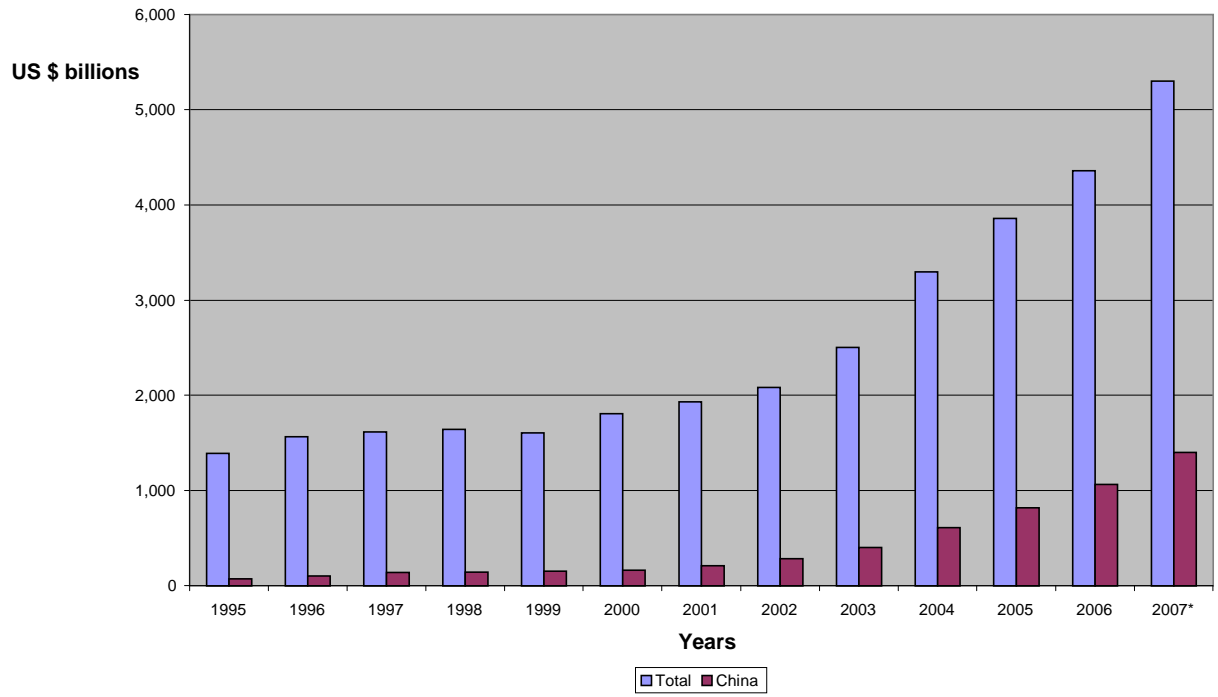
Source: Bureau of Economic Analysis, U.S. International Transactions.

Figure 2: 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.

Figure 3 Total and Chinese Holdings of Foreign Exchange



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

Table 1: 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.