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The Euro, the Dollar, and the International Division of Labor. Can the Euro Become an International Reserve Currency?

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Abstract

The recent seven-year long depreciation of the US dollar *vis-à-vis* most currencies and the euro especially, has prompted a revival of the debate about whether the latter is on its way to displace the former as an international reserve currency. Money being 'just' a matter of trust, the question can be rephrased as follows: can the European Union, and the Economic and Monetary Union especially, appear to the rest of the world as the trustworthy issuer of an international reserve currency?

A proper answer to this question requires that the nature of the structural characteristics of the world economy be called to account. More specifically, I submit that it is the nature of the international division of labor to determine what the international reserve currency will be. The choice of currency for international settlements has to show a strong coherence with the model of division of labor prevailing in any given period, so that any currency can be accepted as an international reserve currency as long as the issuing economy fits the needs of the real side of the world economy.

Two main conclusions derive from this approach. First, everything else being constant, being the European Union a second-rank player in the international division of labor *vis-à-vis* the United States, the euro is not in a position to displace the dollar from its major international role in the foreseeable future; and second, the length of time it will take the euro to become a credible, internationally accepted reserve currency mostly depends on the political will of European institutions and, especially, on their ability to issue official, non-national-government-only debt denominated in euro.

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Introduction

Come January first, 2009 the euro will have its tenth birthday. No doubt large (and well deserved indeed) celebrations have been planned by the Commission both in Brussels and, through its local representatives, in major European towns; newspapers are beginning to 'talk about it'; schools are going to be involved in some fashion, and references will be made to the percentage of residents who are younger than the Euro.

Dismal science practitioners are beginning to think about taking stock of the experience. Indeed, there is vast terrain to explore as many fields of economics are called into action by the establishment of a new currency. Example abound: what have been the effect of the euro on directions and flows of foreign trade for the countries involved? How deflationary an effect has the birth of the euro imposed on EMU member countries through the well known Maastricht conditions? Has the appreciation of the euro against the Dollar hampered international price competitiveness of EMU-produced goods? Is there a sense in which the euro is a 'rival currency' to the dollar?

This paper addresses the latter issue. The question has a tendency to get inflamed answers both in the affirmative and the negative; even trained economists tend to express their opinions on the issue rather freely, often shunning that rigorous analytical modelling they systematically adopt in their respective field; some even tend to loose the aplomb that characterizes them when discussing other issues. The discussion appears to lack of a model, or set of models, we economists are so accustomed to rely upon in our professional life. Indeed, what are we talking about when we say that a currency 'rivals' another? What is the nature of the model some economists rely upon when they forecast that it will never happen or that it will happen soon? [1].

For the present purposes, and without pretence to completeness, I identify two strands of literature, one of which I shall call 'the strictly economics' approach and the other 'the political economy' approach. The 'strictly economics' approach actually includes a variety of partial equilibrium type research. Some authors foresee increasing reserve currency diversification simply on the basis of portfolio-diversification principles, which would demand that central banks throughout the world give up the traditional practice of holding US dollars reserves only, given that a sufficiently liquid alternative is now available; others resort to a more structural view, pointing to the fact that reserve currency diversification away from the dollar is driven by the increasing risk associated with dollar holdings due to

[1] It may be useful to emphasize that our question is specifically about the likelihood that in a foreseeable future the euro may become an international *reserve* currency Whether this will happen through radical displacement of the dollar or *via* a dual reserve-currency system is, of course, a very relevant issue, but it is not really at the core of our present concerns.

both size and coexistence of US current account and US government deficits; others still reject the very notion of substitutability between dollar and euro since they regard the US bond markets as the most liquid and riskless in the world and the prospects for further growth of the US economy bright.

On the other hand, there exists a body of literature dealing with the issue of whether the current system of international payments may, or may not, be defined as a renewed edition of Bretton Woods and, if so, how long this new system is likely to last. Addressing such a question necessarily calls for serious assessment of the role of the euro in the current system in that its increasing international role may be construed as a sign that central banks are differentiating their reserves away from US dollars and, in doing that, they would contribute to an acceleration of the demise of current geopolitical and economic alliances.

Alas, whether the euro has the potential to become an international *reserve* currency is not an issue that can be boiled down to a problem of maximization of returns on foreign currency-denominated reserves. This is certainly a factor in any central bank's behaviour, but hardly a strategic one: there are obviously deeper, structural and political reasons leading central banks to think not just as private portfolio holders. At the same time, the issue of whether the current world payments system is going to last and, if so, how long, cannot be reduced to deriving an informed guess about the probability of a dollar demise from past experiences with Bretton Woods[2].

The paper is organized as follows. The first section offers a very streamlined representation of the current, mainstream debate on the requirements for an international currency to become an international *reserve* currency: this would be the 'economics only' approach. The focus is on the conditions required for such roles to be acknowledged, to develop and strengthen over time: thus, this section does not offer a *strictu sensu* original contribution to the debate, its aim being to identify the parameters against which an 'international reserve currency role' can be defined according to mainstream modelling.

Section two is devoted to the 'political economy' approach. Since the main methodological point of the paper is that the role of a currency in the world system of payments is largely due to the role of that country's economy in the international division of labor, this section is devoted to discussing the way international monetary architecture and international division of labor co-develop and coexist. Of course, the point being made is not just a matter of method, the goal being to identify the basic feature of the new

[2] Of course, I am not implying that either the various strands of the 'economics only' approach or the 'political economy' approach are of little import. On the contrary, I use their results extensively to build my case and fit them in the model I submit.

international division after the demise of Bretton Woods in 1971 and, especially, in the new world economic order that became plainly visible in 1989. The demise of the system in 1971 was the result of the interaction between the Bretton Woods arrangements and the process of European integration, two processes conflicting with each other. I shall argue that challenges to the US 'asymmetric position' in the governance of the world led it to denounce the dollar standard and set up a different model of governance of the world, a model in which Europe no longer was meant to play a substantial role. I take President Nixon's 1972 visit to China as proof of this policy change.

The third section is at core of the paper. First, it argues that the current state of the world economy can be modelled through a three-country model, two of which are in a regime of fixed exchange rate with each other and the third in flexible rates with them both. To make my point I adopt the concept of 'international division of labor' both in its general meaning and in the historically relevant one of 'international fragmentation of production.' I claim that they help identify a definition of 'international competitiveness' which no longer rests on the concept of 'international division of labor' in the traditional sense: rather, they allow to focus on the international reallocation of manufacturing processes toward countries that only recently entered the world markets. The model is consistent with the features of the post-1972 distribution of productive activities globally, and I argue that such model calls for the US dollar to be the international reserve currency as long as the model lasts. I also argue that this model will last for several years, and that it will likely be put in jeopardy only when China should decide to switch from the current export-led model to one centered on domestic absorption. t shows that there does not appear to be any strong reason why, given the policy stance taken by the European Central Bank on matters related to the international role of the euro, market forces left to themselves should lead to a substantial change in the position of the euro in world payments.

One important point supporting such view is that, beginning in 2001, the process of European integration is being countered by a US exchange rate policy whose net result is a progressive marginalization of the European economies, and those of the euro area in particular, from world growth. It follows that the EU position in the world is largely determined by US economic policies aiming at designing a new framework for the international division of labor characterized by new production specializations and firms location.

Section four concludes. The punchline is that as long as the US-China agreement stays in place, there is no actual role for the euro as an international store of value. Yet, the euro would be gaining growing visibility as an international currency basically under two

conditions: 1. that the process of European enlargement and growth be resumed, and 2. that the process of integration be strengthened, aiming especially at the constitution of a Europe-wide fiscal authority able to issue official debt denominated in euro.

1. International Currencies vs. International *Reserve* Currency

Discussions about the 'international role' of a currency must begin with a clear-cut statement: at least in 'normal times', any currency's international role has little or nothing to do with its exchange rate: the international role of a currency has not to do with its *price*, which is what an exchange rate is, but rather with its *uses* (Cohen 2003)[3]. Thus, if we are to discuss if, and possibly within what time frame, the euro may become a 'global' currency, we are to understand first what are the uses that such a currency has to be able to satisfy. It is useful to discuss separately the function such currency has to satisfy on the demand side from those pertaining to the supply side.

1.1 Demand for an international currency

A currency being money first, it has to fulfil the same functions that money fulfil a closed economy setting and then those typical of an open economy as well. At the closed economy level, a money is whatever is used as a unit of account, a means for settling debts among residents, a means of holding wealth, that is, a way to bridge the time gap between receipt and expenditure. But while in a closed economy setting all functions of money have to be satisfied for money to be such, its additional functions at the international level need not be all fulfilled for it to be an 'international currency.' Chinn e Frankel (2005) refer to Kenen (1983) to emphasize that a currency may be 'international' along some dimensions without being so along others: in particular, a currency may well be 'international' without being an international *reserve* currency. Table 1 assigns specific uses by international public and private economic agents to each of the general functions of money as reported above:

[3] A case in point is that Asian central banks have been accumulating their holdings of interest-bearing assets denominated in dollar despite its systematic depreciation vis-à-vis the euro since October 2000.We shall see in section three that this is also proof that the sino-american agreement about the current feature of the international division of labor is satisfactory to both parties, so that the Chinese government has no reason to look for alternative solutions at least in the foreseeable future.

Table 1. Functions of a Money and its International Uses

Table 1 is absolutely self-explanatory and needs no further comments, for it simply states that there exists a variety of reasons why government authorities and private agents both may want, or be forced to, use currencies other from that generally accepted as 'money' within the national boundaries of their country: from this point of view, a currency fulfilling adequately any of the function required of it is, by definition, an international currency. Other than the decision by central banks to hold their reserves in the form of particular currencies (first cell), there are other possible criteria to label a currency 'international': currency substitution, denominating or invoicing external trade, denominating or invoicing international financial flows, pegs for smaller countries' currencies, and foreign exchange trading.

But a question arises: why would a country's central bank want to adopt another country's currency as a *means of holding wealth*, that is, assign it a role much greater that, say, 'simple' currency in which imports may be denominated or as an intermediate currency between its own and a third one not readily exchangeable against its own on the market?

It is adequate and sufficient for our present purposes to discuss just two of the many reasons why that may happen. The first may be that a country not endowed with autonomous sources of energy sufficient to satisfy demand from its industries and households must necessarily find on the world market the currency that the relevant transactions must be settled with[4]. That energy-exporting countries require that transactions be settled in US dollars imply that importing countries must hold large amounts of that currency to face even long-term potential shocks to prices and or increases in domestic demand[5].

The second, even more fundamental reason why governments demand and hold reserves denominated in any particular foreign currency rather than another is, to put it rather simply, that they trust the former more than the latter. When talking money few

[4] Additional demand for foreign currencies comes from domestic demand for imported intermediate products required by the domestic industries as inputs to their own production process. Section three will show that such demand has been increasing over the years as well as the implications of such rise.

[5] The border between 'ordinary' reserves, that is, those reserves held for the 'ordinary' financing of importers, 'strategic' reserves, that is, those held on the of the ordinary ones for energy-imports related purposes, and 'store of value' *strictu sensu* is not very well defined. Defining that border *ex ante* would require making assumptions about the functional form of the loss function of monetary authority, government and private agents who demand the foreign currency.

words have a lager explanatory power than 'trust', an expression which unlike most others are capable to convey both a sense of psycological reassurance and economic rationality, To trust a foreign currency to the point that one, private agent or government, is willing to hold it as a main means to store wealth, means trust in the national economy where it is used, in that economy's prospects to deliver high and permanent growth, in its ability to keep the market for that currency most liquid and the cost of its exchange low. But, above all, demand for foreign currency depends upon the amount of trust one can place on the government and central bank who issue and manage it, that is, who supply it domestically and to the rest of the world[6].

1.2 Supplying an International Currency

The demand schedule for foreign currencies is to be drawn for given levels of 'trust' in the economy of the country the currency issued by, and its institutions. It becomes therefore necessary and useful to take stock on this front, beginning with the well known fact that the Europeaan Union does not possess anything like a 'government' and that that fact in itself is a major blow to the amount of 'trust' that those who demand euro can place on the currency.

In a speech delivered at the outset of the euro era Willem Duisenberg, then ECB President, made it clear that the motivation behind the introduction of the Euro was to enhance further integration among European economies and *not*, as some observers had been construing, its development as a major international currency. Indeed, it was explicitely stated that "the international use of the euro is, first and foremost, the outcome of a market-driven process, not to be steered by central banks or by political bodies. The ECB has adopted a neutral stance on the nternationalisation of the euro. The ECB intends neither to foster nor to hinder the use of the euro." (Duisenberg 2000).

Of course, all such public declarations by the President of a central bank should be taken *cum grano salis*. Yet, there it is, and it is perfectly coherent with the dictum of the European Central Bank's statute which basically never makes any reference even to rules of governance of the exchange rate by the bank itself[7]. Furthermore, however heavily we may want to discount Duisemberg's public stand, in a speech delivered three years later a

[6] "Consider low risk [of a currency] first. Low risk relates to the confidence inspired by the currency and its central bank." (Solans 2003).

[7] Cohen (2003) argues in this sense, supported by a careful reading of the ECB statute and mission.

member of the Governing Council and of the Executive Board of the ECB supplies full confirmation of the President's *dictum* (Solans, 2003).

Later in the same speech Solans takes a more analytical approach to identify some of the forces behind the international status of a currency, of which he discusses two in particular, its level of risk first and the size of the underlying economy then:

> "Consider low risk first. Low risk relates to the confidence inspired by the currency and its central bank. This confidence in turn depends on the internal and external stability of the currency. […] Consider now the second factor that drives the international status of a currency: size. By size, I mean the relative economic, financial and demographic importance of the area where the currency is issued. Without a certain critical mass, a currency cannot reach international status, regardless of its degree of stability. As you are all aware, the euro area is one of the world's three largest economies. With a population of slightly over 300 million, it is larger than both the United States and Japan. In terms of foreign trade in goods and services, the total trade of the United States and the euro area is roughly the same and about 2.7 times the total trade of Japan. Euro area GDP is about three-quarters that of the United States, and three times larger than Japan's GDP. It's a similar story with the size of the financial markets. The volume of stock market capitalisation, debt securities outstanding and bank loans outstanding in 2002 in the United States was 70% larger than that in the euro area, which in turn was 50% larger than the corresponding figure for Japan. The ECB's recent publication entitled "Review of the international role of the euro" shows that the euro is the second most widely used international currency in practically all the main relevant market segments, after the Us dollar and ahead of the Japanese yen." (Solans, 2003).

In the same year, Cohen (2003) was arguing that there are least four powerful reasons why the euro is to remain a distant second to the US dollar. First among the reasons inhibiting a rapid switch to the euro is the inertia characterizing choice of currency: prominent among the sources of such inertia are the pre-existence of already well-established transactional networks, which generate stickiness in user preferences, and the tendency to keep using currencies traditionally used so as to minimize anxiety by imitative behaviour based on past experience. Second comes the cost of doing business in Euro, which Cohen argues is unlikely to decline below transaction costs for the US dollar; third is the well known 'anti-growth bias' built into the EMU through the Maastricht Treaty, which limits returns on euro-denominated assets; and, finally, the last obstacle to the euro is what Cohen defines to be an 'ambiguous governance structure of the EMU' or, in a nutshell, the lack of a governing body for the euro area.[8].

[8] See Wyplosz (1999) for an example of an author who had thought the European monetary authority might have had in mind a 'strong' international role for the euro.

It is obvious that such policy statements by first-rank ECB figures cannot but be construed by both domestic and foreign economic agent as incentives *not* to enhance demand of euro as a riserve currency. Trust in the currency and in the central bank issuing it, which Solans correctly refers to in his speech, is blown into pieces when top ranking officials of the bank itself asserts time and again that she in *not* actively committed to defending, seeking, and enhancing such role.

1.3 General Characteristics of a Changeover in the Role of International Reserve Currency

Even assuming away the negative role the ECB has been assigning itself on matters international, that the role of the incumbent international reserve currency would not be easily eroded has been known fro a long time. As far the euro is concerned, for instance, it was even before it formally came into existence that some early studies had come to the conclusion that there existed sufficient "historical and econometric evidence that the euro will come to rival the dollar as a reserve currency only slowly."[9] (Eichengreen 1998). The explanation for such "historical and econometric evidence" was resting on two sets of explanations: on the one hand, in international monetary matters the incumbent appears to enjoy a network externality due to the fact that "it pays for central banks to hold their foreign in a currency that is widely used in international transactions." On the other hand, it was pointed out that "creating a market with sufficient stability to be attractive to international investors requires continuous liquidity management and periodic lender-of-last-resort operations by the issuing central bank" (Eichengreen 1998). Thus, Eichengreen had already identified the (potentially) fatal weakness in the ECB statute itself and in the 1992 Maastricht Treaty *dictum* on matters monetary (and fiscal).

More recently, in a paper already cited herein, Chinn and Frankel (2005) econometrically estimated a model for the determinants of the shares of major currencies in the reserve holdings of the world's Central Banks, in order to investigate if the Dollar might eventually cede its status as leading international reserve currency. Significant factors include: size of the home country (the most important one), inflation rate, exchange rate variability, and size of the relevant home financial center. They find that network externalities or economies of scale and scope are important. Each country is more likely to use whatever currency is used by others. More than that: they find that the relationship

[9] Eichengreen's careful wording should be enphasized: he does not say that it will take a long time for the euro to 'substitute' the dollar as an international reserve currency, but that it will take a long time to 'pose a treath' to such role.

between currency shares and their determinants is nonlinear. Changes are felt only with a long lag and the switch happens slowly. Thus inertia is great (just as Eichengreen, 1988 argues).

Finally, Galati and Wooldrdige (2006) find that, just as Chinn and Frankel (2005) had reminded us, the distinction between the functions of an international currency needs to be born in mind when setting out to estimate the likelihood that a currency might overtake the incumbent in its role as and international *reserve* currency. Galati and Wolldridge find that while the Euro has been developing a significant role as the currency of choice in financial markets, that achievement has not translated to an appreciable extent into an increasing share of Euro-denominated assets in the stock of foreign-currency denominated, officially-held reserves.

Table 2 reports changes in the currency composition of official foreign exchange reserves held by Central Banks between 1995 and 2007. They both represent a sobering view for those who pay attention to media 'in depth reports' leading to announcements of an imminent US dollar demise as an international store of value[10].

Table 2. Currency Composition of Official Foreign Exchange Reserves Held by Reporting Central Banks, 1999-2007.

2. At the Origins of the Current State of World Payments: Reasons for the Demise of Bretton Woods, or: How Long Will the Current System Last?

Discussing issues of international monetary arrangements and international division of labor at the same time, and attempting to show how tightly they co-move in time, is rather difficult. To make things worse, the concept of 'international division of labor' is difficult to use because its very nature is changing relative to the one we have been accustomed to think for just about two centuries[11]. Thus, we start out summing up the basic features of the international system of payments under Bretton Woods; then show how its end called for

[10] The Financial Times, 31 December 2007.

[11] In a paper about the role of the European Union in the new international division of labor, I wrote that "Unfortunately, that of 'international division of labor' is a concept difficult to use in the current international economic debate: difficult to use because it is a concept fallen into disuse, in that it brings to mind debates dating back to the sixties and the seventies, when it was mostly used when discussing place and perspectives of developing countries in the 'international division of labor'; but difficult to use, also, because it is a concept of non-obvious meaning, since several were the definitions given in the theory of international trade and its empirical applications." (Sdogati, 2005). Of course, the same still applies.

new features of the international division of labor; and conclude showing that the new international division labor calls for a system of international payments which assign the euro a rather clear partr in the game.

2.1 *How Bretton Woods Worked and Why It Was Good to 'Us' All*

I have posited that in order to understand whether there is a role for the euro as an international reserve currency we must look for 'correspondences' between the system of world payments and the underlying international division of labor. Looking for such correspondences at the time of Bretton Woods certainly would hold some interesting lessons. Studies on the features, the mechanisms, and even the gossiping around Bretton Woods abound. Here I want to offer an interpretation of that scheme which, free of technicalities, sets the stage against which we shall be able to measure future developments.

Bretton Woods was meant to run international economic, financial, and monetary relations among countries to be admitted to the market-oriented world after the end of the second world war. From this point of view, one might assign each country at the time to one of three sets: Us, them, the others. 'Us' would be the set of market-oriented countries; 'them' would be the central-planning oriented countries which had been allied to 'Us' during the war; 'the others' would be all those countries not belonging to either 'Us' or 'them', that is, countries whose role in the governance of the world could basically be thought of by both 'Us' and 'them' as a problem of the second order of magnitude.

Thus having circumscribed the set of countries which already were, or could as a matter of aspirations, political orientations, and economic structure, market oriented, BW was built as a model of governance resting on five pillars:

1. *The 'real' winner of the war would be the lender-of-last-resort to the rest of the world*[12]. It is entirely obvious that that is the way it should have been: if the plan was that all countries belonging to the 'Us' world ought to first overcome the destructions of war and then grow at a good rate, that world would need financing: it would be simply unthinkable that any country other that the US could play such a role[13]. Thus, financing of reconstruction and growth would take place insofar as US dollars would be made available to the world.

[12] It ought to be clear that in sections one and two the 'world' is synonymous to the set 'Us'.
[13] Great Britain was well aware that such role had been hers before the war, and that those times were gone.

2. *Liquidity would be made available at the fixed rate of 35 US dollars per ounce of gold; and the US dollar would be the only currency convertible into gold.*
3. *International transactions would be financed in US dollars, especially those involving raw materials in general and energy especially*. This follows from point 1. above, and it also makes goods sense: it is indeed hard to imagine a country selling their natural resources to anybody using as a means of payments currencies other than the only one convertible into gold.
4. *The Us dollar would be* the *international reserve currency for all central banks in the world*. Again, this follows from points 1. and 2: even assuming perfect international private capital immobility, central banks should stand ready to finance at least energy and investment-good imports, to be paid for in US dollars.
5. *The US industry would stand ready to supply investment goods needed for reconstruction, in exchange for consumption goods and whatever investment goods the rest of the world could be capable of producing again*.

The point worth emphasizing here is that the arrangement briefly described was fitting everybody's wishes rather nicely. First, it would erase the difference between so-called losers and winners, since they both could start reconstruction quickly and at relatively low costs of financing[14]; second, it would allow for price stability in that a fixed (though adjustable) exchange rate system would impose monetary discipline on all countries alike, something that would yield three major benefits: first, domestic inflation rates would be under control; second, competitive devaluations would not be possible; third, raw material and energy-producing countries would be drawn into the market system through increasing world demand for their products, thereby finding their incentive to increase world supply to satisfy such growing demand. Table 1 documents the effects of those arrangements on the world economy over the first decades following the end of the war, with a special emphasis on the 'miracle' economies of Germany, Italy, and Japan, as Table 3 shows.

Table 3. Average GDP Growth Rate at Constant Prices in Six Major Countries, 1951-1980

[14] Of course, this is not equivalent to denying the presence of asymmetries and different aspirations among the countries of Europe.

2.2 Reasons for Dissatisfaction with the BW Arrangement

Much attention is paid by the literature on the post-war institutional arrangements and working of the world economy to analysing the reasons for the growing dissatisfaction exhibited by European countries toward BW 1. Now, while it is entirely legitimate to focus on such issue, it also ought to be born in mind that the way things were evolving in Europe was not entirely to the liking of the US either. More directly: It is misleading to imagine that the closing of the gold window at the hand of President Nixon would have ever taken place if all the US had to deal with was some disgruntled head of government and/or State in Europe. There must have emerged, between the end of the war and 1971, at least a handful of signals that things were not going to stay as they were at the end of the war itself, so that BW 1 arrangements were growing increasingly inadequate to act as an overall framework to the world economic and financial order from the US point of view as well.

Indeed, at the end of the war 'Europe' did not exist, as it was just a horographic configuration and a collection of Nation States; rather, it was a *thought*, and that only in the heads and dreams of a few, though great, politicians and intellectuals; as shown in section 1, BW 1 was an equilibrium based upon an understanding about how things should work among the United States on the one hand and European countries on the other. I want to point out that reason for dissatisfaction grew both in number and dimension over time, and that they existed on both sides of the deal.

The positive, short run effects of the US supplying liquidity to the world at a low borrowing cost did not have to lead necessarily to as positive, long run ones as well. Indeed, during the Fifties very few were the problems pointed out by the rest of the world, and then just as a matter of principle, the prominent one basically being that the US were supplying liquidity to the world at a rate which was unilaterally determined. The scenario changed when the US government's fiscal stance began to turn into a seriously expansionary one as a consequence of three major policy choices: the Viet Nam war, the Great Society program, the rush to space programs[15].

Eichengreen (2007) supplies an interesting approach as to why the BW arrangement lasted as long as it did. Eichengreen's point rests on the notion of the asymmetric position taken by the US *vis-à-vis* the countries of Europe, and points out that the countries of Europe were facing a basic dilemma shared by all collective-action type of

[15] There is no need to discuss these facts in any detail here, as they are well known to historians, economists, and layman alike. I simply supply data on US government spending and its relation to GDP over the relevant period just to remind the reader that government deficits, current account and capital account imbalances were beginning to make themselves felt throughout the world. **TABLE 4 HERE IN THE FOOTNOTE**

situation. Basically, and with immediate reference to the issue at hand, the problem faced by the countries of Europe was that each of them had an individual interest to buy gold from the US at the fixed price of 35 US dollars an ounce; but if they all behaved the same way, then pressure on US gold reserves would be so great that the price of gold would have to let be gone –and, of course, the US dollar devalued in the process. This would lead to a very sizeable (and generalized) capital loss on US dollar-denominated asset held as official reserves by the countries of Europe.

Pushing Eichengreen's approach to the extreme, one could conclude that the working of BW 1 was guaranteed by two sets of conditions. On the real side, by the fact that each and every country of Europe found it adequate and convenient to reconstruct and grow under US financing, as increasing openness allow both increasing foreign demand and the development of comparative advantages. But this coincidence of self- and collective interest only held on the real side of the economy. On the financial-reserve side of the arrangement things were very much different. From the countries of Europe point of view there were only two ways out of the system. First, any one of them could have started pursuing its own interest by accessing the gold window on its own. This solution would be generating serious problems with the US.[16] The second way out would rest on a collective-type action. It has been pointed out that an aggressive, collectively chosen and pursued demand for gold would seriously undermine the value of US dollar denominated assets held by European countries' central banks. Furthermore, such an action would lead to an increase of the US dollar price of imported energy products and raw materials, with additional inflationary pressures and dissatisfaction of energy-producing countries on the side.

Thus, the only type of collective action that could be taken by the countries of Europe wishing to overcome the BW 1 system should be resting on two crucial features: it ought to be *gradual*, and it ought to be *non-monetary* in nature.[17] Cooperative solutions were first looked for with respect to the urgent problem of European countries reconstruction, which already in 1951 led to the European Community for Coal and Steel.

[16] Eichengreen (1998, 2007) makes a very fine point of showing how the US sistematically tried to discourage such requests through either moral suasion or the devising of new institutional arrangements which were meant to make the collective interest of the countries of Europe a better outcome than an individual one. See especially Eichengreen (2007) about the role of the gold pool within BW.

[17] Indeed, it twill only be under the post-1971 'new international division of labor' as it twill be defined in section three that the countries of Europe will be able to lead to conclusion the process of monetary integration. All attempts to set in place a reinforced model of the European Monetary System systematically failed up to 1992, when several countries belonging to the System had to devalue their currencies *vis-à-vis* both the US dollar and other currencies in the System..

Of course, the US government lent support to the initiative, as it saw it as an example of a cooperative solution to the common reconstruction-cum-growth problem. Yet, as pleased as the US government might have been with this arrangement, it is also true that it represented what, with hindsight, we know may be taken to be first step on a road leading to further and further cooperation among the countries of Europe. This was the real engine of the Communities founding in the Fifties and their developments thereafter.

The second step was of course the Treaty of Rome, to which followed the setting up of a free trade area and a common external tariff among the member countries of the European Economic Community, and then the first enlargement in 1973. These developments were certainly all welcome to the US government in that they reinforced a culture of cooperation among the countries of Europe, the same cooperation that the US was working for at the financial level by discouraging European countries from individually converting their dollar denominated assets into gold.

But too much of a good thing is not necessarily good. While cooperation among the countries of Europe was growing on the real side of the economy as a matter of welfare-maximizing choice, cooperation on the financial side was resting on the self-imposed threat that any single country's reserves value would not be sold for gold: thus, two different type of cooperation, the real-side one posing no dilemma between self- and collective interests, the financial-reserve one entirely different in nature. Out of any metaphor, the basic reason for the growing US dissatisfaction with the BW 1 system rests with the process of European integration. The European Community for Coal and Steel in 1951, the Treaty of Rome and the European Economic Community in 1957, the 1968 European move to a free trade and common external tariffs area, the perspective membership of Northern European countries which will become full member in 1973, are all moves which make it clear that an ensemble of European countries is on the way to become a 'union', an entity by definition more cohesive than a number of 'communities.'

In conclusion: That excellent institutional arrangement that was Bretton Woods was meant to lead the world out of the disasters of war under a new leadership. It was not to generate a long-run, steady state solution to the issue, for the very simple reason that such solutions do not exist. Thus, one should not be surprised if after an initial period of enthusiasm it began requiring painstakingly good care and maintenance (Solomon, as quoted in Eichengreen, 2007).

3. A Three-Country Model for the post-Bretton Woods International Division of Labor: Comparative Advantages, Outsourcing, International Fragmentation of Production

In August 1971 the US President announced that the gold window would be permanently closed and that gold could no longer be traded at the given price of US$ 35 an ounce: rather, it would have to be had at market prices. With hindsight, what is astonishing is not the willingness of the US government to abandon the BW system: astonishing is that it took only between August and the following February for the US government to go on an official visit to China.

At the time not much was made of the economic and financial implications of that visit, as discussions were mostly centered around issues such as the need to find a solution to the Viet Nam war, the need for the US to prevent a possible process of convergence between USSR and China, and so forth. It would be only with time that the economic and financial implications of that visit would become clear. In the model adopted by this paper, the visit to China can be interpreted as a switch of alliances by one of 'Us' from the rest of 'Us' to one of 'the others:' 'the periphery', or part of it at least, was being brought into picture.

3.1 The New International Division of Labor: International Fragmentation of Production

It is well known that the process of relocation of manufacturing (and related services) away from the US to 'the four tigers' first and China and other countries of Asia subsequently, has begun many years ago, as it is well known that the issue of 'American deindustrialization' was already hot in the late Seventies/early Eighties. After three decades since it got started on a mass scale, the process is still going on: between 2000 and 2006 the US manufacturing industry lost roughly five million jobs, and that despite a depreciation of the US dollar *vis-à-vis* the euro of the order of 50%: clearly an inexplicable fact, in the absence of a third country in the model, a country that would pick up the production capabilities let go by US firms on US soil.

I have argued, and it is not exactly a controversial point in either the economic or the political literature, that under BW 1 countries of 'the periphery' did not take any part in the governance of the world economic order; at the same time, the Soviet-bloc countries were not very effective in their attempt to have a word in shaping the system of world payments. Thus, in section 2 above I have basically used a two-country model to discuss the working

of the system, one country (the core country) being asymmetric to all the other ones (the mall countries) in that it would be the only one issuing the reserve currency[18]. Today that situation is long gone, and one needs to specify both nominal and real side of a three-country world economy:

1. *There are three countries in the model,* the United States, China, and Europe (the EMU, really), each of them endowed with her own currency, the dollar, the renminbi, and the euro respectively –and thus with their own Central Bank[19];
2. *Exchange rate regimes.* Both exist in the model: currencies of countries US and China are locked in a fixed, though adjustable, exchange rate; EMU's currency freely floats against the other two;
3. *Three produced goods and one financial claim in the world:* a manufactured final good, an intermediate good made up of material and immaterial components, and a good consisting of a promise of future payment to be issued in the currency of the issuing country. All countries can produce all material goods, but the US only can produce claims on itself;
4. *Pattern of direction and commodity composition of trade.* The US imports both manufactured and intermediate products from China, the reason being that output unit costs are lower in China and that the difference is not offset by any exchange rate changes; US pays for its imports from China with promissory notes denominated in dollars; the same flows of trade exist between Europe and US. The fact that China has a larger share of the US market than Europe's is ensured by $/€ flexibility: when the US current account with EMU turns (more) negative, the dollar depreciates relative to the euro (while it cannot do so relative to the RMB) and US absorption from EMU falls while US exports to EMU increase.

The very simple structure of the model makes it easy to see why current international monetary arrangements have been named 'Bretton Woods 2' (Dooley, Folkerts-Landau and Garber (2003). The points of similitude are important, and so are the points of difference:

1. Just as BW 1, BW 2 rests on a regime of fixed, though adjustable, exchange rate. True, the US Dollar is no longer anchored to gold at a fixed rate, as it was the case under BW 1, but that is simply due to the fact that we have finally realized that money is a matter of trust, and not a matter of finding a store of immutable value to which money should be anchored: thus, the US dollar is 'the US dolla'r not because it can be exchanged (by

[18] Being the only country issuing the international reserve currency is what has come to be known among economists as 'the US exorbitant privilege,' as President De Gaulle called it.
[19] There is, of course, a fourth country in the model, a 'periphery,' like there has always been.

central banks) at a pre-determined rate against gold, but simply because there is a given, uniquely high level of trust that central banks and private agents assign to it[20];

2. Just as under BW1, under BW2 the US are the consumer of last resort. After world war two the countries of Europe were encouraged to rebuild and reconstruct through generous financing of purchases of energy and raw materials on the world market; an adequate level of foreign demand for domestically produced goods would guarantee that the process would go on smoothly, in that exports to the US would fetch the additional dollars needed for further expansion of the home economies. Today, approximately one third of the US current account deficit is with China, the reason being that at the given, fixed value of the exchange rate products realized on Chinese soil are guaranteed to find adequate demand in the US;
3. Accordingly, savings rates in China can be very high without bearing a deflationary impact on real aggregate activity, the foreign component of aggregate demand taking care of that;
4. Europe is also contributing to global aggregate demand for products realized on Chinese soil, and that is mostly due to the appreciation of the euro relative to the dollar and, therefore, to the renminbi. It is important to emphasize that Euro appreciation is also contributing to EMU deindustrialization, so that for any given level of EMU's GDP the share of aggregate domestic demand satisfied by imported goods has to increase;
5. A first crucial difference between the two periods rests with the shape given to the international division of labour. Under BW 1, the US had the role of supplier of investment goods for those industries that the countries of Europe were in the process of specializing into. Supply of investment goods proceeded mostly through exports, whereas supply of durable consumer goods was carried out through direct investment abroad;
6. The second crucial difference we observe today is the existence of the euro. In what sense and to what extent that contributes to the difference between BW1 and BW2 is a problem that will not be takled here as it would require a paper in itself.

3.2 A Short Note on the Implications of the New International Division of Labor for the euro/dollar Exchange Rate and the Consistency of US dollar-Denominated Reserves

[20] Of course this is true for domestic currency as well.

Of course, it was before the euro was in circulation, but after its adoption as unit of account and means of official transactions among European Central Banks, that European economies found themselves between a rock and a hard place: since the end of October 2000 the dollar began depreciating against the euro, thus generating an adverse price competitiveness effect for European produced goods and services; at the same time, the peg between the dollar and the Renminbi, established in 1994, and then that between the Renminbi and the currencies of many South Asian countries, were extremely beneficial to goods produced in those countries and made it increasingly difficult for European producers to export there. Along with the political difficulties of domestic origin, these were the roots of the difficulties met by the EU-15 first and the EU-25 then to grow at a rate comparable to that at which the rest of the world was growing.

That the euro would have to appreciate relative to US dollar and renminbi alike can be seen if one realizes that the Sino-American agreement was based on the understanding that the US should be borrowing short term from China and investing there long term. This is to say that Chinese current account surpluses would be used to lend short term to the US government through purchases of US government securities –the obiquitous T-Bill; at the same time, persistent devaluation of the US$ (and RMB therefore) would assure international price competitiveness to goods and services produced in China, the capacity to produce for both domestic consumption and export would be enhanced by long-term, foreign direct investment, subcontracting, and outsourcing by US firms. Whatever the form it would have to take, international relocation of US firms was absolutely necessary for the whole process to work: the cost of US labor and US capital would have never allowed US firms to be competitive any longer on the world markets, not now that countries of the 'periphery' were willing and able to enter the set of 'Us,' the market-oriented countries.

The approach taken here allows for a sensible answer to the question of why China has been accumulating foreign reserves denominated in US dollars for so long, even in the face of a persistent depreciation of the currency of denomination. Why, the question goes, has the Chinese Central Bank not dumped US dollar denominated assets in favour of euro assets? And the standard answer one hears is: because such a behaviour would accelerate the depreciation of the US dollar and, with it, a capital loss on China's Central Bank reserves Our answer to the question is rather different: simply, this is one of the effects on the model of new international division of labor, which assign the role of consumer of last resort to the US and that of producer of last resort to China. Alternatively: it would be

unthinkable from the accounting point of view as well as from the economic one that China enjoyed large shares of the US demand without at the same time financing with its own demand for foreign assets part of that very demand, both private and public. Hard indeed it would be for China to back off from such agreement without prejudice for the model of international division of labor discussed in this paper.

5. Concluding remarks

This papers has dealt with the question of whether there is a role for the euro as an international reserve currency. There are basically two issues at the core of our interest:

1. Is there a relationship between mode of the dominant pattern of international division of labor and the system of world payments –that is, the choice of the dominant reserve currency?
2. What ought to be the policy stance of the monetary authority wanting to foster the role of its currency as an international reserve one?

I have argued that the proper way to address the issue is to posit that a strong correlation exists between the choice of the dominant reserve currency and the model of international division of labor that currency is supposed to serve.

I started out by modelling the 1971 demise of the Bretton Woods system as the result of the interplay of US dissatisfaction with the process of European integration and European countries' dissatisfaction with the US way of managing the world system of payments. The point was to show that the process of European integration has been de-stabilizing in nature, at both the real and monetary level. Let us look at the euro first. Even after the demise of BW 1 the dollar had kept its role as *the* means of exchange at the world level as raw materials were paid for in Dollars and no oil producer in the world would dream of accepting other means of payment. Today the euro works as a destabilizer to the extent that it represents an alternative means of international payment and is increasing its share in the stock of foreign currency reserve of *developing* countries.

In addition, the EMU is increasingly perceived as not just what it is today but what it might be: The euro area will gradually extend to the large majority of the twenty-seven EU member countries, and its role would especially grow if and when Great Britain will join EMU; its role in neighboroughring countries is well recognized; already today the Euro area is of an economic size comparable to that of the US, and it might well become the first importer of goods produced on Chinese soil. As such a process unfolds Europe may contribute to the acceleration of the weakening of the current US-China agreement whereby China exports to the US goods and services that the US pay for with exports of

claims issued on itself and denominated in US dollars. This may only happen if the countries of Europe find the political will to give up issuing debt at the national-government level and transfer such privilege to European government-like institutions.

Our general conclusions can thus be summarized:

1. The ECB was never meant to govern the exchange rate of the euro, and it never did;
2. The ruling bodies of the ECB do not even conceive of the euro as an international *reserve* currency: at most, they think of it as an 'international currency';
3. It is the belief of the ECB's ruling bodies that the status of international currency is a matter of "internal and external stability", which is likely to mean that monetary restraint by itself will do it, from which it follows that
4. Within the three country model adopted for the purposes of the present paper, the ECB's position according to which the 'international status' of its currency ought to be market determined simply means that, for any given fiscal policy combination, governance of the *status quo* will be left to the US Central Bank;
5. It follows that neither Central Banks nor private agents arouud the world would come to conclude that the ECB is committed to make the euro an international store of value, and that it would be therefore too risky to hold financial instruments denominated in euro.

My conclusion, supported by the analysis of the reasons for the demise of the Bretton Woods system, is that the international reserve currency of choice cannot possibly be antagonistic to the prevaliling mode of international division of labor. Basically, it is not feasible to envisage an international reserve currency role for the euro in a world where the international division of labor is centered around the relationship between the US as the world's consumer of last resort and China as the producer of last resort.

As to the role of the central bank issuing a currency potentially alternative to the US dollar, it has been seen that the ruling bodies of the ECB have declared time and again that an 'external role' for the euro is not among its objectives. Such policy stance contrasts dramatically with the requirements of those woho demand the currency, that is, to know that the currency will be 'defended' by the authority issuing it. Furthermore, there exist a number of reasons why the process of transfer of the role of international riserve from one currency to another is anyway very slow.

What,, then, would speed up a process of increasing 'visibility' of the euro as an international reserve currency, so as to stimulate a growing number of central banks to hold the currency in growing share within their international reserve currencies? One might argue that the following steps may favour the process:

a. ‘proximity enlargements’ cannot be further postponed, especially those to Western Balcans and Turkey. The ensuing increasing weight of the European economy and trade in the world will act as an obvious incentive for central banks to increase their holding of euro, and especially so those of countries geographically and otherwise closer;

b. coherently with enlargement of the EU area, adoption of the euro by EU member countries still adopting national currencies must be given an incentive;

c. promotion of strongly anti-protectionistic commercial policies must be adopted along with a policy of issuing euro-denominated credit to new industrializing countries as well as to developing and under-developing ones;

d. member countries’ government debt ought to be gradually integrated and substituted by debt denominated in euro but issued by a pan-European agency which, for the foreseeable time at least, could not be identified with a ‘government’ in the meaning the word has in the nation-state paradigm.

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TABLES

Table 1. Functions of a Money and its International Uses

Function of money	***Governments***	***Private agents***
Store of value	International reserve	Currency substitution
Medium of exchange	Vehicle currency for foreign currency intervention	Invoice currency Financial transactions
Unit of account	Anchor for pegging local currency	Denominating trade and financial transactions

Source: Chinn and Frankel (2005).

Table 3. Currency Composition of Official Foreign Exchange Reserves Held by Reporting Central Banks, 1999-2007.

All Countries	**1999**	**2007***	**% change**
Claims in US Dollars	71.10	64.17	-6.93
Claims in Pounds Sterling	2.74	4.50	1.75
Claims in Japanese Yen	6.03	3.12	-2.91
Claims in Swiss Francs	0.29	0.18	-0.11
Claims in Euro	18.14	26.12	7.98
Claims in other currencies	1.70	1.91	0.21
Industrial Countries			
Claims in US Dollars	71.58	71.67	0.10
Claims in Pounds Sterling	2.14	2.57	0.43
Claims in Japanese Yen	6.50	3.23	-3.27
Claims in Swiss Francs	0.13	0.22	0.10
Claims in Euro	17.91	20.90	2.99
Claims in other currencies	1.75	1.40	-0.35
Note: 99.72% disclosed			
Developing Countries			
Claims in US Dollars	70.59	59.04	-11.55
Claims in Pounds Sterling	3.38	5.81	2.43
Claims in Japanese en	5.53	3.05	-2.48
Claims in Swiss Francs	0.46	0.15	-0.31
Claims in Euro	18.39	29.69	11.30
Claims in other currencies	1.65	2.26	0.61
Note: 53.40% disclosed			

Source: IMF

* Forecast

Table 2. Average GDP Growth Rate at Constant Prices in Six Major Countries, 1951-1980

Year	**GERMANY**	**ITALY**	**FRANCE**	**JAPAN**	**UK**	**USA**
1951-1955	9.5	6.6	4.5	9.2	2.8	4.5
1956-1960	6.1	5.5	4.7	8.4	2.5	2.5
1961-1965	1.5	5.9	6.4	10.7	3.0	5.0
1966-1970	4.2	n.a.	3.9	12.6	-0.4	3.4
1971-1975	7.0	2.2	12.2	9.9	0.7	2.7
1976-1980	8.7	-0.8	10.8	5.2	3.4	3.7

Sources: IMF, Banca d'Italia