



**Associazione Guido Carli**

# **In Search of a New Bretton Woods: Reserve Currencies and Global Imbalances**

*Fourth Florence Colloquium*

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*introductory remarks by*

Governor Mario Draghi and Senator Massimo Livi Bacci



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# In Search of a New Bretton Woods: Reserve Currencies and Global Imbalances

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## *Editors' Preface*

### *Foreword*

For the 4<sup>th</sup> year in a row we met together to honour the memories of Dr. Guido Carli and prof. Alberto Predieri. This time, in Florence, we discussed the issues related to the role of exchange rates on the foreign imbalances of the three great economic areas: United States, Far East and Europe. For Dr. Carli e Prof. Predieri this problem was crucial in the economic and legal international relations.

Once again, the twofold meeting purpose was met:

- to exchange friendly and openly our points of view, through the discussion of original pieces of scientific research,
- to prepare a better explanation for the public opinion on the implication of having deep imbalances for the World growth sustainability.

The excellent group of scholars whom we invited in Florence prepared some papers, memos and comments which converged on the common view that the problem of imbalances comes from an institutional incoherence among the exchange rate regimes of the various countries involved, mainly between the USA and China (together with a real variables effect, as excess or lack in domestic demand, and/or excess or lack in domestic savings). The majority of participants believed that we need structurally more market and more international cooperation because the imbalances went too far, creating a severe risk of an international currency crisis which would compound the problem instead of solving it. The European participants feared that an exchange rate adjustment left only to market forces might create a beggar-my-neighbour effect to the Euro area, which has a structural equilibrium in its foreign current account balance. The problem of foreign imbalances is also complicated by the accumulation of dollar reserves by oil producer countries with non-market economies.

A large part of the merit to achieve the goal of the meeting goes again to Iftekhar Hasan and Cristiano Zazzara who took care of the scientific organization and to Monica Degl'Innocenti who bore the entire logistic burden in a very excellent way.

*Associazione Guido Carli  
Fondazione Cesifin Alberto Predieri  
Editors of the Journal of Financial Stability*

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**Mario Draghi**

Governor of the Bank of Italy  
and Chairman of Guido Carli Association

*Ladies and Gentlemen,*

*Your chosen topic – a reflection on the current international monetary system and its desirable evolution – is a central issue for analysts, economic agents and policymakers alike, in a financial world that is becoming ever more integrated.*

*The globalisation of finance yields enormous benefits. At the same time it requires authorities and agents – despite the relative calm in today's financial markets – to be alert to old and new risks, especially in the light of persistent, indeed widening, current-account imbalances.*

*A smooth, seamless functioning of the global capital markets is an extremely powerful instrument for efficient resource allocation, and hence growth. It helps ensure that the most productive projects are selected and put in place at minimum cost. It has surely been a major factor in the extraordinary expansion that the world economy has experienced in the last few years. While growth has been impressive especially in large emerging economies such as China and India, the benefits have spread to many low-income countries as well. Advanced economies have enjoyed low inflation and decreasing unemployment.*

*However, the same factors that have contributed to robust growth and price stability – enhanced trade integration, high capital mobility, and the ready availability of instruments for the transfer of risk – can also favour the propagation of financial disturbances on a global scale. Understanding the systemic implications of risks and devising ways to manage them is therefore essential. International monetary arrangements and institutions are key issues in this respect.*

*Even describing the current international monetary system is not easy; searching for a new design, as the title of this Colloquium suggests, is a tough challenge. The real world seldom looks like a textbook model. Today we have neither a world of fixed exchange rates, as in the Bretton Woods days, nor a pure free float. There is a wide range of regimes, from fixed to freely floating rates, including formal and informal pegs. The global implications of such a situation are not straightforward. As often*

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*happens, a complex system is more than just the sum of its parts.*

*It has recently been argued\*, for instance, that the current international monetary system, while in theory radically different from Bretton Woods, works in practice in a way that somewhat resembles it. Today's regime is supported neither by binding rules, nor by an explicit commitment of international institutions to enforce such rules (through collective decision, multilateral surveillance and emergency financial assistance). Nevertheless, during the last decade or so, exchange rate movements have in fact been rather limited – the euro being one notable exception – compared with what could be expected in a context of widening global current-account imbalances. The pattern of capital movements across the globe has been similar in certain respects to what one would observe under a system designed to achieve exchange rate stability. Unlike under Bretton Woods, however, there is no internationally agreed, orderly mechanism to adjust pegs when current imbalances become unsustainable; the search for alternative correction mechanisms has so far proved elusive.*

*The dollar is still the de facto world anchor. Asian and oil-exporting countries, with their huge current account surpluses, mostly peg their currencies to the dollar, formally or informally. In the last five years this has resulted in massive accumulation of dollar-denominated reserve assets in those countries. The system seems to work like a tacit pact, with short-run benefits for both sides. The issuer of the reserve currency can finance its current account deficits cheaply and easily; surplus countries maintain exchange rates at very competitive levels. Initially they may want to pursue export-led growth. However, as they accumulate larger and larger dollar-denominated reserves, surplus countries develop an additional interest in keeping the dollar stable vis-à-vis the domestic currency, as the capital losses implied by a realignment dramatically increase. Even if they need to cool the economy at some point, doing this via aggressive currency appreciation becomes prohibitively costly.*

*The proponents of the “Bretton Woods 2” view claim that the current system ensures relative stability in the short to medium term: as long as international capital flows guarantee a smooth financing of the huge US current account deficit, and financial markets do not ask for a premium on their holding of dollar assets, it is difficult to perceive a sense of*

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\* M Dooley, D Folkert-Landau and P Garber, “An essay on the revived Bretton Woods system”, NBER Workingpaper no. 9971, September 2003.



*real risk or urgency. However, imbalances are not expected to diminish significantly in the short run and accumulation of imbalances on this scale cannot go on forever. The tacit pact is built on shaky long-term foundations.*

*Addressing these issues is not a purely theoretical concern, but rather one of crucial interest to authorities whose task is to preserve financial stability. The extremely low risk premia now prevailing in financial markets may in part signal undervaluation of the actual risk; in any case, the market sentiment may change abruptly. Carry trades illustrate the point: under current conditions they offer easy short-term gains, but they are highly vulnerable to increases in volatility. The consequences of any disturbances are hard to quantify, not least because it is difficult to monitor the size of open positions. The authorities are increasingly concerned, and firmly committed to fostering the transparency of markets and transactions.*

*Further reflection on the working of international financial markets and the international monetary system is, therefore, as important as it is demanding. This Colloquium is welcome. The presence of highly qualified speakers, who will bring the benefits of looking at the issues from different viewpoints, ensures that the debate will be rich and lively. It will add to our collective knowledge.*

*I wish you a very fruitful day.*

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**Massimo Livi Bacci**

Senator of the Italian Republic  
and board member of Cesifin Alberto Predieri

*Not all the fruits of globalisation are sweet and spread in a reasonably even way among the participants in the game. Many parts of the world are left behind, inequality and poverty persist, the concentration of power in the hands of the few is increasing. The new millennium brings along a growing need for international regulation of global phenomena. The Fourth Florence Colloquium is a welcome opportunity to discuss how to cope with the international disturbances and imbalances deriving from increasing financial mobility.*

*Our shrinking world, the growing integration among societies and economies and the high speed of development call for new instruments of global governance, while the political will is lagging behind. Consequently these needs remain largely unanswered. Let me take three examples from areas I am more familiar with. First, international migration. Its recent rise has been prompted by the differential speed of population growth in the rich and in the poor world as well as by the growing gap in the standard of living in the North and in the South of the planet and by the declining costs of transport. While the economic and financial integration between countries and regions has increased, favoured by multilateral efforts to remove trade barriers, there are increasing obstacles against the integration of labour markets at a global level. Labour-rich countries cannot export but a small part of their surplus while labour-poor regions (Europe and Japan) import only a fraction of the potentially needed manpower. As a consequence, irregular migration increases in the absence of an international system able to regulate international migratory pressures. These tend to grow, posing a threat to the peaceful and orderly relations between countries and regions.*

*A second example is climate and the threats imposed on the world equilibrium by an expanding population, increasing human activity and, particularly, an exponentially growing energy consumption. The world – so far – has been slow in acknowledging that current models of development endanger the future of mankind. Even mild forms of international cooperation – such as those implicitly deriving from the Kyoto protocol – seem to encounter gigantic obstacles to their*

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*implementation. As a third example of a different nature, take disease and the globalisation of pathogens. The increasing world mobility, the human intrusion in isolated habitats, new types of interactions between humans and the animal world may generate potentially threatening new diseases and are making pathologies thought to be extinct re-emerge. In the '50s and '60s the world thought that infectious diseases had been vanquished: traditional warning systems were abandoned or allowed to survive under-staffed and under-funded. The HIV pandemic and other new diseases like SARS, or the persistence and resurgence of old pathologies, like malaria or TB, are alerting the international community that without coordinated efforts the fight for improved health and survival cannot be successful.*

*International migration, pollution, contamination and climate change, the fight against communicable diseases, have little in common with the problems posed by the financial imbalances that are the focus of our meeting. But they show us that international turbulences, whatever their cause - financial flows or men on the move, global warming or disease control – pose an increasing need for global governance.*

*On behalf of the board of the Cesifin-Alberto Predieri Study Center, I am happy to extend our warmest welcome to Florence to all the participants in this Colloquium: a global group of scholars discussing a global problem. I wish you a fruitful and successful meeting and a pleasant stay in Florence.*

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## *Fourth Florence Colloquium*



# FIRST PAPER

## THE US PERSPECTIVE

**Mardi Dungey\***

CERF, University of Cambridge

CAMA, Australian National University

### *Abstract*

The question of future arrangements for the financial system in the light of the current imbalances and the accumulation of international reserves has provoked a wide range of responses, from traumatic collapse to benign adjustment. These views are canvassed here. Rather than arguing the case of currency realignments, this paper concentrates on the potential impact of diversification by Central Banks on the operation of asset markets. The paper argues that markets in which Central Banks hold significant asset stocks can be substantially affected by both their actions and their perceived preferences towards those assets. This is illustrated using the recent historical examples of the divestment of gold reserves by many Central Banks in the 1990s, and the effects of sales of US Treasuries from reserves by the Hong Kong Monetary Authority in 1998.

**Key words:** Reserves, Central Bank portfolios, Gold, US Treasuries

**JEL Classification:** C15, F31

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\* Thanks are due to the Associazione Guido Carli and Cesifin Alberto Predieri and Paolo Savona, Iftexhar Hasan, Cristiano Zazzara and participants at the Fourth Florence Colloquium on 'In Search of a New Bretton Woods: Reserve Currencies and Global Imbalances', and my discussants there Julko Velmunen and John Teall. I am very grateful to Salih Nefci for generously forwarding his example of market practices, Kern Alexander for discussions and Jorge Andrade de Silva and Luba Fahkrutdinova for research assistance.

## 1. Introduction

This paper considers the question of the risk posed to the current economic outlook from the increasing accumulation of reserve deposits by developing economies and the so-called global imbalances from a US perspective. The US has a unique position in the current environment, being the economy which is benefiting from the current willingness to fund US consumption by high demand for US assets through its role as the global currency (the so-called “exorbitant privilege”), and commensurately the most exposed to a dramatic change in fortunes if a sudden adjustment in preferences were to occur.

A key issue in the concerns about adjustments in global imbalances relates to the speed of any adjustment process. Debate is quite divided on this issue. While market commentary has definitely tended to focus on the downside for the dollar and the negative risks, for example Obstfeld and Rogoff (2004), Jarrett (2005), Irvin and Izuretia (2006), Freund and Warnock (2005), there are equivalently reputable arguments that the situation is a relatively benign but extended period of adjustment, for example Bordo (2005) and Engel and Rogers (2006), the latter argue that the situation is a response to expectations of future high US growth. More recently Hausmann and Sturzenegger (2005,2006) have argued for the existence of ‘dark matter’, comprising mismeasured or uncounted FDI and other flows, which when accounted for return the world economy closer to net balance.

This debate is even more divided where commentators worry about the impact of reserves diversification away from the US dollar. There is general recognition that this could have a substantial effect on particularly the international value of the US dollar, but debate over whether this effect is being overstated, see McCauley (2005), and whether any transition is likely to be relatively calm, Dooley, Folkerts-Landau and Garber (2003). However, whatever the outcome it is certainly likely that the mere possibility of a diversification, which may or may not occur in an orderly manner, can induce volatility into financial markets, Truman and Wong (2006).

The real basis of the argument about the potential future of financial markets is fear of individual countries following their own best interests, rather than some altruistic view of the global good. In particular the concern centres on portfolio diversification and the impact of changing preferences - specifically whether developing market

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Central Banks might decrease their appetite for US dollar denominated reserves in favour of Euro denominated assets. These questions are complicated by the relative economic performance of the US and the Euro, with high current accounts coupled with strong growth in the US, and low growth but increasing financial depth in the Euro Area. Although it seems quite probable that the system can maintain the status quo for some considerable time, there is a non-negligible risk that a small signal from Central Banks may lead to a stampede. Here the parallels with earlier periods are most marked. Eichengreen (2004) summarises the problem when discussing the collapse of Bretton-Woods as “when push came to shove, the imperatives of domestic growth dominated the desire to defend the dollar and sustain the operation of the international monetary system” (p.19).

This paper concurs with the view that on balance there are quite a number of feasible orderly routes to economic adjustment. The major risk rather lies in the response of markets to signals sent by Central Banks as to the relative importance of alternative assets in their portfolios. This aspect was played out in the gold and currency markets in the period around the collapse of the Bretton-Woods system. To demonstrate the potential impact of changes in Central Bank portfolios on the orderly operation of financial markets we draw on two more recent episodes within the floating exchange rate period. The first is the diversification of Central Bank gold holdings from the mid-1990s, which resulted in the Central Bank Gold Agreement in 1999 and 2004. The second is the impact on the US Treasury market of the sales of US Treasuries from the reserve holdings of the Hong Kong Monetary Authority to fund its intervention in the Hang Seng equity market in 1998. Each of these operations demonstrate the potential for Central Banks to affect both market sentiment and market conditions, in the first case by the escalation of a simple portfolio decision into market preferences and in the second case the impact of following the individual country's own best interest.

This paper is structured as follows. In Section 2 the relevant facets of the current economic situation in the US are briefly reviewed. Section 3 then draws some parallels with the Bretton-Woods era, particularly the stresses which precipitated the crisis and eventual breakdown of the Bretton-Woods system. Given recent discussion on the potential of the Euro to become a second reserve currency, Section 4 turns to the currency denomination of central banking reserves and the

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trends in diversification emerging in that market. Evidence is presented that relatively recent activities by Central Banks in managing their reserve portfolios have had substantial impact, notably in the gold and US Treasuries market, and thus a significant disruption of market functioning when Central Banks hold major stocks of a particular asset cannot be discounted. Section 5 concludes.

## **2. Background to the Current Situation**

Until the period of the two World Wars the dominant world currency in the late 19th and 20th century was arguably the British pound. This changed at least partly due to the War itself. The massive expenditure requirements of the UK led to them taking on substantial borrowings, much of which was sourced from the US, and as an indication of the changing status of the two currencies, increasingly denominated in the currency of the lending country - the US dollar. The British pound, although it has remained an important trading currency, has never regained the dominance of the global reserve currency that it possessed prior to this period. It is worth bearing in mind when considering the potential that the US dollar's current position as global reserve currency will be threatened by the Euro that it took an event of the magnitude of WWII to cement the last observed change of this sort.

The current debate is centred around two main observed empirical trends. The first of these is the substantial and increasing current account deficit being run by the US economy (and the domestic economic conditions which accompany it) and the second is the accumulation of US dollar denominated reserves by international economies. The two are clearly not unrelated, and many of the dire claims for the future of the US dollar rest on concerns that the international community may lose its preference for US dollar denominated assets and force adjustment to the current account pressures back onto the domestic US economy. It is worth briefly reviewing the arguments here.

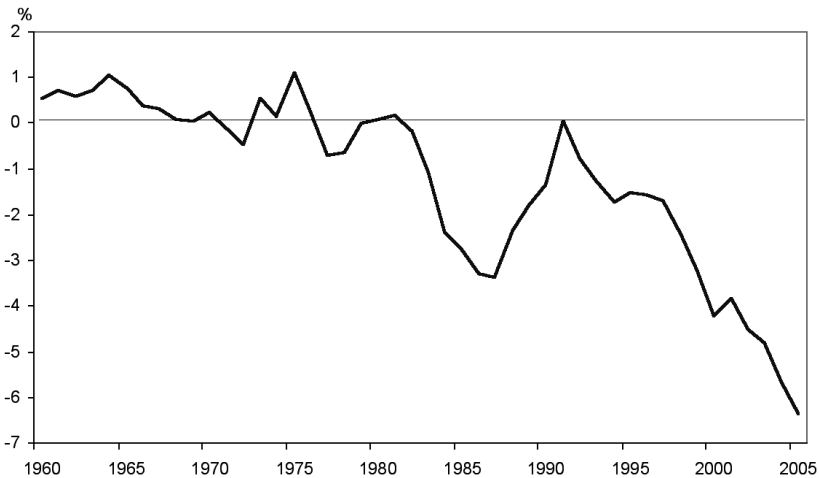
### **2.1. The US Current Account**

The annual data in Figure 1 show the extent of the deterioration in the US current account in the immediate past. Longer runs of data compiled by the OECD show that the current situation is unprecedented in the available data, with the largest previous periods of deficits of

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less than 2% of GDP in the 1890s, see Jarrett (2005: Figure 1) whose detailed paper presents the conventional concerns about the US current account. The most recent data available showed strong growth in the first quarter of 2006 (5.9% in real GDP) and good growth in the second quarter of 2.9% in real GDP, but also a continued decline in the current account of 5.2 billion for the second quarter of 2006. There does not seem to be any end to the increasing current account deficit in the near future.

Figure 1: US Current Account as a Proportion of GDP  
(source: BEA statistics)



The growing current account deficit in the US is an unprecedented development for, as to whether the relative price effects, income effects or quantity effects of international demand will dominate in the outcome for the domestic economy; for example Long and Pitchford (1992) on income effects. In the case of the US, however, a substantial proportion of world trade transactions are denominated in the US dollar, Goldberg and Tille (2006) document that over 90% of international trade transactions for the US are denominated in US dollars. In contrast, most countries have substantial shares of their trade invoiced in non-domestic currencies, see Table 4 in Goldberg and Tille (2006). Many countries suffer currency risk in funding their export and import activities, but this largely does

not apply to the US. One evidence of this is the relatively low pass-through effects for imports noted for the US economy, compared with almost every other country, recent estimates are 25% (short term) and 40% (long term) for the US compared with 54% (short term) and 78% (long term) for the Euro Area countries, see Campa and Goldberg (2002) and Campa, Goldberg and Gonzalez-Minguez (2005) respectively. Thus a depreciation of the US dollar is expected to have relatively less impact on demand for imports than the same size depreciation for other countries - hence the extent of depreciation needed for current account adjustment via this mechanism is estimated to be extremely high (ranging up to 90%! see Table 4 in Jarrett, 2005).

As the pass-through effects for other countries are documented to be relatively high the adjustment of the US current account deficit through trade balances could occur through the relative cheapening of US exports, which then displace other suppliers. Such a quantity adjustment would lead to increased production in US export goods, which remain primarily goods rather than services, and hence a reallocation of resources within the US economy. However, Irvin and Izuretia (2006) calculate that even this process would require a 3% greater growth rate in exports than imports over a 15 year time horizon. Nevertheless, this type of reasoning has led the OECD to recommend the US concentrate on maintaining a flexible labour market to assist in this process (OECD 2005). It is also possible that the low pass through effects to the US may change, particularly if the depreciation of the dollar is relatively large; see Goldberg and Tille (2006). Changes to pass through have been postulated in other countries; see Campa and Goldberg (2002 *inter alia*). Another possibility, although unsustainable, is that of competitive devaluation in order to maintain market share. Recent history suggests this will lead to financial calamity, but it is still a politically attractive path short term as its many instances in economic history demonstrate, for instance Goldstein (1998) on the Asian crisis.

Recently a strong counter argument to the need for adjustment in the US current account has emerged with the proposal of 'dark matter' in international accounting. This proposal suggests that there is substantial mismeasurement or underreporting of international flows in the current account. In particular, the effects of selling 'know how' in FDI, liquidity services and what they denote an insurance service, where a country may wish to buy the implicit stability of another country through their financial assets. Their investigations reveal the

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mismeasurement source to be the dominant one. Dark matter for the US is estimated at over \$US5 trillion in 2005, over 40% of GDP. If this is indeed the correct answer then there is no need to be concerned about adjustment in global economies. However, this answer does seem very convenient and is still a matter of much debate in the literature; see for example Buiter (2006).

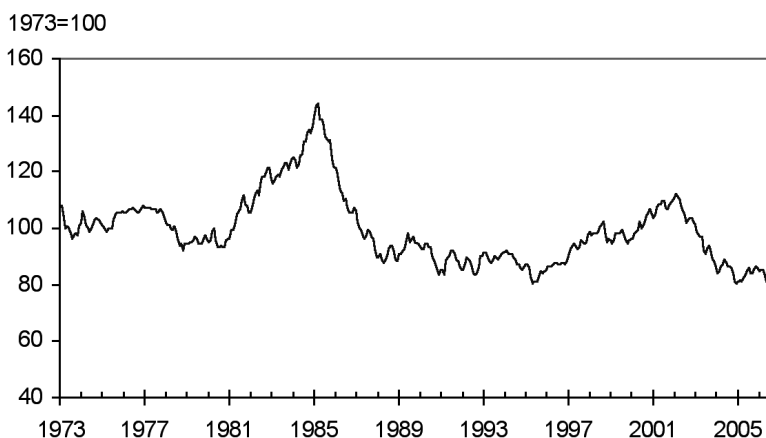
## **2.2. The US dollar**

Figure 2 relates the recent history of the US dollar as a trade-weighted index against the major currencies (the Euro, Japanese yen, British pound, Canadian dollar, Australian dollar, Swiss franc and Swedish krona - see Loretan, 2005). The TWI has 84% of its weight in the Euro, Japanese yen and Canadian dollar, with the Euro dominant. In the broader index which includes all countries with greater than 0.5% weight in the trade volume of the US, China carries only slightly less weight than Japan. However, this makes little difference to the picture presented here. A rise in the TWI represents an appreciation of the US dollar. What is clearly evident in this data is first the substantial depreciation in the US dollar against these major currencies since the first quarter of 2002, amounting to just over 30% in the next two years. Since then, however, despite the continuing steep decline in the current account as a proportion of GDP, seen in Figure 1, the US dollar has remained relatively stable. The factors behind this are complex.

One aspect that may be important in these outcomes, but has received little attention in the literature, is the potential role of intervention. Foreign exchange intervention in the US has virtually ceased, and the trend in central banking circles has certainly been to a period of far less direct intervention, for example see Reitz and Taylor (2006). However, this does not mean that other activities cannot be used to support currencies. For example, it has long been accepted that it is not possible to cleanly identify pure intervention by the Reserve Bank of Australia due to its ability to determine the timing of its purchases of foreign exchange on the behalf of the Government (for overseas pension payments for example) - see Andrew and Broadbent (1994).

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Figure 2: US dollar Trade Weighted Index: Major Currencies  
(source: Board of Governors of the Federal Reserve)



However, there may be another contender in intervention activity through the use of derivatives to manage portfolios of reserve assets. This is not exactly a new phenomenon, during the 1960s a plethora of arrangements were used to support particularly the pound (Tew, 1970), including swaps and forwards. Now, with the development of sophisticated derivatives it is possible to produce effects which defacto support currency bands. For example, there are market reports of a large double no-touch option placed by a large Asian bank (possibly a central bank) constraining the Euro/USD to a relatively tight band. Keeping the euro in a band clearly reduces the stress placed on the new renimbi arrangements\*.

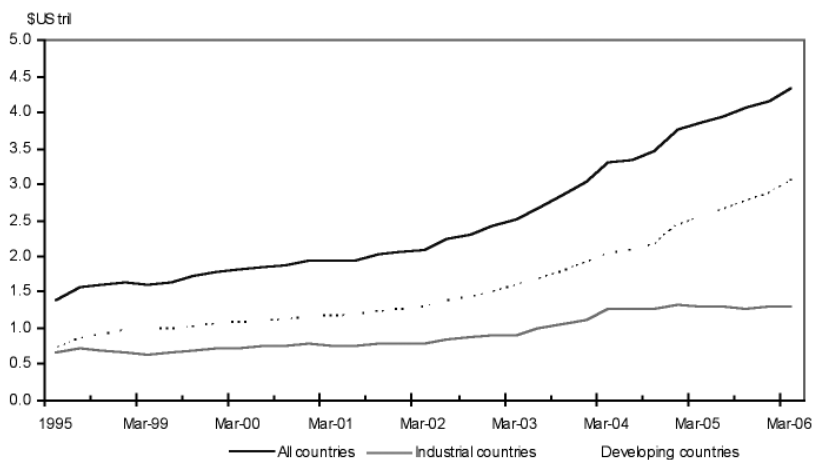
The way in which pressures may be building in the current arrangements, although not unknown to those at the forefront, are not transparent to the wider community. Although it is not yet clear whether such actions have been used, Papaioannou et al (2006) also suggest the possibility of further engaging with innovative financial instruments to manage reserves portfolios, including the potential for short selling.

\* The source of this remark is various Reuters reports and discussions with market participants. Reuters reports refer to a "EUR/USD 1.2060-1.2680 DNT option, said to be worth over \$1B and held by large Asian ctrl bk, said to be expiring Fri, says dealer.... EUR/USD tripping upside stops above 1.2165, 1.2175, says dealer... Found good base support earlier Thu at 1.2100, reportedly from large Asian ctrl bank defending options barrier at 1.2060 or 1.2080, say dealers."

### 3. The Accumulation of Reserves

The second major indicator of concern in assessing global imbalances is the amassing of US dollar denominated assets by foreign entities, particularly as central bank reserves. Figure 3 shows the rise in the reserves held by central banks as indicated in the IMF COFER (Currency Composition of Official Exchange Reserves) database. The IMF publishes data in its COFER database on the foreign exchange composition of reserves held by central banks. The most recently available figures are those for 1st quarter 2006, which show total reserves of 4.3 trillion US dollars. Some currency breakdown is given, but not all countries provide this. Neither do all countries report reserve assets, but the COFER database claims that the missing countries are generally small holders of reserves.

Figure 3: Reserve Assets held by Central Banks, excluding gold:  
Annual 1995-1998, quarterly thereafter  
(source: IMF COFER database)



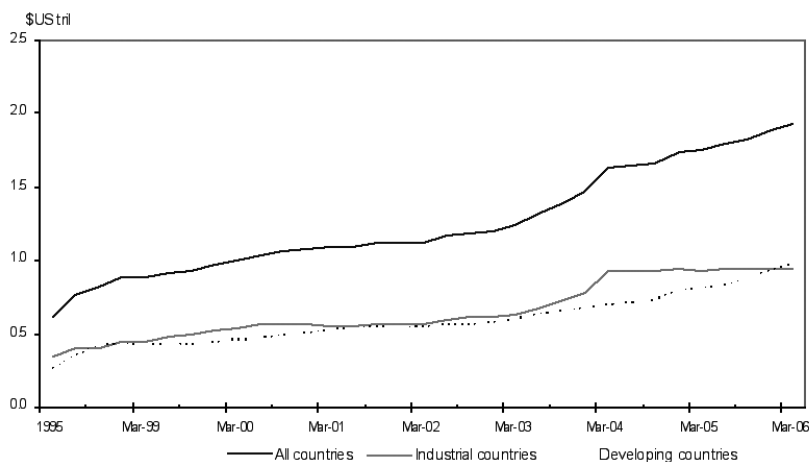
The currency breakdown of reserves provides some interesting insights. Figures 4a) and b) show the \$US value of the reserves for which the currency of denomination is known (denoted allocated reserves) which are held in US dollars and Euros (or pre-Euro in one of

the currency groups which became Euro, of course this approximation is not exact). Figures 4c) and d) show the proportion of allocated reserves held in US dollars and Euros over the period. Of these assets across all countries the share of the US dollar is relatively stable between 62 and 72% of total over the period 1996 onwards, currently at 66% and beginning the period at 62%. Chinn and Frankel (2005) document no significant change in the proportion of dollar holdings of reserves, from 56% in 1965 to 64% in 2003.

In the COFER database the Euro share has grown from around 18% to 24% in the period from 1995 (aggregating pre Euro currencies appropriately). Papaioannou et al (2006) in a mean-variance portfolio exercise find that the current weight on the Euro in reserves portfolios is already over high in the COFER figures, which they interpret as meaning that the Euro has already taken on some role as an international reserve currency thus accounting for its overweighting.

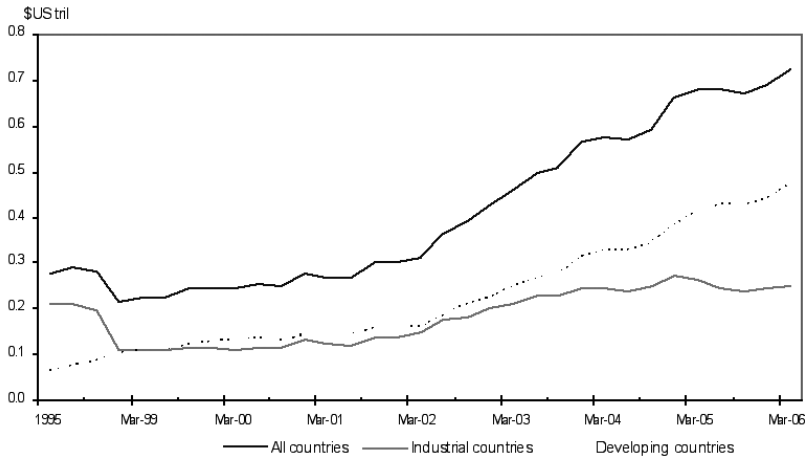
Figure 4: Currency Composition of Allocated Reserves  
(source: IMF COFER database)

a) US dollar reserves

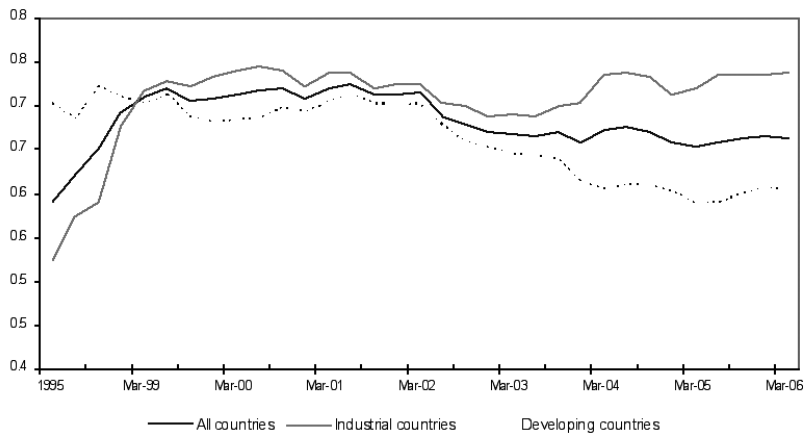




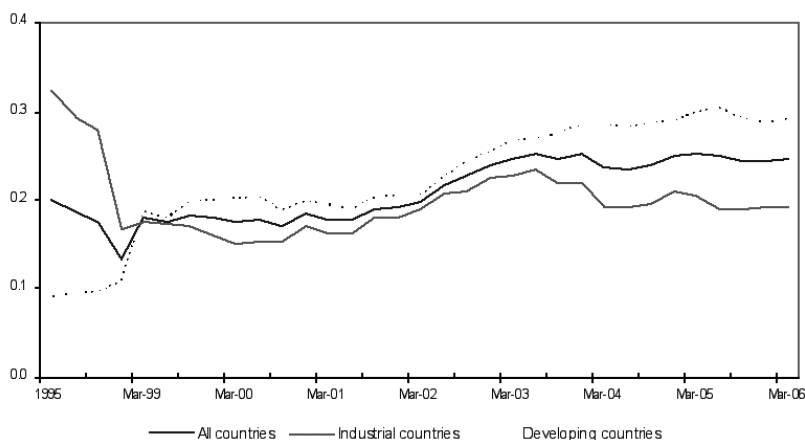
### b) Euro reserves



### c) Proportion of reserves in US dollars



## d) Proportion of reserves in Euros



Some of the change to Euro holdings is undoubtedly due to changes in exchange rates themselves, notably the depreciation of the dollar and appreciation of the Euro. But what is particularly interesting is the breakdown in industrial versus developing countries, Figures 3d) and e). The industrial countries have moved their portfolio allocation to greater weight in the US dollar (now 73% compared with 57% a decade ago) and out of Euro area currencies. This is presumably partly associated with reclassification of some of these countries into the Euro Area when some of their logical reserves disappeared, such as Netherlands holdings of Deutschemarks for example. Truman and Wong (2006) also point to the role of Japanese intervention in increasing the share of US dollars.

However, despite the changes in composition of the industrial countries reserves, the discussion of future actions is generally focussed on the role of the developing economies, who hold over 3 trillion of the reserve assets. There has been some substantial movement on their part into Euro to bring the share of the declared currencies up to around 28% of their assets. If the same sort of distribution was assumed across the reserves with no declared currency breakdown, this would indicate some 1.8 trillion of US dollar reserves held by developing country central banks and 0.8 trillion of Euro denominated reserves. The 4 biggest holders of reserves are China, Japan, South Korea and Russia.

The concern over the concentration of US dollar denominated reserves by foreign central banks relates to their sovereign rights. The advantages to being the international reserve currency include those of being the invoicing currency as discussed above, and the so-called “exorbitant privilege” of being able to borrow abroad in the domestic currency and in fact receiving a premium for doing so based on the desirability of the US dollar assets; see Gourinchas and Réy (2005) for an attempt to measure this effect. In addition to these advantages Chinn and Frankel (2005) cite the deepening of the financial sector resulting from the high demand (the BIS Triennial survey for 2004 notes \$US1.8 trillion dollars a day of total foreign exchange turnover for all currencies, almost half of which involve the US dollar) and the political power and prestige associated with being the primary currency. However, there are also associated disadvantages. A deeper financial market may lead complexities due to higher demand for the currency, including issuance by other parties of debt denominated in US dollars, such as the Eurobond market, Chinn and Frankel (2005). This greater complexity may lead to uncertainty and certainly can lead to significant impact on domestic markets of actions of other parties. The potential and rights of other parties, such as foreign central banks, to act in their own best interest is in essence the source of concerns over the stability of the current situation. With such a concentration of US dollar denominated assets in foreign owned reserve assets, a change in preferences on the part of the central banks, particularly the large holders of reserves, has the potential to at the very least disrupt expectations and add to financing costs, Lomax (2006).

#### **4. Parallels with Bretton Woods**

A number of commentators have paralleled the current global currency arrangements with those of Bretton-Woods, characterizing the system as one of core and periphery countries, Dooley, Folkerts-Landau and Garber (2003). In the Bretton-Woods era the core was the US, as it remains today, but the periphery have changed from the European and OECD countries of the Bretton-Woods era to the Asian developing economies today. Although the role of the US dollar is unarguably important in both systems, the structure of these arrangements is remarkably different. In fact, the most significant feature is that there is no formal means by which the periphery countries relate to the core

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at the current time, unlike Bretton-Woods where the maintenance of the existing arrangements was seen as a political imperative. To that extent, the analysis resonates with Eichengreen (2004) and Obstfeld and Rogoff (2004), that the similarities of the current situation with the Bretton-Woods system are limited to the period around the end of that system. However, unlike Eichengreen, the likelihood of traumatic collapse seems a more distant possibility due to the inherent flexibility in the current system, although adjustment may still be economically painful.

The Bretton-Woods environment provided an alternative to the earlier gold and bimetallic eras. During Bretton-Woods the US dollar, with a link to gold, provided an anchor to the system. It is worth briefly revisiting why the system collapsed and the US dollar floated as there are unsurprisingly a number of parallels with the situation today. Almost immediately after Bretton-Woods was set up with a fixed price of the US dollar to gold the US economy moved from a current account surplus to a deficit and into a recession. A substantial amount of dollar holdings were converted to gold at the agreed rate by holders of dollars and there were fears that the US would devalue the dollar against gold. However, the US economy recovered and the current account moved back to surplus in the 1960s. The Vietnam War and other social spending however, quickly sent the budget and current account back into deficit and the US experienced inflationary pressures. Speculation began anew that the US dollar would be devalued focussing on the London gold market.

The end of the Bretton-Woods system can probably be dated from the effective end of the gold pool in March 1968 when the gold pool members, that is the monetary authorities actively involved in buying and selling gold to honour the exchange rate system,\* decided to cease trading in the private market, and use their remaining reserves only for monetary policy purposes, Tew (1970). Gold trading was replaced with a two tier system with both an official and private gold price. The official gold price would be the one at which the central banks would settle their interbank trading which was no longer tied to the market price of gold, and they would refrain from operations in the private market. From that point forward Central Banks were under pressure and worried about the potential revaluation of currencies against the US dollar (and hence gold). Eventually it became impractical for the Bundesbank to fight this pressure and they began to float in May 1971. To adjust its economy

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\* Gold pool members were Belgium, France, Germany, Italy, the Netherlands, Switzerland, the UK and the US.

the US needed to devalue, but was unable to do so without negotiating that everybody else in the system revalued, which of course did not suit the will of all. The final break came when on August 15 1971 the US no longer guaranteed to sell gold for dollars. The Smithsonian agreement in December 1971 of a new devalued price for the US dollar in terms of gold and other currencies was not effective as the US did not return to the gold standard. However, the interim arrangements continued until March 1973, when a number of European currencies and the yen floated against the US dollar. The float continued with basically this group of countries until December 1983, when the Antipodean countries joined the floaters in what is in retrospect the forerunner of the changing guard towards the free floating era of the last 20 years.

## **5. Potential Impact of Reserves Diversification**

The breakdown of Bretton-Woods was due to an unsustainable arrangement. Internal and external balance could no longer be maintained, and participants in the system began to question whether the value of their assets would be protected under the current arrangements. By acting in their own best interests the European countries precipitated the breakdown of the system. There are some interesting parallels in the current arrangements. In the Bretton-Woods era countries held reserves of US dollars which were considered to be over-valued against the ultimate reserve of gold. Eventually there was a switch in preferences and demand for US dollars dropped sharply. In this instance the US was able to protect itself from fully paying out on its commitment of the US dollar gold price by floating. The problem perceived today is that again foreign central banks own a significant portion of US dollar assets in their reserve portfolios. The question is what might happen if they change their preferences away from the US dollar, and more particularly what might be the implications if this were to happen moderately quickly?

There are some indications in recent history of the potential impact of changes in reserve portfolios. The following draws some lessons from the decision of a number of Central Banks in the 1990s to divest themselves of gold reserves in favour of other assets. The second example concerns the sale of US Treasuries from the reserves of the Hong Kong Monetary Authority to support their intervention activities in the equity market. The following analysis shows that both these

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actions had substantial, and unanticipated, effects on the asset markets the reserve assets were drawn from.

### **5.1. Gold Reserves in the 1990s**

Many central banks have substantial holdings of gold. Until the 1990s this gold was largely simply stored. However, in the mid-1990s a number of Central Banks began to diversify away from gold. The Central Banks divested themselves of gold for a number of reasons which resonate with the current discussions on holdings of US Treasuries. In some cases it was for diversification purposes, for example the Bank of England announced its intention restructure its portfolio from 50% of gold holdings to 20% in 1999. In other cases the arrangement was undertaken at least in part to increase the return on the reserves portfolio, for example the sale of gold by the Reserve Bank of Australia announced retrospectively in 1997 where the profits were reinvested in higher return assets.

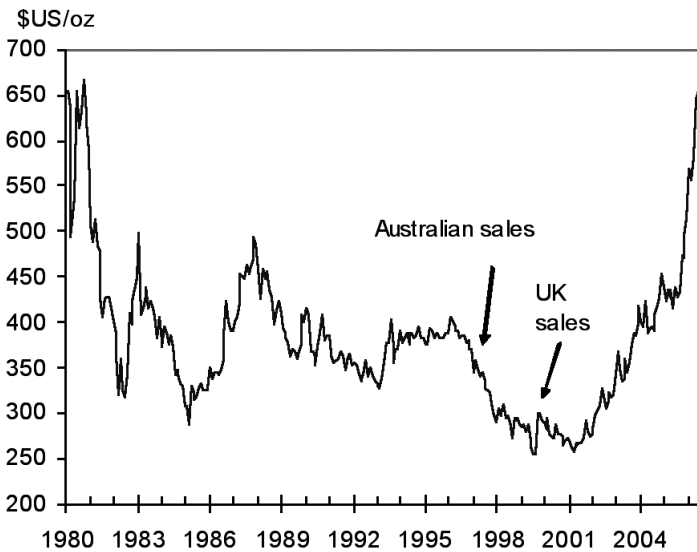
As the Central Banks were substantial holders of stocks of gold the diversification strategy had market impact. Initially the market was not really aware of these changes and the sales seem to have been conducted in a relatively orderly manner without causing too much concern for market prices. Gold prices since 1990 are shown in Figure 5. That changed substantially in July 1997; the announcement that the Australian central bank had sold two-thirds of its stock of gold (167 tonnes) in the immediate past, with a substantial part of that on a forward basis to be delivered in the next three months, rocked the gold markets. The Australian actions were totally motivated by its own utility maximising behaviour, although it seems they had carried out the operations with due caution so as not to disrupt the market's operations.

Although a number of other central banks had also been involved in selling gold, news of the Australian sales led to a substantial impact and outcry from gold producers and gold market participants alike that central banks should not be disrupting the market. A result of the discussion was in fact a signatory agreement, The Central Bank Gold Agreement on 26 September 1999, by 15 mainly European Central Banks declaring that they would not engage in substantial sales of gold other than those which had already been announced, and imposing limits on the sales of gold by the participants. In particular

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they stated that the pre-announced sales would be conducted “through a concerted programme of sales over the next five years. Annual sales will not exceed approximately 400 tonnes...”. During this period the Bank of England divested itself of 395 tonnes of gold (HM Treasury, 2002) via preannounced auction in a period when the gold price dropped consistently. A subsequent enquiry reported no evidence of market manipulation around the auction dates (HM Treasury, 2002). On 8 March 2004 the Central Bank Gold Agreement was renewed by 14 of the participants in the original agreement, significantly the Bank of England was not a signatory. The new agreement limited the concerted actions to no more than 500 tonnes per year, and not to expand their use of gold futures and options.

Figure 5: Gold prices 1980 to 2006  
(source: Reserve Bank of Australia Monthly Bulletin)



The use of derivative instruments in the gold market is an important element. As noted with respect to other reserve assets it is known that Central Banks engage in gold futures, swaps, options and

leasing arrangements as well as forward sales. It is not clear the degree to which to this is the case, and Turk (2004) speculates the reason that the Bank of England was not a signatory to the 2004 agreement was that it did not wish to be bound to the (unspecified) existing level of futures and options. While there are important non-signatory countries to the Central Bank Gold Agreement, almost 45% of gold reserves were owned by European countries (excluding the UK) in 2005 according to figures compiled by Wener (2005) from the World Gold Council data. The next largest holders are the United States and the IMF. The IMF is particularly constrained as it cannot buy gold, and cannot dispose of gold other than by direct sales which require prior approval from its member countries, the last of which was to fund their involvement in the Heavily Indebted Poor Countries (HIPC) Initiative which involved gold sales in 1999-2000.

It is quite apparent that gold market participants regard the Central Banks as having a major influence when they are active and as potential players, even when they are relatively inactive. A number of commentators have expressed concern as to whether the recent lack of Central Bank gold sales has allowed the current substantial gold prices. The lesson for the current situation is that it may take only a small signal by the central banks on changes in their portfolio preferences to precipitate large scale changes in preferences by market participants more broadly, even though a substantial proportion of this may be an overshooting reaction.

## **5.2. US Treasuries in 1998**

There are parallels with the change in reserve management behaviour over gold with the current arrangements. By holding reserves in US dollar denominated assets, central banks are accepted a lower rate of return than other potential assets, see also Frankel (2005). This is particularly true for US Treasuries. Some of this lower return is compensation for the associated lower risk. However, other assets may also provide similar levels of risk at higher return, the most often cited of these alternatives is a move to Euro-denominated assets. To examine this more closely consider the breakdown of the asset types of US dollar denominated reserves.

McCauley (2005) gives an estimated breakdown of the US dollar denominated reserve assets held overseas, which is replicated in part here in Table 1 (this does not match the total holdings of reserve assets

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as not all countries provide a breakdown in these terms). Holdings of riskier assets, represented by equities are clearly relatively unimportant, at around 5 percent of the total; Lomax (2006) reports the decreased holdings in these assets post the dot-com bubble burst and associated movement into agency securities and corporate bonds. Agency securities are an important feature of the current breakdown at a little under 10 percent of the total. The potential for diversification into agency securities has increased with growth in this market, however, its currency spread remains somewhat limited. Repos, and offshore and onshore deposits are clearly important asset classes, accounting for around one quarter of the total, particularly concentrated as short term assets. The bulk of the longer dated securities, and in fact the bulk of the reserves, are held as US Treasury securities, with 40 percent held as long term securities and a further 11 percent as short-term. It is primarily the US Treasury market which is likely to be affected by any change in reserves portfolio management behaviour by central banks.

Table 1: Composition of US dollar reserves at end-June 2004  
(billions of US dollars)

	Short-term	Long-term	Total
Treasury Securities	249	923	1172
Other Assets	635	434	1069
Repos and deposits in the US	141		
Commercial paper and CDs in US	93		
Offshore deposits	401	37	
Agency securities		216	
Corporate bonds		47	
Equities		134	
Total	884	1357	2241

source: McCauley (2005) Table 1 p. 59

In large, central banks are not unaware of the potential effects of their actions. It is not common practice to rebalance reserves portfolios during periods of stress in financial markets, nor to take advantage of portfolio size and opportunities to make profit, although Bank Negara was infamous for its actions in foreign exchange markets during the early 1990s. Usually central banks behave according to some unwritten code

and ignore potential short term gains for the believed trade-off of longer term stability. However, when crises occur, the rules no longer apply, and central banks will act in their own best interests. In this instance of course, crises may not necessarily be exogenously generated, but may result from a simple decision to change something such as the portfolio allocation, as alluded to above in the example of gold holdings.

The potential for a desired change in US Treasury holdings to affect the operations of the US Treasury market is marked, and this is aside from the clear price impact that such portfolio changes could affect. Although it is common to think of the holdings of any individual portfolio as trivial with respect to even the daily turnover of the secondary market for US Treasuries, this is a misplaced illusion. What matters in this market is not gross flow of turnover, but rather net flow. Brandt and Kavajecz (2004) document that the average net daily purchases for on-the-run bonds with maturities of 1-2, 2-5 and 5-10 years, of \$US247, \$US308 and \$US145 million respectively. Significant flows in one direction or another beyond these levels, due perhaps to market herding, can create lack of liquidity to fulfil orders creates disruption, volatility and price uncertainty. To illustrate this we consider evidence from the actions of the Hong Kong Monetary Authority during its interventions in the Hong Kong stock market during August 1998, a period conveniently commensurate with the flight to US Treasuries associated with the Russian bond default and the subsequent near-collapse of the US based hedge-fund Long Term Capital Management.

Briefly, in August 1998, the Hong Kong Monetary Authority (HKMA) decided to act to prevent a further attack on the currency board arrangements based on a speculative double play. The double play involved shorting the Hang Seng Futures index while simultaneously attacking the currency. If the HKMA responded as to previous attacks by increasing interest rates the speculators would gain on the futures market positions as the Hang Seng declined, alternatively they may win by breaking the currency board. The background to this incident is described in Dungey, Goodhart and Tambakis (2005). In the event the HKMA protected its currency by buying a substantial portion of the Hang Seng market itself to sustain the stock market in the face of the speculative pressure; see Goodhart and Dai (2003) for details.

To undertake this intervention the HKMA spent some \$US 15 billion, funded from reserves, over the period of 14 to 28 August 1998. Although it is not specifically stated, the known composition of

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Hong Kong's reserves mean that effectively this involved the sale of a substantial sum of US Treasuries. In what seems to be an unrelated coincidence, at almost the same time the Russian Government announced that it would suspend payment on its sovereign debt on 17 August 1998. This precipitated an enormous flight to quality, in particular to US Treasuries from almost all developing economy sovereign debt. Spreads over US Treasuries increased for almost all categories of debt; see Dungey, Fry, Gonzalez-Hermosillo and Martin (2006). What makes this incident particularly interesting for the current purposes is that it indicates the potential impact of changes in reserve portfolios on US Treasuries markets.

The impact of the HKMA sales in the US Treasury markets can be backed out by examining what did not happen in the US Treasury market during the two weeks of their intervention. Analyses of the events of the last weeks of August and into September focus on the impact of the Russian default, the flight to quality, and the effect on LTCM. The uncertainty and extra demand for safe-haven assets such as the German bund are documented in the rise in volume traded and the immediately widened spreads in Upper (2001) and Upper and Werner (2002). The US Treasury market displays the same characteristics, but only *after* 28 August, which is the date on which the HKMA ceased intervening and hence ceased selling substantial amounts of US Treasuries to fund its activities. During the time in which the HKMA was inadvertently injecting supply into a market which coincidentally experienced substantial demand the characteristics of the market were quite different.

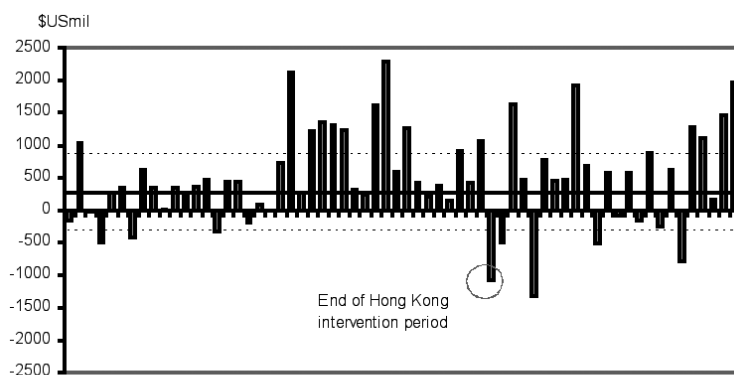
To illustrate this phenomenon Figure 6 shows the net purchases of US Treasuries in the period of August 1998, showing the substantial net sales of 2 and 10 year Treasuries on the significant dates associated with the HKMA interventions - most particularly the heaviest days on 27 and 28 August when the HKMA is estimated to have spent some \$HK19 and \$HK72 billion dollars respectively (Goodhart and Dai, 2003). The solid horizontal line gives the mean purchases according to Brandt and Kavajecz (2004) and the dashed lines their 95% significance levels. The substantial net sales are inconsistent with the heavy demand for Treasuries emanating from the flight to quality and are clearly significant. This is most evident at the longer maturities, at shorter maturities there is definite evidence of flight to cash also, but consistently across all maturities there are net sales of Treasuries. Even

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more convincing is the evidence on the bid-ask spread on US Treasuries at this time. In the case of the German bund the Russian bond default produced uncertainty and extra demand for safe-haven assets and immediately increased the spread on the bund. In the case of the US Treasuries, this widened spread did not appear until 28 August, after the final HKMA interventions. Figure 7 illustrates this for the 2 and 10 year bonds - showing also the short period of wider spreads associated with the large decline in global equity markets on 21 August. It is worth noting that it is at this time, in early September, that concerns about a liquidity crisis emerged in the US financial markets. Although this corresponds with greater public awareness of the plight of LTCM their problems had in fact begun much earlier, as documented in Lowenstein (2001). This period culminated in the co-ordinated rescue package for LTCM facilitated by the Federal Reserve, and the surprise inter-FOMC rate cut in October 1998.

Figure 6: Net Purchases of US Treasuries, July-Sept 1998  
(source: GovPX database)

a) 2 year US Treasury bonds



b) 10 year US Treasury bonds

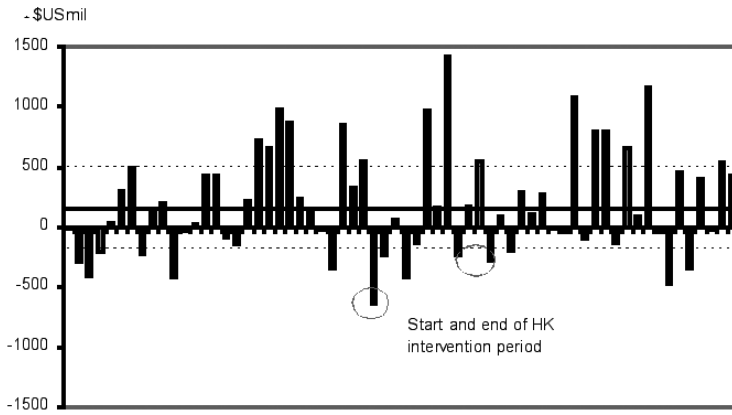
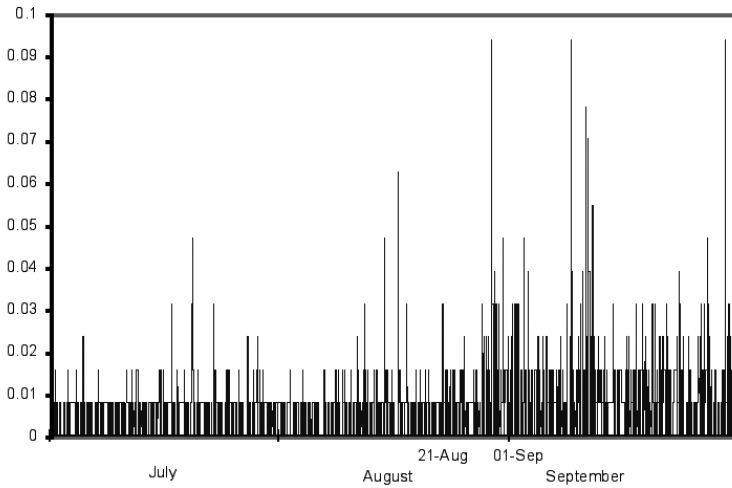
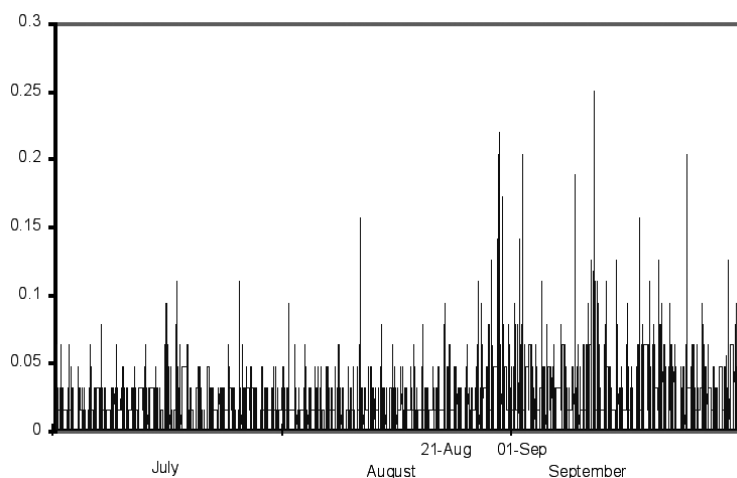


Figure 7: Bid-Ask spreads for US Treasuries, July-Sept 1998  
(source: GovPX database)

a) 2 year US Treasury bonds



## b) 10 year US Treasury bonds



The evidence from the HKMA interventions is that portfolio shifts from central banks can dramatically affect the operation of the US Treasury market. In this case the evidence suggests that the potentially \$US15 billion of sales of US Treasuries over two weeks by the HKMA was sufficient to at least partially offset the potential liquidity effects of the flight to quality of US Treasuries during the course of those sales - of course it was not sufficient to offset the change in sentiment and price. Truman and Wong (2006) suggest that \$10 billion worth of diversification per month would be sufficient to be of concern to the currency markets, and the evidence here would suggest this could make a substantial difference to the US Treasury markets. Clearly the flow which could be injected into the market by any of the major holders of US Treasuries is substantial - according to McCauley (2006) the US Treasury holdings in reserve assets are over 70 times what the HKMA injected in a two week period.

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## 6. Conclusion

There has been much discussion over the role of global imbalances and the accumulation of international reserve assets in the resolution of what is largely viewed as an unsustainable current account position on the part of the US economy. In one view the US exchange rate must depreciate to correct global imbalances. However, the particular role of the US dollar as the world's reserve currency gives it a special status which makes it unclear how the situation may evolve. The majority of US trade is invoiced in its own currency and hence it experiences very little in the way of pass-through effects compared with other countries. A depreciation of the US dollar may then lead to an improvement in export competitiveness and subsequent adjustment through the labour market rather than inflationary pressure. There are competing views as to whether the situation will resolve gradually, such as in Bordo (2005) or Engel and Rogers (2006), or potentially with trauma, as in Eichengreen (2004) and Freund and Warnock (2005).

This paper has been more concerned with the potential impact on the functioning of financial markets if Central Banks were to diversify their reserve assets. While there have been papers worrying about the impact of the diversification on currency value that has not been the focus here. Rather, the paper argues that as Central Banks hold such large stocks of particular assets, the mere suggestion of change in holdings can be sufficient to change market sentiment and cause disruption. To support this proposition evidence from two recent episodes involving Central Bank reserves are examined. The first involves the disruption in the gold markets resulting from the Central Bank divestment of gold in the 1990s, much of which seems to have been due to shifts in sentiment. The second is the result of sales of US Treasury securities from the reserves holdings of the HKMA to fund its intervention in the Hang Seng market in 1998, which had discernible effects on liquidity in the US Treasury markets. The point which emerges is that as the Central Banks are significant holders of stocks of particular assets, information on their intentions is extremely valuable in financial markets, and their actions may well trigger unanticipated effects in the operations of the markets for those assets.

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# Comments and Observations on the Paper by Mardi Dungey *The US Perspective*

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## 1. Introduction

Let me start by thanking the organizer for inviting me to the Fourth Florence Colloquium and for letting me comment Dungey's paper. I enjoyed reading her paper. It is well written, well structured and nicely balanced. I would say Dungey has done a great service to the potential readers of the paper by presenting her research in such a clear and understandable way. Needless to say, I warmly recommend reading Dungey's paper.

In her paper Mardi takes up an important issue, (active) asset management by central banks. This issue is highly relevant not only from the point of view of central banking per se but also, and in particular, from the point of view of the potential effects of asset management by central banks on financial markets, as so vividly demonstrated by Dungey's analysis. In commenting Dungey's analysis I am, consequently, going to concentrate on two main questions. Firstly, should we conclude from the observation that active asset management and, more specifically, intervention through large scale open market operations by central banks can have major financial market repercussions that there's a need to put tighter constraints on central banks' asset management policies? Secondly, in the context of the discussion on global imbalances I will raise the issue on the possibility of the existence of dark matter, which, if there, implies that the world is economically much more balanced than official external statistics would suggest. I will refer to dark matter, since it is not discussed by Dungey, although she summarizes most of the other arguments put forward in the context of the debate over global imbalances.

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## 2. Central bank asset management and monetary policy

The main focus of Dungey's paper is on the potentially adverse financial market effects of asset (reserve) management policies by central banks. She illustrates the main points of her analysis through two real life examples: in 1998 the Hong Kong Monetary Authority (HKMA) bought a substantial portion of Hang Seng Market itself to fight speculation against the currency and in July 1997 the Central Bank of Australia (BoA) announced that it had sold 2/3 of its gold reserves in the immediate past. The defensive and apparently successful intervention by the HKMA as well as the announcement by the BoA had major financial market effects, although in the latter case the operation itself – selling gold – earlier in time did not move the market.

Now, one would think, much in line with the underlying tone in Dungey's analysis, that these two events bear witness to the idea that excessive and adverse market movements can be the outcome of central banks reshuffling their portfolios in a nontrivial way and that, because of these market excesses the underlying central bank operations can be deemed problematic. But why should such central bank operations be problematic? Or more generally why should active asset management by central banks potentially be a problem?

Currently many central banks, particularly Asian central banks, hold large foreign currency, more often than not US dollar reserves. This implies, among other things, that risk preferences of a "representative international investor" are more biased in favour of the US dollar than would otherwise be the case with these central banks holding more diversified currency re-serves. It is plausible, then, that a nontrivial shift away from the US dollar by these central banks, resulting in less biased risk preferences by the "representative international investor" towards the US dollar, could lead to nontrivial exchange rate movements among the major currencies and even to foreign exchange market turmoil. I would be surprised if we could find a policy maker whose preferences would sustain such an outcome!

But I think there is a more important reason for thinking that active asset management by central banks could be a problem and even run against central bank policy preferences. This has to do with the fact

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that central banks are *policy making institutions*. Now, the fact that markets observe or learn about major shifts in central banks' portfolios could lead markets to search for *policy signals* in the observed policy moves. That is markets may think that the reason for a particular central bank to engineer a portfolio shift is that it wants to signal a policy change or a change in its assessment of the state of the home economy or relevant economies. These market perceptions could then adversely affect market expectations and, in the end, to a period where we can observe relatively large, possibly short lived asset market movements with local price trends strengthened and price volatility increased. In short, active asset management and policy making may not mix simply because of the possibility of markets inferring confusing signals.

I think this type of market confusion, generated by markets not being able to separate "pure" portfolio diversification or optimization by central banks from true policy signals, is a real possibility. However, central banks do actively manage their reserves or, more generally, assets. And there are good reasons for them to manage their assets, one important being that often tax payers' money is involved. Indeed, seeking return (given risks) is very much in the business of central banking nowadays.

The problem is not, however, that central banks hold large reserves (and, consequently, actively manage the underlying assets). These reserves are the *outcome*. For example, the accumulation of US dollar denominated assets by some of the Asian central banks has been dictated by, more often than not, implicit policy objective, like resisting appreciation of the domestic currency. The problem is then that, motivated by various policy objectives, central banks start to accumulate particular assets. The natural solution to this problem is to solve the underlying policy problem, not to restrict central banks' access to financial markets for policy interventions or for "pure" portfolio management.

Active asset management by central banks can, of course, have nontrivial effects on local financial markets, often because of the lack of sophistication and depth of these markets. Caballero *et al* (2006) have very recently emphasized this idea in their penetrating analysis of global imbalances and low interest rates. More specifically, in addition

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to potential growth differentials among different regions of the world, heterogeneity in these regions' capacity to generate financial assets from real investments is the key force in explaining sustained rise in the US current account deficit, persistent decline in long-term interest rates and the rise in the share of US assets in global portfolio. Although I think this is an important point, I also think that this does not provide us with a sufficiently strong case for arguing that central banks should be constrained in asset management activities. First of all, in the context of normal business cycle management, the risk of financial market inferring wrong signal is small, maybe even minimal. Secondly, and perhaps more importantly, central banks resort to unconventional and even drastic policy measures, when there is a problem that needs to be addressed through these policy measures. Typically, in these special circumstances changing the major monetary policy tool – mostly the steering rate – is not effective or induces self-fulfilling equilibria. One of the examples analyzed by Dungey, HKMA's equity market intervention, is almost an ideal example of this!

### **3. What if Dark Matter is there?**

Finally, in the context of the ongoing discussion over global imbalances, I would like raise the issue of the existence and extent of dark matter. Although the debate over dark matter is not in the core of Dungey's analysis, I expected her to comment it in the context of her otherwise balanced analysis over the issues raised in the context of the discussion over global imbalances. As suggested by the calculations presented in Hausmann's and Sturzenegger's (2006) thought-inspiring and provocative paper, US is exporting dark matter to the rest of the world in increasing amounts. Hausmann and Sturzenegger identify US foreign direct investment to rest of the world, liquidity and insurance services provided by US assets to the rest of the world as the main sources of dark matter. Now, the existence of dark matter, whatever the sources, implies that the global economy looks much better balanced once we adjust official balance of payment figures to account for the trade in dark matter. In fact Hausmann and Sturzenegger suggest that trade in dark matter is so large as to make US net creditor instead of net debtor as one would infer using official balance of payment statistics!

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Even though I do believe that Hausmann and Sturzenegger overestimate the size of dark matter<sup>2</sup>, the main point here is, I think, that if dark matter is there and is sufficiently large, then the potential effects of global shocks and generalized portfolio reallocation away from the US dollar on the dollar itself, the global economy and on the global financial markets may not be so drastic as suggested by many recent studies<sup>3</sup>. Dark matter could conceivably be one factor contributing to the resilience of the global economic and financial system making soft landing more likely in the event of global rebalancing. This idea itself should motivate researchers and policy makers to continue investing resources into research that seeks to establish the existence and significance of dark matter in the global economic system.

Let me conclude by reiterating that I was a true pleasure to read Mardi Dungey's paper and that I hope that many potential readers find their ways to her paper to enjoy the clarity of her analysis.

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2 See also Buiters's (2006) critical account of Hausmann's and Sturzenegger's analysis. It should be noted that the very recent balance of payment statistics for the US suggest that Net Investment Income (NII) for the US is currently negative, which contrasts with Hausmann-Sturzenegger whose calculations rest on positive NII. The reason for this is the rise in short-term US interest rates.

3 See in particular Blanchard et al (2005) and Obstfeld-Rogoff (2004).

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## **Comments and Observations on the Paper by Mardi Dungey *The US Perspective***

**John Teall**

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### **Background: The U.S. Experience**

Beginning in 2001, the Bush administration cut U.S. tax rates as it increased government spending, particularly on war, turning a late 1990's era federal budget surplus into a consistently burgeoning deficit. Meanwhile U.S. consumers continued to increase their consumption of imports and decrease their savings rates. U.S. trade deficits (\$782 billion in 2005, approximately 6.5% of GDP) have grown exponentially as Americans increased their imports, particularly from China, Japan and oil-producing nations. Many economists are forecasting continued growth in these deficits, perhaps to as high as 8-12% of U.S.GDP (Cline [2005], Roubini and Setser [2004] and Truman [2005]) sparking an eventual and perhaps sudden collapse in the dollar.

Dr. Dungey notes that throughout all of this thus far, the dollar has remained the primary currency of invoicing. This has been particularly true for raw materials such as oil, and U.S. Treasuries remain the refuge for the most risk averse. This set of circumstances has prevented the U.S. dollar from collapsing and enabled the U.S. to maintain low interest rates throughout the first six years of the 21st century. In this informal arrangement sometimes known as Bretton Woods II, the renminbi is pegged to the dollar, enabling the dollar to maintain value worldwide. In effect, the U.S. Fed, following expansionary policy, "prints" money that increases demand for imports. The money is used by consumers to purchase underpriced imported goods from Asia. Asian countries then invest the proceeds in U.S. government debt securities to finance the U.S. war effort and other U.S. government and private investment. The process recycles itself over and over again as China pegs its currency to the dollar.

The U.S. role in this relationship is rather perverse, as the U.S. both retains the world's key currency and maintains a current account deficit, the second, just as developing countries are so frequently observed. Disaster often strikes when this set of circumstances arise in

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developing countries when the world ceases to finance them. Similarly, the rest of the world can easily cease financing the U.S. spending spree. Again, thus far, the dollar remains the world's primary reserve currency and currency of invoicing. This may protect the debtor U.S. from the plight typically suffered by developing countries. On the other hand, in 2005, the sum values of international bonds totaled \$18.6 billion, with 43% denominated in euro and 39% in dollars (Bergsten [2005]). The euro certainly presents itself as a viable competitor to serve reserve and international invoicing roles. This presents additional risks to holding dollars. Worse, at some point, increases in borrowing will have to level, and existing debt, or some fraction of it has to be paid.

### **The World's Reaction**

Will there be a massive sell off of U.S. dollars and dollar denominated assets to avoid anticipated losses from dollar devaluations? If so, what in the meantime? If not, then what? Perhaps a more controlled and gradual sell off to avoid dollar losses? Maybe even a coordinated worldwide intervention to manage the outcome? Whether a massive sell off, gradual reduction or coordinated intervention, central bank actions are motivated by anticipated devaluations of the dollar; in essence, central banks are speculating on or encouraging a downward movement of the dollar value.

Prospects for the future have been summarized, are typically characterized something like the following:<sup>1</sup> With the massive internal and external debts facing the American people, it is unlikely that interest rates can be maintained at their low levels. Furthermore, U.S. housing prices cannot be maintained at their high levels, especially if interest rates increase.

But, instead of this position-oriented sell off, or perhaps prior to it, Dr. Dungey is proposing that central banks may simply pursue a diversification-oriented risk management strategy. Here, China or another country acting in a self-serving manner may simply sell dollars to rebalance its portfolio with other currencies or assets. Regardless, as Dr. Dungey illustrates with historical examples involving Hong Kong and Australia, the impact of even a diversification sell off can severely impact the asset's market value. In fact, the anticipation of such a sell off can pose severe consequences. But, such sell offs, if conducted on a large scale, immediately exposes the central

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1 For example, see Roubini and Setser [2005] and Obstfeld and Rogoff [2004]

bank to the dollar devaluation whose fear motivated the sale.

While other and sharply contrasting scenarios have been proposed for the current imbalance (See for example, Dooley et al. [2003]), none preclude the portfolio adjustment scenario suggested by Dr. Dungey. In a sense, this portfolio adjustment paradigm can be viewed as either an “end game” or “in process” scenario.

### **Portfolio Diversification**

While the paper does provide a broad and useful overview to the issues concerning current imbalances, the central theme of the paper is much more focused. First, rather than focus on the likelihood and timing of currency realignment or its effects (other than to review existing literature), the key argument focuses on the market’s expectation or fear that central banks will diversify their portfolios. The paper does not offer original theoretical or statistical evidence that such diversification activities will occur, or on the broad macroeconomic or political impacts of these actions if they do occur. Instead, the paper presents illustrations of price effects of previous asset sell offs involving gold and U.S. Treasuries. The potential parallels to the current imbalance are clear. But, it is not clear to me from the paper whether there is any meaningful difference between the impact of dollar sell offs motivated by diversification and the impact of sell offs motivated by the balance realignment. Both should affect currency values, but does one have a greater impact on values? How about in the broader macroeconomic and political realms?

The paper sparked several related questions concerning central bank risk management. To what extent are central banks already engaging in efforts to manage portfolio risks? Are they using any of the many types of derivative contracts on dollars? What types of contracts and how much? If so, how does central bank use of these contracts affect dollar value? Risk? Do central banks still need to sell dollars if their portfolios are deemed excessively dollar weighted; might a central bank better able to manage portfolio risk with derivatives? Derivative markets do provide opportunities to affect dollar positions without necessarily impacting relative currency values. Dr. Dungey does raise the derivatives issue briefly with respect to a specific contract (p.8), though I’d like to see this issue further developed. The case for managing dollar-holdings risk with derivatives rather than sell offs and the impact of this on relative currency values is worthy of further exploration.

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# **SECOND PAPER**

## **THE CHINESE PERSPECTIVE**

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### ***Abstract***

The paper considers the challenges of regional financial integration in the Asia-Pacific region with an emphasis on China and discusses issues related to China's large reserve accumulation versus the US' large foreign liabilities and their implications for the process of financial globalisation. The paper considers a Chinese perspective of issues related to global trade imbalances and the way the US should reconsider her monetary policy. The paper discusses the way APEC and ASEAN countries have been formed and the way in which these regional blocks wish to integrate and converge their economic and financial markets. As part of this process of integration and as a way of responding to the need to address the large Chinese reserve accumulation, an Asian Single Currency has been considered by the Asian Development Bank. Some of the issues associated with the possibility of an Asian Single Currency for China and the way China could increase her investment and reduce her saving in a new environment of regional financial integration are discussed.

### **1. Introduction**

We are currently in the second wave of globalisation. The first one started in the late 19th century and ended up with the outbreak of the First War. The second wave of globalisation started in the 1960s. There are also some who argue that globalisation may well be traced back to Columbus' voyage to America. Regardless of the beginning of this process, we have observed that technological changes, telecommunication and removal of trade barriers as well as financial deregulation has contributed to the process of regional and global integration. We have

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observed the emergence of the EU, the process of economic integration in the Asia Pacific region in the context of APEC and ASEAN and in other parts of the world, various regional cooperation have been set up including in the Pacific region amongst the island countries. Recent reforms and market liberalisation since the late 1970s has placed China in a strong position as part of the global economy. At the same time, the Asian Currency Crisis in the 1990s has created an environment in which Asian countries, including China, are a bit wary of the possibility of another financial crisis in Asia. In the meantime, there have been a number of debates as to how to ensure that Asian financial markets will become more stable and more predictable. One of the ideas proposed by the ASEAN countries, as well as China and Japan, is the possibility of an Asian Single Currency. It is clear that a Single currency is the outcome of a process of financial and economic integration that may take years and sometimes decades to achieve. In other words, while an Asian Single currency concept may not be appealing to everyone, due to the fact that some see it as unpracticable, one should also note that it is the process that is important, a process that ensures that the economic and financial policies ensure that in Asia, the key countries' economies converge over time as part of the process of global financial integration.

The remaining part of this paper discusses issues related to global trade imbalances from the Chinese perspective. In doing so, section 2 deals with global trade imbalances and the US and Chinese monetary policies, section 3 discusses issues related to financial development in China; section 4 presents a Chinese perspective of global trade imbalances; section 5 discusses issues related to Asian economic and financial integration; section 6 deals with issues related to an Asian single currency, section 7 deals with issues related to a new Bretton Woods System and section 7 concludes.

## **2. Global Trade Imbalances and the US and Asian Monetary Policies**

Economic success of China in recent years has contributed to the current global trade imbalances between the US on the one hand and China and some other Asian countries on the other. We have observed that the US current account deficit increased to about 7 percent of GDP

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in recent times. At the same time, we are observing that China's reserve accumulation has increased to more than \$900 billion dollars in 2006. We are also aware that China has had a trade surplus with the US over the last few years.

A number of factors have been identified as the causes of global trade imbalances. For instance, high US productivity, the US fiscal deficits and low savings in the US. At the same time, Bernanke ( 2005) argued that the "saving glut" in some Asian countries could explain the current global trade imbalances. The recent empirical study by Gruber and Kamin ( 2006) partially support the idea of a savings glut. However, another recent study by Chinn and Ito ( 2005) indicate that what we are observing is an "investment drought" in the South East Asian countries and a "saving drought" in the US. Such an observation is in contrast to economic theories that predict that economic growth in developing countries will increase their current account deficit and also increase their investment. The existence of such a phenomenon and also the presence of home bias that is slowing the process of capital flows to developing countries have created an international financial environment in which some developing countries are skeptical about the future of international financial architecture and they tend to invest less and accumulate more reserve as a way of hedging themselves for possible future regional or global financial crises. China is one of these countries, particularly when in Asia, most countries have experienced an Asian Currency Crisis.

### **3. Financial Development in China**

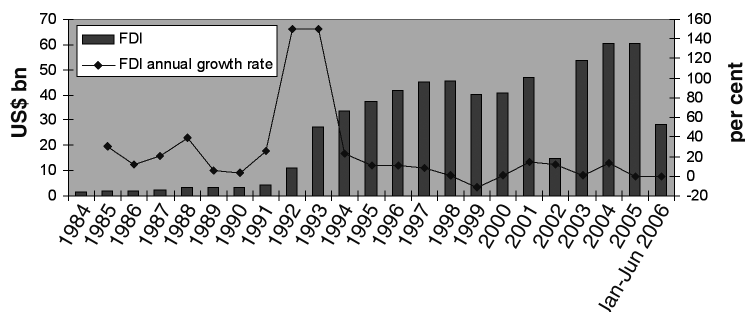
The reality of the current global economy is that we neither see a significant capital flow from developed to developing countries as predicted by the neoclassical theory nor a situation in which emerging countries will run a current account deficit per annum, as long as these countries' financial markets are open to the world market and investment is expanding in their countries.

Reform and deregulation in China has contributed to the expansion of her trade and investment. As can be seen from Figure 1, FDI to China has increased over time to the extent that at the present time, we are observing that China is the largest recipient of FDI

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amongst developing countries. Economic growth in China has also been significant and strong over the last several years. Indeed, China has had the largest economic growth in the world in recent years. At the same time, the incentive to join the WTO has contributed to a large number of reforms within China. The gradual privatisation of government enterprises, including the major banks, are steps in the right direction. At the same time, more reforms are needed as part of a strategy to increase investment and reduce savings in China. At the same time, a more flexible exchange rate and deregulation of the capital market are some of the processes of reform in China that should accelerate.

Figure 1 shows the developments of China's FDI from 1984 until the first half of 2006.

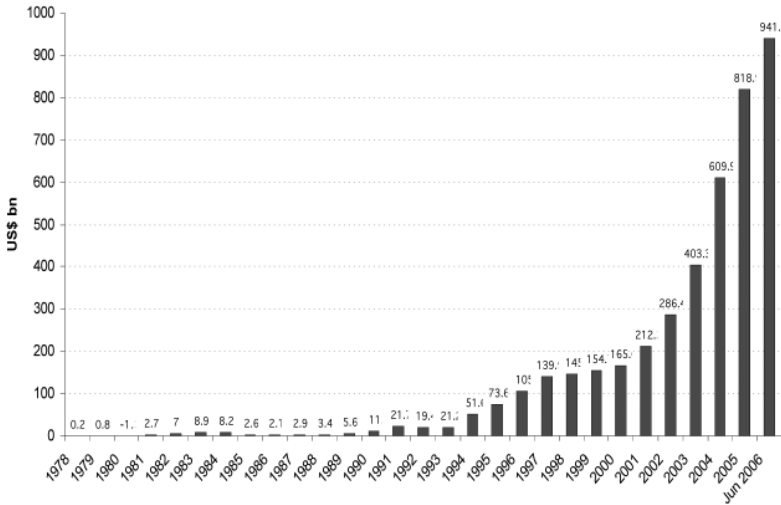


Source: National Bureau of Statistics (China).

China's foreign assets are concentrated in official reserves that form 67 percent of her total foreign assets holdings. Figure 2 shows how rapidly in recent times, China's foreign exchange reserves have increased.

It is argued that one may wish to consider that an increase in reserve accumulation could be seen as part of a strategy that allows export-led growth with less pressure to revalue the RMB. Such a policy could be argued to have benefited the rest of the world, as the terms of trade remained relatively stable, with increased exports from China at low cost causing a downward pressure on global inflation. At the same time, the economy of those countries including those in the East Asian region that export intermediate products to China has remained strong.

Figure 2: China's Foreign Exchange Reserves: 1979 - June, 2006



Source: China & World Economy, Statistic data (July 09, 2006)

Figure 2 shows China's foreign exchange reserves from 1979 to 2006. A few Tables and Figures in the Appendix to this paper are also reporting some relevant information regarding the recent data and developments in capital and financial markets in China.

With respect to China's foreign exchange reserves, one should note that, as stated by Lane and Schmukler (2006), "high level of reserves could be considered as a subsidy that lowers the cost of external finance for the issuers of reserve assets." This in turn has assisted the US to keep its interest rates lower than otherwise. The recent study by Warnock and Warnock (2006) indicates that as a result of the flow of foreign official assets from East Asia to the US, the US interest rate has been low by about 60 basis points that in turn has contributed to higher consumption and higher value for real estate in the US as well as a high current account deficit.

At the same time, the opportunity cost of reserve accumulation is high and hence it cannot be sustained in the long run.

A theoretical study by Devereux and Genberg ( 2006) shows that in the presence of current account surplus in China and current account deficit in the US, a revaluation of the Yuan will not necessarily improve the US current account balance. Partly because China imports a significant amount of the inputs of her production from the US and hence in one respect, the Chinese will benefit from a lower cost of imports. Even if the elasticity of trade is .5 rather than say .2.

In other words, revaluation of the Yuan will not affect the overall expenditure by China. However, it will reduce the cost of intermediate goods as they are priced in US dollars and hence could increase the net foreign assets that China is holding in US dollars.

On the other hand, it is argued by Devereux and Genberg (2006) that a fiscal policy could have a better outcome subject to its source. In other words, a saving subsidy in the US may well lead to both the US and China's reduction in consumption. It is argued that such a subsidy may not have any effects on the US inflation and hence real interest rates. Assuming that the terms of trade are unchanged, output could fall in both the US and China. If the output falls in the US, the US consumption will fall by more than the US output. It is argued by Devereux and Genberg ( 2006) that in the long run the US "net foreign assets are higher and it has a higher long run consumption " , while China will have lower consumption and also lower output.

There is another study by Lau (2003) that shows that the cost of Chinese goods exported to the US will increase by about 2 percent, in the wake of a 10 percent increase in appreciation of the Chinese Yuan. Similarly, Lau ( 2003) shows that even if the Chinese value of exports may be high to the US and to the rest of the world, the Chinese domestic value-added of these goods is no more than 20 and 30 percent respectively. However, with respect to agriculture, there is an argument that the revaluation of Yuan may reduce the cost of imported foods and hence reduce the competitiveness of domestic agricultural products. This is even more sensitive when China has an over supply of labour in the agriculture sector.

Another aspect of the Chinese foreign exchange rate is the possibility of fast tracking the process of moving to a flexible exchange rate in China. It appears that due to less reform in China's banking

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system, there are some concerns that a less effective banking system may lead to destabilisation of the financial market in China. This argument could be convincing, when the corporate and banking sectors in China are becoming increasingly more exposed to foreign exchange risk, particularly when China's economy is becoming gradually integrated into the global economy.

There is also another argument that foreign exchange rate flexibility may affect trade and FDI. However, based on empirical studies of other developing countries, one may not necessarily argue that flexible exchange or appreciation of the Yuan may lead to reduction in the amount of FDI or significant trade income volatility. However, as will be discussed in the rest of this paper, Asian financial integration and a more stable regional currency may well look after the concerns regarding stability in trade or FDI.

At the same time, capital liberalisation is another major challenge in China. There are some who would argue that China may not be able to have a flexible exchange rate without first having her capital account liberalised. At the same time, some argue that a flexible exchange rate regime could assist in the process of capital account liberalisation. Past experience has also shown that when countries allow for capital account liberalisation, this in effect will increase capital inflow rather than lead to substantial capital account deterioration. This is because foreign investors see this as a signal for an economy that wishes to be fully integrated into the global economy and also attract more foreign capital. At the same time, there are some legitimate concerns about the banking system in China and the link between their reforms and capital account liberalisation. The imminent accession of China to the WTO will leave no choice but for acceleration of reforms in Chinese banks and hence one should also allow for the major role that Chinese banks could play in contributing to the process of financial market deregulation.

There is a research work by Dollar and Kraay ( 2006) in which they have shown that, subject to institutional reform and liberalisation in the capital market, the current account balance of China could be in deficit for an average of two to five percent of GDP over the next 20 years. They also estimated that China's net foreign liability position could be around 40 percent of her GDP by 2025. However, the reality

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could be different to what has been projected for China. For instance, Lane and Milesi-Ferretti ( 2002) show that an increase in per capita output should be associated with a decrease in the net foreign asset position for developing countries. Yet, other studies such as Chinn and Ito ( 2005b) refer to all investment drought in South East Asia that could be contrary to the neoclassical view of capital flows.

At the same time, one could argue that in some other countries like Singapore and South Korea, the current account deficit has been very high as they have gone through reform and development. ( in 1982, Korea's net foreign liabilities was 44.2 percent of GDP and for Singapore 54.2 percent of her GDP in 1976). One should also note that these countries are far smaller than China.

#### **4. China's Perspective of Foreign Reserves and Global Trade Imbalances**

A Chinese perspective of the current issues associated with the global trade imbalances and reserve currencies could well be explained by a reference to part of a recent newspaper article ( Sydney Morning Herald) in early September 2006, as stated below. However, it is also possible that this perspective may not be true as far as the actual official's policy perspective is concerned.

*"The newest member of the Chinese monetary policy committee will today launch a stinging attack on those calling for a major revaluation of the yuan.*

*Fan Gang, a Harvard-educated economist who this month joined the People's Bank of China committee responsible for advising on interest rates and exchange rate settings, says the US dollar, not the Chinese currency, is "a major source of instability".*

*"The current problem is not RMB [renminbi, or yuan] revaluation, but dollar devaluation," he says. "This is the major cause of the current imbalance."*

*Dr Fan argues that the yuan is undervalued "only by less than 1 percentage point annually", and that any large revaluation will only be met with further US demands for more.*

*He says China's huge build-up of foreign currency reserves owes more to speculators pouring capital into China in the expectation of yuan appreciation than it does to China's low exchange rate producing a trade*

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*surplus with the world.*

*The paper, written before Dr Fan joined the PBOC committee, will be delivered at the Australian National University's China Update in Canberra today.*

*It suggests that no amount of yuan revaluation will remove the US deficits of \$US700 billion (\$922 billion), or the bilateral US-China trade deficit of \$US200 billion, or the financial imbalances that threaten developing economies.*

*"The huge stock of [over-supplied] financial assets denominated in US dollars moves around knocking down the doors of developing countries which still have fragile domestic systems and are incapable of handling the risks the liberalised financial market and free capital flows may bring to them," he says.*

*Dr Fan does not blame the US for the global imbalances that rile US Congressmen and jeopardise the financial systems of developing economies. Instead, he points to the absence of any global currency system after the collapse of the gold standard.*

*He says the world's choice of the US dollar as its global currency standard has released US policy makers from the usual economic constraints of excess liquidity.*

*"It seems that no matter how large the US fiscal deficits are, no matter how loose the monetary policies and how much the excessive liquidity provided are, the US is not likely to run into financial crisis like any one else in the world would do.*

*"This may delude, if not 'corrupt' people and policy makers in the 'anchor country', as they may not see it as 'their problem'.*

*"The fundamental problem is not in the US policies, but in the global currency system itself which makes the US follow a certain behaviour pattern."*

*Dr Fan, the director of the National Economic Research Institute in Beijing, says the answer lies in a new currency standard somewhere between the old "rigid" gold standard and a new "utopian" international currency.*

*He advocates a new Asian currency unit being discussed at the Asian Development Bank.*

*"This is no ivory tower exercise. Both China and Japan are very serious about it."*

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## 5. Asian Economic and Financial Integration

In the Asia Pacific region, there are two economic Forums that are providing a mechanism for an increase in the level of integration in this region. One is APEC which consists of 21 countries including the US, China, Japan, Russia and Australia. This economic Forum was established in 1989. According to the APEC Secretariat “its 21 member economies account for more than one-third of the world’s population (2.6 billion people), approximately 56 percent of the world’s GDP and about 48 percent of global trade. APEC represents the most economically dynamic region in the world, having generated nearly 70 percent of global economic growth in its first 10 years”.

The other regional block is the ASEAN that currently has 10 countries including Indonesia, Singapore, Malaysia, Philippines and Thailand. According to the ASEAN Secretariat “The Association of Southeast Asian Nations or ASEAN was established on 8 August 1967 in Bangkok by the five original Member Countries, namely, Indonesia, Malaysia, Philippines, Singapore, and Thailand. Brunei Darussalam joined on 8 January 1984, Vietnam on 28 July 1995, Lao PDR and Myanmar on 23 July 1997, and Cambodia on 30 April 1999. The ASEAN region has a population of about 500 million, a total area of 4.5 million square kilometers, a combined gross domestic product of almost US\$ 700 billion, and a total trade of about US\$ 850 billion”.

The key ASEAN countries are also members of the APEC. We also know that both APEC and ASEAN have plans to remove tariffs and other trade barriers between their members by 2020. In the case of ASEAN, there has also been a push for the emergence of a single regional currency. It is also noteworthy that countries in Asia are coming from different backgrounds. For instance, Indonesia and Malaysia have Islamic background, the Philippines has Catholic background, Japan has Buddhist and Korea has both Buddhist and Christian backgrounds. This indicates that divergence in the background of nations could be a strength rather than an inhibiting factor for the process of integration. It should also be noted that ASEAN countries are very keen to have China, Japan and Korea as part of their Association. As part of APEC, one may argue that some of the member countries such as the US, Canada, Mexico and Chile are not part of Asia and hence the scope of such integration is either less natural or unmanageable. On the other hand, one may also argue that having China and the US as part of APEC could be

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the strength of this regional economic forum, as economic and financial integration amongst these countries will ensure that both the US and China should agree to accept rules and laws of an integrated APEC. This will also entail accepting regional monetary and to some extent regional fiscal policies that are in conformity with the overall direction and interest of the countries forming APEC. This may well include limits on the US budget deficit ( in the same way that the European countries forming the EU should abide by the European Central Bank's rules) as well as domestic reforms and more deregulations in China that could also entail more domestic spending and investment. For the purposes of this paper, I would like to not consider financial integration in Asia that includes the US and other countries outside Asia. Furthermore, I would like to not speculate on the final number of countries that could form such an Asian economic and financial integration but rather analyse the actual concept of regional and global financial integration and its consequences for the current world financial challenges.

One of the consequences of economic and financial integration in Asia will be monetary convergence of countries forming such a union and the possibility of a single currency that could emerge as a result of such financial integration. In such a scenario, China may well invest and spend money in Asian currency rather than simply holding US dollars. This in turn, as stated above, will have some implications for the cost of capital, the interest rate and saving rate in the US and may well encourage a change of monetary and fiscal policies in the US. With this in mind, the rest of this section will discuss issues associated with a single currency in Asia as an additional world major currency that could then address some of the current challenges of issues related to reserve currencies and global trade imbalances.

## **6. A Single Currency in Asia**

The Asian currency crisis has led some people, including the former President of Philippines, in one of the APEC forums and others such as Moshirian ( 2002) to promote the concept of an Asian Single Currency. In this century, various factors, including the process of integration through ASEAN and/or APEC, as well as the success of some European countries in the establishment of the Euro has led to the call by some governments and non-government officials in Asia to

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argue for the emergence of a single Asian currency in Asia. In recent years, the Asian Development Banks proposed an Asian Currency Unit (ACU) as a way forward towards the establishment of an Asian Single currency. Here is what the RIS policy brief (May 2006) *“the ACU is a weighted average of regional currencies a la the European Currency Unit. It is expected that the weight will be determined on the basis of regional country GDP and trade shares, with China, Japan and Korea expected to dominate the weight scheme. At the micro-level the rationale for an ACU is to afford regional economic agents the opportunity to invoice regional financial and trade transactions in the ACU, hence reducing the region’s dependence on the US dollar and other external currencies.”*

In late December 2004, Robert Mundell and Fariborz Moshirian were interviewed by a Chinese newspaper for the emergence of a single currency in Asia. In that interview, Moshirian argued that for any Asian single currency to succeed it is important for all nations involved to feel that they are part of the process and that there is genuine ownership of the process associated with the creation of such a currency. Thus, despite the strong position of the Japanese Yen or in the not too distant future the importance of the Chinese Yuan, it is best that an Asian single currency be independent from the existing currencies in Asia. In the same way that Germany was willing to give up the Deutsch Mark, the most successful European currency in exchange for a European Single currency, a similar attitude should exist towards the emergence of an independent single currency in Asia. This obviously will entail the eventual emergence of an Asian Central Bank and the role that an Asian Monetary policy should play in ensuring low inflation and low interest rates amongst countries forming such a union.

However, in the context of global trade imbalances and also the issues related to China’s domestic spending policies, one could envisage a different policy and approach by the Chinese government, if Asian countries agree to economic and financial integration of the Asian countries. In other words, in the presence of Asian financial integration, the Chinese Yuan may well be replaced by an independent Asian Single currency. In such a scenario, China would not see the necessity of holding most of her assets in the US dollars. This in turn will have some ramifications for monetary policy in the US as well as the way the US government is currently able to finance its massive budget

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deficit. In other words, as part of financial integration in Asia, there will be more discipline on the part of the US government to act more cautiously in dealing with its expenditure and also domestic policies. At the same time, such an Asian financial integration will assist China to have more confidence in the Asian financial system that another Asian currency crisis is less likely and hence China can invest her massive foreign reserve in productive purposes both within China and also in Asia and other countries. It also appears that once the Asian countries agree to the process of financial integration in Asia, there will be more incentive on the part of all Asian countries, including China, to accelerate the process of domestic reforms including more domestic financial deregulations as a way of ensuring the establishment of the expected standard of a regional financial integration in Asia. In other words, the process of economic and financial integration in Asia could potentially become another major incentive ( similar to the membership of China to the WTO) for further domestic financial reforms. However, such a process of integration would also require commitment on the part of Japan and other Asian countries to also accept the process of domestic reforms in their own countries.

Financial integration in Asia and the ultimate emergence of an Asian single currency would ensure that the US dollar is not the only major international currency ( the Euro has already been used as the second major world currency) and hence China would be willing to invest part of her foreign exchange reserves for both domestic and international investment purposes, as the likelihood of another Asian currency crisis would be much less and also China would not need to hold her assets mainly in US dollars.

### **In Search of the New Bretton Woods**

A number of issues and policies have accelerated the process of financial integration over the last several decades. The Bretton Woods institutions came into existence with the view to ensuring liquidity and a stable monetary system as well as adequate capital and know how for development. The Post Wars period witnessed the emergence of the European Common Market, the European Monetary System, the emergence of the Euro, a European Central Bank, a European Parliament. At the same time, in the Asia Pacific region, China and India

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are emerging as two powerful developing countries that are contributing to the process of regional economic and financial integration in this region. China's rapid growth and increase in the level of investment and trade will contribute to the process of regional integration. Although, the emergence of an Asian Single Currency could be challenging and slow to start, yet the process of integration in the Asia Pacific has been in place for the last several years. This process has been intensified by both the removal of tariffs and other barriers amongst some of the Asian countries as well as the process of bilateral free trade between China and some countries in Asia, including Australia. The research work into the Eastern European countries indicates that once nations are given the vision of becoming part of a greater level of integration, national reforms accelerate. In other words, in the case of China, domestic reforms may well accelerate if China is committed to work with other Asian countries for a greater level of integration. The same process could apply at the international level, as we search for the new Bretton Woods system. Acceptance of a higher level of integration will fast track the process of national, regional and global integration and will provide more stability and predictability for the international financial system. In the case of Asia, the process of regional integration may well lead to greater financial integration in this region and the emergence of regional institutions such as an Asian Central Bank. All these events will contribute to the process of regional integration that in turn will assist the process of improvement in the international financial system and also reliance on more than the US dollar as the only reserve currency. The strength of the Euro and the possibility of an Asian Single currency will ensure that the world liquidity will increase and at the same time, there will be less risk of global financial instability and less accumulation of reserves by some emerging countries. At the same time, the current Bretton Woods institutions should either be substantially reformed as a way of representing all the nations and their needs and requirements or should be replaced by other international institutions that represent the needs and requirements of the new century better.

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## 7. Conclusion

The paper considers the challenges of regional financial integration in the Asia-Pacific region with an emphasis on China and discusses issues related to China's large reserve accumulation versus the US' large foreign liabilities and their implications for the process of financial globalisation. The paper considers the way some of the regional economic forums such as the APEC and ASEAN have been developed. It also considers the role of regional economic integration and the way financial and economic integration in Asia could assist the process of reducing global trade imbalances. After considering a Chinese perspective of issues related to global trade imbalances and the way the US should reconsider her monetary policy, the paper argues that such financial challenges are symptoms of a less effective level of global financial integration. The paper argues that the emergence of an Asian Single Currency may contribute to a reduction in the current world trade imbalances and also ensure more global financial stability. The experiences of the Europeans with the Euro and the way economic and financial integration in the EU have contributed to the process of integration and more flow of capital within the EU should be considered as part of the process of addressing current global trade imbalances. In other words, regional and global financial integration will assist in the process of reducing global financial stability and a reduction in currency volatility. At the same time, the possibility of An Asian single currency that could compete with the US dollar and the EU will ensure faster convergence of national currencies and at the same time, less reliance on the US dollar as the only major international currency. This in turn will encourage China to hold less US dollars and also be more confident in investing and reducing savings, as the risk of another Asian Currency Crisis will decline, and at the same time, the Asian countries could accelerate the process of regional financial integration.

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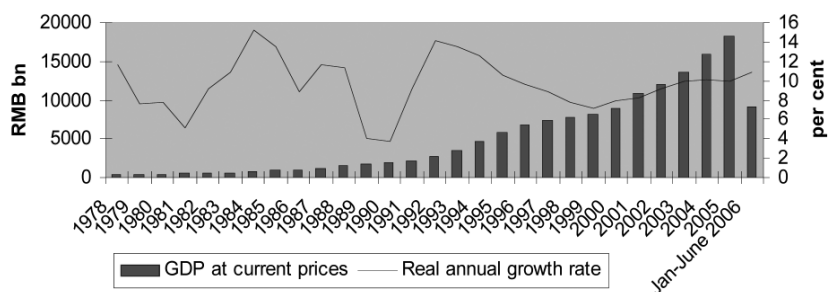
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## Appendix

Figure 3: The growth of China's GDP at current price  
(1978 - first half of 2006)



Source: National Bureau of Statistics (China)

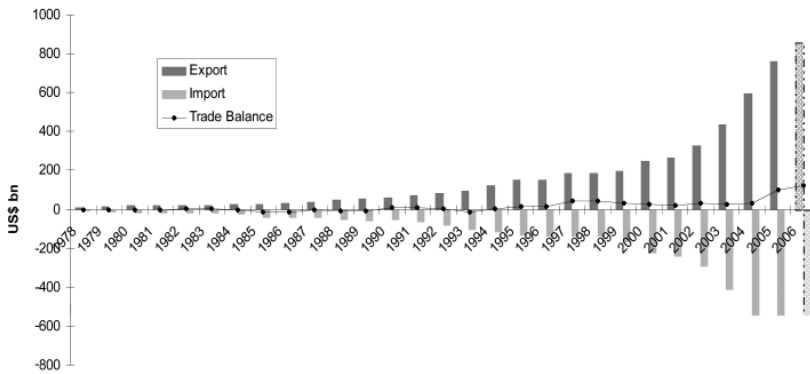
Table 1: China's International Investment Position  
(end of 2005, US\$ billion)

Net Foreign Assets	278.5
Gross Foreign Assets	1218.5
Equity	64.5
o.w. FDI	64.5
Debt	327.9
Reserves	825.7
Gross Foreign Liabilities	930.7
Equity	673.8
o.w. FDI	610.2
Debt	256.9

Source: China Quarterly Update, August 2006, IMF



Figure 4: The change of China's export, import, and trade balance (from 1978 to 2006)



Source: National Bureau of Statistics (China).

Note:

The data of 2006 is estimation based on the real figure of the first half year of 2006.



## Comments and Observations on the Paper by Farborz Moshirian *The Chinese Perspective*

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It is a pleasure to comment on the survey paper by Professor Fariboz Moshirian. This paper is an interesting paper on a critically important topic, which is, what is the best way to bring some equilibrium to global financial imbalances? Clearly, the issue of the imbalances between China and US need to be addressed before any resolution to the global financial situation can be resolved.

### The context

Let us examine some figures from what I think of, somewhat provocatively, as some kind of global financial “mess.” Figure 1 shows China’s current account as a percentage of GDP (Obstfeld, 2006, p. 6). As we can see, the percentage hovers around 2% until 2000 (with many bumps along the way), but after 2000, we note the “hockey stick” nature of the graph, as the current account surplus exceeds 7% of GDP. Figure 2 shows reserve flows of China as a percentage of GDP (Obstfeld, 2006, p. 7). The top line represents the reserve flow, which is the combination of financial inflows, errors / omissions, and the current account surplus (from the prior graph). Again, one notes the enormous growth since 2000.

Figure 1: China’s current account as % of GDP (Obstfeld, 2006, p. 6)

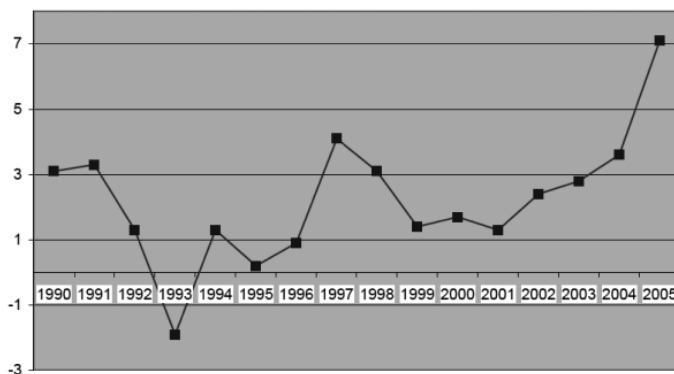
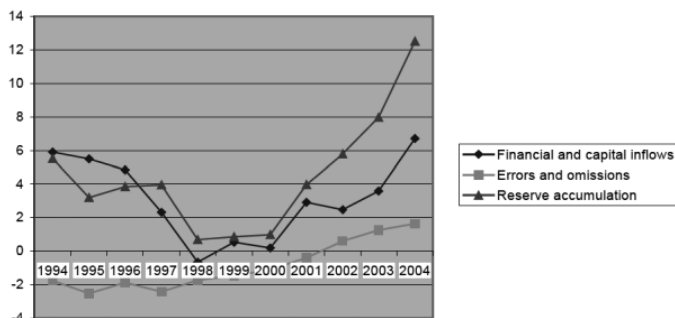


Figure 2: Chinese reserve flows as % of GDP (Obstfeld, 2006, p. 7)



There is a popular counterargument against worrying too much about the global financial mess. It is that “the system we have today is similar to the Bretton Woods system, so we really have nothing to worry about.” However, if we are supposed to worry or not depends on whether we are at the beginning of the “new” Bretton Woods period, or at the end of it when it was collapsing (cf., Dooley & Garber, 2005; Eichengreen, 2006; Rose, 2006). As the conference theme was about a “new” Bretton Woods, we should note that one of the reasons for global instability in international finance in the past was inflexible exchange rates combined with freer movement of capital<sup>1</sup>. This was at least partially addressed by a cooperative agreement among major economies working together *in the domain of exchange rates and also other areas as well*. It is clear that this is a complex problem that cannot be solved unilaterally or by using only one lever.

For example, it cannot be solved only via exchange rate solutions. The international financial system is far too complex to be solved by simply making exchange rates more flexible. Perhaps there has been too much emphasis on exchange rates to the detriment of other solutions, especially regarding the US-China imbalance(s). It seems that it is the dream of many (if not most) macroeconomists that China should have a fully open, convertible, flexible exchange rate, and that that should completely take care of the mess. While this might be a good idea in principle — and possibly may be one good goal as part of a “package” — it may not be as practical as it sounds, nor as “easy” as the case of Chile & Israel, two cases that have often been raised as “model cases” where flexible exchange rates saved the day.

<sup>1</sup> There were many other reasons as well but most economists would agree that at least part of the problem was the combination of inflexible exchange rates and the freeing up of capital flows.

China's reserve holdings also create tensions for the Chinese government and limit their ability to act perhaps even in their own best interest, let alone the interest of the global financial community. An interesting current analogy for the position of the central bank of China may be the story of Kirk Kerkorian, who was one of the largest individual shareholders, if not the largest individual shareholder, of General Motors (GM) Corporation<sup>2</sup>. Kerkorian wanted to rebalance his portfolio, or change the way the company did business along many dimensions. The company, however, refused to take his advice, for example on the potential alliance with Nissan. If he were to sell, his holdings would continue to drop in value as he sold. This would be bad enough. Now imagine, however, that he put in an order a long time ago to continue buying the stock in certain amounts every day and he could not cancel the order! (This cannot even come close to the complexity and in some sense desperation of the actual situation with domestic interest rates, inflation, speculation, sterilization "bills," and so forth.)

Conclusion: we are at an impasse with every party unable to move away from a suboptimal solution.

### **The proposal itself**

Which brings us to the interesting paper by Fariborz Moshirian, who proposes the introduction of a single Asian currency as a solution to global capital imbalances. Professor Moshirian proposed the following three main reasons that this is a good idea: (1) Such a currency union would be a forcing mechanism for national institutions that are more friendly to efficient capital flows; (2) it would encourage regional investment due to exchange rate stability, which also has an equilibrating effect; and (3) it would allow capital to flow within, out of, and into the *region*, also equilibrating some imbalances.

I found the idea to be creative and the thinking behind it out-of-the-box. Furthermore, I found the paper to be passionately argued, and emphasizing a "system" approach to imbalances, which, as described above, is exactly what we need to move forward. I also thought that the

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<sup>2</sup> Actually, after the conference took place, Kerkorian did end up unwinding most of his position in GM for what most analysts considered to be a much lower amount of money than he originally anticipated or wanted.

idea of a sort of “co-evolution” of institutions, exchange rates, and global equilibrium is intuitively appealing and intriguing.

However, for this proposal to actually be taken seriously (which again, I emphasize, I believe it should be), we need to consider several points. The first of which is, what is the standard of evidence for this proposal? The essence of the justification / argument as it currently stands is (1) we look at the European Union experience and note its home country bias and institutions and how they changed over time (to the benefit of the global financial system); (2) we then examine the US experience prior to 1913 as well.

This raises the question: Should we go ahead with this proposal? (It seems from the paper that there is in fact tentative interest from the major Asian economies for this, but:) Is this enough evidence to support moving ahead, seriously? Professor Moshirian only considers two monetary unions in any depth in the paper. What are other monetary union situations throughout history? How are they similar to, and different from, the current situation? For example, is there really an analogy to the Chinese economy and the ability to create / evolve institutions in the Euro zone? Is the Chinese institutional environment *really* on a course to evolve in a similar direction, politically speaking? These questions must be answered head on to provide the logical consistency necessary to take the next steps.

Furthermore, if the proposal is to truly gain traction, there ought to be a direct comparison with exchange rate-oriented proposals, such as “Basket, band, and crawl” (cf. Williamson, 2001) applied to China. For example, Obstfeld (2006) discusses an exchange-rate-oriented approach involving gradual “exit strategies” from currency peg. In such an approach, central bankers would create baskets of currencies, set the bands, and slowly widen them. Obstfeld would also argue to not move ahead on financial liberalizations on an *ad hoc* basis (whose philosophy is consistent with the proposed currency union).

The analysis of the above and a more direct comparison of alternative approaches will help answer the two important questions that one is left with after reading the paper: (1)

Is this proposal desirable? and (2) Is this proposal practical?

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### Minor point of framing

The paper is trying to do too many things and the main issues are being obscured. I understand that it is supposed to be a broad review article as well as a practical proposal, but perhaps this being pulled in so many directions will actually mute the potential impact of the proposal itself.

As an example of what this paper is trying to do, consider the following quotes from the paper about the purpose of the paper itself:

- “to consider the process of financial globalization in the context of the recent trade imbalances between the US and China”
- [To] “analyze issues that are related to the ways in which the monetary policies both in the US and China could address the current global trade imbalances”
- “The paper argues that a number of national bottlenecks may well be removed once we also consider the role of new international institutions as well as the role of regional and global financial integration”
- Asserting that global financial stability is a “global public good”

The solution I would propose would be to simply give up on the broad survey paper, and focus on the proposal itself. I would suggest framing the paper in terms of solutions going beyond exchange rates that would facilitate market mechanisms in (slowly?) equilibrating global imbalances. This could be a history paper that really digs into past situations and how they are similar and different to the current situation. (There could be modeling papers in here as well, but I think the most effective defense of the proposal would be the above.)

In my more focused version, the following outline would be the most parsimonious and effective for getting the point across:

- Motivation: why exchange rates alone are inadequate
  - Proposal and why it makes sense for global financial imbalances
  - History of monetary unions and financial implications
  - Discussion of why the current situation is similar and different
  - Return to the proposal and answer the questions about whether the proposal is (a) desirable, and (b) practical
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## Conclusion

In conclusion, this paper addresses a very important issue, namely that of China-US [and therefore global] financial imbalances. It contains a good kernel of an idea and interesting, passionately argued proposal for single Asian currency. I would suggest making the message of the paper simpler, and the defense as convincing as possible. I wish Professor Moshirian the best of luck in this work!

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## **Comments and Observations on the Paper by Farborz Moshirian *The Chinese Perspective***

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### **General comments**

- Two basic opposing views about the global imbalance: pessimistic and optimistic.
  - Professor Moshirian holds a third view: the current imbalance is problematic but it can be corrected in a right way.
  - What is the right way? The answer lies in the nature of current imbalance and the nature of current imbalance is related to the second wave of globalization.
  - US and China happen to be two big players in the global imbalance. What makes a difference in the current situation is that capital flows seem to follow a direction that is different from which neoclassical theory suggests. Contrary to the theory, the US, as the biggest developed country, receives almost entire flows of global capital, whilst China, as a developing country, becomes one big fund provider.
  - The question is why? Perhaps traditional trade theory missed out some new elements of comparative advantage: ability of capital allocating, level of financial market development, financial institutions, legal system, etc.
  - Prof. Moshirian provided large number of evidence both of empirical studies and in practice and his argument is thought-provoking, especially when we consider the solutions to the global imbalance.
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### **China's perspective**

- Three key questions stand out:
    - What is the nature of China's imbalance?
    - How serious are the problems of China's imbalance?
    - What are the solutions to correcting the imbalance?
  - China is one of the biggest fund providers by running large amount of current account surplus and accumulating huge amount of foreign reserves. China is playing a key role in the whole situation. However, in searching for the solutions to the imbalance, China cannot solve the problem unilaterally.
  - This is especially true if we have a close look at the nature of China's imbalance and China's place in the whole picture.
  - A "triangle relationship": China is standing in between the US and the rest of East Asian countries:
    - China holds a special place in the geographical distribution of global current account balances: running huge current account surplus with the world biggest debtor country (the US) and at the same time running current account deficit with many other big creditors in East Asia.
    - This special role of China is related to the place that China holds in international production networks: China buys capital and technological equipment, hi-tech parts and components from Japan, Korea and Taiwan, primary goods, natural resources and resources-based products from ASEAN and Australia, and financial, commercial and legal services from Hong Kong and Singapore. China uses the imports to produce manufacturing, processing, assembling goods and thus turns the products Made in Asia into Made in China. China then exports them to the US, Europe and the rest of the world. (Wang 2006)
    - This type of processing trade leads to current account surplus by definition, and in China's total exports, processing trade accounted for as high as 54.6%.
-

### **Implications of China trade balance pattern**

- Why does China, as a country with excessive savings, import so much capital goods, mainly via inflows of FDI?
- Two top reasons that are relevant to what Prof Moshirian observed:
  - China's immature financial markets
  - Capital control in China and inconvertibility of RMB
- China's domestic savings are intermediated by foreign capital markets for domestic investment, which resulted in so called "twin surplus" of China's external balance (surplus in both current account and capital account) (Yu, 2006).
- In sum: because of China's special role in the "triangle relationship" of trade balance:
  - Better to see the problem from a multilateral perspective.
  - Better to consider the solutions on multilateral basis, either at a regional level or on global level.

### **Regional monetary cooperation as a solution**

- Professor Moshirian's key conclusions: need to search for regional cooperation in East Asia, possibly to consider the use of a single currency in the region binding all the countries together and create incentive for the reform of national financial institutions and coordination of national economic and financial policies so that the institutional barriers could be reduced to the minimum and to refrain capital from flowing out of the region.
  - It seems to be a sound solution to reduce the excessive reserves and reduce the size of current account surplus in China and in the whole region of East Asia.
  - It is also a partial solution to the global imbalance given that the need of an effort in the global sphere is equivalently critical.
  - However, in regard to the regional solutions, one issue needs to be investigated carefully: can a single currency in East Asia be possibly working?
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- When we refer to the theoretical answer, the answer is yes.
  - The general benefits of monetary union are well accepted.
  - Furthermore, if you are a believer of the theory of “endogeneity of monetary union”, you will see that a single currency creates converging effects (Frankel and Rose 1998, Chai 2003, Blanchard and Giavazzi 2003)
  - EU is the case and the European Commission strongly holds this opinion.
- This is probably why, as Prof. Moshirian points out, EU has had capital home bias declined after the creation of the EURO.

### **Can a single currency in East Asia be a solution?**

- The rationales for monetary cooperation in East Asia are recognized.
  - However, there are several barriers:
    - Any collective actions in coordinating exchange rate policy in the region seem unlikely.
    - There is no common agreed vision on mutual monetary regime in the region.
    - US dollar’s dominant role brings about the difficulty for Asian countries to have any form of collective exchange rate management and monetary cooperation with the involvement of their own currencies.
  - The merits of adopting Asian Currency Unit (ACU) is obvious as long as it serves as an index of measuring volatility of concerning countries’ exchange rates and it has no compulsory need of policy coordination.
  - However, the idea seems not welcomed by all the concerning countries because of its technical difficulties in determining the weights of individual currencies in the basket.
  - ADB postponed the launch of the ACU in 2006. When is it going to be in place? No one knows.
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**Concluding remarks**

- In regard to the possible solutions at regional level, there are several obstacles for having a mutual arrangement in East Asia. However, this does not mean that we should be pessimistic about the birth of a single currency in the long term.
  - The Chiang Mai Initiative (CMI) is a good start. If the ACU can be successfully incorporated in the CMI mechanism and the regional bond market proposals can be put into practice, the excessive amount of reserves in the region would be more effectively recycled within the region and the current situation of capital flows would be changed in favor of the region itself.
  - To this end, I totally share the view with that of Prof Moshirian's.
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## **THIRD PAPER**

### **THE EUROPEAN PERSPECTIVE**

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#### ***Abstract***

Global imbalances have attracted increasing attention from academics and policymakers, as one of the main risks the world economy is going to face in the years to come. Particularly, the US current account deficit hit an explosive level that could cause a global financial crisis [Roubini, Setzer (2005)]. Even if the Euro Area appears to provide a modest contribution to global imbalances -- since its current account is largely in balance --, evidence from the movements in the bilateral dollar-euro nominal exchange rate suggests that a large amount of the effective dollar depreciation since 2002 has been borne by the euro. Therefore, if global imbalances persisted, Europe would be negatively affected, especially given the major international role of the euro. In our view, European policymakers can play an important role in addressing global imbalances. Actions should be taken mainly towards two directions: first, enhancing eurozone growth potential, through policies aimed at making labour and product markets more flexible; second, strengthening international cooperation, in order to avoid liquidity and currency turmoil.

**Keywords:** current account deficits, exchange rates, capital flows

**JEL Classification:** F3, F4, G1

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## Introduction

Over last months, global imbalances have caught the attention of academics and policymakers as one of the main risks on the world economy is going to face in months and years to come. At the present, despite solid growth showed over last years, the global economy rests on quite shaky foundations because of large and continuing global imbalances that could cause a financial crises or a global recession, should they unwind in a disorderly way.

The most visible aspect of global imbalances is a large deficit in the current account of US balance of payments (6.25% of GDP in 2005), that is counterbalanced by large surplus in the current account of other countries, mainly Asian ones, and more recently of oil-exporters as well.

Basically, the current account balance must equal the difference between Investment (I) in a country and its national (public + private) savings (S). Thus, a current account deficit can be reduced either via less investment or more private and public savings.

The US economy has been experiencing current account deficits since 1982, but over last years the imbalance has reached an unsustainable dimension. Fundamentally, global imbalances, and consequently the US current account deficit, are sustainable only as long as foreigners are willing to finance US expenditure, i.e. to buy US assets. This implies some risks: the longer the US runs such a large deficit, the more its debt vs the rest of the word will increase, thus reducing US assets' appeal.

## The recent debate and a new perspective

Obstfeld and Rogoff (2005)<sup>1</sup> recently argued that “*any sober policymaker ought to regard the US current account deficit as a Sword of Damocles hanging over the global economy*”. More specifically, they estimated that major shocks to aggregate demand or shifts in the balance between tradable and non-tradable goods would be needed to cause an abrupt decline in the C/A deficit. According to their estimates, the real exchange rate would

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1 Obstfeld M. and Rogoff K. (2005), “The unsustainable US current account deficit revisited”, NBER Working Paper 10864.

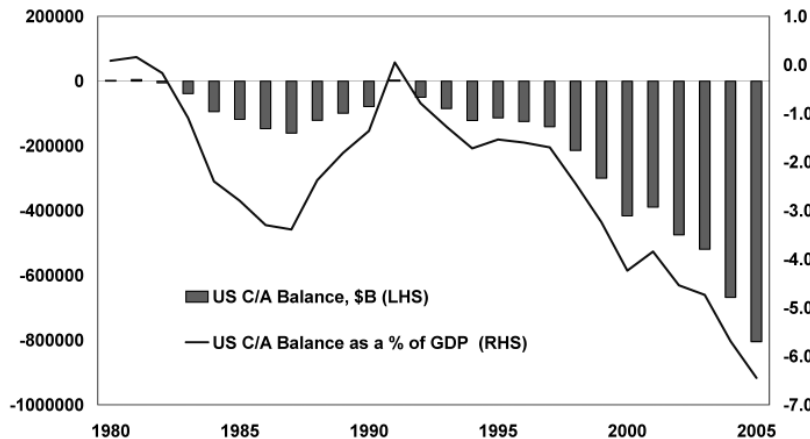


depreciate between 15% and 33% if the C/A deficit were eliminated by a change in aggregate demand and between 10 and 26% if the adjustment came from rebalancing in the supply of tradable/nontradable goods.

Blanchard et al. (2005)<sup>2</sup> focused on the inflow side of the C/A balance, estimating that a 15% decline in the dollar would be associated with a decline in the C/A deficit equal to 1.4% of GDP. Even more worrying, according to their model, stabilizing the net-debt/GDP ratio at current levels would require the dollar to immediately depreciate by 56% and the C/A deficit to decline to 0.75% of GDP.

Roubini and Setser (2005)<sup>3</sup> went even further, saying that *“the C/A deficit will continue to grow (...) even if the trade deficit stabilizes. That is why sustained trade deficits will set off the kind of explosive debt dynamics that lead to financial crisis”*.

### Chart - Is it sustainable?



Source: Bureau of Economic Analysis

2 Blanchard O., Giavazzi F., Sa F. (2005) “The US current account and the Dollar”, M.I.T. Working Paper 2005-02

3 Roubini N. and Sester B. (2005), “The US as a net debtor: the sustainability of the US External Imbalances”, NYU working paper

Pretty scaring, isn't it? Well, not really, according to two Harvard economists who recently revived the debate. Indeed, Ricardo Hausmann and Federico Sturzenegger (HS henceforth)<sup>4</sup> contend that we should not worry too much about the US external imbalance, since— simply as it seems – there simply isn't one. The US net external position has been wrongly computed and, they argue, *“once assets are valued according to the income they generate, there has not been a big US external imbalance”*.

### **What's the (Dark) Matter with US imbalances?**

The HS argument starts from an apparent paradox. First, the economic landscape in the US has been characterized by a persistent and growing current account deficit for more than twenty years, so that the economy is now left with the world's largest cumulated stock of international liabilities. Indeed, at the end of 2004 (figures for the whole 2005 are not yet available) the market value of foreign-held US assets exceeded the market value of US-held assets abroad by more than \$2.5trillion, equivalent to 21.7% of GDP. While in principle one would expect such a large net liability position to be matched by corresponding substantial payments made to the rest of the world, the opposite turns out to be true: in 2004 the US earned \$36B more on its foreign assets than it paid out to service its foreign liabilities.

If this seems quite puzzling, you would be even more surprised when looking at net investment income over time: in 1980 the US had in fact about \$365B of net foreign assets, which yielded \$30B of investment income, not much of a difference from now. How is this possible?

HS argue that such confusion stems from an *“unnatural set of accounting rules”*, as data on foreign assets and liabilities tend to be *“inaccurate and systematically biased”*. Thus, they introduce a new methodology to measure US external imbalances. A first crucial hypothesis of their model relies on the fact that if an asset pays more than another asset, then it must be worth more, even if they have the same book value. Second, they assume that assets yielding a positive investment income can be valued at 20 times their annual earnings (which implies a return of 5%). Thus, \$36B worth of income stemming

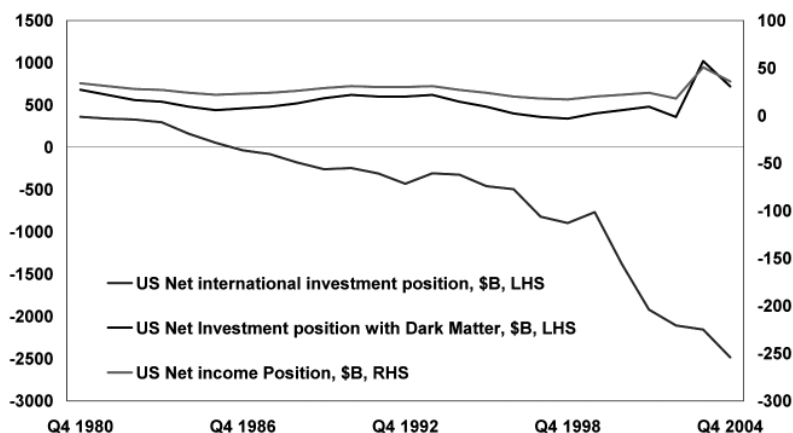
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4 See Hausmann R. and Sturzenegger F. (2006) “Global imbalances or Bad Accounting? The missing Dark Matter in the wealth of Nations”, CID working paper 124, Harvard University.

from an asset, which is yielding 20 times its earnings, would mean that such an asset is worth \$720B. Indeed, not very different from the \$600B that would be implied in 1980, using the same methodology.

The conclusion is quite appealing: since the income flow has remained fairly stable over the last 25 years, so should have the US net foreign assets. Clearly, this result stands in sharp contrast with official data hinting at a \$2.7 trillion deterioration over the same period of time.

### Chart - Where is the Dark Side of the Matter?



Source: Bureau of Economic Analysis, our calculations based on Hausmann and Sturzenegger (2005)

Borrowing from physics, HS label “Dark Matter” the difference between the \$2.5 trillion stemming from official BEA figures and the \$720B implied by their methodology, as it corresponds to assets that exist (as they generate a revenue), but cannot be seen (in official figures). In turn, this would mean that the US owns roughly \$3.2 trillion of unaccounted net foreign assets, or, in more fashionable terms, of “Dark Matter”.

While it is difficult to understand the nature of Dark Matter, HS identify three factors that might account for its accumulation. In particular, they contend that traditional accounting rules prevented us from recording a stream of unconventional service exports:

- A first source of dark matter is Foreign Direct Investment (FDI), which embodies a transfer of managerial skills and knowledge. The result, according to HS, is that the cumulated historical value of these FDI flows is often but a small fraction of the fair value of the equity claims on the assets they created abroad.
- Second, HS argue that the US dollar remains a preferred store of value in countries with unstable domestic currencies and histories of high inflation or even hyperinflation. In this way, the US provides liquidity services, which come bundled in the US currency. In turn, remuneration for these services should go into investment income.
- A third source of dark matter is insurance services provided by US when holding risky assets such as emerging market debt, against a safer liability such as US treasuries. The world would exchange a safe asset for a risky one, and should pay a price for that. Again, HS argue that such insurance service is not accounted for in official figures.

Bottom line: according to the HS methodology the US would not be a net debtor any more, so that the US (and global) imbalance would not be a major problem simply because it would not exist.

### **Flaws in the Dark Matter: the need for adjustment remains**

While the “Dark Matter” theory sounds intriguing, it suffers in our view from some important flaws that should make one wary of accepting the “don’t worry, be happy” attitude implied by HS. One of our major doubts is methodological and concerns the valuation method of the “Dark Matter”. HS assume that all assets should be valued at the same multiple of 20 times the earnings. However, assets such as equities and FDIs carry greater risk than government securities and thus should be valued at higher multiples. Moreover, we are not too convinced one can use the same multiple over a period spanning more than twenty years (not to mention the alternate phases of the economic cycle). In fact, P/E valuations for the S&P index have been on a rising trend for twenty years now, hovering around 10 in the early 1980s, and reaching values around 50 in the late Nineties during the internet frenzy. Therefore, it would be a major methodological flaw to use a single multiple to make inference on the level of net investment income to obtain the value of

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the net international position.

Our second concern is that, even when using the same methodology employed by HS, we would still get a deterioration in the US net investment position: when considered as a share of GDP, \$600B of net asset in 1980 (21.7%) is clearly much more than \$720B in 2004 (5.0%). Moreover, preliminary data for the first three quarters of 2005 show a surplus of only \$4B: barring any massive improvement in Q4-05, this would point to a further deterioration, both in absolute and in relative terms.

Third, the apparent puzzle between a positive net investment income and a negative financial account (which is the whole point of the Dark Matter theory) could be explained, at least over the last few years, by a couple of temporary factors which might soon be reversed thus pushing the net investment income in negative territory<sup>5</sup>.

A first factor stems from the fact that the net financial position is made of several types of assets and liabilities: a first class is given by interest-sensitive assets, such as fixed income securities and banking claims. While they tend to move together with interest rates, US assets and liabilities belonging to this class have been moving together, with little difference between them. The same applies for equities, whose rates of return tend to move together as well. The story is different when we come to FDI: since 1982, the US rate of return on FDI assets has been higher than the one prevailing on US FDI liabilities by 5.6%. More recently, since 2000, the rate of return on US FDI has risen 3.2% (from 5.4% to 8.6%), thus outpacing the rate of return on foreign FDI in the US, up 2.3% (from 2.0% to 4.3%). Thus, while net receipts for FDI have more than offset net payments on interest sensitive liabilities, we worry that even a relatively modest fall in return on FDI assets would have a substantial negative impact on net income: for instance, even a small decline of one percentage point would contract income receipts by \$33B: *ceteris paribus*, this would be enough to bring to zero the net investment income.

A second factor that contributed to maintain the net investment

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5 See "Higgins M., Klitgaard T., Tille C. (2005) "The income implications of rising US international liabilities", *Current Issues in Economics and Finance*, Federal Reserve of New York.

income position in surplus can be found in the fact that from 2000 to 2002 interest rates fell sharply and then remained extremely low until 2004. As a consequence, while net interest-sensitive liabilities actually rose from \$1.6 trillion to \$3.5 trillion, net interest payments increased much less, from \$83B to \$113B. With interest rates on the rise since 2004, it would be reasonable to expect that the net income payments will increase, as most of the recent build up in net liabilities has been concentrated in interest-sensitive assets. Ultimately, this would depress net investment income, eventually pushing it into negative territory.

Thus, while the favorable gap between rates of return on assets and liabilities has somehow obscured a ballooning external imbalance, the current run up in net liabilities to the rest of the world would imply that the US net income balance will soon turn negative, as higher interest rates are going to increase payments on the large stock of liabilities. Ultimately, this would imply some form of adjustment.

### **Unfolding the need for long-term adjustment**

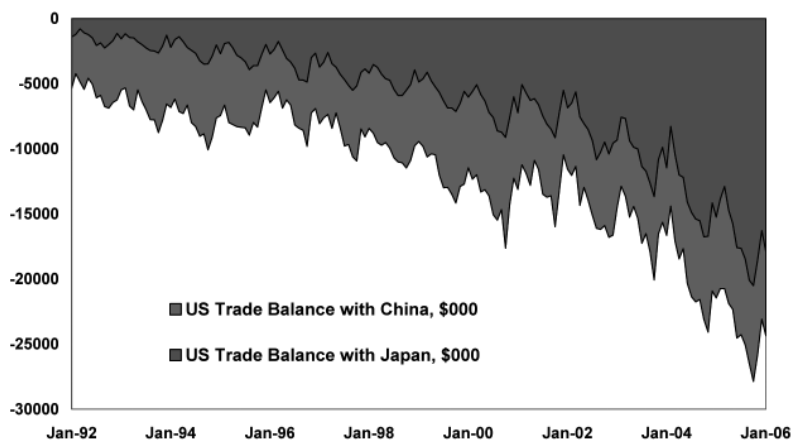
While some adjustment in the C/A deficit appears unavoidable, our analysis will unfold following a double-level approach. On the one hand, national accounts identities reveal that behind current account issues there are both trade and income flows, thus highlighting the relationship to domestic savings and investment. On the other hand, as the object of our investigation here is the extent of “Global” Imbalances, we will not focus just on US economy, but we will explore two other important sides of the “Dark Matter”, namely Asia and Europe, with particular attention to the latter, trying to understand which policy implications can be derived when tackling these problems. Indeed, since a C/A deficit in the US equals a C/A surplus elsewhere, decisions by foreigners are actually as important as their US equivalent in explaining the global disequilibria.

National income accounts provide a useful framework for analyzing the connection between the current account balance and trade flows and, in turn, their relationship to domestic savings and investment. We start from the trade side, and we notice that the sizeable deterioration of the US trade deficit (in Q4-05, it has reached the record high at \$656.3B) must have occurred elsewhere: easy enough

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to answer, the usual suspects are Japan and China. As for the former, its trade surplus with the US rose constantly over the last decade: from Y3.5 trillion in 1996 to Y7 trillion in 2000, to Y7.7 trillion in 2005. The relevance of China is even more striking when considering that it has accounted for roughly a quarter of the overall US trade deficit over last year, besides being one of the main drivers in the deterioration of the US external position over recent years.

### China and Japan are the other face of US trade deficit



Source: US Department of Commerce

Thus, it is easy to understand why the adjustment on the US trade balance side has been one of the most debated issues over the last cycle. Indeed, the improvement in the US trade position would imply some combination of lower domestic demand, stronger foreign demand and a sizeable dollar depreciation. Recall that an alternative way to look at the current account balance is to see it as the difference between saving and investment: to this extent, lower domestic consumption simply means more domestic savings. Indeed, this option usually sparks concerns as many fear that a smaller support from domestic spending (especially from personal consumption) would push the US economy into a sharp and abrupt recession. Indeed, we do not think this will be the case as long as the whole burden of the adjustment process is not be

born entirely by US consumers.

In Japan, we expect some structural changes on the trade balance side. Thanks to a domestic demand-driven growth momentum, the increase of private consumption should contribute to reduce households' saving, already on a declining trend. At the same time, the improvement in business confidence along with the recovery of the credit channel will boost firms' investment, thus strengthening the current trend of a gradual narrowing in the C/A surplus. Coming to China, we cannot step into the debate about global imbalances without mentioning the adjustment of the exchange rate. To this extent, it would be reasonable to expect a continuation of the gradual "reformism" seen in 2005, albeit some larger appreciation of the Yuan will be allowed. While we don't expect the PBoC to introduce any other significant change in the FX regime, the pace of appreciation should accelerate somehow: we expect the Yuan to appreciate roughly 5% in nominal terms in 2006, as improving domestic fundamentals are reducing China's need to keep the exchange rate rigidly pegged to the USD.

Therefore, endogenous forces currently at play both inside and outside the US economy seem safely to rule out a Domsday scenario characterized by a large and abrupt contraction in the trade and C/A deficit, that would lead to a massive dollar depreciation, thus forcing the Fed to adopt an even tighter monetary stance, eventually pushing the economy into recession. Rather, all conditions seems to be in place for a scenario of a mild slowdown in US consumption, a mild depreciation of the US dollar against the Yuan and a pick up in domestic demand both in Japan and in China. Clearly, this will point to a moderate trend of narrowing US trade deficit, and a small downward adjustment of the huge trade and current account surplus in Asian countries, as import growth should pick up and export growth should moderate.

### **The role of oil-exporting countries**

Traditionally, Asian countries, and particularly China, have been the main "saving provider" in the world, thus financing the US C/A deficit. However, over the last three years the location of the surplus has been changing and a new actor has appeared on the scene: oil-exporting countries. Because of the sharp increase of oil prices during

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2002-2005, a large amount of money moved from oil consuming to oil-exporting countries, thus implying an increase in the current account surplus of the latter, surpassing the one of Emerging Asia, which was already high. Even if oil exporters' current account surplus is still small, its scale is growing rapidly (in 2005 they represented 40% of US current account). So far, the US current account deficit has continued to widen, and the group of oil exporters has been playing a more significant role in the allocation of world current account imbalances. In 2005, Asia C/A surplus has risen to \$341bn, equivalent to 47% of the US current account, while the share of oil-exporters has reached 41% (\$296). This surplus should be rebalanced with an adjustment in investment and savings equilibrium as well: however, since oil exporting countries have lower savings and investment rates than economies in Asia, this would imply a shift way from investment goods towards consumption goods. In turn this would benefit more us exporters (more consumption- oriented) rather than German ones (more investment goods oriented).

It is not simple to understand how oil exporters could affect global imbalances. Much will depend on their spending patterns, as a part of the higher revenues from oil (petrodollars) could be used to purchase goods and services from abroad and a part to buy foreign assets. Therefore, it is useful to distinguish two channels:

- Absorption: money is spent to finance domestic consumption and investment, fuelling demand for imported goods and services. However, the recent evidence shows that oil exporters have much lower tendency to import from US than from other countries.
- Capital account: petrodollars not spent on imports are saved and spent in foreign assets. There are reasons to think that US assets remain an important component of oil exporters' saving allocations.

Both channels are important when analyzing the impact of oil prices on global imbalances. Indeed, the increase in oil importing countries' demand for goods and services can help contain the increase in their C/A surplus. Therefore, depending on their destination, capital outflows from oil exporters' countries may play a role in affecting world trade flows and consequently global imbalances.

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In its WEO 2006, the IMF stressed that it is difficult to understand in which way and how rapidly oil exporters are spending their revenues. A large part of the increase in oil revenues has been saved and in the period 2002-2005 only 52% of oil-export receipts were spent, less than in the previous episodes of oil shock when 90% of additional oil export receipts was spent on imports. However, if in the future they decide to spend their money this implies an increase of goods and services' demand from oil exporters countries. If they decide to save and not spend petrodollars this means less exports for oil importers countries, and consequently negative impact on trade balance but a big reflow of US dollars into US as petrodollars should be used to invest in US assets.

### **The European perspective: are “global” imbalances also European imbalances?**

As matter of fact, Europe, and the eurozone in particular, seems to contribute very little to global imbalances. In fact, the counterpart of large and growing US current account deficit are large and growing surpluses in Asia and in the major oil exporting countries. In 2005, a massive \$800B C/A deficit in the US was matched by roughly \$400B of surplus in Asia and \$375B in oil exporting countries (see Table 1). In contrast, the euro area current account seems largely in balance, with only some internal disequilibria, implying that it is not a major player in global imbalances. As a matter of fact, while sluggish growth in the euro area over the last years would have (in theory) led to a surplus in the trade and current account balance, a progressive appreciation of the single currency has actually weighed on exports, so that the aggregate balance has turned slightly negative.

Moreover, the Asian perspective remains quite diversified: while a surplus in Japan reflects mainly the world's highest savings rate (and somehow a weaker yen over the last three years), the large and growing surplus in China appears due mainly to a structurally weak currency and a favourable internal market conditions (low tax rate, labor market) that prevent a prompt adjustment of the terms of trade.

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Table 1. Current Account Balances (\$Bn)

	1995	2002	2005
US	-114	-472	-791
UK	-14	-25	-58
Euro Asia	44	54	-35
Asia	72	240	405
<i>Japan</i>	111	113	164
<i>China</i>	2	35	159
<i>Korea</i>	-9	5	17
Major Oil Exporters	11	91	374

Source: BEA, IMF, OECD

From a strictly European point of view, the optimal rebalancing scenario would be one in which the eurozone imports more US-produced goods and services and exports more goods and services to Asia and to oil-exporting countries, thus leaving its current account unaffected, even when the US C/A deficit declines. However, this scenario would imply a decline in the Asian C/A surplus, which in turn will likely require an appreciation of Asian currencies. On the other hand, an alternative scenario would be one where economies of the euro area import more from the US and export less to Asia, allowing the US C/A deficit to narrow but leaving the Asian position unchanged: this is likely to happen if Asian currencies remain pegged to the dollar. Clearly, this second scenario is the one feared the most by eurozone governments and policymakers, as a sharp drop in the dollar would easily lead to an excessive real appreciation of the euro.

Given that the responsiveness of US exports and imports to changes in the real effective exchange rate is relatively small, substantial real dollar depreciation will be required to make the US trade deficit decrease. When the real effective exchange rate of the dollar depreciates, the key factor determining how the burden of adjustment is shared across countries will be movements in bilateral exchange rates. The bilateral dollar-euro and dollar-sterling nominal exchange rates have moved much more over recent years than the US nominal effective exchange rate, suggesting that a large amount of the effective dollar depreciation since 2002 has been borne by the euro. It is easy to understand why European policymakers fear that this unequal distribution of adjustment will continue.

Indeed, so far European countries have been always quite reluctant to accept large changes in their current account position to allow global adjustment. The only exception seems to have been the brief period between 1986 and 1988, when Europe tolerated a moderate shrinking in its C/A surplus, coinciding with the period in which international coordination worked.

## ECONOMETRIC ESTIMATES

We regressed \$/euro (euro per US\$) on US trade balance, yen and yuan. The regression output showed that the relationships with yuan and yen are positive but very mild. On the contrary the relationship with US trade deficit (vs Japan and Euro Area) are inverse, meaning that when deficit increases, dollar depreciates. Particularly, with respect to China a negative prime difference implies an appreciation of dollar.

Dependent Variable: EUR

Method: Least Squares

Date: 10/13/06 Time: 17:40

Sample (adjusted): 1999Q2 2006Q2

Included observations: 29 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-3.258567	4.236912	-0.769090	0.4513
YEN	0.009987	0.003690	2.706476	0.0140
YUAN	0.326728	0.463815	0.704435	0.4897
TB_CHINA	1.41E-05	6.85E-06	2.056243	0.0538
TB_EURO_AREA	-5.69E-06	1.39E-05	-0.408482	0.6875
TB_JAPAN	-2.96E-05	1.24E-05	-2.382641	0.0278
D(YEN,1)	0.002007	0.004390	0.457170	0.6527
D(EUR,1)	0.118013	0.471003	0.250556	0.8048
D(TB_CHINA,1)	-6.51E-06	3.51E-06	-1.854772	0.0792
OIL_WTI	0.004200	0.004231	0.992596	0.3334

R-squared	0.817881	Mean dependent var	0.949085
Adjusted R-squared	0.731614	S.D. dependent var	0.132738
S.E. of regression	0.068766	Akaike info criterion	-2.249405
Sum squared resid	0.089848	Schwarz criterion	-1.777924
Log likelihood	42.61637	F-statistic	9.480821
Durbin-Watson stat	1.020102	Prob(F-statistic)	0.000024

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### **Which consequences of real euro appreciation?**

An excessive appreciation of the euro would be a serious cause for concern for many reasons. First, a disproportionately large real appreciation might well depress euro-area net exports and put growth prospects at serious risk. Second, euro-area markets for labour and products are not sufficiently flexible to promote a smooth reallocation of resources across sectors. Finally, a significant appreciation in the euro would have asymmetric effects on individual countries, thus adding to existing divergences across the euro area.

1. Recent indicators on activity across eurozone are signalling a solid pace of growth in coming months, but sustainability of demand might be put at serious risk should a sharp appreciation in the real exchange value of the euro occur. Moreover, a sharp appreciation in the euro versus the dollar might also have a depressing effect on domestic demand in the euro area as a result of negative wealth effects as eurozone-based investors are large net holders of dollar-denominated assets.
2. A second major concern is that labour and product markets in the eurozone are not flexible enough to facilitate a smooth reallocation of resources. For instance, to keep unemployment from rising, significant resources would need to shift from the traded goods sector to the non-traded sector. While the flexibility that characterises the US economy has allowed a sizeable reallocation among sectors as the trade deficit has swelled, it is not clear whether eurozone markets are flexible enough to engineer such a large reallocation.
3. A third concern is that a large appreciation of the euro could worsen economic divergences in growth and inflation between existing EMU members. A sharp appreciation in the euro would represent a common shock to countries in the euro area, but it would probably have asymmetric effects on individual members. These asymmetric effects would complicate the response of policy to the rise in the euro, especially when fiscal policies are not yet consolidated together.

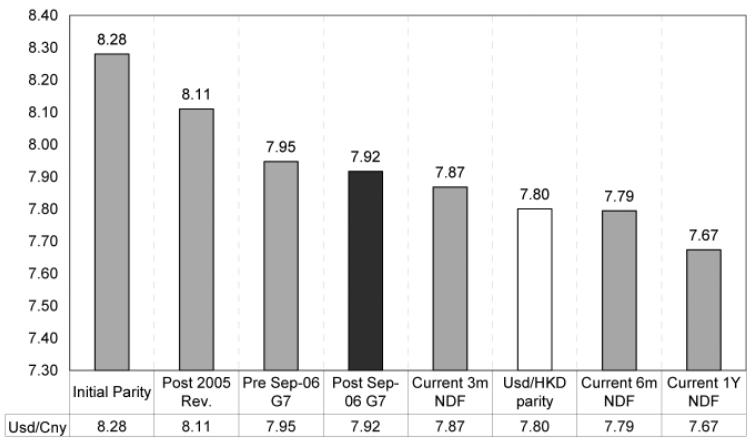
### **Implications for Europe of exchange rate regime change in Asia**

While US have historically been a strong advocate for a more flexible exchange rate system in China, European policymakers suggest that other countries, whose bilateral dollar and effective exchange rates have not appreciated over the past few years should allow their

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currencies to adjust. Since adjustment will involve depreciation in the US real effective exchange rate, one would ask whether governments in Asia allow their currencies to appreciate, with particular focus to China’s exchange rate regime. In fact, China has pegged its currency firmly to the US dollar for many years. In July 2005, the yuan was allowed to appreciate about 2%, and has been stable since then. Only after the recent G7, the yuan has managed to appreciate against the dollar more than what has been seen after the July 2005 one-off appreciation. (2.3% vs. 2.1%). Indeed, this remains too little, considering that the dollar/yuan Forward rates (NDF) are already pricing in a much larger yuan appreciation in the medium term, even below the current dollar/HKD parity at 7.80.

Figure- The yuan performance vs. USD so far



China’s government announced that, in the future, it would peg to a basket of currencies, but the exact composition of this basket remains unspecified.

Future adjustments in China’s exchange rate policy have different implications that appear particularly relevant for the eurozone:

1. The level of the exchange rate. The more the yuan is allowed to appreciate against the dollar, the larger the part of the US C/A adjustment falling on the trade flows between China and US, and the less need there is for adjustment between the US and the eurozone.

2. The exchange rate regime. The more the Chinese peg shifts from the dollar to the euro, the more China will become a net buyer of euro assets. This is likely to result in a euro area C/A deficit vis-à-vis China, and an appreciation of the euro's real exchange rate, thereby weakening euro area exports.

### **Other risks for European policymakers - Going beyond adjustment in activity**

We have already highlighted that adjustment of global imbalances might imply an exchange rate realignment that could in turn involve a large real appreciation of the euro. While the consequences in terms of real activity are pretty clear (i.e. a higher risk of recession following a decline in exports), there are also important implications for the international financial system.

Consider for instance the event of a disorderly adjustment, which would imply that financial markets become progressively reluctant to roll over their credit to the US. This means a US current account reversal associated with strong relative price and exchange rate movements, creating financial turmoil across markets: risk premia would rise markedly, and the dollar may fall dramatically. In this scenario, it is highly plausible that European financial and nonfinancial firms would suffer from strong deterioration of their balance sheet and liquidity shortages. This scenario would call for eurozone monetary and supervisory authorities to provide emergency liquidity to firms and financial markets do not need to compromise the ability of the ECB to retain control over aggregate liquidity in the euro area. On the other hand, if the magnitude of financial crisis is large enough to generate substantial uncertainty about default rates by firms and banks, monetary authorities may face difficult trade-offs between financial stability and price stability, as monetary interventions may not be effective in preventing widespread default. Governments may then have to shoulder large fiscal costs to avoid a chain of destabilizing bankruptcies. This raises important issues about the distribution of possible fiscal costs across countries. Moreover, weak public finances may create undue constraints on emergency financing in the case of a crisis associated with a "hard" unwinding of global imbalances. This provides yet another argument for fiscal discipline now as a precaution against future financial crisis.

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Overall, however, even if eurozone monetary authorities are successful in fighting financial contagion and other undesired effects of liquidity shortages due to large price swings in asset markets, the eurozone would still face a severe aggregate demand problem well beyond the reach of monetary policy. Perhaps the most important risk associated with global imbalances is that of facing a severe crisis without effective policy instruments to stabilize the eurozone economy.

### **Challenges for European Policymakers**

*“The problem is not to have imbalances. When you have them, be cautious on how to reabsorb” (Karl Brunner)*

While the eurozone so far has not been at the center of the problem of widening global imbalances, it should be part of the solution. The fact that the euro area’s current account balance has been small and stable, while imbalances have grown elsewhere does not warrant that it can escape the fallout from a disorderly adjustment—especially given the major international role of the euro. Moreover, whether adjustment of the US current account deficit is orderly, occurring through a gradual increase in its public or private savings, or disorderly, occurring through an abrupt exchange rate depreciation and a rise in interest rates that would force a drop in investment, one outcome is likely to be lower growth of exports from other countries to the U.S.

We think that European institutions can play an important role in addressing global imbalances. Keeping in mind the two risks highlighted above, action should be taken mainly towards two directions: first, enhancing eurozone growth potential, through policies aimed at making labour and product markets more flexible; second, strengthen international cooperation, in order to avoid liquidity and currency turmoil.

#### *Raising growth potential*

Eurozone’s key economic challenge is to raise its growth and employment performance, with an aging population. A falling working-age population and rising spending related to aging will cause major problems.

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A part of the solution will be to achieve higher employment. Several countries in the eurozone have already shown ways to tackle structural problems in employment, without undermining social solidarity. Indeed, recent improvement in the labor market have been achieved mostly thanks to more job-friendly wage policies, the liberalization of part-time and temporary employment, and the phasing-out of early-retirement schemes. However, more needs to be done if the eurozone is to enjoy sustained strong growth.

Several policy options could be considered:

- Reform pensions in a sensible way, promoting intergenerational equity and help the sustainability of pension plans.
- Supporting the jobless, but strengthen incentives: Long-term unemployment benefits can also be linked to active job searching and the performance of socially useful work.
- Continue to improve labour market flexibility: more flexible labor contracts, for example, would promote job creation and prevent the existence of dual labor markets.
- Promote more active social spending: better education and job training would improve employment and income prospects and lessen the need for income support through welfare mechanisms.

Moreover, it will be crucial to advance liberalization of product and services markets. While some progress has been made in deregulation of product markets, wide divergences exist across EU countries. And the largest sector of the economy—services—remains insular. A good start would be the adoption of the EU Services Directive without delay and dilution.

### *Strengthen coordination and integration of financial markets –The role of institutions*

Another promising avenue toward higher growth and efficiency is through further integration of Eurozone's financial markets. Greater financial integration should enhance competition, improve efficiency, lower the cost of capital, and improve monetary transmission. Some progress has been made, and much has been done at the EU level to advance the integration of national financial markets. But effective implementation is still needed, and work has barely begun on differences in taxation and legal systems that have impeded financial integration. Also, financial innovation is still very much proceeding at the national

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rather than at the aggregate level. Further progress will require financial institutions to compete and innovate, to the benefit of consumers and investors.

Strengthening coordination and integration of financial markets would require a deep knowledge of the underlying mechanisms, together with the main factors behind global imbalances. For instance, setting up a sound coordination policy agenda would imply a careful analysis of the current state of imbalances:

- If they depend from inability to invest national savings and/or different propensity to liquidity, then we imbalances themselves might be the solution
- If they depend from excess demand on one side, then we require to cut them curbing the excess demand
- If they depend from inadequacies in exchange rate regimes and/or behavior of the world money supply, than institutional changes would be needed

To this extent, while market might be seen as the fastest and most efficient problems' solver, different market institutions might bring different results. In particular, if market forces alone take the task of adjusting imbalances, then the euro area might be forced to a too abrupt adjustment process. In this case, clearly strengthen coordination among different institutions can be of great help. In fact:

- Market forces can do only a part of the business to absorb imbalances
  - The international cooperation should complete the process according to a shared global vision, something that could be reached setting up a permanent table of discussion of world economic problems (a secretariat)
  - Bilateral agreements open to be transformed in multilateral agreements, in which moral suasion and multilateral surveillance would take a leading role.
-

# **Comments and Observations on the Paper by Aurelio Maccario, Paolo Savona, Davide Stroppa, Cristiano Zazzara *The European Perspective***

**Kose John**

New York University

## **General Comments**

- The paper by Maccario, Savona, Stroppa and Zazzara raises some very important issues regarding the effect of the global imbalances on the world economy focusing on a European perspective.
- In particular, the paper presents a very careful analysis of different scenarios of unwinding the US current account deficit
  - (1) in an orderly way, and
  - (2) possibly disorderly way.
  - Especially focusing on EMU.

## **Summary**

- First part of the paper presents the debate on the seriousness of the US Current Account Deficit
    - Obstfeld and Rogoff (NBER WP 2005)
    - Blanchard et al (MIT WP 2005)
    - Roubini and Setser (NYU WP 2005)
  - Obstfeld M. and Rogoff K. (2005), “The unsustainable US current account deficit revisited”, NBER Working Paper 10864.
  - Blanchard O., Giavazzi F., Sa F. (2005) “The US current account and the Dollar”, M.I.T. Working Paper 2005-02.
  - Roubini N. and Sester B. (2005), “The US as a net debtor: the sustainability of the US External Imbalances”, NYU Working Paper.
  - The new “dark matter” perspective of Hausman and Sturzenegger (CID WP 2006)
  - Hausmann R. and Sturzenegger F. (2006) “Global imbalances or Bad Accounting? The Missing Dark Matter in the Wealth of Nations”,
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CID working paper 124, Harvard University.

- Traditional accounting rules prevent us from recording a stream of unconventional service exports
- Once assets are valued according to the income they generate, there has not been a big US external imbalance
- Flaws in the valuation method
- The analysis unfolds following a double-level approach
- The connection between the current account balance and trade flows for the US
- Looking carefully at the flip-side (Asia 47%, oil-exporting countries 41%)
- Not just the US, also these other countries and their responses

### **The The Flip-Side Picture**

Table 1. Current Account Balances (\$Bn)

	1995	2002	2005
US	-114	-472	-791
UK	-14	-25	-58
Euro Area	44	54	-35
Asia	72	240	405
Japan	111	113	164
China	2	35	159
Korea	-9	5	17
Major Oil Exporters	11	91	374

Source: BEA, IMF, OECD

### **Consequences for Europe**

- Two scenarios:
    - Europe imports more of US goods and services and exports more goods and services to Asia and oil-export countries. Europe C/A same. US C/A deficit declines. Decline in Asian C/A surplus. Appreciation of Asian currency.
    - Europe imports more from US, less exports to Asia. Asian C/A same. US C/A deficit declines. Drop in the Dollar. Appreciation of Euro.
-

- Significant real depreciation of dollar will be needed. Significant consequences for Europe
- Depresses exports putting growth at risk.
  - Holdings \$3000billion, huge negative wealth effects, 10% of GDP
- Markets for labor and capital not flexible enough to facilitate the smooth reallocation of resources across sectors required.
- Asymmetric effects on individual EMU members adding to already sizable divergences in economic performance, growth, and inflation. Complicates response of policy.

### **Viability of EMU**

- The theory of optimum currency area
  - Tamim Bayoumi (IMF Staff Papers 1994)
  - Bayoumi, T. (1994), A Formal Model of Optimum Currency Areas, IMF Staff Papers, December.
- Trade-Off: Monetary efficiency gain and economic stability loss from joining
  - Macroeconomic convergence criteria
  - Stability and Growth Pact
  - No monetary policy, complicates fiscal policy
  - Trade and factor mobility?
  - Without fiscal federalism

### **Financial Financial globalization**

- If it means removal of explicit barriers to international investment, a lot has happened, especially within industrialized countries.
- However important differences remain
  - Firm ownership
  - Firm size
  - Capital structure
  - Governance

### **Country Differences Remain**

- For portfolio choice, savings and investment, consumption, capital structure, and governance
  - For ownership structure
  - An Optimal Currency Area?
-

### **Twin-Agency Theory Perspective**

- Stulz (JF, August 2005) Presidential Address,
- Stulz, R. 2005, "Limits to Diversification", Journal of Finance, August.
  - John, K. and S. Kedia, "Institutions, Markets, and Growth: A Theory Of Comparative Corporate Governance", NYU Working Paper, 2006.
- Sharp decrease in barriers to international investment: financial globalization.
- Overall impact has been limited:
  - "Globalization is not rampant. It remains remarkably limited." (Wolf)
  - Negative equity flows to LDCs over last six years.
  - IMF study.
- So, why has the impact not been larger? Why is financial globalization not complete?
- Country heterogeneity is important.
- Agency costs of corporate insider discretion.
- Agency costs of state rulers discretion.
- Ownership and the twin agency problem.
- The twin agency problem and the international finance puzzles.
- The twin agency problems and consequences for corporate finance, leading to heterogeneity among EU countries.

### **Agency Problems with Corporate Insiders**

- Corporate insiders consume private benefits
  - Planes, easy life, outright theft
- Deadweight cost of private benefits is higher in countries with better investment protection
- Ex post incentives to extract private benefits fall as the insiders' stake in the firm grows
- More co-investment is optimal when investor protection is weaker

### **Agency Problems with State Rulers**

- Extract private benefits also
    - Redistributive taxes, confiscate assets, require bribes
-

- Managerial entrenchment limits expropriation by state rulers
- Firms with professional managers and atomistic shareholders are inefficient when problem is serious

### **Government expropriation**

- What is it? Broad understanding – predatory taxation, regulation capture, outright expropriation, etc.
- Extent depends on restraints on government.
- Literature: Buchanan and Tullock, Olson, Stigler, Roe, Pagano and Volpin, Perotti and von Thadden.
- John and Kedia(WP,2006)
- John,K. and S. Kedia, “Institutions, Markets, and Growth: A Theory Of Comparative Corporate Governance”, NYU Working Paper, 2006.

### **Twin Agency Problems**

- Problems interact with one another
- Empirically, low expropriation risk is a necessary condition for diffuse ownership
- Pervasive family control of firms is prevalent in all countries with moderate or high risk of state expropriation

### **Consequences**

- Twin agency problems limit the impact in at least five ways:
  - Co-investment is reduced by risk-aversion.
  - Co-investment is reduced by wealth constraint.
  - Reduced cost of external finance leads to lower insider ownership.
  - Foreigners are more vulnerable to expropriation from the state.
  - When expropriation from the state is significant, financial liberalization is less credible.

### **Twin Agency Problems Reduce Investments in Governance**

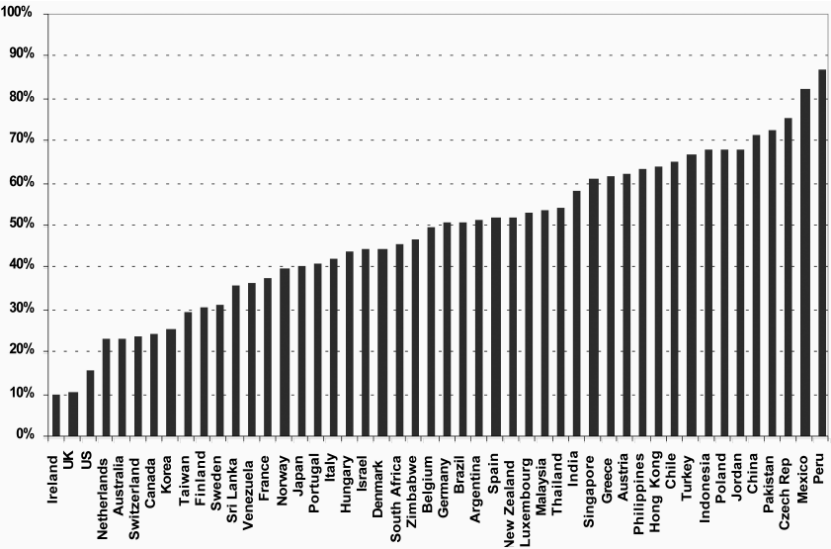
- Investments in general are less profitable
  - Lack of transparency reduces risk of state expropriation
  - Entrenchment reduces risk of state expropriation
-

- Risk of expropriation by the state reduces value of private contracting solutions

Governance differences: Europe An Optimum Currency Area?

name	ISO	rule_law	nant_dir	cred_ind	eff_jud	repudiat	risk_exp	account	c3pri
Austria	AUT	10	2	3	9.5	9.6	9.69	54	0.58
Belgium	BEL	10	0	2	9.5	9.48	9.63	61	0.54
Denmark	DNK	10	2	3	10	9.31	9.67	62	0.45
Finland	FIN	10	3	1	10	9.15	9.67	77	0.37
France	FRA	8.983334	3	0	8	9.19	9.65	69	0.34
Germany	DEU	9.233334	1	3	9	9.77	9.9	62	0.48
Greece	GRC	6.183333	2	1	7	6.62	7.12	55	0.67
Ireland	IRL	7.8	4	1	8.75	8.96	9.67		0.39
Italy	ITA	8.333333	1	2	6.75	9.17	9.35	62	0.58
Netherlands	NLD	10	2	2	10	9.35	9.98	64	0.39
Norway	NOR	10	4	2	10	9.71	9.88	74	0.36
Portugal	PRT	8.683333	3	1	5.5	8.57	8.9	36	0.52
Spain	ESP	7.8	4	2	6.25	8.4	9.52	64	0.51
Sweden	SWE	10	3	2	10	9.58	9.4	83	0.28

Percentage of Outstanding Held by Block Holders  
(48 countries in 2002; Source: Worldscope)





## Conclusion

- The paper by Maccario, Savona, Stroppa and Zazzara contains a nice analysis of the consequences of the unwinding of the US Imbalance. A disorderly adjustment will affect Europe and the EMU.
  - Europe's key problem: To raise growth and employment performance given an aging population.
  - Sensible Pension Reform, Improve incentives, More flexible labor contracts, Less distortions.
  - Greater financial integration (Taxes and Laws), Lower cost of capital, Better monetary transmission.
  - A very thoughtful paper with some key insights.
-

## References

Obstfeld M. and Rogoff K. (2005), “*The unsustainable US current account deficit revisited*”, NBER Working Paper 10864.

Blanchard O., Giavazzi F., Sa F. (2005) “*The US current account and the Dollar*”, M.I.T. Working Paper 2005-02.

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Bayoumi, T. (1994), A Formal Model of Optimum Currency Areas, IMF Staff Papers, December.

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# **Comments and Observations on the Paper by Aurelio Maccario, Paolo Savona, Davide Stroppa, Cristiano Zazzara, *The European Perspective***

## **Bill B. Francis**

Lally School of Management  
Rensselaer Polytechnic Institute, NY

### **The Issue**

- Do we need a new reserve currency?
  - Since Bretton Woods the dollar has fulfilled that role
  - However forces are in play that suggest that there should be cause for concern of the dollar's ability to fulfill this role

### **Advantages of Reserve Currency**

- Convenience for the country's residents
- More business for the country's banks and other financial institutions
- Seignorage
- Political power and prestige

### **Disadvantages**

- Larger fluctuations in demand for the currency
- An increase in the average demand for the currency
- Burden of responsibility.

### **Factors that Suit a Currency for International Currency Status**

- Patterns of output and trade
  - The country's financial markets
  - Confidence in the value of the currency
  - Network externalities
-

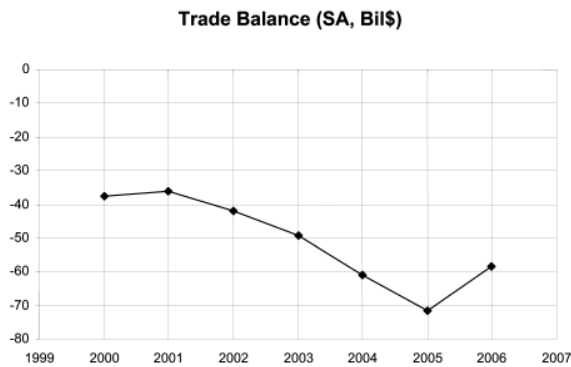
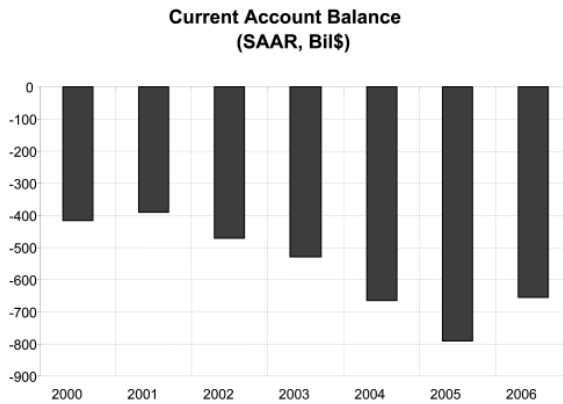
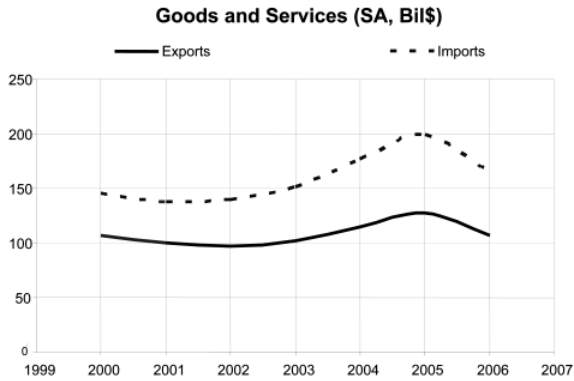
### **Take away from the Paper**

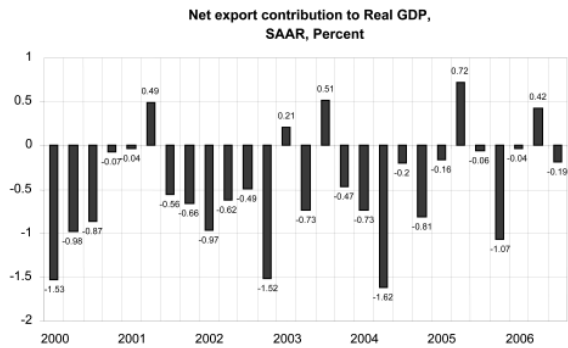
- Although not stated you come away with the belief that the authors believe that it is important that the dollar should remain the reserve currency of the world and that it does not make sense for the euro to try and fulfill this role
- I arrive at this conclusion based on the fact that the core of the paper talks about what needs to be done to reduce the U.S. current account deficit
- Specifically they discuss the role of the two Asian countries China and Japan with most of this discussion centered around China.
- However most of the paper focuses on the euro and what can be done by the countries in the Euro-area to achieve this

### **Problem with the Dollar (*US Economy*)**

- America today has a Current account deficit of over \$720 billion which is about 7% of GDP
  - This trade Imbalance continues to grow each month
  - Implication – increase risk of financial instability that would lead to tremendous turmoil in the world financial markets and therefore in the global economy
- 
- Some questions as to whether or not the U.S. in fact has a current account deficit
  - Hausmann and Sturzenegger (2006) – the perceived deficit is due to faulty accounting “inaccurate and systematically biased”
  - Based on their method the U.S. currently has a current account surplus
- 
- Are they correct?
  - Probably not – Maccario, Savona, Stroppa and Zazzara do an excellent job highlighting the flaws in their argument
  - Conclusion by the authors is that there is massive deficit that continues to grow and if not controlled could lead to major global economic instability
-

## U.S. Trade Summary

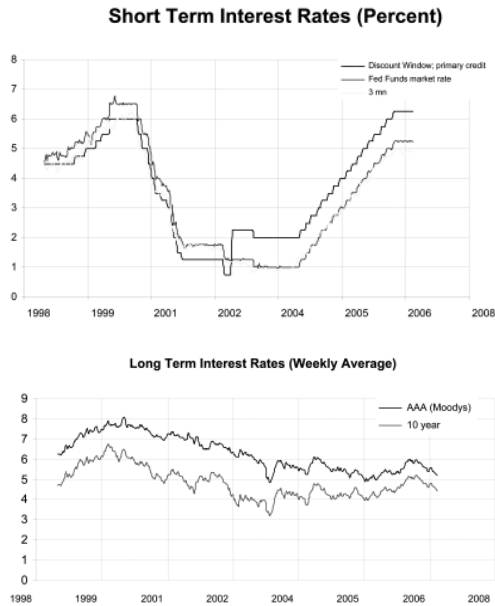


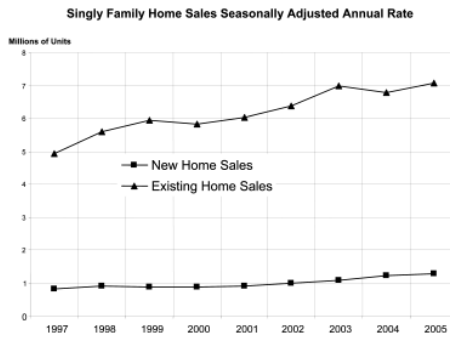
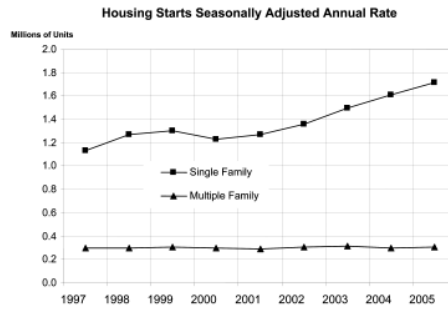
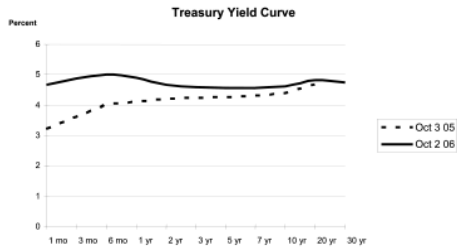


Source: Haver

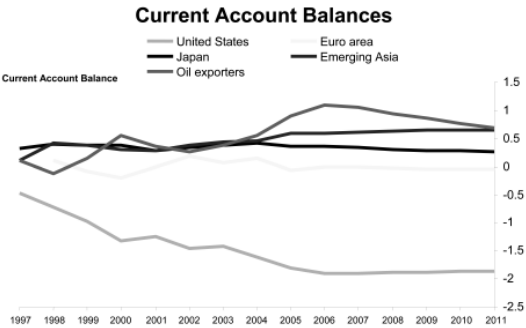
**U.S. Economy**

- Interest rates increasing – this could lead to increase in US dollars being held as reserves thereby exacerbating the problem
- A decline in the housing market that could lead to a decline in consumer wealth (both perceived and real) resulting in if not a recession a slow down in the U.S. economy



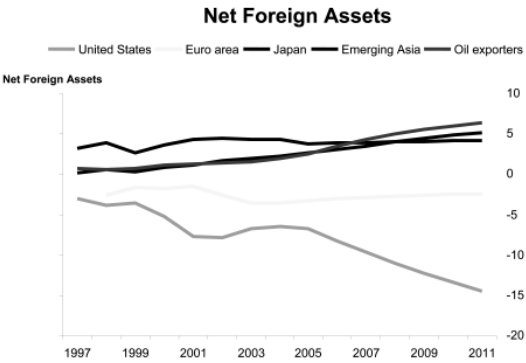


Current Account Balances



Source: Lane and Milesi-Ferretti (2006), and IMF staff estimates

Net Foreign Assets



Source: Lane and Milesi-Ferretti (2006), and IMF staff estimates



**Current Account Balances (\$Bn)**

	<b>2005</b>
US	-791
UK	-58
Euro Area	-35
Asia	405
Japan	<b>164</b>
China	159
Korea	17
Major Oil Exp	374

**Pro Euro**

- Other EU members, in particular UK, joining *Euroland* will make it larger than the US economy and financial market
- US macroeconomic policies could undermine confidence in the value of the dollar through inflation and depreciation
- Germany and Japan export 7-9% of their GDP to emerging economies
- Equivalent figure for America and Britain is only around 3%
- France and Italy are somewhere in-between

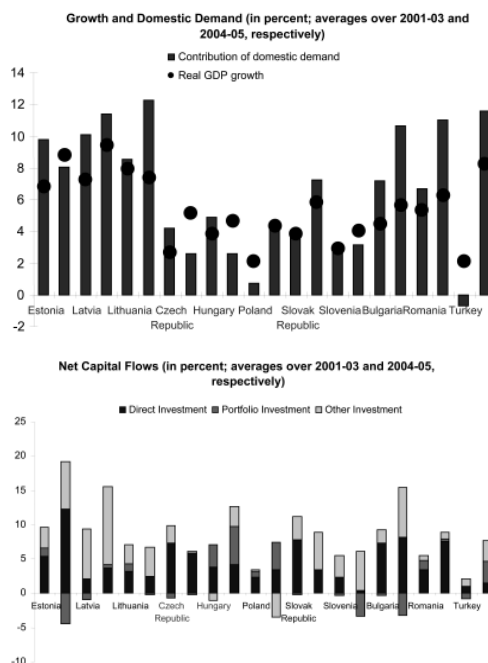
***Euro area's exports to emerging economies have grown by an annual average of 14% since 2000 (twice as fast as America's)***

- Since 2000 the euro area's share of world export markets has risen slightly, to 17%; while America's share has slumped from 14% to 10%
- By many measures of competitiveness, Europe appears to be coping better with the emerging economies than America***
- If EU were to fully embrace the rise of China and India, its GDP per person by 2050 could be up to 8% higher than it would otherwise have been, implying a boost to average annual growth of 0.2% annually over this period
-

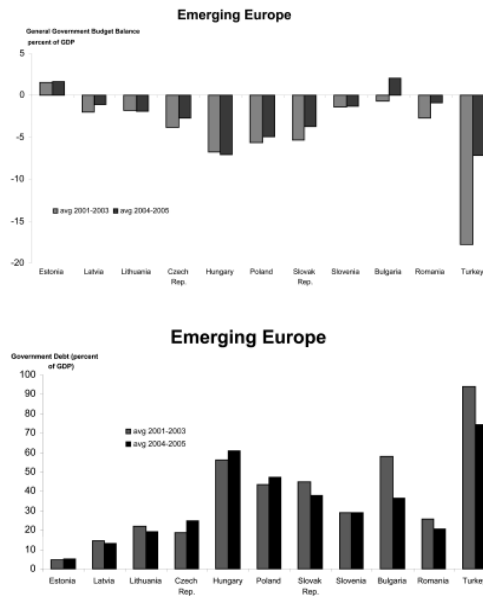
- If, on the other hand, EU countries lurch towards more protectionist policies, GDP per head could be 5% lower than in the base case  
(study by European Commission)
- European countries hold 30% of the seats on the executive boards of the IMF and World Bank
- Over 30% of those institutions' voting rights  
(giving them nearly twice as much weight as the United States)
- Italy, Belgium and the Netherlands each have more voting power in the Bretton Woods twins (IMF and World Bank) than Brazil, China or India

## Emerging Europe

Strong domestic demand has buoyed growth in emerging Europe, underpinned by sizable and increasing net capital inflows and rapid credit growth. However, with its heavy reliance on foreign savings, the region is vulnerable to changes in international financial market conditions. Weak fiscal positions in some countries exacerbate the situation.



Source: IMF staff calculations



Source: IMF staff calculations

## Against the Euro

- Europeans disagree because their interests diverge too much
  - Britain is a large exporter of financial services
  - Germany a large exporter of manufactured goods.
  - But EU countries differ just as much over trade and agriculture
- European countries could settle their differences but they fail to do so because of existing institutions that are somewhat dysfunctional.
- Except in euro-area monetary policy and in trade, most macroeconomic matters are firmly in the hands of national European governments.
- These governments will not voluntarily give up their over-representation in the G8 or the IMF in favor of a common EU stance.

## **Between Dollar and Euro**

- Since 2002 the dollar has fallen by 28% against the euro and by 14% against a broad basket of currencies.
- Even so, 66% of the world's official foreign-exchange holdings are still in dollars, compared with 25% in euros, 4% in yen and 3% in pounds, according to figures published last week by the IMF.
  
- Since 1997 employment in the euro area has grown slightly faster than in America.
- The reason why America is growing faster than Europe's is that sluggish real wages have been offset by large capital gains on homes, massive borrowing and an unsustainable fall in saving, all of which have boosted American household spending. If (when) house prices fall and consumers wake up to the fact that they are not saving enough, consumer spending will weaken perceptibly (e.g., recent housing slump).
- European firms have been much more successful than America in holding down unit labor costs, thereby remaining competitive.

## **Euro and the Dollar**

Additional comments on the paper

- Maccario et al. present regression analysis examining the determinants of the euro/dollar exchange rate
- The results are quite interesting in that the variables that are most important in terms of explaining variation in the exchange rate are those having to do with Japan – both the yen and the trade deficit
- Yuan insignificant but China's trade deficit significant

## **Some Issues**

- The emerging economies has grown tremendously in importance following their liberalization which started in the early 1990's
  - For example, these economies hold 70% of global foreign-exchange reserves
  - Emerging economies are fueling their export led growth by financing
-

### US Deficit

- Thus not only should China be included in the analysis but the other emerging economies should also be included
  
- It is not clear if the authors used exchange rate changes or if they use levels in their econometric analysis. If it is levels they need to test for unit roots in the exchange rates. If they do find unit roots then they should difference the variables. However, I do not believe that this would alter the inferences made by the authors
- The authors present a very good discussion of what the problems are if the Euro-area would bear the burden of reducing the US current account deficit. It would be helpful if they could do some simulation analyses to quantify the impact that it would have. Variables that could be used are variables such as – GDP ratio, inflation differential, volatility of the currency, exchange rate turnover, share of currency in reserve holdings. This would help to bolster the arguments made in the paper

### The issue of Japan

- Note that the US trade deficit with Japan is larger than with China
  - Maccario et al. do an excellent job discussing the role of China in the U.S. current account deficit. However although they show that Japan's surplus is larger they do not discuss its implication(s)
  - The issue of Japan needs to be brought to the forefront of the discussion. I say this because by doing so it highlights the importance of Japan and the possibility that the yen along with the euro and the dollar can (and probably should be) the three reserve currencies
  
  - It is generally agreed that the Yuan is undervalued and one way to improve the U.S. current account balance is to get the yuan to appreciate
  - However a currency that is flying under the radar is the Yen
  - Since March it has fallen slightly against the dollar but by as much as 8% against the Euro
-

## The yen

- Since 2001 the yen has fallen by 35% against the euro but little changed against the weaker dollar
  - Implication is that the yen has gained competitive advantage against the other currencies that have appreciated against the dollar
  - In fact an article in the Economist points out that whereas the yuan is undervalued by 7% against the dollar the yen is 12% and against the euro it is almost 30% below its fair value
  
  - What is even more surprising is that while there is tremendous pressure being placed on China by its trading partners to do something about the Yuan, Japan's trading partners are relatively quiet about the yen
  - However Jean-Claude Trichet the president of the ECB has recently complained that Japan is not bearing its share of the dollar decline
  
  - While the yuan is not allowed to float freely, the undervaluation of the yen is puzzling – especially given that it is a freely floating currency and not being held down by currency intervention as it was back in 2003-2004
  - Why is it so cheap?  
Nominal interest rates is 0.25% with the recent increase in inflation real rates are close to zero
  - A more popular explanation is the revival of the “carry trade” (borrow cheap yen and investing in higher yielding investments elsewhere)
  
  - Another possible explanation – global “funnelling hypothesis” this focuses on the net trade and capital flows of Asian and oil-exporting countries
  - The basic idea is that the world buys from these countries and they then invest the net proceeds in financial markets
  - Central banks of these countries prefer to put money in well developed
-

financial markets thus the liquid markets of America, the Euro area and the UK attract most of this capital

- The implication of this is that there is a funneling from Asian currencies into dollars and euros
  - With the tremendous increase in the current account surplus of the emerging economies there has been an accompanying increase in their foreign reserves which have served to push the yen down against the euro regardless of the fact that the yen is freely floating
  - This suggests that if the current trading patterns are maintained and the Japanese central bank does not intervene the yen will continue to be undervalued for a substantial period of time
- 
- This is not the first time that the yen has been undervalued
  - The first time led to the Plaza Accord 21 years ago that led to a tremendous increase in the value of the yen
  - Note that at that time the yen was substantially less undervalued than it is today
  - Maybe it is time for another “Plaza Accord” meeting – by this I mean that there should be a meeting of the central banks of these three major currencies where a discussion similar to what is being done at this colloquium can occur
  - This is clearly needed because it is not clear that we can go back to the time when there was only one true reserve currency – given the tremendous increase in globalization, it is unrealistic to believe or expect that one currency can serve this purpose. This would pose tremendous risk to the financial stability of the world. This was recently alluded to by bankers in China who pointed out that by holding so much of their reserves in dollars, China is tremendously under diversified and could suffer tremendous losses if the US dollar were to depreciate significantly
-

## Conclusion

- The confidence in dollar as a reserve currency is going down due to ballooning current account deficit
  - The emerging economies are the primary holder of dollar reserves, which they use to fuel their export led economies
  - Although in theory the euro can be a replacement to dollar as a reserve currency the euro area is currently not ready/able to support the massive responsibility and implications of having the euro as the world's reserve currency
  - Although de facto the dollar continues to be the major reserve currency, it is not clear that this is sustainable or is even desirable. This suggests that it is time for the central banks of the major economies to get together and determine some sort of global strategy going forward with special emphasis placed on the – dollar, euro and the yen
-



# **FOURTH PAPER**

## **THE GLOBAL PERSPECTIVE**

**Paul Wachtel**

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### ***Abstract***

There are two interrelated usages of the term Bretton Woods in international macroeconomics. First it refers to the institutional structure put in place to govern international financial relationships in the post World War II era. Second it refers to the way in which the financial interactions relationships among countries operate. In both instances there are important differences between the Bretton Woods of the early post war period and the contemporary experience. In particular, the most important Bretton Woods institution, the IMF, plays a different role today than it did in the original fixed exchange rate system of the post war period. With regard to operations, large US current account deficits in recent years provide some resemblance to the role of the dollar earlier. This paper explains and contrasts the old and new Bretton Woods institutional and operating systems.

**Key words:** Bretton Woods, exchange rate regimes, IMF, current account

**JEL classifications codes:** F33, F32

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Bretton Woods is a beautiful place in the White Mountains of New Hampshire. But, it is also a key phrase in the lexicon of international macroeconomics. The term Bretton Woods figures prominently in economic thinking and the search for a new Bretton Woods (hereinafter, BW) goes on far from the New Hampshire mountains. As the term has become increasingly familiar, it has become less clear what the phrase is supposed to convey.

The BW system that emerged from that mountain setting has two distinct but related parts. First, it refers to the institutional structure put in place to govern international economic relations and second, it refers to the way in which international financial relationships operate. Thus, the original system (old BW) consists of the institutions and operations of international finance from the end of the war to the breakdown of fixed exchange rates in the early 1970s. The old BW system had a long demise – from the end of gold convertibility in 1971 through the financial crises of the 1990s. However, there is now much conjecture about the emergence of a new BW system.

Our objective here is to examine old BW and to provide a context for understanding the new BW. Just as old BW has two facets – institutions and operations – so does new BW. In the aftermath of the financial crises of the 1990s there were wide discussions of the reform of the BW institutions, particularly the IMF, and the search for a new financial architecture continues to this day. From the operational perspective, the influential work in just the last few years by Dooley, Folkerts-Landau and Garber (DFG) postulates that the world is operating under a new BW system. DFG argue that the international financial system operates today with features that closely resemble the old BW system.

We will find that the old BW system was remarkable in many respects. First, the war time conference cobbled together a set of institutions and arrangements for international financial relationships that were just the right thing for the right time. The aim was to provide a setting for post war economic growth and to avoid the problems that hobbled the interwar economy. The old BW system met these objectives handsomely.

However, the old BW system was a victim of its own success. A growing world economy evolved away from the initial conditions of the post war period. The growth of trade increased the demand for reserve assets which were beyond the supply capability of the old BW system. Furthermore, the re-globalization of a growing world economy inevitably led to more open capital accounts.

With regard to institutional changes, no suggested reform has the consensus backing that led to the old BW. With regard to operational changes,

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DFG postulate that the international financial system has been operating in ways that bear many similarities to old BW. Their view is that this new BW can be sustained for a generation or just like old BW worked for the first post war generation. However, their view is debated by observers who view the large global imbalances of countries like China and the US as unsustainable.

Our examination of the institutions and operations of the old BW era will, hopefully, help us understand the two facets of the new BW era. The paper starts with a step back in history to the Bretton Woods conference that brought together 730 policy makers from 45 countries in the midst of the Second World War. It was an odd gathering in an odd place that, even more oddly, had enormous influence.

Bretton Woods, 1944. There was a consensus among the allies that an important part of victory – the success of the post war world – would be new arrangements in international economic relationships. Efforts to develop a new structure for international financial relationships started early in the War and culminated in the BW conference held over three weeks in July 1944. The conference started just a month after D-Day when there was a thought or a hope that the war would end soon. So, with the war waning and with a broad determination to change the landscape of international economics, hundreds of participants converged on a very remote resort hotel sitting at the foot of the tallest mountain in the Eastern US. Most participants arrived by special overnight trains from Washington and from Atlantic City where key participants had hammered out the final plans. In fact, discussion had been underway for several years between the two key players – the US and the UK. The agreements were virtually in place before everyone reached New Hampshire.

There were really two players at BW – John Maynard Keynes of the UK and a less well known Treasury economist from the US, Harry Dexter White. Keynes and White had been discussing the design a post war international financial architecture for several years and the Keynes and White plans were made public early in 1942. Much debate went on – often with coded trans Atlantic messages – before the meeting at BW started. One thing is for sure, there was a determination to change the way the world economy was managed in the post war world.

Sixty years later, there is still determination to manage and stabilize international financial relations but there is less and less agreement about how to do so. Perhaps the Bretton Woods conference was successful because of Keynes' dominant intellect or because the US had already emerged as the predominant player on the post war world stage. One way or the willingness

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to reach agreement stands in sharp contrast with recent experiences such as the failures of the Doha trade talks or the attempts to reform the IMF since the financial crises of the 1990s.

BW in 1944 was different because there was a shared perception that there was something terribly wrong with the prewar structure and that an entirely new system was needed. Bretton Woods was different because of the shared fear of returning to the conditions and structure of the interwar period. International trade plummeted in the Depression particularly as countries competed vigorously to impose trade restrictions on each other in vain efforts to save domestic industries. The determination to avoid a return to such a situation was accentuated by the fact that all serious economists expected that there would be sharp post-war economic slowdown<sup>1</sup>. The difficulty in establishing trade policies was probably understood at BW. Moreover, it was known that the pre-war tariff wars were misguided response to financial crises. Thus, the emphasis at BW was the efforts to reconstruct the financial system.

Financial architecture before BW. In theory the countries of the pre war world were on the gold standard. Now, the gold standard model – David Hume’s price-specie-flow model – is elegant and simple. Countries with trade deficits have to export gold, which leads to a domestic money contraction, prices fall and presto the deficit disappears. It was probably the first general equilibrium model and is much loved by economists.

Although, the gold standard model called for automatic self correcting responses to imbalances, the ability of central banks, then as now, to influence interest rates and credit (money supply) expansion complicated the structure. The gold standard model demanded that central bankers play by the “rules of the game” (a term coined by Keynes in the 20s). The unwritten rules stated that a proper central bank set policy that was consistent with the automatic adjustment mechanism of the gold standard. Playing the game meant that a central bank would raise interest rates and contracts the money supply in the presence of incipient gold losses. Thus, the system can work without major gold reserves or gold flows. However, by the time the term was coined, central banks were flouting the rules; other things, domestic concerns, had a substantial influence on interest rate and credit policy (which at that time consisted of discounting by central banks).

Moreover, the gold standard adjustment model abstracts from the

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1 It is interesting to note that the one failure of BW was dealing directly with the trade issue. The conference envisioned that in addition to the international financial institutions there would be a comprehensive organization to govern trade. Such an organization did not emerge and the GATT agreements of 1947 were a weak substitute from the very start.

existence of international capital markets, which had been around throughout the gold standard era. Lending can stem the demand for gold outflows and thus postpone the operation of the adjustment mechanism. That sounds fine; capital markets can absorb short term shocks without either gold flows or deflation. However, loans accumulate to form a stock of claims on the gold reserves. If reserves are small relative to the accumulated imbalances financed, capital markets can make the system more volatile rather than less volatile.

Capital flows in the late 19th century were often immense. Current account deficits of 10 percent of GDP in developing economies were not unusual. Gold still had some importance; when the willingness to lend dissipated for whatever reason, it was important to have gold reserves to smooth out any adjustments and to set a correction in motion via the money supply. Thus, the world supply of gold provided liquidity to the international financial system. But even in the era where the gold standard supposedly reigned, imbalances could accumulate.

There were multiple pressures on the adjustment mechanism. First, central bank failure to tighten in the presence of a balance of payments deficit could lead to larger and larger deficits. Second, capital market lending could create stock of debt problems that were much larger than the flow imbalance. Third, irregular gold discoveries could lead to sudden and disruptive changes in supply and prices. Fourth, there was no natural means of increasing the supply of liquidity as the world economy expanded. Fifth, there was nothing to insure that the gold supply would be in the right place at the right time. A country with a large deficit which capital markets were unable or unwilling to finance would likely not have ample gold reserves as well. If the gold reserves were there, the capital markets would have been willing to lend.

As a consequence some observers contend that the gold standard adjustment mechanism never existed, at least not in the 20th century. That might be an exaggeration but it is true that the 19th century ideal of a self adjusting mechanism through business cycles was no longer operational. In practice, the gold standard was a system of fixed exchange rates where gold served as the liquid reserve asset. And therein lays the problem: the pre war fixed exchange rate system had all the problems we associate with late 20th century fixed exchange rate regimes. The success of the gold standard – i.e. the commitment to and confidence in the fixed exchange rate to gold – was the source of its demise. It allowed imbalances to accumulate to unsustainable levels before any adjustments took place.

The Bretton Woods Solution - Structure. Like the gold standard that preceded it, the old BW structure started with a commitment to fixed

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exchange rates which would provide a stable environment for the growth of world trade. However, the BW system understood that occasional realignments would be needed so a mechanism for changes in parities was part of the system. In addition, there was an understanding that a growing world economy would need more than just a given supply of gold as a source of liquidity if economies were going to avoid costly deflation episodes. So, a mechanism was needed that could create sufficient liquidity and also make sure that it was in the right place.

The Keynes plan was the more radical suggestion. He proposed an international clearing currency, the 'bancor,' that would be issued by an international clearing union. Importantly, the union could create bancor money by fiat and set its value with respect to gold. Exchange rates to the bancor would be fixed although the clearing union could approve changes. Nations could borrow or just accumulate deficits (overdrafts) or surpluses at the clearing union. The clearing union would be an international central bank, a lender of last resort.

The plan overlooked the fact that central banking is more than just the ability to create money. The role of central banks is to maintain the stability of the financial system and oversight of money creation is only part of its role<sup>2</sup>. A successful central bank that maintains stability creates a situation where the lender of last resort facility is rarely called upon. Keynes' clearing union might be a lender of last resort with infinite ability to create money but the plan did not provide it with the political power to influence national economic policies and make sure that countries would not need to resort to borrowing in extremis.

The role of a modern central bank is as much to provide the regulatory and risk management framework that makes the lender of last resort superfluous than it is to be a liquidity facility. With active money markets for interbank lending and refinancing banks can avoid liquidity crises. Good regulation includes, at the extreme, the ability to force banks to change their behavior or even to close banks down before there is any need for the LLR function. Our modern understanding of the lender of last resort is that the lender (the central bank) has to also create a situation where there is rarely any need for its lending services. An analogy can be drawn to the

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2 The original theory of central banking – Bagehot – emphasized bank stability. Macroeconomic monetary policy concerns would only appear later. However, in the 20th century central banking became almost exclusively associated with interest rate and money growth policies. The pendulum has begun to swing back with less emphasis on macroeconomic policy and more emphasis on financial sector stability issues.

international LLR envisioned by Keynes. To be an effective issuer of *bancors*, the world lender of last resort would also have to have extensive political and economic powers that seemed as remote at the time of BW as they are now.

We cannot very well expect the international central bank to be able to close down a country; they are all ‘too big to fail’ or even to put into receivership. Nor did the Keynes plan include a surrender of sovereignty that would enable the international central bank to determine fiscal or monetary policy in a country. A generation later, Geithner (2004) made the same observation in regard to the IMF which has a “financial mission that had some of the characteristics of a lender of last resort...but without mechanisms to constrain risk-taking behavior.”

The plan that won the day at the BW conference was that contributed by the Americans. It shared the same goals – to stabilize exchange rates, facilitate payments, and encourage investment and trade – but its liquidity feature was less ambitious. An international organization would not have rights to create fiat money but would have lending capabilities that came from member subscriptions. The BW solution provided limited availability of new liquidity and attempted to structure a system that would discourage the demand for it<sup>3</sup>.

The differences between the Keynes and White plans do not seem large but they do represent different views of the world. In the view of de Vries (1986) Keynes advocated a highly structured system with rules governing trade and payments and intergovernmental cooperation to manage the system. The White plan gave more emphasis to market based solutions with limited government interference. It is interesting that in many respects the IMF was structured by White’s plan but developed along the Keynesian view. It is also interesting that contemporary discussions about revising the international financial architecture display the same tension between rule making by intergovernmental agencies and market based solutions.

As noted earlier, adequate provision of liquidity does not solve the inherent flaw of fixed exchange rates which is the absence of an adjustment mechanism. The BW system dealt with this in two ways. First, there was provision for exchange rate realignments and second, the international financial architecture envisioned at BW reduced the need for liquidity. Specifically, the old BW system assumed that capital controls would remain in place and in fact the IMF articles allowed for the extension of capital

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3 The approach was not entirely new. In the 1920s and 30s (prior to the collapse of the gold standard), there were League of Nation discussions about how to economize on the use of gold and improve the payments system when ‘liquidity’ (i.e. gold) was in short supply

controls. Some gradual opening of capital flows was perhaps envisioned but there was clear sense of sequencing – this would not occur until the international financial system could handle the pressures. The solution was admirable but not perfect as noted by Timothy Geithner (2004): “The Fund, from its inception was burdened by a mismatch between the aspirations of its architects and the authority and instruments they gave the institution to pursue those ambitions.”

How did old BW operate? The post war world envisioned by old BW discouraged capital flows discouraged and presumed that current account imbalances would be quickly corrected with gold reserves and borrowing from the new international organization, the IMF which would also oversee exchange rate realignments.

The IMF spent a number of years finding its way, accumulating reserves and defining its activities. There were not very many exchange rate realignments and almost a modest amount of IMF lending between the British devaluation in 1948 and the early 1970s. Nevertheless, the world economy got on its feet and trade grew rapidly. What else was going on to provide the grease that kept the engine running? Or, in terms of my taxonomy, how did old BW operate?

The answer lies in the dominant role of the United States. US demand for goods fueled export driven growth in Europe and Japan. Moreover, the dollar became the world’s reserve currency. The role of the dollar was not foreseen by the architects of the BW system. In effect, the old BW system stood on three legs: fixed exchange rates, capital controls and increased liquidity in the form of an increased supply of dollars<sup>4</sup>.

The US ran trade surpluses for some years after the war though they were not large – about 1-2% of US GDP in the 1950s. By the 1960s the world economy had recovered substantially and the US began to run trade deficits although they were not large relative to US GDP. Unlike the present, US net borrowing from abroad was not large; financing current account deficits was not the source of dollar liquidity to the rest of the world. Unlike the present, large US borrowing was not the source of liquidity to the rest of the world.

In the old BW system, the US acted as a banker or a financial intermediary in the traditional sense of the word. It transformed long term assets into short term liabilities. The source of added liquidity was indeed

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4 This point is particularly interesting because the role of the dollar is the linchpin in discussions of the contemporary international financial system. However, there are significant difference between the role of the dollar in old BW and new BW.



short term dollar liabilities coming from the US which were balanced by increases in US holding of long term assets around the world. The US was the world's banker and the dollar was the banking unit of account<sup>5</sup>. Thus, the third leg of the old BW system was not simply that the dollar was the source of liquidity. It was that the provision of banking services by the US increased the liquid supply of dollars.

However, old BW had its share of problems that ultimately led to its demise. First, exchange rate realignments were needed with increasing frequency. Differences in productivity growth even more than differences in inflation rates led to real exchange rate changes that necessitated changes in parities. Second, as economies matured capital controls began to peel away (sometimes by law, sometimes by practice). Third, the demand for liquidity began to put pressure on the dollar at just the time the US was beginning to run current account deficits.

For some years the system lumbered on because the world's central banks were committed to it and agreed not to call on US gold reserves even when US liabilities exceeded its reserves. However, over time US gold reserves began to dwindle and ultimately President Nixon closed the gold window in 1971. By 1973 the old BW system of fixed exchange rates was a thing of the past. These events can be viewed in two ways. First, it is possible that the end of old BW was a US problem rather. The Viet Nam war inflation put pressure on the dollar and the US did not have enough gold reserves to maintain a fixed exchange rate. Second, we can argue that the old BW system was doomed because it did not allow for enough flexibility of exchange rates. It is possible that a timely realignment of the dollar parity with gold could have kept the system alive.

The old BW operating architecture was the right thing for that time. That odd conference in the mountains of New Hampshire provided a framework for international cooperation, a development institution (the World Bank) and a liquidity facility (IMF loans). The stability of the fixed exchange rate regime in the 1950s and 1960s successfully jump started the world economy.

Contemporary discussions of economic reforms often refer to the idea of sequencing. The absence of proper sequencing can be the death knell of

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5 The difference between the provision of banking services by the US in the old BW system and the role of the US as a debtor nation today can not be understated.

6 For example, voucher privatization in the Czech Republic was carefully conceived and the right thing to do. But, it failed miserably because legal codes defining ownership, securities laws and bank regulatory authorities were not yet in place. They did not get the sequencing of reforms right.

good ideas<sup>6</sup>. The old BW system, perhaps by accident, got the sequencing right. A closed capital account was the right choice in the immediate post war period. Modern sensibilities bristle at any thought of controlling markets but capital account flexibility had to be put off until the world economy was on better footing. At the same time, and this was not understood in the 1960s and 1970s, the re-emergence of significant capital market activity implied that the old BW institutions needed to adapt. Fixed exchange rates were a reasonable choice until capital market activity began to overwhelm the availability of both gold and dollar reserves. For five years, from the British devaluation in 1968 to the demise of fixed exchange rates in 1973, policymakers tried to patch up the old BW system.

The old BW system was not altered in any fundamental ways although the IMF's credit creation capabilities were expanded (starting with the creation of Special Drawing Rights in 1969). New lending facilities and expanded quotas increased the fund's capabilities. It also developed the expertise to monitor the world's economies and provide policy advice. The last two decades of the 20th century were defined by international financial crises that the IMF helped ameliorate but could not eliminate. First, in the 1980s, the recycling of petro dollars by international commercial banks resulted in the LDC debt crisis. Second, the 1990s were marked by numerous emerging market banking and exchange rate crises. By the close of the century, there were widespread suggestions that a new international financial architecture was needed.

The new BW structure. The exchange rate crises of the late 1990s gave rise to a vast outpouring of proposals concerning the international financial architecture. The debates were an echo of the Keynes-White disagreements. Should the IMF be a lender of last resort?

For a time, there were suggestions that the IMF's lender of last resort capabilities should be strengthened. A Supplemental Reserve Facility was created in 1997 that gave the fund the ability to provide large amounts of lending for short periods at penalty interest rates. This was very much like the classical idea of a central bank lender of last resort function except that instead of collateral borrowers provided promises regarding future economic policy. The difference between promises and collateral is a large one and it soon became clear that moral hazard may be impossible to avoid in IMF lending.

The lending capabilities of the IMF can be strengthened but "the parallel between the Fund and Bagehot's lender of last resort cannot be taken too far" (Ann Krueger, the IMF First Deputy Managing Director, Nov. 26, 2001). The realization that the fund cannot be a central bank

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(all countries are too big to fail) muted the search for a new international financial architecture. There is no alternative organizational form on the horizon which would provide a new BW structure that would preclude the reoccurrence of debt or foreign exchange rate crises.

At the same time the IMF has changed and improved its operating capabilities. It plays an important role in crisis prevention by being the source of good information and good advice. It has improved its capabilities in this regard by shifting its emphasis away from macroeconomics and towards data dissemination and financial sector stability. In 1999 the Fund started the Financial Sector Assessment Program (FSAP) to supplement the regular macroeconomic reviews of country policies and performance. These assessments require considerable cooperation on the part of the subject government which can choose to withhold release of the results<sup>7</sup>. As for crisis resolution, the IMF realized that there is little it can do to force a particular resolution other than provide adjustment loans and use their availability to encourage certain outcomes.

The limits of the IMF's capabilities at resolving crises had been clear much earlier. The sovereign debt problems of the 1980s were worked out gradually through private sector negotiation. Typically, the debts were syndicated bank loans and so the number of holders was fairly small which facilitated a negotiated outcome. The crises of the 1990s were more difficult to manage. Emerging market bonds were widely held which makes a work out process hard to manage. Moreover, the IMF was powerless to force debtors and creditors together.

Thus, the fund proposed a 'Sovereign Debt Restructuring Mechanism,' which would be a sovereign Chapter XI reorganization supervised by the IMF. The fund would have the power to both extend credit and protect debtors. However, any such mechanism would require amendment to the Fund's articles and approval by the US Congress. The political obstacles were formidable and the idea dropped by the wayside by 2003.

The alternative to an IMF capability for forcing governments to restructure debt was a private sector mechanism. At just the time that the political obstacles to a new Fund sovereign bankruptcy facility became clear, the private sector began to innovate.

Restructuring diffusely held debt is simplified if the bond issues

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7 An internal review by the fund (IMF, January 2006) indicated that the programs need to be strengthened. It suggested that the protocols for stability assessment are not fully developed and that the assessments have not been fully integrated into the Fund's relationship with member countries

include a collective action clause that keeps holdouts from standing in the way of a negotiated restructuring. The only problem was that the standard bond did not include such clauses and the first introducer would seem to be signaling weakness. Although no one objected to such a clause, no issuer wanted to be the first mover. However, in early 2003, Mexico sold bonds with such a clause (under New York law) and did so without any negative market reaction (see Roubini and Setser, 2004). Such clauses are now common and the calls for an IMF mandate for crisis resolution have receded.

The formal international financial architecture of the new BW system is not profoundly different than the old BW system. However, the environment has changed: closed capital accounts are now the exception rather than the rule, exchange rates are often managed but the overall system is one of market determined exchange rates and both trade and capital market activity has reached the peak levels seen a century ago. The new BW structure does include some new elements. First, the IMF's emphasis on crisis prevention and financial sector stability is a major change in the way it views its mission. Second, the private sector's innovation of collective action clauses along with improved fund lending facilities has improved the system's ability to respond to sovereign financial crises. Finally, exchange rate and financial sector crises have not been occurring with the same frequency as in the 1990s. As a result, the sense of urgency about the structure of the BW institutions has abated.

The tension evinced at the Bretton Wood conference 60 years ago between an international central bank and an international cooperative institution remains in evidence. The IMF of the old BW structure was the latter and the new BW structure is basically the same. It has evolved to respond to a changing environment and continues to work reasonably well.

How does new BW operate? The crises in the 1990s were associated with large current account deficits in emerging market countries. Almost without exception, these countries have become aggressive savers and the most prominent global imbalances are now the large US current account deficits. US borrowing and reserve accumulation by the Asian export economies are the defining characteristics of the new BW.

It has become fashionable to use the term Bretton Woods system as buzzwords for the way the international financial system is currently operating. In particular, the relationship between the two principal players in world trade – China and the US – is reminiscent of the old BW era. However, there is much disagreement concerning the strength of the analogy.

The analogy was floated by Michael Dooley, David Folkerts-Landau

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and Peter Garber (DFG) in a series of influential and widely read but unpublished papers beginning in 2003. The elements of the analogy are:

- Although there are no fixed parities at present, for all intents and purposes China's Yuan is fixed to the dollar.
- China maintains a low real exchange rate in order to generate export led growth. Throughout the old BW period, the recovering economies of Japan and Europe had undervalued currencies.
- The dollar serves as the reserve asset and is the source of international liquidity. That was the case under old BW too but there are significant differences in the way capital markets operate.
- The demand for dollar reserves around the world means that US current account deficits can be sustained indefinitely. Similarly, the old BW system was sustained as long as there was confidence in the convertibility of the dollar to gold or to other currencies at fixed or predictable exchange rates.

DFG made an interesting, accurate and imaginative observation. There are similarities between old BW (circa 1946-71) and new BW (about the last decade). Their observation was made in 2003 when many observers already expected a reversal of the US current account or at least large dollar depreciation. So, the fact that the current account deficit is larger than it has ever been and that the trade weighted dollar is still fairly strong serve to prove DFG right. There seems to be an analogy between the operations of old and new BW, but there are notable differences as well:

- In old BW, the US had current account surplus and provided liquidity by being the world's banker. It transformed maturities of debt from long term to short term. Pressures on dollar reserves began as soon as deficits emerged, even though they were small. In new BW, the large current account deficits are the source of liquidity. The US serves as a banker to the extent that it provides risk free assets, Treasury securities.
  - There was widespread support for the way old BW operated. The world's central banks agreed through negotiation to hold US debt and avoid calling on US gold reserves in order to preserve the system. Central bankers at present are unlikely to negotiate a public commitment to continue absorbing US debt. And in any event, such an agreement, as was the case in the late 1960s, only postpones an inevitable adjustment.
  - The world financial system is much different in the new BW
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era: there are extensive capital markets, few capital market restrictions and with the exception of the Yuan/Dollar exchange rate most important exchange rates are floating.

Eichengreen (2004) argues forcefully that these differences between the contemporary world economy and the old BW era make the BW analogy a poor one. The dominant position of a reserve currency is maintained by demand and the absence of alternatives. Only the dollar was fixed to gold in old BW and there were no other reserve assets. At the present, capital markets make movement into and out of dollar assets easy and the Euro is standing in the wings. If the world's central banks doubt the Fed's commitment or ability to maintain the value of the dollar, tastes for reserve holding can change quickly, particularly in the absence of capital controls and the liberalization of domestic financial markets in most countries (China being the notable exception).

It took a generation for the gold standard to expire but only five or so years for old BW to die. In the late 1960s policymakers tried to patch together the old BW fixed exchange rate system. Finally, after the US ended gold convertibility in 1971, efforts to hold the fixed exchange rate system together continued for two more years. The new BW era could disappear much more quickly.

Now, if DFG are right and we are now in a new BW era, then the world will continue to absorb US debt as its reserve asset. Indeed the world economy has a strong demand for these assets in order to sustain export growth in China. But, the final lesson from old BW is that all good things come to an end. At some point, the desire to hold more reserves will abate and an adjustment through exchange rate changes and, more likely and potentially more harmful, through changes in demand will occur. Thus, the issue at hand is not the strength of the analogy between old and new BW but how the world economy can engineer a soft landing and gradual adjustment.

Richard Cooper (2005) envisions a scenario of gradual adjustments to the supply and demand for dollar reserves that could lead to a soft landing without any dramatic changes in currency values or disruptive movements in interest rates. First, aging populations in Europe and Japan will generate less saving. Second, improved financial intermediation in China will enable domestic saving to meet more of the demand for investment. Third, he predicts that investment rates will level off in China and that the US will reduce its government deficit. Cooper's paper ("The sustainability...") contrasts with Nouriel Roubini's ("The unsustainability...", 2006) view that a sharp adjustment is imminent. He cites numerous cyclical factors that are

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likely to lead to a weaker dollar.

Without weighing one argument against the other, it is interesting to note one similarity. Both papers cited view international policy coordination as the best way to avoid sharp adjustments. However, it is unclear how policy coordination could be initiated. Neither China nor the US is potential borrowers from the IMF who might be influenced by dire warnings in IMF policy reports. The IMF has already done that in its most recent economic reviews of both countries. Economic policy coordination would require political agreement which has been lacking in the absence of a crisis and with elections looming in many important countries.

The world's political leaders seem to have adopted a view of complacency about international financial imbalances. In contrast, in the waning days of old BW, agreements for coordinated management of reserves kept the system on life support for several years. Later on, there were important episodes of international policy coordination such as the Plaza accords. But, at present there does not seem to be any momentum for cooperation. Moreover, US policy making and the leadership provided by Ben Bernanke and the White House give short shrift to international adjustments. The reluctance to acknowledge that an adjustment might be due is intentional as if doing so will precipitate a crisis. Bernanke's interest in more transparent policy making should include a bolder willingness to address the issues<sup>8</sup>.

Thus, the only sure lesson from old BW for the new BW is that the operating structure will come to an end. Commenting on the old BW system, Eichengreen (1996, p.95) wrote that exchange and capital controls were substitutes for a missing adjustment mechanism, "but their use did not ensure adjustment; it only delayed the day of reckoning." The same can be said for the new BW. The coincidence of China's demand for reserves and the US demand for imports substitutes for an adjustment mechanism and delays but does not preclude a day of reckoning. Thus, there are likely to be tumultuous times ahead for the world's financial system. We also know from the old BW experience that the new BW structure is not entirely equipped to deal with the end of the new BW operating system. It does not have the means or any way of moving economic powers like China and the US away from risky behaviors. Recognizing this requires a degree of economic policy coordination that does not seem to be on anyone's political agenda.

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8 Bernanke's testimony to Congress on July 19, 2006 as part of the semi annual monetary policy report to congress (<http://www.federalreserve.gov/boarddocs/hh/2006/july/testimony.htm>) makes no mention of external imbalances or exchange rates.



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## **Comments and Observations on the Paper by Paul Wachtel *The Global Perspective***

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Paul Wachtel has written a very interesting and wide ranging paper which summarizes the history of Bretton Woods, the purposes which it was intended to serve when adopted, how it actually operated and why it fell apart. He also discusses Bretton Woods II, including arguments along the lines of Dooley, Folkerts-Landau and Garber in National Bureau of Economic Research Working Papers and in published papers (2004, 2005). He then discusses what he sees as issues with that line of argument.

Rather than discuss details of Paul's analysis, I will take a different tack and ask how current arrangements deviate from what I would consider a reasonably desirable set of international economic and financial relationships.

A key distinction in Paul's paper is between the institutions and the actual operation of international economic and financial relationships. I will take that distinction perhaps a step further than Paul intended and distinguish between the formal rules of such arrangements and their actual operation.

I focus on the actual behavior of the arrangements and completely ignore the institutional framework and rules. I also abstract from the political feasibility of these arrangements. Relative to Paul's historical and concrete discussion, this analysis is quite abstract. At the end, given the implications of those deviations, I return to the issue of the U.S. current account deficit and the likelihood of disruptive implications.

### **Desirable and Actual Arrangements**

Rather than start from current institutions determined by the

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\* Any opinions or views are those of the author and not necessarily those of the Federal Reserve Bank of Atlanta or the Federal Reserve System. Any errors are the author's responsibility.

past, I begin by asking what I think are a set of desirable institutions. It would take far more than a comment to explain what I mean in detail and justify my suggestions, but outlining them provides a background for me to assess actual arrangements and for you to understand my observations.

A key aspect of any set of international economic relations is determination of the exchange rate. When everything is said and done, I think that flexible exchange rates determined in markets are preferable to other arrangements<sup>1</sup>. The price reflects marginal valuations by buyers and sellers. I prefer this for the same reason that I prefer that other prices be determined in markets – including stock and bond prices as well as crude oil prices and the prices of many other assets.

Support of a fixed exchange rate or a managed exchange rate often requires substantial controls on people's use of foreign exchange. Controls then extend, inexorably, to flows of goods and services and assets. It takes some memory to recall the extraordinary exchange controls under Bretton Woods on the 1950s, but not a lot. In the 1950s, people were severely limited in the amount of money that they could take out of countries to convert into other currencies. Capital controls were ubiquitous, and arguably not helpful. Furthermore, capital controls were introduced at various times to support the fixed exchange rates.

I am not suggesting a flexible exchange rate given any possible monetary policy is likely to work well. A predictable monetary policy with low inflation now and in the future is important for the smooth functioning of flexible exchange rates<sup>2</sup>. I am suggesting that manipulation of currency values is not likely to be a purely nominal affair.

Relatively low tariffs are another aspect of a desirable set of international economic arrangements. One of the first things that we teach students in principles of economics is comparative advantage. Tariffs can generate revenue and, by an argument based on equating

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1 A fixed exchange rate might well be the best arrangement for a small country because it avoids uncertainty about the government's monetary policy. Examples include the Bahamas' use of the Bahamian dollar and some Caribbean countries' use of the East Caribbean dollar.

A fixed exchange rate also can be a commitment device for a country that has a history of bad monetary policy, but developments in Argentina in recent years undermine this argument.

2 In a country with unpredictable monetary policy and high inflation, a flexible exchange rate might be even more worthwhile although it is not likely to change smoothly. But then fixed or managed exchange rates are likely to operate with episodic exchange crises precisely because the exchange rate does not reflect the value of the currency and changes in it.

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the marginal social cost of taxation, there can be good reason for some tariffs to generate revenue. It would take a tortuous line of argument to use this support for revenue-producing tariffs to justify policies such as the multilateral textile agreements involving the United States over the last 30 years. These agreements allocated the production of textiles worldwide and generated the obvious inefficiencies and evasions, not revenue for the U.S. government.

Unrestricted capital flows are another desirable part of international economic and financial arrangements. Capital flows represent a major way that countries with opportunities to invest can raise the funds to make those investments. While it is a matter of debate whether totally unrestricted capital flows can have adverse consequences for an economy, it seems to me that people in a country are likely to be better off if other things are changed so that unrestricted capital flows can deliver their benefits.

In such a system, some countries would invariably be growing faster than others, but I do not think that disparities in growth rates would be as large as they are now. If wide divergences in growth rates are conducive to problems, the wide divergences would be lessened, not increased, by the set of arrangements that I have outlined.

This system can be contrasted with actual institutions in place. Fixed and managed exchange rates are widespread. Tariffs are lower than in the past but trade restrictions are widespread. Capital flows are more or less free. Or they are more or less restricted depending on one's point of view. Some countries are growing dramatically; some not. The most obvious countries growing rapidly are two very large ones, China and India.

I think that the implications of these actual arrangements are reasonably clear.

Intermittent international financial crises have occurred since the 1950s up to the present day and I see little reason to predict their end.

Some people are substantially worse off due to restrictions on imports into other countries. In general, these restrictions have the effect of making poorer people worse off to benefit those with higher incomes. Most in the news recently, trade restrictions on agricultural goods lower the incomes of farmers in low-income countries to make farmers in higher income countries better off. I personally am not in favor of policies with such effects, which are only aggravated by the

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failure to let people exploit their comparative advantages.

It is an open question whether capital flows are a source of the intermittent financial crises or are part of the solution. This, of course, is conditional on the other policies, not conditional on the better policies suggested above that other countries might have.

## **U.S. and China**

The United States currently is running large trade deficits and concomitant large capital account surpluses. As Maccario, Savona, Stroppa and Zazzara (2006) show, viewed from a world-wide perspective, these current account surpluses are financed by oil exporting countries, Japan and China. The European Union is running a relatively small trade deficit.

What is the adjustment likely to be? Apparently the concern is that countries will abruptly stop acquiring U.S. financial assets and maybe even dump their current holdings of securities on the market. It is an open question whether the demand for these assets is sufficiently inelastic that any of this matters for the U.S. economy or world-wide interest rates, but I leave that issue aside.

Most discussions focus on the People's Republic of China. Why?

In the oil exporting countries, crude oil is largely owned by the governments, and in most cases, the government is indistinguishable from the individuals ruling the country. Essentially, today's current account surpluses in these countries can be interpreted as the transformation of crude oil in the ground into financial assets. It does not require much imagination to think that such transformation is in the interests of the countries' rulers and is likely to continue to be so. While any one current regime may well end abruptly, there is no reason to expect all of them to end simultaneously. Even with the end of a current regime, it is not obvious that there would be sudden cessation of oil production and acquisition of financial assets, but there might be. Still, if there were, it is unlikely that any one country is sufficiently important that it would precipitate a financial crisis in the U.S. or the rest of the world.

Turning to Japan, the lack of concern also seems warranted. The government of Japan is democratically determined and the country has a market economy. While Japan no doubt does not have some ideal

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political and economic institutional framework (any more than the U.S. or any other country), there is no reason to expect dramatic changes. Even if the Bank of Japan decides to diversify its portfolio, the Japanese central bank has no incentive to dump U.S. securities on the market if it will dramatically lower the value of assets it holds.

The government of the People's Republic of China raises different issues. China's external policies include a relatively fixed exchange rate supported by capital controls. While such regimes do not have to end abruptly or badly, they have in the past. China's internal policies involve a government run by the Communist party with functioning markets, some property rights, entrepreneurs and people becoming billionaires. I probably am not alone in seeing a contradiction that is not likely to persist for a long time – say 20 or 30 years.

What are the implications of these arrangements in China for the current account? I think that it is in the interest of Chinese people to have a smooth adjustment. I am not so sure about whether it will be in the interest of China's current rulers.

What will happen? No one really knows with much certainty. I think that uncertainty is at least part of the reason that discussion of current account surpluses in the U.S. focuses on China so much.

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## Comments and Observations on the Paper by Paul Wachtel *The Global Perspective*

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### Introduction

First, I let me say that I am delighted to be a participant in this Fourth Florence Colloquium on “In Search of a New Bretton Woods: Reserve Currencies and Global Imbalances,” jointly organized by the Associazione Guido Carli and Cesifin Alberto Predieri in Collaboration with the Editors of the Journal of Financial Stability. The conference is both timely and important in addressing the many policy issues associated with the global financial system and its evolution.

In my role of discussant of the survey paper—“Understanding the Old and New Bretton Woods,” by Professor Wachtel of the Stern School of Business at New York University, I first want to thank Professor Wachtel for providing us with a very nice overview of the old Bretton Woods system fixed exchange rates, how it worked, and why it lasted for so long as a stabilizer of the global financial system. His analysis examines how and why the system worked as a process and as an institution for so long and he also touches on why it was inevitable that the system would breakdown. As he suggests in his paper, critical thinking about reform of the global financial system or what will be henceforth referred to as the so-called New Bretton Woods, is in a continuous state of transition. Despite the unsettled nature of this New Bretton Woods system and how it should be organized (either formally or informally), there seems to be a general consensus that the primary goal of the system should be to help insure global financial stability. The desirability of this goal is non-controversial and relates mainly to the adverse impact that recent financial crises have had on the global economy and financial system. It is now well understood that the cost of financial instability can be very high. For example, we know that in countries that have had at least one banking system crisis in the last four to five decades (this includes virtually all countries that are members

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of the International Monetary Fund) the average fiscal costs of banking system resolution can be as high as 50 percent of GDP. Furthermore, the deadweight economic costs of banking and currency crises occurring together, measured by cumulative output losses, can amount to as much as 30 percent of GDP. Clearly, these crises have greatly contributed to the renewed interest in studying financial instability and the design of mechanisms like a new Bretton Woods system that might mitigate their occurrence.

One difficulty in analyzing financial instability, in addition to finding a widely accepted and applicable definition of it, lies in the fact that most of the recent financial crises have manifest themselves in seemingly unique ways and, as a result, frequently have required different policies to manage and resolve. The fact that many approaches to crisis resolution take coordination failure (e.g., coordination failure between fiscal and monetary authorities) and informational frictions as their basis reflects and often contributes to this difficulty. As any reader of the international economic press can garner, there are scores of proposals aimed at reforming the international financial system. These proposals range from new financial and legal mechanisms that would preempt crises, to more sweeping recommendations for the general overhaul and reform of the International Monetary Fund, to proposals for the establishment of a new world financial authority along the lines of a world central bank or lender-of-last-resort that would oversee the “public good” of global financial stability.

### **Categorizing Approaches to Global Financial System Reform**

In his paper, professor Wachtel alludes to some of these proposals for reform and hints at the pros and cons of some approaches. I am sure that the reader of the paper would like to see a deeper analysis of various reform proposals and I would recommend that Professor Wachtel consider writing an extension to his survey paper that provides just such an analysis. What I would like to do in my commentary is identify three key camps into which recommendations for reform can be placed. Stated differently, I'd like to identify the various paradigms, schools of thought, or categories that reform proposals—in the new Bretton Woods tradition—tend to fall. These camps are more political than economic in nature given that any reform that effectively deals with the global

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public good of financial stability must be political by necessity. As will be come obvious, the thrust of my remarks will focus on non-technical matters.

One set of proposals fit into a category that focuses on the infrastructure of the global financial system rather than on the overall design or architecture of the system. In simple terms, this school of thought might to labeled the—"it's the infrastructure stupid, not the design that is the problem" school of thought. Alternatively, proponents of this approach to fixing the global financial system might say that it is the wiring of the system that is broken not the architecture. This school is most often associated with the Unites States and is a school that is supported by the G-7 countries, perhaps with the possible exception of Japan. The basic idea here is that the current global financial architecture is sound, there is no need for major reform, and it's simply a matter of improving the plumbing, wiring, or infrastructure of the system. This school assigns primacy to reforming the financial sectors of crisis and developing economies through increased transparency and accounting disclosure, toughened bankruptcy laws, adoption of private property rights, elimination of political corruption, better prudential supervision and regulation, adoption of investor protections, better credit allocation decisions at the micro and national levels, and the elimination of the moral hazard problem in the banking sector. For example, this approach is characterized somewhat by the various programs of the Bank for International Settlements, including programs focused of capital standards or requirements, banking and financial stability forums, and the like. In addition, this school tends to favor the inflow of foreign capital to stabilize local financial systems and to recapitalize domestic banks. This school tends to support the expansion of powers of the IMF (e.g., contingency credit lines that are assessable if a country has good macroeconomic fundamentals as stipulated by the Fund).

The second school or category into which reform proposals tend to fall can be termed the back-to-the-future school. Proposals that fit into this category would propose tougher controls at the global level, for example, perhaps in the form of so-called Tobin taxes or some variant of Tobin taxes. Tobin taxes (named after the James Tobin the Nobel Prize winner in economics) are transaction taxes on capital inflows and outflows at all key points of the world economy that would "throw

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sand into the gears of global capital movements” thereby reducing speculative foreign exchange trading and speculative currency attacks as well as speculative short-term capital flows. In addition, controls at the global or international level may be supplemented by national level controls on capital inflows and outflows. An often cited example of such national controls is the case of capital controls in Chile. There capital importers had to put up a deposit of 30 percent in an interest free account at the Chilean central bank for one year to engage in capital importation activities. This plan, along with the very tight capital controls put in place in Malaysia following the Asian financial crisis, have been cited as two examples where strict capital controls in the framework of an old Bretton Woods were effective in discouraging massive capital portfolio inflows and outflows. Regional capital controls and regional economic integration schemes also fit into this school or category. The Asian Monetary Fund is a scheme that fits in this regard. The Asian Monetary Fund was proposed by Japan at the height of the Asian financial crisis to serve as a pool for the foreign exchange reserves of the reserve rich Asian countries that would repel speculative attacks on Asian currencies. It is not surprising that the industrialized western countries did not support the establishment of this institution. The key thrust of these international, national, and regional controls is partly to prevent destabilizing waves of capital entry and exit and to move investment from short-term portfolio investments and short-term loans to long-term direct investment and longer-term loans both of the technology transferring type.

The third school of thought or category into which reform proposals fall can be identified as the development school or development model. Within this school are proposals that tend to regard institutions like the IMF and WTO in particular as outdated and institutions that are impossible to reform owing to their deep neo-liberal orientation and their allegiance to the industrialized western countries. This school is of the mind set that the global economy would be better off without these institutions since they systematically marginalize the developing world or southern hemisphere. Here national capital controls are viewed as much more promising since it is not in the financial interest of the developed countries to regulate their financial intermediaries, particularly their hedge funds and other speculative investing intermediaries who exploit or prey on the developing economies. National capital controls are seen

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as the way to go and examples of success that fuel this view include: China and India avoiding spillover from the Asian financial crisis through the use of controls and the previously cited cases of Chile and Malaysia invoking strict capital controls and effectively stabilizing their economies. The goals of this school are to prevent current efforts to reform the global financial system from becoming a project to more thoroughly subordinate and exploit the financial sectors of developing economies within the global financial system controlled by the developed countries (this is a rather sinister view) and to devise a set of effective capital controls, trade controls, and regional, trade agreements that would protect developing economies and allow them to go through an orderly process of economic transformation with minimal disruption from external speculative forces.

In the end, it is probably true that each of these schools or approaches to global financial system reform have some elements of merit. Clearly, improving the existing economic, legal and social infrastructures of the global financial system we currently have in place makes sense as does encouraging long-term investment and direct foreign investment in developing countries by firms and organizations in the developed world. Similarly, the proper sequencing of the liberalization of the financial sectors of developing economies deserves proper attention and care in execution. As with any political solution to international economic problems, appropriate cooperation and coordination are required.

Clearly, the debate about the international financial system, its stability, who manages it, and in whose interest it is managed is important and our global interdependence probably demands that we cooperate in our efforts to devise a robust and effective system for dealing with global crises. Again, I want to thank Professor Wachtel for writing an interesting and stimulating overview of the old and new Bretton Woods and for raising issues dealing the evolution of the global financial system that deserve much further research and policy discussion and debate.

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## REMARKS

by

**Carlo Santini**

Some brief comments, stimulated by the interesting papers presented by Mardi Dungey and Paul Wachtel.

In the last years, a new branch of literature has flourished on the disequilibria at world level in the balances of payments on current account. In particular, a major new issue is the sustainability of the current account deficit of the U.S., which, over time, has made this country the great “debtor” vis-a-vis the rest of the world. More recently, the U.S. deficit has brought about an enormous accumulation of dollar-denominated assets by the Central Banks of Asian countries, unwilling to let their currencies appreciate vis-a-vis the dollar.

How high is the risk that these Central Banks, determined to diversify the currency composition of their foreign assets, cause a slump of the US dollar in the exchange market?

Indeed, over the decades, Central Banks have changed their priorities in managing official reserves. Under Bretton Woods and, for European member countries, under the E.M.S., liquidity was of paramount importance. Reserves were relatively scarce and had to be ready for intervention on the exchange market to defend the agreed parities.

Over time, the growth of the international financial market, where a country can easily borrow, and the shift from a fix to a floating exchange rate system, has induced Central Banks to manage their foreign assets more and more within a “portfolio approach” with a special focus on yield. However, Central Banks, an opinion supported by a life-time professional experience in the Bank of Italy, are market operators endowed with a peculiar sensitivity. It is hard to imagine they neglect consequences of their behaviour on markets and, more broadly, on economic international relations.

For instance, within the European System of Central Banks, National Central Banks have to follow, in managing their foreign assets, well defined criteria, agreed upon by the Governing Council of the European Central Bank. Again, the Bank for International Settlements,

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in Basle, a true “school” of cooperation among Central Banks, has wisely enlarged its membership during the 1990’s to new, emerging countries, from Mexico to South Africa, from South Korea to China.

In conclusion, I am inclined to think the risk of ruthless behaviour on the part of the Central Banks is slight. They know very well that a slump of the US dollar would weigh heavily on the world economy; they know equally well that, in such an event, it would be impossible to detect *ex ante* losers and winners.

The search for a solution to present disequilibria and the efforts to prevent deep crises stimulate many authors to revisit the experience of the Bretton Woods System and to formulate hypothesis for a new Bretton Woods. History seldom repeats itself. That system was created in the very special post-war conditions: capital controls were the rule rather than the exception, the U.S., the dominant power, was at the centre of the system. These features have gradually faded away. We now have a global financial market; on the international economic and political arena new countries have shown and are showing themselves.

It is my opinion that a system “à la Bretton Woods”, with written and respected rules, cannot be proposed. We have to rely on more complex forms of cooperation among countries, that adjust rapidly to changing conditions. More easily said than done.

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