

**Global imbalances and the future position of China in the
international monetary system**

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Abstract

This paper deals with the world economic regime that has been established since the aftermath of the Asian crisis. It does so both on the macroeconomic and monetary sides. This regime has fostered remarkable growth, but at the cost of mounting financial imbalances. The imbalances are concentrated on the United States because of the asymmetric nature of the international monetary system that can be labeled a semi-dollar standard.

The present regime embodies a contradiction. The accumulation of US debt to foreigners cannot go on forever. It must be stabilized by a macroeconomic adjustment. The paper studies the scenarios that can deliver an orderly adjustment. None can be US-engineered alone. They all need the cooperation of the big Asian creditors. But the present-day international monetary system hampers the adjustment in insulating US money from foreign financial constraints.

Therefore the adjustment will be structural. It will entail domestic demand-led growth cum strong regional integration in Asia. World money will move from the semi-dollar standard to a polycentric system, with the Yuan playing a prominent role in twenty-year time. To manage this more decentralized system, new governance mechanisms will be created, included a reformed IMF, an enlarged club of central bankers and an open inter-governmental group replacing the G7 to debate on the consistency of economic policies.

Introduction

Can a sustainable world growth regime be established without correcting the widening financial imbalances? The question is not trivial because an influential view in the US pretends that there is no problem. The financial disequilibrium is just an accounting illusion. Behind the appearance of the US deficit lies inter temporal consistency of choices amongst economic agents. American households have the desire to consume goods produced in the rest of the world. Non-US residents have the desire to acquire US financial assets that are the counterparts of US debts. As long as preferences are not changed, the US deficit is tantamount to a mutually advantageous inter temporal exchange.

One must prod further into the debate and demonstrate that the picture is not so rosy. The reasons that explain the growing imbalances better are the ones that make us think that their sustainability cannot be taken for granted. The first section portrays the explanations that have been given in the academic literature and sketches alternative scenarios of adjustment.

But the reasoning must be pushed further. Behind the forefront of US deficits there is the key currency issue. The hegemonic dollar standard has been the permissive condition for financing so high current account deficits for so long. On the one hand, the acceptance of huge flows of new dollar debts stems from confidence in the comparative advantages of the dollar as the world currency. On the other hand, the adjustment will rebalance relative regional growth in the world economy. In Asia, regional economic integration will be the basis for currency convertibility. As much as it occurred in Europe in the 1970's, a dwindling dollar will make a regional monetary arrangement useful.

Fostering regional economies would exacerbate currency competition, leading in turn to a minimal multilateral dialogue on exchange rates and macropolicy issues. The G7 must be overhauled to represent the euro zone as a single entity and to enroll leading emerging market countries, including China and India. This new governance mechanism will complement the ongoing reform of the IMF in view of strengthening its assessment of member country policies with a multilateral overview.

I.3 Global imbalances: a dangerous drift ahead

The persistence of US deficits is controversial among economists. However incurred against the rest of the world, it has fed protectionist threats in Congress against China. Political prejudices are not absent in the controversies. Nonetheless there are multiple explanations of the phenomenon and each of them bears part of the truth. It is why a diversity of views can be upheld in good faith.

In the first section different interpretations will be presented and reasons to pinpoint one of them will be given. The preferred explanation leads to the conclusion that adjustment is required. Plausible scenarios are depicted, considering the limited capabilities of governments to redirect their policies.

I.1 Cumulative financial disequilibria

Table 1 shows the polarization of current accounts since the Asian crisis. Beside a modest deterioration current account balances in Europe (both in the euro zone and in the CEECs), the huge increase in deficit has been entirely concentrated on the US.

Table 1. Current account deficits or surpluses in the main economic regions of the world. (In US billion dollars)

Countries or regions	1997	2001	2005	Variation 2005-1997
United States	-136	-388	-725	-589
Euro Zone	100	13	50	-50
Japan	97	88	157	+60
Other advanced countries (Asian industrial countries)	21 (6)	83 (51)	136 (92)	+115 (+86)
China	34	17	77	+43
Other emerging Asia	-27	23	21	+48
Latin America	-67	-54	4	+71
CEEC	-21	-17	-56	-35
Russia	-3	34	86	+89
Middle East	10	39	161	+151

Source : IMF, World Economic Outlook, Spring 2006, statistical appendix, current account summary.

The US deficit worsened from \$136b in 1997 to \$725b in 2005., an aggregate deterioration of \$589b. It will markedly worsen again in 2006 to roughly \$850b. All other economic regions in the world have improved their current account surplus or have shifted from deficit to surplus.

In the course of accumulation of foreign assets, the contribution of China was modest at least until 2005 included. With \$43b rise from 1997 to 2005, China's current account surplus gained less than Japan's, other emerging market and other industrial country ones. Net asset accumulation was well distributed amongst Asian countries. The other regions that improved hugely their current account balances are energy and primary commodity producers in Latin America, Russia and the Middle East.

Current account balances only convey the ex post divergences in growth patterns that have been financed. To assess the size of the divergences one must observe how national or regional saving-investment schedules unfold (table 2).

Table 2. Sources and uses of world saving: net financial saving

(in % of national or regional GDP)

Countries or regions	Average 1991-98	Average 2000-02	2005
Advanced Economies	-0.5	-0.4	-1.3
United States	-2.4	-3.2	-6.0
Euro Zone	+0.3	+0.4	+0.7
Japan	+2.4	+2.5	+3.7
Asian Industrial Countries	+2.0	+4.2	+6.1
Emerging Economies	-2.2	+1.1	+2.4
China	+1.8	+2.0	+3.9
Other Emerging Asia	-1.6	+1.8	+2.5
Latin America	-2.8	-2.0	+0.5
CEEC	-2.7	-4.3	-4.3
Middle East	-2.6	+3.0	+10.1
Russia	n.d	+6.6	+8.5

Source : IMF, World Economic Outlook, Spring 2006, statistical appendix, sources and uses of funds.

Table 2 illustrates the radical change in world growth patterns brought about by the Asian crisis and its aftermath. The regions most affected by the crisis, namely emerging Asia but China, Russia and Latin America, resumed growth after having suffered a sharp setback. But their investment rates never recovered the same high level they reached in the pre-crisis years. From being net borrowers, those countries turned net lenders. The shift is not just a temporary response to the crisis. It is a deliberate economic policy change in countries that want to reduce their dollar indebtedness and accumulate foreign exchange reserves to recover their sovereignty in policy making and to get rid of the grasp of the IMF. The waxing of public saving has been the means of this policy.

In her own way, China generates excess saving with the policy of overinvestment containment implemented by the government from 2004 onwards. In Japan household consumption has been long depressed by the protracted deflationary environment, despite the bank recovery and the resumption of growth.

The present disequilibrium contrasts with the former episode of large financial imbalances in the mid-1980's. At the time the US deficit culminated at 3% of GDP and the counterparts were concentrated of Germany and Japan. Nowadays the US deficit has reached the extravagant amount of about 8% of GDP, but the counterparts are spread over a large range of

countries. It might be why the chain of causes and consequences that has created such an unusual situation has given rise to contending explanations.

I.2 Four reasons to account for the US growing indebtedness

Four interpretations of cumulative global imbalances have been advanced: the new economy, the implicit sino-american collusion, the global saving glut, the shortage of US saving¹. Indeed, the world financial equilibrium depicted in table 2 is the result of all international interdependencies. In a global financial world, every country impacts all others and undergoes their influence, at least in principle. Only a more detailed and dynamic analysis can disentangle the causes and consequences. Only it can eventually discard certain explanations and retain others. Furthermore two or more explanations can combine and reinforce one another. Specifically one will be able to discard the new economy and the sino-american collusion views. The combination of the collapse in US private saving and the structural change in emerging market countries after the Asian crisis will be retained.

a The new Economy View

This is an optimistic view. The deficit reflects the attractiveness of the US territory to foreign investment. The reason is the high profitability of capital due to the revolution in information technology, which has enhanced productivity. This view had some appeal in the so-called “New Age” 1995 to 2000, where foreign direct investment in the US was indeed strong. But this pattern of capital flows disappeared after the Stock market reversal in 2001.

But the High-tech sector makes only 6% of GDP. All other manufacturing sectors are in attrition. They are losing grounds in international competition and are exhibiting widening trade deficits certainly not due to their attractiveness!

Furthermore in principle the contention that capital attractiveness automatically induces current account deficits is spurious. Foreign investment in the US might just be offset by American investments abroad with no effect on the current account balance. Before World War I, for instance, the UK exported huge amounts of capital, reaching a record of 9% of GDP in 1913, without incurring a current account deficit.

Besides the structure of capital flows in the early 2000’s has nothing to do with any “New Age” myth. Inflows are mainly invested in treasury bonds and in mortgage-backed securities issued to finance the federal government and household indebtedness. Therefore this explanation can be rejected straightaway.

b The implicit Sino-American collusion view

This hypothesis has been called the “New Bretton Woods”². China pursues an export-led growth regime driven by an undervalued currency against the dollar. A surplus in China and a deficit in the US ensue. Both countries are pleased with this polarity that fits with their respective collective preferences.

¹ Barry Eichengreen upheld this eclectic viewpoint in a Kyoto Conference on the future of international capital flows (21-22 November 2005) organized by the Tokyo Club. B. Eichengreen « The Blind Men and the Elephant ».

² The catchword « New Bretton Woods » was made popular by Michael Dooley, David Folkerts-Landau and Peter Garber in : « *An essay on the revived Bretton Woods System* », NBER Working Paper n° 9971, September 2003.

The New Bretton Woods means that, according to this view, the dollar yuan exchange rate best adjusts the mutual interest of both countries. Because the US has a better-performing financial system, it imports Chinese saving invested in liquid securities and transforms part of it in direct investment exported to China. Chinese claims on the US are interpreted as collateral for the investment of US firms that transfer technology.

However the allusion to Bretton Woods is only partially correct. It is true that in the 1960's European countries accumulated dollar reserves because they respected fixed parities against an overvalued dollar. But the US current account balance was not in deficit. US debts offset massive direct investments of American firms in Europe. As noticed above, there is no logical reason that the country issuing the key currency is in a chronic current account deficit. If the dominant role of the dollar is a permissive condition for the distorted structure of the saving investment balance worldwide, it is certainly not the cause.

Then this view unilaterally focuses on China whose contribution to the US deficit is no more than 10% in 2005 and 8% of its worsening between 1997 and 2005 according to table 1. An argument specific to China cannot account for a widespread counterpart to the US deficit.

c The world saving glut view

This is the interpretation broadcast all over the world after Ben Bernanke's notorious speech in March 2005³. It is a clever reasoning to ward off US responsibility in imbalances. Bernanke pointed out an array of independent factors that encouraged saving in the rest of the world. In East Asia except Japan the demographic structure is moving towards high savers strata (40-65). In China the phenomenon is reinforced by the weakness of retirement plans inducing a very high precautionary saving. Oil and gas price surges have fostered the saving of primary energy exporting countries (Middle East and Russia). Emerging market countries struck by the end of XXth century financial crises have dramatically changed their policies in favor of export-led growth.

It follows from the flowing of excess saving that foreign investors are busily looking for attractive financial investments that the efficient US financial system is happy to provide. The inflow of foreign saving has driven down long-run interest rates, has boosted real estate prices and has encouraged American households to spend. US deficits just mean that US households act as consumers in last resort for the sake of world growth.

However it is not self-evident that there is a world saving glut. The BIS shows that world saving has indeed increased, but modestly (table 3) in the 200-2004 period. What is much more important is the polarization of the changes between emerging countries on one side and developed countries, chiefly the US on the other. Whether there had been a general rise in world saving stemming from emerging markets, why would not have their investments been diversified in all developed financial markets, instead of being concentrated on the US?

³ Ben Bernanke : « The global saving glut and the US current account deficit, », Board of Governors of the Federal Reserve System, Washington DC, 10 March.

Table 3. National and World Saving

	1990-1999	2000-2002	2004
World	22.9	23.4	24.9
Developed Countries	21.3	20.6	19.4
Of which : United States	16.3	16.2	13.7
Euro Zone	21.5	21.3	20.9
Japan	31.6	27.8	27.6
Emerging Countries	25.3	27.2	31.5
Of which : Developing Asia (China excl)	31.0	32.6	38.2
China	40.3	39.9	48.0
Latin America	18.3	20.0	21.0
Central and Eastern Europe	20.6	18.8	19.1

Source: BIS (2005), 75^o Annual Report, July.

d The US saving deficiency view

It is not disputable that US saving slumped much more than in other developed countries. The first reason in early 2000's was fiscal policy. The federal budget shifted from a 2.5% of GDP surplus to a 3.5% deficit. It certainly had a triggering effect on the deterioration of the US net foreign asset position. Nonetheless overtime private saving is not passive. There is no reason that the current account should be the mirror of the fiscal deficit. In the US, where the credit system is very flexible, monetary policy has a lot of leeway on private saving.

After the Stock market slump the Federal Reserve was determined to eschew a Japanese-style recession due to a painful debt-deflation in the corporate sector. Monetary policy became proactive to boost credit-induced household expenditures. That was standard recession-fighting policy. But, after the resumption of growth in 2004, the American debt machine began to go astray in fostering a huge real estate bubble. As a consequence the net rate of saving of US households slumped to -1.5% in the second quarter of 2006. More impressive, the ratio of net cash flow collapsed to -7.3%⁴. The real estate bubble was itself fuelled by the brutal decline of the long-run bond rate. Nonetheless the real estate price spike was clearly a bubble in 2005 and 2006, e.g. a self-fulfilling price speculation. It embarked the household saving rate to an unseen level prior at least 6% under its equilibrium value.

The lack of household saving has drawn the national saving rate downward (table 3) despite the reduction of the fiscal deficit that had benefited from unexpected tax accruals.

To sum up the primary cause of global imbalances stems from within the US economy. The key currency status of the dollar has been a permissive condition to the persistence of the financial polarization. It is nevertheless a threat to the global economy.

⁴ Net cash flow/disposable income = (disposable income- consumption and investment expenditures)/disposable income

I.3 Scenarios of adjustment: soft and hard landing

Because the US current account deficit has reached almost 7% of GDP and has been fostered by a bubble, the turndown of the real estate market might degenerate into a crisis. Such a deficit has never been approached in developed countries. It is close to the deficit of Asian countries before the 1997 crisis. According to Sebastian Edwards, who has reviewed current account deficits over three decades 1970-2001, high deficits have always provoked adjustments⁵.

The first question about adjustment is at which level relative to GDP will the net foreign debt stabilize? Let posit B_t the current account deficit and D_t the net foreign debt in t . By definition the deficit is : $B_t = D_{t+1} - D_t$. To stabilize the debt in % of GDP (Y), it must grow at the nominal growth rate of the economy (g). Under this condition one gets :

$$\frac{B_t}{Y_t} = \frac{D_{t+1} - D_t}{Y_t} = g \frac{D_t}{Y_t}$$

Keeping a 7% current account deficit is not feasible. It would need a very high 7% growth rate to stabilize the net debt at 100% of GDP. A more reasonable assumption is a potential nominal growth rate of 6% and an equilibrium debt ratio of 50% of GDP, permitting the target current account deficit to stay put at 3%⁶.

a Conditions for a soft landing

Therefore the relevant question is the following: is it possible that the US domestic demand slows down enough to reduce the current account deficit to 3% of GDP in 2010, growth staying equal to its potential? Whether one can find scenarios meeting these conditions, one may label them “soft landing scenarios”.

The strength of the adjustment crucially depends on the response of US imports and exports to variations in competitiveness and to the aggregate domestic demand in the rest of the world (ROW). Fresh estimates of US trade equations show that price elasticities are low and demand elasticities are high (table 4). This is due the attrition of the US manufacturing industry. On the import side a lot of production capacity has disappeared. An increase in price will not reinvigorate them. The foreign penetration of the US domestic market is so widespread that a change in price can be absorbed by changes in the composition of supply or by margin adjustment by foreign producers without a notable change in the volume of US imports. The price elasticity is twice as high on the export side because successful US exporters are concentrated in the High Tech sector that is more price sensitive.

⁵ Sebastian Edwards, « Is the US current account deficit sustainable ? And if not, how costly is adjustment likely to be ? », *Brookings Papers on Economic Activity*, 2nd half 2005.

⁶ Michael Mussa (), « Exchange rate adjustments needed to reduce global payments imbalances », in C. Fred Bergsten and John Williamson, *Dollar overvaluation and the world economy*, Special Report 16, Institute for International Economics, Washington D.C, November 2004.

See also Maurice Obstfeld et Kenneth Rogoff, « The unsustainable US current account position revisited », NBER Working Paper, n°10869, November 2004.

Table 4 Price and demand elasticities of US trade

	Imports	Exports
Real Exchange rate	0.2	-0.4
Domestic or ROW Demand	2.1	2.1

Source: Groupama-am, estimates Michel Aglietta and Laurent Berrebi.

Considering the above conditions, admissible scenarios will be scenarios in which the current account balance improves to at least 3% with US monetary policy encouraging an upward move in the household saving and a fiscal policy dedicated to reducing the fiscal deficit. But it is not enough. If unemployment is to be avoided, a combination of a real exchange rate depreciation of the dollar and an increase in ROW domestic demand must be generated.

b Soft landing scenarios

The simulations cover a three-year adjustment period and give the result on the final year 2010. Tables 5 to 8 are calibrated for different rates of growth of ROW domestic demand.

Table 5. Results with a ROW domestic demand growth rate of 3%

Annual rate of depreciation of the dollar	Annual Growth rate of US domestic demand	Current account balance end of period (% of GDP)
-10	1,6	-2,5
-9	1,7	-3
-8	NA	NA
-7	NA	NA
-6	NA	NA

Source: Michel Aglietta and Laurent Berrebi, “*Désordres dans le capitalisme mondial*”, Odile Jacob, Paris, February 2007, chapter 10

NA: not admissible

Table 6. Results with a ROW domestic demand growth rate of 3.5%

Annual rate of depreciation of the dollar	Annual Growth rate of US domestic demand	Current account balance end of period (% of GDP)
- 10	1,2	-1,1
-9	1,4	-1,8
-8	1,6	-2,4
-7	1,7	-3
-6	NA	NA
-5	NA	NA

Source:op.cit. NA: not admissible

Table 7. Results with a ROW domestic demand growth rate of 4.0%

Annual rate of depreciation of the dollar	Annual Growth rate of US domestic demand	Current account balance end of period (% of GDP)
-10	0.9	0
-9	1.1	-0.6
-8	1.2	-1.1
-7	1.4	-1.7
-6	1.6	-2.3
-5	1.7	-2.8

Source:op.cit.

Table 8. Results with a ROW domestic demand growth rate of 4.5%

Annual rate of depreciation of the dollar	Annual Growth rate of US domestic demand	Current account balance end of period (% of GDP)
-10	0.6	1.2
-9	0.7	0.7
-8	0.9	0.1
-7	1.1	-0.5
-6	1.3	-1.1
-5	1.4	-1.6
-4	1.6	-2.2
-3	1.8	-2.8

Source:op.cit.

One can draw several conclusions from those tables. In 2005 and 2006 US domestic demand has grown 3.5% each year. No soft landing adjustment is possible at such speed. It must slow down substantially and for at least three years. In no admissible scenarios US domestic demand should be over 1.8%.

ROW domestic demand growth and combined with a must be over 3%. Nonetheless the real depreciation of the dollar must be 10% per year, which will entail severe losses in foreign investor portfolios, unless ROW domestic demand is very high. There is a serious risk of a loss in confidence in the dollar. Therefore it is suitable that expansive demand policies are run in ROW countries, to mitigate the required depreciation of the dollar to 7 or 5% a year.

The required depreciation is effective exchange rate depreciation. Against which currencies should it be engineered? The euro is already overvalued against the dollar, its equilibrium exchange rate being roughly 1.1\$/E. A further depreciation will worsen the distortion. Besides the euro weighs only 18% in the dollar effective exchange rate, while the Asian currencies together weigh 40%. The bulk of the depreciation of the dollar should therefore arise against undervalued Asian currencies. Yuan and Won appreciation in 2006 are moves in the right

direction, but the persistent undervaluation of the Yen coupled with a sleeping consumer demand in Japan is quite an anti-adjustment force.

c The risks of a hard landing

The main conclusion of the above analysis is that the US are no longer the single masters of their destiny. They need enough multilateral cooperation to agree on an admissible scenario. But in the last few years the world has drifted in the opposite direction: utter failure of the new financial architecture, exacerbated quest of global hegemony by the US, threat of trade retaliations in the US Congress against China, post-crisis policy of pursuing aggressive export-led growth in Asia, political paralysis in Europe. Therefore the first risk is political and will show up as an insufficient dynamism in domestic demand in ROW countries.

Another risk can come from the US where the housing market might fall in a prolonged depression like the precedent real estate crisis in the early 1990's. Such an occurrence would draw down domestic demand too much to keep the economy near full employment. A free fall of the dollar is likely to ensue in the circumstances.

Let us examine both risks one after the other.

- A weak domestic demand in the ROW

A sustained rise in the price of oil might slow down the growth of domestic demand in many oil-importing countries, without being offset by a demand spree in oil-exporting countries. Another impediment to a smooth adjustment would be an excessive rise of the euro relative to its fundamentals. It might arise if the Asian countries resist the appreciation of their currencies necessary to redirect their growth to domestic demand. In both cases ROW domestic demand might be too weak to generate the positive gap with US domestic demand that is portrayed in tables 5 to 8.

To counter an excessive rise of the euro, an expansive monetary policy would be quite relevant. But there is no exchange rate policy in Europe, no common view of the proper value of the euro and no political authority to act on that matter. The risk is that the deterioration of competitiveness entails unemployment with a negative impact on domestic demand higher than the positive impact due to the gain in purchasing power of European households.

The rise in the price of oil would be even more devastating because it worsens the US current account deficit mechanically. A 10% rise in the price of oil adds up 35billions dollars to the deficit. Therefore to meet the target of a deficit of no more than 3% of GDP, a larger depreciation of the dollar and a wider gap between US and ROW domestic demands are both required. But a higher price of oil curtails the real income of households in all oil-importing countries, leading domestic demand to be cut down. Furthermore, as much as central banks are sensitive to headline inflation, they are inclined to set a more conservative stance of monetary policy, although core inflation is not affected by the price of oil. It is likely that monetary policy will not get more expansive, which would be welcome to offset the negative impact of lower real income.

- A real estate crisis in the US

On the housing market sales fell 11% in the second half of 2006 in the second-hand market. They fell more of 20% on a yearly basis in the new housing market. Prices have stopped their rise. But because of a huge inventory overhang a sustained fall in prices is to be feared.

Besides, at its peak the average level of price was about 30% overvalued compared to its fundamental value.

Since the wealth effect was strong on the upside in explaining the plummeting saving rate, it is reasonable to consider that it will be just as strong on the downside. In that case a 30% fall in real estate prices would drive a 6% increase in the household saving rate. The pace of the adjustment is crucial. Whether the correction was brutal, it would produce a recession, which in turn would markedly increase the risks on all heavily leveraged economic agents.

In the context of a US recession, the adjustment of the financial imbalance would be quite another matter. The deflationary pressures, which worried the Fed so much in 2003, would be back with dire consequences on world capital markets. Nominal rates on Treasury bonds would fall 400 basis points, dragged down by both the drift to a very low inflation rate and the slowdown in growth from 3 to 1%. But the surge of credit risk would widen the spreads that are kept massively underpriced by the blind confidence in financial markets that the liquidity glut will last forever. Another countervailing force on the diminution of interest rates might be a huge increase in the public deficit. It is conceivable that the US government, in its will to ward off the recession at all costs, might generate a deficit of 10% of GDP

In such a disorderly financial situation the behavior of the dollar would be a major uncertainty. It cannot be dealt with simple portfolio analysis. Because the dollar is the key currency a crisis situation would entail much more systemic impact than a simple substitution of assets. Those tricky problems are handled in the second part of the paper.

II. Sustainable finance and changes in the international monetary system

The first part of the paper has reached the conclusion that the US deliberately live beyond their means. They consume over their potential growth. The second part will show that the resulting global imbalances are sustainable longer than any other episode of large current account deficit because the US exploit the advantages of the key currency. It is why the global adjustment and the future of the international monetary system are linked.

II.1 The semi-dollar standard hampers the balance of payments adjustment

One may name the present monetary system a semi-dollar standard. There is no strict dollar peg, if one excepts Hong Kong. Therefore it is not a pure dollar standard. But nowhere in Asia governments let the exchange rate be determined solely and permanently by the market. There is no flexible exchange rate either. Even in Japan exchange rate policy alternates between stages of heavy interventions and stages of hands-off policy, on the provision that the fluctuations of the yen against the dollar are kept within tolerated limits. It is why one may safely say that the semi-dollar standard is a dollar-managed exchange rate system.

Because the system is the vehicle of financing the rising flow of new dollar assets, it has entailed a fast-increasing accumulation of foreign exchange reserves denominated in dollars since 2001 (table 9).

Table 9. Annual average variation of dollar official reserves (%)

	1987-1992	1992-1997	1997-2001	2001-2005
All countries	6.9	11.4	7.7	14.5
East Asia and Japan	13.8	15.1	13.2	19.9

IMF: Statistics on official reserves (selected years)

As expected the speed of accumulation was faster in time of a weak dollar after the Mexican crisis in December 1994 and after the Enron failure in December 2001. These figures reveal that international liquidity is enslaved to American policy. Let us understand the subtle mechanism leading to this powerful asymmetrical linkage.

The theoretical question can be formulated the following way: Is the aggregate money stock of the US and Asia the sum of autonomous national money supplies, or is it a multiple of the US money stock. In the semi-dollar standard world the truth is tilted to the second proposition.

To show it analytically let us consider the money counterpart of a central bank intervention. There are two sequential operations: the foreign exchange transaction and the investment of the acquired dollars. The operations are depicted on table 10.

In the first operation Asian commercial banks sell the dollars (D\$) acquired from their customers. In doing so they increase their reserve account in their own central bank, whose amount (Rf) is the counterpart value of D\$. We suppose the exchange rate to be 1 to simplify the accounting. The Asian central bank has automatically acquired a deposit at the Fed of D\$, matching the money Rf it has created for its commercial banks. On the American side, commercial banks have lost D\$ of deposits when their Asian correspondents have drawn down their dollar accounts. To finance that drawing they have cut down their reserves by $R\$=D\$$ to the Fed. Therefore the US monetary base has diminished by R\$ and the Asian monetary base has increased in the same amount denominated in national currencies. One can see that the foreign exchange transaction has no net effect on world liquidity. It only redistributes it.

In the second operation will not keep non-yielding deposits to the Fed. They buy bonds in the US (T\$). In their balance sheet it is an asset substitution. US residents sell the securities through brokerage services. They get money as the counterpart for their sales. Their bank deposits augment D\$ and commercial banks increase their reserves in the same amounts ($D\$=R\$$). These reserves are Fed's liabilities.

Table 10. Monetary mechanism of foreign exchange interventions

Operations	United States			Asia			
	Fed	Commercial Banks		Central Banks		Commercial Banks	
Forex transaction	-R\$ +D\$	-R\$	-D\$	+D\$	+Rf	-D\$ +Rf	
Investment of reserves	-D\$ +R\$	+R\$	+D\$	-D\$ +T\$			
Total	0	0	0	0	+T\$	+Rf	0 0

Consolidating both operations, one notices that the US monetary system is quite immune from foreign exchange interventions. Foreign central banks have increased their monetary bases. It follows that foreign exchange interventions create net world liquidity in the semi-dollar standard.

Connecting the forces generating the accumulation of US debt described in the first part and the automatic monetary financing that creates a matching growth in world liquidity, one may see that the semi-dollar standard has no endogenous stabilizing mechanism. It fosters a vicious circle. It can only be transformed by political change either in American policy or in Asian countries adopting an exchange rate regime that will reject the semi-dollar standard.

II.2 Key currencies and currency competition. Can the Yuan become a regional or eventually a world currency?

However the move to more flexible exchange rate regimes in Asia will not automatically expose the US to a financial constraint leading to an orderly devaluation of the dollar on the magnitude computed in the admissible scenarios. The reason is that the international payments mechanism needs an international currency. Because the key currency has specific competitive advantages, the demand for dollars is much less dependent on its value on foreign exchange markets than any other currency. In turn this hysteresis protects the dollar. Asian central banks have not substituted out of the dollar despite a huge change in value against the euro between 2000 and 2006. The euro has gained substantially, but not against the dollar. Table 11 portrays the amazing stability of the dollar in official reserves over more than thirty years since the suppression of any international compelling agreement.

Table 11. Currency shares in end-of-year official reserves

Currencies	1973	1995	1997	2000	2003	2005
US Dollar	64.5	59	65.2	66.6	65.9	66.5
Yen	0	6.8	5.8	6.2	3.9	3.6
Sterling	4.2	2.1	2.6	2.9	2.8	3.7
Swiss Franc	1.1	0.3	0.3	0.3	0.2	0.1
Euro (DM before 1998)	5.5	16.0	14.5	18.8	25.3	24.4
Others	24.7	15.8	11.6	5.2	1.9	1.7

Source: IMF, Annual Reports

a The factors of currency competition

The key currency has superior liquidity. It is why the US do not undergo the same financial constraints as other indebted countries. They have assets abroad that gain in value whenever the dollar depreciates. They borrow in their own currency and pay a dollar cost for their debt that is lower than any other foreign borrower because of the preference for the dollar. Their debt capacity is higher and more durable. But is it perennial? One must identify the factors that strengthen the key currency and those that weaken and eventually destroy it.

The factors that contribute to competitive advantages are multidimensional and intertwined. Theory distinguishes 3x2=6 functions for an international currency⁷ (table 12).

Table 12. Functions of international money

Currency functions	Public Actors	Private Actors
Reserve of value	International Reserves	Asset portfolios (currency substitution)
Means of payment	Vehicle currency for Forex interventions	Currency of settlement in commercial and financial transactions
Unit of account	Anchor currency for exchange rate pegging	Numeraire in organized markets

There are mechanical factors and strategic factors. The first type stems from network externalities. On the supply side transaction costs diminish with the volume of transactions channeled in anyone currency⁸. On the demand side there are lock-in effects. If a currency is accepted by a vast community of users, it is very costly to anyone individual agent not to use it even if the use of another currency would be preferable on its personal characteristics. It follows that the size of a country measured by its share in world GDP or in overall international trade is a robust factor of the predominance of the dollar.

Strategic externalities proceed from the liquidity of the foreign exchange market. The difference in money interest rates between currency B and currency A is:

$$\text{Rate B} - \text{Rate A} = \text{Expected depreciation (or appreciation) B/A} + \text{Liquidity Premium}$$

⁷ Peter B. Kenen, « The role of the dollar as an international currency », in Group of Thirty, *Occasional Paper*, n°13, 1983.

⁸ Increasing returns in currency competition were modelled by Paul Krugman: "Vehicle currencies and the structure of international exchange", *Journal of Money, Credit and Banking*, vol. 12, n°3, August 1980.

As long as confidence in the key currency subsists, its money market enjoys a higher liquidity than any other money market. There arises a phenomenon called *path dependency*. Because the interest rate is the benchmark for all other rates, it is lower for people who must borrow and more stable for holding cash balances. Central banks this market because it is deeper whenever they have to get in or out. Those characteristics foster an international demand for the key currency. In turn the demand pushes interests rate downward, leading to a bootstrap. However estimates of path dependency show that it is not strong enough to perpetuate the advantage of the key currency indefinitely.

There are factors that can weaken the use of a key currency. Nonetheless a loss of confidence in the external value of the currency provoked by economic factors alone, like a higher inflation or exchange rate volatility, is not likely to explain the replacement of a key currency. Such an event is a dramatic change that does not pertain to a reversal in path dependency. It is an abrupt breakup in the history of international monetary relations. History is political and makes it possible discontinuities.

World War I was such a major discontinuity. It heralded a dramatic shift in world power away from the dominance of Europe in world affairs. Sterling was plagued by war debts and by short-term speculative capital flows in the 1920's. The dollar was the only major currency to keep a link with gold throughout the interwar years. But the predominance of the dollar was completed after World War II only when European currencies had become inconvertible.

b. What do the factors of currency competition teach us about the future of the Yuan?

Size, measured by the share of a country in international trade is the primary determinant to achieve a key currency status. On this gauge there are only two candidates that can share the responsibilities of the dollar twenty years ahead: the Euro and the Yuan. But strategic factors are also all-important.

The rise of the euro to international money prominence depends on drastic political changes. The City must be enrolled in the Euro zone. An economic government must be created with authority on the euro, leading to a well-defined foreign monetary policy. There should be a shared sovereignty supporting strong economic policies to enhance potential growth. It is quite unlikely that the political reforms arise. The more likely perspective is that Europe will become a low-growth country and an international creditor with an appreciating currency. The euro might be attractive for long-run savers in international portfolios, as much as the Swiss Franc was in the 1970's and 1980's. But it will not get all the attributes of a key currency.

The Yuan could combine the advantages of size and high potential growth if a 7 to 8% growth rate can be pursued over two more decades. For the time being the Yuan lacks the attributes of international liquidity. But the pool of saving is so huge that the steady pursuit of financial reforms under a stable political leadership can make the financial system attractive. Three pillars are necessary for this achievement: robust banks, deep capital markets and long-run institutional investors. In the course of the reform, capital markets in Mainland China and in Hong Kong will merge, making very competitive capital markets in East Asia.

Therefore a scenario can plausibly arise whereby the Yuan becomes a regional currency in an economically integrated zone whose potential of growth is superior to any other region of the world. Economic agents will find advantage to borrow and invest in regional currencies if

monetary authorities in the region are able to agree upon a loose cooperative mechanism to keep consistency in relative exchange rates and ward off crises.

This scenario will be a transition from the semi-dollar standard world to a polycentric world. It is compatible with the orderly scenarios in reducing global imbalances. A crisis scenario with a US recession and a free fall of the dollar might hasten the constitution of an autonomous Asian zone in conditions premature for China to play the major role.

II.3 Fostering new governance mechanisms in the international monetary system

A polycentric system needs co-responsibility between monetary zones. The central institution to think of monetary and financial matters at the world level is the IMF. However there are plenty of other institutions but also self-proclaimed groups leading to confusion. There is the BIS which shelters the Council of central bank governors. The Council has created its own forum of financial stability, whose preoccupations overlap largely with those of the IMF. Then and not the least there are political groupings, above all the G7 who claims for world leadership in economic policies.

This array of international institutions was quite unable to prevent and to manage properly the recurrent financial crises in the 1980's and the 1990's. A more sweeping failure was the collapse of the project of the new financial architecture, which was intended to draw the lessons of the crises and to build feasible mechanisms to make the international financial system more stable. The project failed because the articulated proposals emanated from inside the IMF and would have ended up in concentrating too much power within the IMF. The first project was to make the IMF an international lender-of-last-resort. The second was to promote an orderly restructuring mechanism for insolvent sovereign debt. It would have given the IMF the authority to ascertain the incapacity of the debtor to continue debt service, declare standstill and work with a panel of international judges to negotiate a binding agreement with creditors. Both projects failed miserably because they would have altered the statutes of the Fund in a way incompatible with the interests of its dominant shareholders, the US in the first place.

A more modest approach is called for concerning the role of the Fund. An opportunity is opening because the Fund has launched a two-year process of reform. It is a reform *a minima*, which pretends to be a medium-term strategy. The proposals were outlined in Singapore at the General Assembly of September 2006. The Fund proposes to use its expertise to improve the surveillance of financial vulnerabilities and their macroeconomic impact. It will also introduce an innovation in the dialogue with its members. Aside bilateral consultations on economic policies under Article 4, it is proposed to introduce a multilateral consultation on global imbalances.

This reorientation raises once more the problem of the governance of the Fund. How can it be legitimate in a double role of financial stability watcher and coordinator of consultations on macroeconomic adjustments? Because international interdependencies have become truly multilateral, the quotas of emerging market countries and associated voting rights must be enhanced substantially and not cosmetically. As the first official creditor, China should get involved with more clout in international discussions on economic policy. Besides, the European countries should pool their voting rights and defend a euro policy. The multilateral

debate will have a chance to bring some improvement only if it mimics the polycentric world in making.

But the IMF can no longer be the sole institution in international economic policy. The Basel club of central bankers should be reformed to welcome central bank governors of the leading emerging countries. An enlarged group of central banks will have more authority to extend the norms of financial regulation and the principles of good supervision to countries that were not involved in the making of international financial standards. An enlarged cooperation of central banks will also be useful to deal with acute and unpredictable liquidity crises, like the one that burst out in Korea in December 1997.

However, as the accumulation of financial imbalances has shown, the cooperation of central banks alone is powerless to stem dysfunctions in the global economy due to dissonant economic policies. The global public good of stability is ultimately in the hands of governments. At the stage reached by globalization the most urgent initiative in international politics would be to transform the G7 into an open structure whose membership should include China and other big emerging countries.

Conclusion

In this paper it has been shown that global imbalances are not illusory. Their origin and their further accumulation lie primarily in abnormally low household saving. Because it is not a sustainable equilibrium the resulting world saving investment balance will require adjustment. The US alone is not able to engineer a successful adjustment. US policy needs the collaboration, explicit or implicit, of the rest of the world (ROW). The reason is that the exchange rate alone is unable to trigger an improvement large enough of the current account balance.

Studying the conditions of an orderly adjustment one can build admissible scenarios on the proviso that ROW domestic demand gets substantially higher than US domestic demand. Relative domestic demands and the structure of exchange rates should move in a compatible way. Because the euro is already overvalued against the dollar the bulk of exchange rate adjustment should be borne by Asian currencies.

Lacking those conditions, a crisis adjustment cannot be ruled out. A free fall in the dollar can foster a recession in the US transmitted to the world.

The problem is tricky because the key currency status of the dollar makes US money aggregates immune to the financial constraint due to the increase in the net debt position. The international monetary system magnifies the lax monetary policy of the Fed, which has fed the real estate bubble leading to the weakness in household saving.

Therefore logically a change in the international monetary system must accompany the change of policy in ROW countries. The semi-dollar standard system should move to a polycentric world with a strong integrated economy in East Asia. The factors of currency competition make it possible that the Yuan will become a regional currency in twenty year time.

A polycentric system with strong regional groupings will need new governance mechanisms of multilateral surveillance, consultations and central bank cooperation. The IMF but also other international institutions must be reformed to give more power to China and other large emerging countries.

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