

Real Global Imbalances, the Consumption Glut, and the Housing Bubble^{*}

Carlos Capistrán[†]
Banco de México

Gabriel Cuadra[‡]
Banco de México

Manuel Ramos-Francia[§]
Banco de México

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Abstract

In this paper we argue that the pattern of capital flows underlying the global imbalances is consistent with real factors. In this context, the sustainable levels of the current accounts were exceeded by an expansion in consumption permitted by the leverage allowed in a financial environment poorly regulated and supervised. The variable that has been adjusting is the price of non-tradables in deficit countries, given the rigidity of the nominal exchange rate.

^{*} The opinions in this paper correspond to the authors and do not necessarily reflect the point of view of Banco de México.

[†] Research Economist. Email: ccapistran@banxico.org.mx

[‡] Research Economist. Email: gcuadra@banxico.org.mx

[§] Head of Research. Email: mrfran@banxico.org.mx

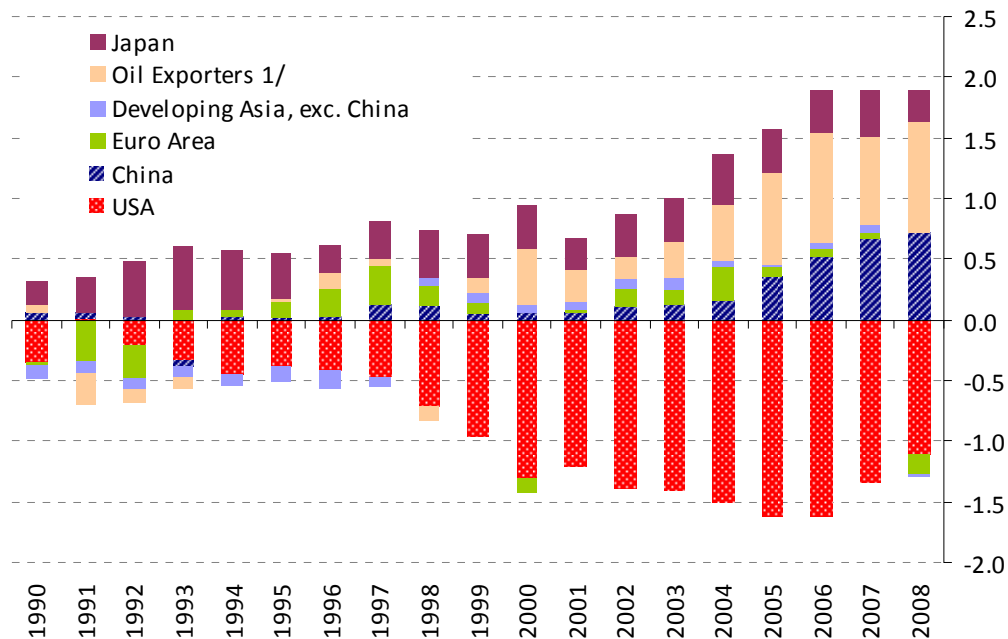
1.- Introduction

As it is well known, the term global imbalances refers to the pattern of large current account deficits and surpluses observed since the late 1990s, with the United States and some other advanced countries such as the United Kingdom, Greece, Italy, Portugal, and Spain, developing large deficits, and other countries such as China, Japan, Germany, and some oil exporting economies experiencing large surpluses.

The recent surge of global imbalances took place in the middle of an unusually benign set of global economic conditions, characterized by high rates of growth of global GDP and low rates of inflation. The rates of GDP growth observed between 2004 and 2007 had not had precedent since the early seventies. Moreover, GDP growth rates tended to become larger since the second part of the nineties, with an interruption of that trend during the 2001-2002 global slowdown.

A portion of the higher growth in the global economy is probably a reflection of the thorough integration to the world economy of a new economic bloc, composed by China and other East Asian countries, which is extremely efficient in the production of manufactured goods. However, a significant portion of this larger economic growth tendency could possibly also be associated with an untenable expansion of aggregate demand in some countries, mainly the US, and in other advanced economies such as UK, and Spain, among others.

Current Account Balances in Selected Countries
(Percent of World GDP)



1/ Includes Middle East countries plus Algeria, Angola, Ecuador, Nigeria, Russia, and Venezuela.
Source: IMF.

The US current account deficit reached more than 1.5 percent of global GDP (or more than 6 percent of US GDP) in 2006 and although it has declined since then, it remains high by historic standards. China has played a growing and dominant role as the single country with the largest surplus, which in 2008 represented 0.72 percent of global GDP, or equivalently, two thirds of the size of the US deficit. Additionally, the continuous upward trend of oil prices since 1999 and conservative spending policies of oil exporting nations (some Middle East countries), made these countries also important generators of current account surpluses.

The continued widening of global imbalances led some authors (e.g., Obstfeld and Rogoff, 2005, 2007, among others) to express concern that they could unwind by a sudden stop of capital flows from emerging markets to the US that would trigger a crisis in that country, which would imply a substantial dollar depreciation, possibly in a disorderly fashion, and a sharp increase in US interest rates. However, the crisis did not occur in this way. Instead, the trigger was the burst of the housing bubble in the US economy and the subsequent fall in the value of complex structured financial products.

In contrast, there is the possibility that the global imbalances are consistent with real factors, in particular the demographic dynamics in the US and the vast supply of cheap labor in China. In this sense, there exists an alternative interpretation of the global imbalances that makes them more consistent with a story of an “equilibrium real exchange rate”, rather than with a misaligned one. By “equilibrium” real exchange rate we mean one that can be sustained for a long time.

In this context, a consumption glut seems to have exacerbated the movements in current accounts inducing a disequilibrium. This excess consumption was driven by the excessive leverage allowed in a poorly regulated and supervised financial environment. The price that has been adjusting to restore the equilibrium real exchange rate is that of non-tradables. In particular, the price of houses and wages in the US. It is hard to think that the adjustment could have come from large movements in the nominal exchange rate, given the role of the dollar as a reserve currency, and the export-led growth strategy of some emerging countries, in particular China.

This paper first describes, in section 2, the facts behind the global imbalances, the housing price bubble, and the financial crisis. Then, in section 3, it reviews the most common interpretation of these facts, i.e. the real exchange rate misalignment, and the prescriptions derived from it. Section 4 presents an alternative explanation that also fits the facts, the view that global imbalances may be sustainable by real factors in the medium run, and the prescriptions derived from this interpretation. Section 5 presents some final remarks.

2.- Global imbalances and the financial crisis

The emergence of the current pattern of global imbalances since the late 1990s was driven by a combination of factors with mutually reinforcing effects. Considerable changes took place in savings and investment behavior in both emerging and advanced economies. For instance, in China and other emerging countries in East Asia, national savings increased substantially relative to investment, which naturally led to significant current account surpluses. The counterpart of emerging economies developing large current account surpluses was a group of advanced economies consuming more than their income and incurring in current account deficits. Thus, the excess of savings over investment generated in emerging market economies has ended up financing expenditure in some developed countries, mostly the US economy.

2.1.- Emerging economies

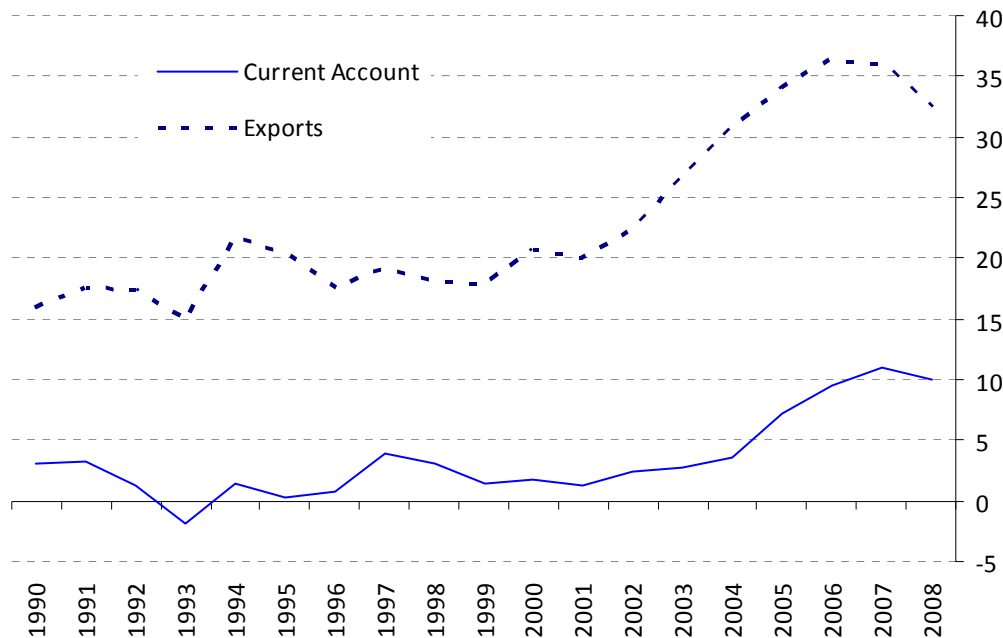
There are different factors behind the dramatic rise in national savings relative to investment in China and other emerging countries in Asia:

- In the aftermath of the Asian financial crisis of 1997-98, there was a significant decline in investment as a fraction of GDP in East Asian countries, which mainly reflected the high degree of risk associated with investments in this economic region, that the crisis made evident. An exception to this pattern was China, whose investment has grown as a fraction of GDP, but its saving rate has been growing at an even higher rate.
- The abolition of safety nets has left households with the need to self-insure, which led them to save more and consume less. Thus, an important portion of the significant rise in the saving rate in China, mainly reflects a high level of private agents risk, related to several factors such as health costs, job loss, retirement, and the financing of education.
- In principle, insurance could in part be provided by the financial system. However, financial market underdevelopment in emerging economies implies that the pooling and distribution of risk that developed financial systems provide is absent in these countries. According to Mendoza, Quadrini and Rios-Rull (2007), financial markets in many emerging economies are underdeveloped because of poor enforcement of financial contracts, which is an important factor that has contributed to the rise of savings in these economies.
- In sum, the elimination of safety nets and financial underdevelopment in emerging economies have led private agents in these countries to “over-save”, particularly in countries such as China. These extra savings that emerge when people face uncertainty and little access to financial instruments or insurance provided by the public sector, are termed “precautionary savings” in the economic literature.
- In the case of China, the one-child policy has also contributed to the rise in savings. According to Modigliani and Cao (2004) children are substitutes for life cycle savings.

Thus, the birth control measures implemented in China induce households in this country to increase their savings as a substitute for children.

- When per capita income grows at high rates, consumption usually does not keep pace with income, and the national saving rate tends to increase (IMF 2005). This fact can be explained by a habit persistence pattern in consumption.

China: Current Account and Exports
(Percent of GDP)



Source: IMF, Datastream

Additionally, since the late 1990s there has been a substantial accumulation of foreign exchange reserves by emerging economies mainly in East Asia and particularly in China. Oil exporters have also accumulated large holdings of foreign reserves. The phenomenon has been widely discussed and there seems to be two main reasons that explain it:

- First, the precautionary savings motive that led households to save more, was also present at the economy-wide level by the desire of governments to avoid a repeat of the financial crises of the 1990s. Thus, they have accumulated large holdings of foreign reserves in order to insure themselves against exposure to future sudden stops and balance of payments crises (Flood and Marion 2002, Aizenman and Marion 2003).

- Second, the implementation of rigid exchange rate regimes, for example a currency peg against the dollar, along with a policy to keep the exchange rate systematically depreciated through sterilized intervention. The latter is an important element of the export-led growth strategy adopted in countries such as China (Dooley, Folkerts-Landau and Garber 2005).

The high rates of reserve accumulation and the exchange rate policy adopted by authorities in emerging economies have been congruent with the rise in savings in relation to investment and the corresponding large current account surpluses in these economies.

As mentioned above, high savings in countries such as China can be interpreted as being driven fundamentally by real factors. The widening of the savings-investment gap implies that domestic agents consume less than national income or output and that the country will incur in a larger external surplus.

In this context, the accumulation of foreign reserves in the foreign exchange market aimed at keeping the nominal exchange rate at a low level contributes to move the real exchange rate in the needed direction. This movement tends to depress domestic wages expressed in foreign currency, which improves the competitiveness of export industries and helps to contain domestic spending growth.

Additionally, the fact that the interventions in the foreign exchange market are sterilized through sales of government or central bank instruments to the private sector implies that monetary authorities withdraw the liquidity created by the purchases of foreign currency, which contribute to limit domestic demand growth avoiding upward pressures on domestic prices.

Furthermore, the selling of public bonds to domestic private agents associated with sterilized operations, implies that a portion of the high private savings in emerging countries have financed the accumulation of the large holdings of international reserves in these countries. Thus, sterilized operations have been consistent with the high and growing saving rates in emerging economies, and the pattern of capital flows observed in the global economy.

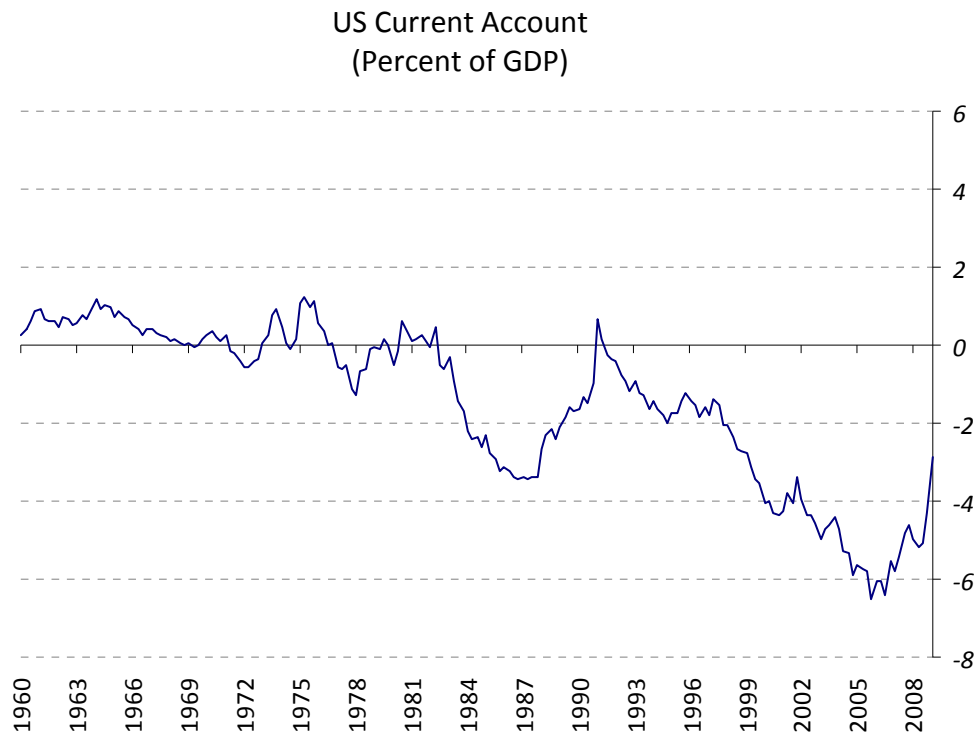
Finally, governments in the region have been consolidating their finances. For instance, according to the IMF, China's government savings increased from 2.9 percent of GDP in 2005 to 7 percent in 2008. Thus, the fiscal policy stance has also contributed to maintain a real exchange rate depreciated.

In sum, macroeconomic policies adopted by governments and central banks in Asia have validated the significant increase in the saving rate relative to the investment rate and the corresponding widening in current account surpluses.

2.2.- The US economy

For most of the nineties, the US current account deficit remained stable and relatively low, but since 1998 it started to widen continuously. The US current account deficit reached more than 1.5 percent of global GDP (or more than 6 percent of US GDP) in 2006 and, although it has declined since then, it remains high by historic standards.

Several factors help to explain this continuous widening of the current account deficit in some advanced economies, in particular the US. First, the increase in the current account deficit can be framed in the context of the secular fall in the savings rate of these economies, resulting in a decline of savings relative to investment. Thus, these economies have depended on foreign savings to finance their desired level of domestic investment. In particular, the long-term reduction in savings in countries such as the US can be explained in part by an increase in the elderly dependency ratio (the ratio of those aged over 65 to the working age population) which tend to reduce savings as old people are inclined to withdraw their savings once they retire from the labor force.



Source: Bureau of Economic Analysis

Another important factor has been the growth of labor productivity in the US relative to other developed economies during the 1990s, which brought about an increase in the propensity to consume and to invest. The corresponding decline in the savings rate was largely rationalized as

consumption smoothing, with US consumers taking advantage of borrowing opportunities to consume part of the wealth that the gains in productivity would eventually provide.

Excessive optimism about the productivity gains related to the new information technologies led to a sharp rise in equity prices, in particular stocks on NASDAQ, the so-called “dot.com bubble”. In turn, the increase in households’ net wealth associated with high stock prices allowed households to consume more.

When the bubble burst in 2000-2001, aggregate demand fell, producing a mild recession.¹ However, this recession did not contribute to overturn the trend of the current account because it was accompanied by expansionary monetary and fiscal policies aimed at avoiding a significant decline in economic activity. Furthermore, the fact that the fiscal and monetary stimulus was not removed in a timely way by the US authorities (i.e. once the economy recovered), contributed to a substantial widening in the external deficit. In particular, the interest rates remained low for a relatively long period, from 2003 to 2006.

A combination of several factors induced the strong reduction in US interest rates: first, the sharp and sustained reduction in the Federal Funds Rate implemented by the Federal Reserve, accompanied by reduced inflation and inflation expectations. Second, the excess of savings in emerging economies, mainly in Asia, accompanied by the willingness of foreign investors to acquire US assets. For instance, as it was explained in the previous section, since the late 1990s emerging countries have accumulated large holdings of foreign reserves and thus have been willing to acquire risk-free US government bonds given the depth and liquidity of these financial assets.

In this context, the role of the dollar as a reserve currency, that enables the US to finance its external deficit by issuing assets denominated in its own currency more easily than for the rest of the countries, has been fundamental to explain the low interest rate environment, and the widening of the US current account deficit.

In sum, the low savings rate in the US, and the corresponding dynamics of the current account, correspond to an environment with persistently low interest rates, and a dollar that maintained its value.

2.3.- The consumption glut and the financial crisis

Low interest rates in the US and other developed countries induced a “search for yield”, with international investors looking for instruments that promised them higher returns than those offered by sovereign and lower grade corporate bonds. Additionally, the benign economic

¹ At the same time aggregate demand fell in the US, China entered the World Trade Organization. Although, China’s export supply of manufactured goods represented a positive shock to US inflation, it negatively affected the US manufacturing sector.

conditions contribute to increase the investors' willingness to take risk. This low level of risk aversion came accompanied by a process of financial innovation that deserves special attention.

In principle, financial innovation implies an increased access to financial markets that tends to reduce savings, reflecting the fact that the borrowing constraints that households face are usually relaxed over time by the process of innovation in financial markets. Thus, there are significant benefits associated with financial innovation.

However, in the case of the US, the financial innovation process was characterized by the creation of complex financial instruments, difficult to understand even to investors and rating agencies, and a general tendency to miss-price the risks involved.²

Highly leveraged financial institutions purchased these complex and risky instruments. At least two factors help to explain their willingness to invest in these securities. First, these institutions were searching for yield, and they could increase their expected return on equity by borrowing at low interest rates and investing in risky assets. The more they did this, the more they would gain, leading to clear incentives to be highly leveraged. Second, the perverse incentives related to compensation practices at financial institutions, in particular, high short term profits led to generous bonus payments to employees without adequate regard to the longer term risk they imposed on their institutions.

An inefficient regulation and prudential supervision of financial institutions paved the way to the development of the above flaws in the financial system. The lack of a timely response by authorities and regulators may be explained by the following factors: First, it is reasonable to say that policy makers embraced a "free market" philosophy based on the idea that all markets, including financial markets, were able to self-regulate. Second, the conventional view among policy makers that monetary authorities should essentially focus on their price stability objective, while financial stability either is not their responsibility or has a secondary importance. Third, an environment of low and stable inflation, which according to the conventional monetary policy framework, did not require further policy actions by monetary authorities.

All the above flaws in the financial system shaped a "boom" in consumption and credit, led to a process of excessive leverage, and contributed to the development of a new bubble, this time in the housing sector. In this context, households were able to substantially increase their consumption expenditures, sharply driving down the savings rate. Particularly, the rise in wealth associated with increasing housing prices along with the process of equity withdrawal and

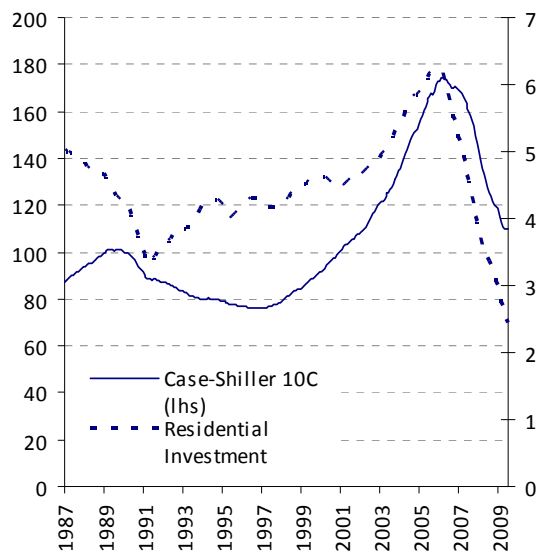
² For instance, in 2000, an employee of JPMorgan Chase, David X. Li, published a paper proposing a relatively easy way to model default correlation without looking at historical default data. Instead, he used market data on credit default swaps (CDS). As a result, just about anything could be bundled and turned into a triple-A bond. Li's formula, known as a *Gaussian copula function*, was adopted by bond investors, Wall Street banks, ratings agencies and regulators. However, because CDS had only been around for less than a decade, the model used data from a period when house prices soared and default correlations were very low. But when home prices started to decrease, correlations took off. (Source: Wired Magazine 17.03, Recipe for Disaster: The Formula that Killed Wall Street).

mortgage refinancing were the elements that allowed households to live beyond their means, in a consumption glut.

In particular, savings were significantly reduced by a surge in mortgage refinancing. As mentioned before, when the Federal Reserve responded to the burst of the dot.com bubble and the subsequent decline in economic activity by cutting the policy rate, the long term rates, including the mortgages rates, also declined. Since the US financial regulation allows individuals to repay and refinance their mortgages without penalty, a significant number of them decided to do it. Individuals started to repay their current mortgages by borrowing at new lower interest rates.

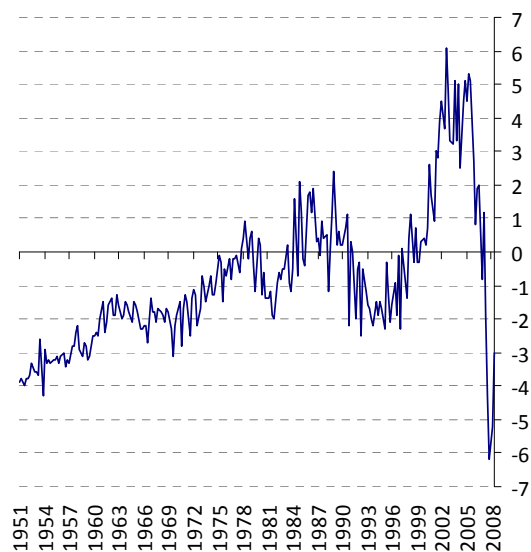
In addition, the increasing value of households' houses allowed them to borrow more than the quantity required to repay their current loans. Part of the additional funds obtained by households by refinancing their mortgages were used to purchase consumption goods. As a result, consumption increased and the current account deficit widened even further.

US: Residential Investment and Real Home Prices
(Percent of nominal GDP and Index Jan90=100)



Source: BEA, S&P, and BLS.

US: Home Equity Withdrawal 1/
(% of disposable personal income)



1/ Households home mortgages minus gross fixed investment in residential construction.

Source: Flow of Funds, Federal Reserve.

In this way, the above factors seem to have contributed to generate an excessively large US external deficit in relation to the one that would have been observed with an efficient financial innovation process and proper regulation and supervision, that would have impeded the excessive increase in leverage of financial institutions and households. The consumption glut emerged as a bubble in the housing market, particularly in the US but also in a number of advanced economies, and set the stage for the sub-prime mortgage crisis of 2007.

The benign global conditions described above started to revert when the declining trend in inflation was interrupted by the significant rise of commodity prices during 2007 and 2008. Monetary authorities around the world started to increase policy rates in response to the inflation threat. Thus, the combination of high prices of primary goods and tighter monetary conditions started to contain expenditures.

Additionally, mortgage rates started to increase and home prices to fall, which implied that households were less able to refinance their mortgages. As a result, highly leveraged individuals were not able to honor their debts and the mortgage delinquency rate increased, which depressed the value of structured products such as MBS and CDO, starting what was called the mortgage sub-prime crisis.

The financial crisis began to undo the global imbalances. Given the existing problems for the Asian currencies to appreciate against the dollar, the US real exchange rate depreciation has been conducted through a strong reduction in the price of some non-tradable goods such as housing prices and wages. Thus, there are prices in the economy that are indeed responding to the need for unwinding the external imbalances. These prices, along with the contraction in aggregate demand, are taking the full brunt of the adjustment.

In this context, there are several factors that have contributed to reduce consumption while boosting savings in the US. The fall in home prices, which reduces households' net wealth, and the decline in wages (and jobs) mean that households cannot afford the same level of consumption. Highly indebted households consume less than their current income and use the net cash flow to reduce their debts. Credit to households has significantly declined for several reasons: first, high uncertainty about future income leads households to postpone consumption and demand less credit. Second, the decline in home prices reduces the value of the collateral that households use to get credit. Third, high uncertainty and the deleveraging process of financial institutions have led to tighter lending standards and a contraction in the supply of credit.

In sum, the current unwinding of the global imbalances has been extremely painful. Although, some prices, such as asset prices in advanced economies, have moved in the needed direction to undo the external imbalances, the contribution of other prices such as exchange and interest rates has been limited.

3.- Resolving global imbalances by adjusting the “misaligned” real exchange rate

We have described the mechanics behind what has happened so far. However, to consider policy prescriptions, the most important issue is to interpret the evidence.

3.1.- Common interpretation

The most commonly accepted interpretation indicates that the global imbalances are evidence of a misalignment of the real exchange rate between countries with persistent surplus in their current accounts, such as China, and countries with persistent deficits, in particular the US. In this context, the large current account deficit of the US cannot continue indefinitely, because “it would be a gift to the US economy” (Feldstein 2008). In principle, current account imbalances activate forces that should lead to an adjustment so that the external accounts and capital flows across countries remain at sustainable levels. At some point, economies with huge current account deficits would face increasing difficulties to obtain external financing, which eventually would lead to a real exchange rate depreciation, higher real interest rates, lower asset prices and a contraction in domestic absorption.

However, if the nominal exchange rate is rigid because of the Chinese exchange rate policy, the correction in the real exchange rate would need to come from a significant adjustment in the price of non tradable goods in the US. In order to induce such a change in prices, domestic expenditures would need to be substantially compressed. Nevertheless, the high propensity to consume in the US makes such a decline in domestic absorption extremely difficult to be implemented.

The process that will eventually reverse the current account deficit in the US, under the common interpretation, is a fall in the dollar, possible accompanied by adjustments in other variables such as interest rates and prices of non-tradables. However, although a more competitive dollar is the main price change that has to occur, the fundamental condition for a lower trade deficit is an increase in the US saving rate. For this to happen, the US must become an export-oriented rather than a consumption-based economy (Summers 2009).

On the other side of the imbalances, surplus countries will not be able to rely on export-led growth. They will have to change strategy, and rely more on expanding domestic demand, and hence saving rates must fall. For the shift in demand to take place smoothly, the currencies in Asia have to appreciate with respect to the dollar (Rajan 2009).

Under this interpretation, the imbalances would resolve with a slow but probably large depreciation of the dollar, maybe accompanied by movements in other variables such as the US interest rates.

3.2.- Policy recommendations based on the common interpretation

If this is the diagnosis, both patterns of expenditure and consumption have to change. Under this background, the policy recommendations derived in 2007 from the first multilateral

consultation on global imbalances coordinated by the International Monetary Fund (IMF) continue to be appropriate. The latter included:

- Steps to increase national savings in the US, including fiscal consolidation.
- Reforms to boost domestic demand in emerging Asia.
- Reform of labor and product markets in Europe and Japan to increase competition and flexibility.
- Development of domestic financial assets in China and other emerging economies.
- Greater exchange rates flexibility in a number of surplus countries.
- Increased spending consistent with absorptive capacity in oil producing countries.

As of late, there has also been some discussion in terms of the creation of a new world reserve currency, maybe based on the SDR, the composite currency issued by the IMF, or the formation of a multi-reserve currency system, with currencies such as the Euro and the Yen serving as anchors (Strauss-Kahn, 2009).

As can be seen, all of the above address the different issues that were identified as problematic under this interpretation, for example high savings in surplus countries, low savings in deficit countries, and the stickiness of the nominal exchange rate. However, even in this scenario, there are several considerations:

- Once the possibility of systemic financial disaster is contained, a generalized fiscal relaxation has some problems. In particular, it is difficult to think that everybody relaxing at the same time could go in the direction of rebalancing saving patterns.
- There will be extremely difficult coordination problems among countries to implement these measures. In particular, this refers mainly to changing the rules on how the international monetary system works and amounts to a strong international agency, call it the IMF, evaluating when there are important misalignments in real exchange rates. The huge (game-theoretic) problems involved are well known.
- On the other hand, assuming that some coordination would effectively be achieved, would imply that international financial institutions would need to be significantly strengthened. For example, this would require important reforms in governance and surveillance in institutions such as the IMF.
- The creation of a new world reserve currency would possibly represent an important adverse shock for the US. Furthermore, the problems to operate such a proposal are large and it would be very difficult to implement it in the following years.

- The previous elements pertain to macroeconomics. Of course, there are also important coordination problems in terms of financial regulation and supervision between markets and between countries.

4.- Real global imbalances and its implications

4.1.- Real global imbalances

There is an alternative interpretation of the global imbalances based on factors analyzed in previous sections, that imply that the current pattern, with advanced countries such as the US developing deficits and emerging countries such as China incurring in surpluses, is not necessarily an inefficient one, and could last for a long time.

If there are real factors behind the saving-investment gaps and the production patterns across these economies, once the global economy recovers and financial markets return to normality, it is highly likely that the world economy will naturally return to a situation qualitatively similar to the one observed before the crisis.

As previously mentioned, there are real factors that naturally led to an excess of savings over investment in China, and the opposite in the US. These patterns of saving and investment naturally generated a real exchange rate depreciation for the country with high savings relative to investment, and vice versa. Thus, the apparent lack of flexibility of the real exchange rate to move in the direction that would help to reduce the US current account deficit could be reflecting the fact that the current level may not be highly misaligned.

Additionally, there are cyclical factors that will contribute to a return of the so called global imbalances, once the economy recovers. In particular, a larger income elasticity of imports than of exports in the US, and the opposite in China (BIS 2009).

In this context, the current pattern of trade and capital flows between China and the U.S. reflects the comparative advantages of each country related not only to the factor endowments but also to the different stages of economic and financial development.

For instance, there are several factors that have led the US to be a consumption oriented economy. First, its level of economic development implies the US is a wealthy society, and because of their high wealth US citizens can afford elevated levels of consumption. Second, the "life-cycle" behavior entails low or negative savings after retirement. Thus, the aging of the US population is consistent with a society consuming instead of saving. Third, given the US developed financial system, US individuals are less credit constrained than individuals possibly in any other country, and their greater access to credit implies they can save less and consume more.

On the other hand, there are factors that have led China to be an export oriented economy. First, an abundant endowment of cheap labor allows China to increase the production of manufactured goods at high rates without upward pressures on domestic wages. Second, an underdeveloped financial system, along with policies such as the one-child policy, have induced a high level of national savings.

In sum, the US has a comparative advantage at an international level in terms of financial markets depth and liquidity. Thus, it is natural that a portion of the excess savings generated in countries such as China be allocated to the US financial system. In turn, China has a comparative advantage at the global level in producing cheap manufactured goods. Thus, it is natural that a portion of the US excess consumption be allocated to purchase goods made in China.

In effect, the features of China and the US mutually reinforce to generate the current patterns of current account balances and capital flows between these countries. For instance, US consumption helps to maintain China's exports growth. In turn, the deep and liquid US financial system is a natural destination for China savings, which allows the US to finance its external deficit.

If this interpretation is the right one, then the current pattern of external balances, where capital is flowing from countries such as China to countries such as the US, should not be an important source of concern.

Nevertheless, the current global financial crisis suggests that there must have been flaws someplace, and we believed that this place was a complex financial innovation process along with an inefficient regulation and prudential supervision, mainly the US, which contributed to an excessive expansion of credit without correctly taking into account the high risks involved, and the concomitant asset price bubble.

At this point, it is worth discussing two factors that seem to have been working against the use of the nominal exchange rate as the adjustment variable, and that help to understand the alternative interpretation of the facts: the Chinese export-led growth strategy and the role of the US dollar as a reserve currency.

4.1.1.- Chinese export-led growth based on a (real) depreciated currency

China has successfully followed an export-led growth model, which is essentially based on keeping the exchange rate depreciated to depress the domestic wages expressed in foreign currency and improve the competitiveness in the export industries (Eichengreen 2007). Thus, in principle the adoption of a competitive real exchange rate is an important element of this growth strategy. That is, it seems that the real exchange rate can be used as a policy variable to boost exports and economic activity.

The success of China with an export-led growth strategy suggests that under certain conditions a country could maintain a depreciated currency for a long time. In other words, what features of the Chinese economy have facilitated the adoption of that growth strategy?

- First, according to the International Monetary Fund (IMF) the national saving rate (private and public savings) in China increased from 51.2 percent of GDP in 2005 to 58.9 percent in 2008. These rates are unusually higher than the rates observed in advanced economies and the rest of the emerging ones. The factors behind this fact were analyzed in previous sections. It is important to highlight that because of the high and growing savings rate, private and public consumption have been relatively low.

Thus, based on the high and rising rate of savings in China, it can be argued that the fall in consumption expenditures relative to GDP over time has helped to moderate the upward pressures on the prices of non-tradable goods, i.e. the services sector, which has contributed to maintain a depreciated Chinese currency for long periods of time.

- Second, another relevant feature of this strategy is that the expansion in the sector that produced manufactured goods for external markets has successfully absorbed a large number of workers from the countryside. Thus, it can be argued that this region has been an important source of abundant workers for the Chinese export sector, which may imply that this sector faces an extremely elastic supply of cheap labor force. This particular characteristic of the Chinese economy may have contributed to a significant expansion in economic activity without substantial signs of overheating.

Therefore, the Chinese foreign policy rate may be consistent with the pattern of saving and investment in that country and not necessary means a real exchange rate misalignment.

However, a relevant question is why Chinese authorities do not adopt public policies that let the generated wealth to “re-circulate” in order to support a larger domestic spending and a greater services sector?.

First, at earlier stages of development, an inward oriented growth strategy is limited by the purchasing power of domestic agents, while an export led strategy lets developing countries take advantage of the existence of already wealthy societies with a highly propensity to consume. Thus, an export led model has let China grow at high rates and absorb the surplus labor coming from rural areas. Second, emerging economies need large holdings of foreign reserves for self-insurance purposes. In this context, an export led strategy facilitates the accumulation of international reserves over time. Third, the desire to avoid a rise in inflation, particularly in prices of non-tradable goods.

However, there are authors that have expressed different views. For instance, Blanchard and Giavazzi (2006) have argued that Chinese economic growth has been unbalanced, and capital misallocated, that is, an overinvestment in the manufacturing sector and underinvestment in the services sector. Nevertheless, it can be argued that it is highly probable that the value added

in the manufacturing sector is still higher than the one generated in the services sector at the stage of development that China finds itself in. Thus it still makes sense to promote the expansion of the export sector. In fact, an important portion of domestic investment is allocated to infrastructure projects, which helps boost productivity in export industries.

4.1.2.- The role of the US dollar as reserve currency

A currency has the status of reserve currency when it is used as a store of value and medium of exchange in the global economy. In particular, the existence of a reserve currency allows private agents and the public sector in the country that provides it, to borrow from abroad and spend more heavily without an increase in interest rates and a decline in the exchange rate, than otherwise would have been the case (IMF 2009).

In this context, the fact that the reserve currency is the US dollar goes a long way in explaining why the low rate of savings relative to investment in the US did not cause the long term interest rates to rise and correct the savings-investment gap and the external deficit. The interest rates did not rise because of the large amount of external savings allocated to US dollar denominated assets.

There is another consideration about the role of the US dollar: As the global economy expanded, demand for reserve currency increased. Thus, the US should run a current account deficit to supply the higher amount of dollars demanded by foreign agents. In effect, if the US stops running an external deficit and supplying its currency, there could be a shortage of liquidity. Therefore, it can be said that a US current account deficit is consistent with a growing global economy.

4.2.- Policy recommendations based on the alternative interpretation

Under the alternative explanation where the global imbalances are consistent with real factors, and the financial crisis originated by a consumption glut facilitated by the prevalent financial environment, the policy recommendations are similar, although they are needed for slightly different reasons. In particular,

- The reforms to the financial system required to improve regulation and surveillance take center stage. Above all, to help prevent future consumption gluts that could generate bubbles in asset prices. Since the reforms have to be done on a global scale, significant coordination problems are to be expected.
- Other coordination problems are the same as those considered above under the common interpretation, in effect, the necessity to have new rules on how the monetary system works. Among the latter, an important one is the strengthening of the existing pillars of international macroeconomic cooperation, in particular the IMF and the Bank of International Settlements.

- Yet, further coordination problems arise under our alternative interpretation given the tendency of countries to implement export-led growth strategies. Clearly, not everybody can be selling abroad and not “caring” for their domestic markets. This could indeed lead to low global growth.

5.- Final discussion

In sum, the central issue is to assess whether there is a fundamental macroeconomic problem with global imbalances or not. The most commonly accepted explanation so far indicates that the global imbalances are *prima facie* evidence of a misalignment of the real exchange rate between countries with persistent surplus in their current accounts and countries with persistent deficits. Under this interpretation, the macroeconomic disequilibrium has to be corrected, and the prices that should bring about the correction are the nominal exchange rate and interest rates. The necessary correction in this context would involve a rebalancing of growth, with the deficit countries, in particular the US, increasing its savings rate and its exports, and the surplus countries, in particular China, reducing its savings rate and increasing domestic consumption.

In this paper, we suggest an alternative explanation to the global imbalances: At this stage, our proposal still lacks the appropriate formalization, but we argue that it fits the facts well. Under this view, the global imbalances reflect real factors, such as the low savings rate in the US and the high savings rate in China, and they are compatible with a real exchange rate that is less misaligned than previously thought. Under this interpretation, the only disequilibrium that has to be corrected is the one generated by the consumption glut in deficit countries. The variable that is already helping to restore equilibrium is the price of non-tradables, in particular housing prices, given the stickiness of the nominal exchange rate. Since the consumption glut was facilitated by the poorly regulated and supervised financial environment, the main policy prescription that is derived from our interpretation is that reforms to the financial system are of the utmost importance.

We do believe that at some point it may be desirable that the global imbalances start to unwind. However, in the medium run, while China can keep tapping the vast amount of cheap labor currently at its disposal, and while the dollar remains as the reserve currency, global imbalances appear to be sustainable.

Despite the differences in the emphasis and the timing of the economic policy recommendations, the situation ahead looks complicated. First, because it is very likely that growth will be slower in the future, either because of complications in the coordination needed to implement the reforms in the international monetary (non) system, or because a majority of countries will want to base their growth policies on the export sector; Second, the former element would possibly lead to “beggar thy neighbor” policies. Finally, because of the problems in the design and implementation of the new financial architecture.

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