The Role of Gold in the New Financial Architecture

Economic Note No. 13
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Executive Summary

Beyond its value as industrial input, including in jewellery, gold as a financial asset provides no cash flow or monetary dividend, nor a positive carry, and thus its value depends on non-directly measurable factors. However, its ancestral property as a store of value and a ‘safe haven’ especially in the face of heightened uncertainty and grave disruptions to the financial system would call for a role in the new financial architecture emerging after the global crisis. Absent a return to a fully fledged gold standard or to a gold exchange standard as prevailed pre-1971, gold could provide at least a partial anchor for monetary aggregates in a world that is increasingly multipolar, that is, where one economy would not be able to sustain the dominant international role of its currency without jeopardizing its internal stability as a result of an unsustainable external debt service (Triffin dilemma).

The ongoing real decoupling trend of emerging markets from mature economies will lead to a secular re-centering of the world’s economic and financial geography. This implies that the size of the US economy will shrink relative to other economies and therefore the world will gradually revert to a situation similar to that prevailing before WWI when the first wave of globalization took place.

During the XIX century and up to WWI, the gold standard provided the foundation for the expansion of international trade and the international financial relations. At that time none of the four or five large economies (including their colonial empires) was dominant. In that environment characterised by intense rivalries among major powers, the anchor for the world monetary and payments relationships was gold, i.e. an asset whose supply was independent from the discretionary decisions of national or supra-national authorities.

After World War I, and especially after WWII, an economic landscape took shape that was unusual from an historical standpoint (at least since the fall of the Roman Empire). With Europe undergoing reconstruction from the devastation and ravages of war while imposing restrictions on trade and payments, the US became the dominant economy in global trade and investment relations (especially considering that the Soviet Union and, after WWII, China decided to pursue a closed door policy in international economic relations, while India pursued a protectionist model of economic development). The US dollar became the international currency for payments and reserves, thanks to its peg to gold until 1971, the size, depth and liquidity of its financial markets, the dominance of the US as a capital exporter and thereafter thanks to its overwhelming size and military reach.

The Triffin Dilemma, which figured prominently in the international monetary policy discussions right after WW II, posits that the country issuing the reserve currency is bound to run an ever increasing current account deficit as world trade and payments increase in order to allow reserve accumulation and until its foreign liabilities become unsustainable. Against that the US obtained an ‘exorbitant privilege”\(^2\), enabling it to pay for its imports with its own currency.

This dilemma could be side stepped as long as the US economy grew at least as fast as the world global average and had no serious rival on the world stage. However, the global financial crisis which originated in the US severely shook confidence in US banks, financial institutions and markets, which along with the emergence of China and India (with a 10-15 year lag), has reignited these dormant worries. Moreover fiscal laxity in the US, aggravated by the uncertainty over the cost of the health care reform combined with the large unfunded liabilities related to social security and other entitlement programmes, raises the specter of a scenario in which the international role of the dollar could suddenly come into question.

\(^2\) The term was coined by Valery Giscard d’Estaing when French Minister of Finance in the 1960’s.
The US cannot continue to run indefinitely a current account deficit without jeopardizing the stability of the world economy. In a multipolar world the size of a single country would not be large enough to sustain its role as supplier of the dominant reserve currency and international liquidity.

The alternative would be to devise a financial system relying on several major currencies as was the case before WWI. But should such a multi-currency system be left to market forces to set exchange rates or could it benefit from being anchored to an asset such as gold which not issued by a national authority?

Should we base an alternative global monetary system on national fiat currencies or should we move towards a gold exchange standard? The answer of this paper is that international liquidity should be supplied on a large scale by an international currency such as the SDR, whose value should be tied to a basket of major currencies and gold, with the weight of the latter set at 20-25%.
This paper will examine whether gold can assume a new function in the global financial markets taking shape in the aftermath of the crisis. The argument revolves around two points: 1) the role of gold as a hedge against specific risks, such as inflation outbursts or financial contagion; 2) the role of gold as numéraire for international transactions and therefore as an international reserve asset.

In relation to point 1) the paper stresses the danger of a fiscal overhang from the financial crisis and the inflationary pressure building up from unprecedented level of public debt in peace time. In relation to point 2) it examines the future of the US dollar as the dominant international reserve currency in a world that is increasingly multipolar, hence evoking analogies with the second half of the XIX century and the early years of the XX.

The starting point will be the notion that the recent financial crisis has accelerated the shift of the global economic epicentre from the mature economies of North America, Western Europe and Japan towards the emerging markets, primarily China, India, Brazil, and Middle East. Demographic factors and the long term benefits of institutional and structural reforms have set in motion a virtuous circle of development that has lead to a decoupling of the emerging markets economic performances from those of mature economies.

This dynamics is paving the way for a multipolar world where it will be increasingly difficult for a single country to provide the reserve currency, because its relative size in the world economy would be too small compared to the growing volume of global trade and financial transactions. Specifically, the United States would not be in a position to continue running a large current account deficit adding indefinitely to their liabilities (and debt service), without putting under severe strain their economy and their capability of borrowing internationally in dollars and servicing their debt obligations. In short, the accumulation of foreign liabilities can continue only as long as the external debt service is sustainable.

Furthermore the crisis has irremediably sapped investor confidence in paper assets. By contrast, the appeal of gold as a safe haven asset has been enormously boosted and its price has been bid up accordingly, even when commodity prices plunged during the most acute phase of the crisis. The role of gold in the new financial architecture hinges on whether this phenomenon represents an emotional, but largely erratic, reaction by frightened investors to unsettling circumstances, or highlights a fundamental property of gold as a hedge against extreme events. A decisive answer cannot be given because a theoretically sound gold valuation model does not exist, so we need to rely on circumstantial evidence and historical experience.

The rest of the paper is divided into 4 sections. Section 2 documents and analyses the rebalancing of economic power; Section 3 argues that in a multipolar world a single reserve currency becomes a burden for the issuing nation and a risk for the global financial system; Section 4 focuses on the various value theories of gold; Section 5 explains how gold could represent an anchor for the international financial system through a ‘hard SDR’; Section 6 summarizes and draws some conclusions.
A US dollar-centric international financial system could survive in the long run only if the US remains by far the largest economy in the world (i.e. growing at least as fast as the world average economic growth rate), the principal financial market and the predominant engine of innovation in technology and industrial processes. However this primacy is being eroded on several fronts.

First, the Chinese economy is moving towards the top spot in PPP terms after three decades of economic liberalization and the continuous absorption of its rural population in the manufacturing sector concentrated in the urban and coastal regions, leading to an increase in the size of the market-based economy. The ascent to top spot which was predicted by 2040 is now expected in 2027 (see Fig. 2).

Second, Europe, albeit haphazardly, is more closely integrated after the enlargement of the EU to the East and the monetary union, which some fear could be torn apart by diverging national interests, but others see as coming of age if the current woes provide an opportunity to reform the EU governance and promote a more federal arrangement.

Third, the relative size of financial markets over the last decade, as highlighted in Table 1, has changed dramatically with Wall Street losing almost half of its global share. The financial system is moving from a “hub and spoke” model -- with New York and London as hubs -- to a “spider web” model where several financial centers will solidify their links and be able to carry out large scale operations that until recently could be arranged only in one of the hubs.

Fourth, the global financial crisis and the Great Recession have led to a fiscal crisis and growing wall of public debt in advanced countries, as a result of government and central bank intervention to bail-out the banking and financial sector, unprecedented counter-cyclical fiscal stimulus and the loss in tax revenue resulting from rising unemployment and decline in income.

In its latest assessment the IMF concludes that the “average gross general government debt-to-GDP ratio for advanced economies is projected to rise from almost 91 percent at end-2009 to 110 percent in 2015, bringing the increase from pre-crisis levels to 37 percentage points. Among the G-7, the government debt-to-GDP ratio is rising to levels exceeding those prevailing in the aftermath of the Second World War”5. The empirical evidence is clear: high government debt to GDP ratios in excess of 90% lead to reductions in economic growth rates in excess of 1% per annum, generating a vicious debt-growth circle, or high inflation rates or both.

Given the scale of the required fiscal adjustment4, historical experience reveals that governments are more likely to resort to debt monetisation and inflation, rather than increased taxation or the required politically painful reduction in social spending programmes5. By contrast, the emerging countries have weathered the financial crisis and the Great Recession with a negligible incidence on their fiscal position and with strong macroeconomic fundamentals.

Lastly, in the US the innovation potential is waning due to the competition from emerging Asia and Japan and the less welcoming environment for foreign researchers and entrepreneurs after 9/11.

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4 The IMF estimates that the “adjustment in the primary current account balance needed to lower gross general government debt below 60 percent of GDP by 2030 in advanced economies” is 8¾ percentage points of GDP on average.
5 See the engaging lecture by Niall Ferguson, Fiscal Crises and Imperial Collapses: Historical Perspective on Current Predicaments, 2010.
All in all, the financial crisis has accelerated a process of economic rebalancing that started in the 1980s with the opening of China and later a spate of reforms in India and other Asian emerging markets, the so called Asian Tigers (see Fig. 1). In 1973 the weight of G7 countries was about 50% of the world GDP, today that share has come down to about 40% at PPP. The difference is almost entirely accounted by the combined weight of China and India, while the other emerging markets have made up for the decline of the former USSR.

Source: IMF

Fig. 1 – GDP Growth Rates by Country Groupings

Source: IMF

Fig. 2 – The Size of Key World Economies, 2006-2050

Source: Goldman Sachs
The most striking aspect of the Great Recession has not been adequately highlighted in the media and in analysts’ comments. If in 2007 anyone had asked: “What would happen to China’s and India’s growth prospects if the mature economies’ GDP plunged by 5%?” the almost unanimous answer would have been “the export-led growth would come to a grinding halt”. The only difference in the analysis would have been on the extent of the damage. And in fact in late 2008 and early 2009, despite the evidence that the emerging countries had weathered the repercussion of the sub-prime crisis until then, there was a prevailing consensus that decoupling, i.e. the resilience of emerging economies to the contagion from mature economies, was simply an illusion.

**Table 1 - Share of World Stock Market Capitalization by Country Groupings**

<table>
<thead>
<tr>
<th>Year</th>
<th>World Market Cap</th>
<th>United States</th>
<th>Rest of Developed</th>
<th>Emerging Markets</th>
<th>BRIC</th>
<th>Rest of Emerging</th>
<th>of which GCC</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999</td>
<td>100.0%</td>
<td>46.0%</td>
<td>45.7%</td>
<td>8.3%</td>
<td>2.2%</td>
<td>6.1%</td>
<td>0.3%</td>
</tr>
<tr>
<td>2000</td>
<td>100.0%</td>
<td>46.9%</td>
<td>45.0%</td>
<td>8.1%</td>
<td>3.1%</td>
<td>5.0%</td>
<td>0.3%</td>
</tr>
<tr>
<td>2001</td>
<td>100.0%</td>
<td>49.8%</td>
<td>41.2%</td>
<td>9.3%</td>
<td>3.2%</td>
<td>6.1%</td>
<td>0.4%</td>
</tr>
<tr>
<td>2002</td>
<td>100.0%</td>
<td>47.2%</td>
<td>42.1%</td>
<td>10.6%</td>
<td>3.4%</td>
<td>6.8%</td>
<td>0.9%</td>
</tr>
<tr>
<td>2003</td>
<td>100.0%</td>
<td>44.7%</td>
<td>43.8%</td>
<td>11.9%</td>
<td>4.4%</td>
<td>7.2%</td>
<td>0.9%</td>
</tr>
<tr>
<td>2004</td>
<td>100.0%</td>
<td>42.7%</td>
<td>44.2%</td>
<td>12.8%</td>
<td>4.2%</td>
<td>8.6%</td>
<td>1.3%</td>
</tr>
<tr>
<td>2005</td>
<td>100.0%</td>
<td>39.3%</td>
<td>44.3%</td>
<td>16.4%</td>
<td>5.5%</td>
<td>11.1%</td>
<td>2.5%</td>
</tr>
<tr>
<td>2006</td>
<td>100.0%</td>
<td>36.3%</td>
<td>44.0%</td>
<td>19.7%</td>
<td>9.4%</td>
<td>10.1%</td>
<td>1.3%</td>
</tr>
<tr>
<td>2007</td>
<td>100.0%</td>
<td>30.8%</td>
<td>40.9%</td>
<td>28.3%</td>
<td>16.9%</td>
<td>11.3%</td>
<td>1.7%</td>
</tr>
<tr>
<td>2008</td>
<td>100.0%</td>
<td>31.0%</td>
<td>41.3%</td>
<td>25.9%</td>
<td>14.9%</td>
<td>11.0%</td>
<td>1.6%</td>
</tr>
<tr>
<td>2009</td>
<td>100.0%</td>
<td>30.8%</td>
<td>40.7%</td>
<td>28.3%</td>
<td>16.9%</td>
<td>11.5%</td>
<td>1.3%</td>
</tr>
<tr>
<td>2010(E)</td>
<td>100.0%</td>
<td>39.5%</td>
<td>39.5%</td>
<td>29.8%</td>
<td>17.3%</td>
<td>12.4%</td>
<td>1.4%</td>
</tr>
</tbody>
</table>

*Source: Standard & Poors. Data as of Sept 2010*

On the contrary, subsequent developments proved that emerging economies have developed an endogenous growth capacity. While it was true that the immediate shock-waves of the Lehman bankruptcy were too powerful to leave anyone unscathed – especially due to the collapse of trade finance which sent global merchandise trade into free fall – the timely policy actions undertaken in China and in the rest of South East Asia, combined with strong fundamentals, high levels of international reserves and low levels of public debt, allowed a rapid rebound. This dynamic has reinforced a long term tendency for emerging markets to be the new engine of world growth.

The shift in the epicenter of the global economy will produce a multipolar economic environment and force a change in the financial architecture which might turn out to be orderly or resulting from a series of tectonic movements. When the economic history of this period will be written, the Great Recession could be interpreted as the first wave of these traumatic adjustments in the financial architecture spurred by a long process of reconfiguration of economic power. In essence, we need to ask whether the role of the US dollar as fiat reserve currency is sustainable.

Actually while it is generally believed that the reserve currency role brings benefits in terms of seignorage and issuance of debt, the costs are often overlooked due to the interplay of destabilizing dynamics to balance the conflicting objectives of domestic stability and supply of international liquidity.
"A fundamental reform of the international monetary system has long been overdue. Its necessity and urgency are further highlighted today by the imminent threat to the once mighty U.S. dollar. “Robert Triffin (1960)"

The hegemonic position of a currency derives primarily from the relative size of its underlying economy, its international openness and the size of its financial markets. It is reinforced by the legal system on which it hinges the military reach of the issuing government and the long term stability in purchasing power over goods, services and assets that it affords (i.e. sound and sustainable macroeconomic & fiscal fundamentals).

The rise of the dollar as the principal international reserve currency was a natural consequence of the US ascendance to the top of world economies combined with the solidity of its political system. However the transition from the dominance of the British pound to that of the US dollar was rather slow even after the 1870s when the US had become the largest national economy. One can argue that the US dollar dislodged the pound as the dominant currency only when the gold standard came under strain and was reneged by Britain in 1931, while the US re-established the dollar peg to gold at 35$ per ounce. In short, the size of the US economy was key, but the stability conferred by the backing of gold was the tipping point that the led to a dollar-centric system.

How important is the relative size in underpinning the status of reserve currency? The answer can be put in relation to the observation by the Belgian economist Robert Triffin in the 60’s that a country whose national currency serves as an international reserve currency must run a current account deficit to supply the global liquidity required for international transactions.

The size of the economy must be large enough to sustain a current account deficit sufficient to finance international transactions, but the deficit cannot be so large as to make the ensuing debt service unsustainable. In other words, any country that issues a reserve currency must be willing to import more than it exports but is exposed to the risk that its external debt burden will undermine its stability.

To be accurate the liquidity could also be provided by a deficit of the private capital flows (and indeed it was the case for the US in the ’60s) or it could be supplied by entities in other countries that issue liabilities denominated in the reserve currency (as it happened in the ’70s).

But in practice these are exceptions and in fact the bulk of international liquidity over the past two decades has been supplied by a widening current account deficit in the US and therefore the key issue is whether the US can continue to provide the indispensable volume of assets. The answer can hardly be positive, because the US deficit is clearly unsustainable (and the current US Administration is determined to reduce it as a matter of priority), while emerging countries continue to accumulate reserves at a pace close to their (growing) current account surpluses. In plain words, if the United States adds further to its external liabilities, the privilege of borrowing internationally in its own currency might be jeopardized.

8 Actually this point has not been uncontroversial. Kindleberger in his works on the Great depression effect, concluded that hegemony is conducive to systemic stability, as a hegemonic power would be able to internalize the externalities of a global public good, such as an international currency. However, Kindleberger’s analysis was suitable for a situation in which an economy is dominant. With the emergence of several great economic powers is very much in question today. Also it has been pointed out that central bank reserves since 1999 have increased also in euro yen and Swiss Franc, but that none of these economies had a current account deficit. The apparent contradictions can be explained by the fact that the financial sector in these countries issued liabilities in their domestic currencies and invested in dollar denominated assets.
Some figures might help to illustrate the problem. According to WTO data, in 1948 total world merchandise export (excluding re-export) was 58 billion; in 1971, at the time of the Bretton Woods demise, total world export had grown to US$354 billion; in 1995 when the trade liberalization started to take off after the launch of the WTO, the figure had reached US$ 5.2 trillion and in 2008 total exports touched the highest level at US$ 16 trillion, to drop to US$ 12.5 trillion in 2009. To this we need to add trade in commercial services which were about US$ 300 billion in 1980 (when the WTO series starts) to almost US$ 4 trillion in 2008 and a little more than US$ 3 trillion in 2009.

The external liabilities of the US, measured as the difference between foreign assets owned by US residents and US assets owned by non residents went from almost zero in the early 1990s to almost US$ 4 trillion in 2008 and then declined sharply to just short of US$ 3 trillion (see Fig. 3).

On the other side, global foreign currency reserves by central banks amounted to US$8.1 trillion by the end of 2009 according to the US Treasury, with China having amassed US$2.4 trillion, enough to cover the short-term debt of the twelve largest reserve-holding emerging markets and still maintain an adequate buffer in case of a crisis. It is also worth pointing out that other phases of rapid large reserves accumulation (such as at the end of the 1960s and the end of the 1970s) have led to monetary or financial crises because the need to recycle these funds in the economy led to imprudent lending practices by banks. A solution to the increasing inability of the US to provide the reserve currency could be envisaged along two hypotheses:

- either one, or a few other, reserve currencies emerge or a new international unit of account (an international currency) managed by a supranational institution needs to be designed.

The former case seemed to be arising with the introduction of the euro, a currency backed by a diversified economy larger than the US, capable of withstanding major shocks. However the euro area has not been able to match the expectations because it has largely failed to integrate its financial markets, and because the ECB, following the tradition of the Bundesbank, has been cold, even hostile, to the international role of the euro lest it would conflict with

![Fig 3 – US External Liabilities](image-url)
its overriding mandate of ensuring price stability. So the euro area does not have the deep and broad financial markets and does not supply sufficient liquid and safe assets to satisfy the demand by reserves-accumulating central banks and by the banking and financial system. The ascendance of the euro is also constrained by a government bond market fragmented along national lines, Europe's unfavorable demographics, and anemic growth. If one adds the dysfunctional institutional framework after the emasculation of the Stability and Growth Pact, the absence of a lender of last resort (although the current crisis has forced the ECB to act as one by injecting massive liquidity in the banking system and buying government debt in a blatant violation of the Amsterdam Treaty), a lack of centralized decision making on fiscal policy, it is evident that the appeal of the euro is not widespread. It must also be noticed that the currencies of the largest surplus countries in Asia are tied to the US dollar and trade primarily in that currency, so they prefer to hold US dollar denominated assets.

We need to add that the world's second largest economy issues a currency which is not freely convertible and the Chinese financial markets, including the government debt market, are at present far from deep, liquid or well regulated and are not accessible by foreign investors. A complete convertibility of the yuan is several years (possibly a decade) away according to most analysts. In the mean time capital controls and other regulations continue to cause a steady rise in China's foreign currency reserves, at an average monthly rate of US$10 billion. Finally the other major economy, Japan, maintains a large current account surplus so it does not provide substantial international liquidity either and has the second largest stock of foreign currency reserves at US$997 billion. In conclusion, an orderly transition towards a multicurrency world requires some profound institutional changes in the current international monetary arrangements, in the absence of which the transition risks to be disruptive. The plan for an international currency managed by a supranational institution dates back to the proposal advanced by Keynes at the Bretton Woods Conference who called for an International Currency Union, which would function as a “central bank” for the central banks of each country and to institute a global currency, the Bancor. More recently the Chinese authorities and the G20 have renewed the emphasis on the SDR. A flurry of research and policy papers has reinforced the message with the IMF already developing a framework. The G20 Summit in Toronto supported a general allocation of the IMF's Special Drawing Rights equivalent to $250 billion to boost global liquidity. A general SDR allocation amounting to the equivalent of $250bn was made on 28 August 2009. The equivalent of nearly $100bn went to emerging markets and developing countries, of which LICs received over $18bn. To support SDR liquidity, the IMF has substantially expanded the capacity of voluntary arrangements to buy and sell SDR in exchange for currencies in the SDR basket.

The G-20 also urged a speedy ratification of the Fourth Amendment to the IMF's Charter, first proposed in 1997, which seeks to make the allocation of SDRs more equitable. The Fourth Amendment became effective for all members on 10 August 2009. As a result, a special one-off allocation of SDRs, amounting to about $33bn, was made on 9 September 2009. More recently, On April 21, 2010, the IMF's Executive Board approved measures to facilitate the mobilization of Poverty Reduction and Growth Trust (PRGT) loan contributions, including from the existing SDR resources. As of April 21, 2010, pledges of PRGT loan contributions amounting to SDR 7.6 billion had been made, of which SDR 6.1 billion are to be provided in SDRs by six countries.

However, before delving more on this issue, it is instructive to provide a historical overview which highlights how the dominance of one country in the world economy (at least that part that maintained a market system) after WWII has been rather unusual from a long term perspective according to which the emergence of the Asian giants can be seen as a sort of reversion to a secular equilibrium.

9 See for example Bergsten (2009), the report by the UN Commission presided by Joseph Stiglitz (summarized in Stiglitz (2009)), advocating an expanded SDR.

10 See the remarks by IMF Managing Director Strauss Khan in Strauss-Kahn (2010) suggesting that the IMF could issue SDRs as an international currency and Mateos y Lagos et al. (2009) who ask whether the size and volatility of today's international capital markets are compatible with the supply of liquidity by a single country.
The Role of Gold in the New Financial Architecture

The Great Recession has brought to the fore the tension between (1) the scale and volatility of global capital flows, which motivates ever larger international reserve buffers, and (2) the destabilizing imbalances arising from a mono-currency international monetary system. These tensions are exacerbated by the evolution towards a multipolar world reminiscent of the first wave of globalization that took place at the turn of the XX century and culminated right before WWI. In that period several currencies periodically shared the role of the global reserve currency (Eichengreen (2005)). Indeed, a multipolar world is more the norm than the exception from a historical perspective, hence a system of co-currencies is more natural compared to the situation prevailing since WWII as we highlight in the Appendix which provides a historical overview on the relationship between dominant currencies and the relative size of the largest economy. Can gold play a role in a multicurrency fiat currency environment resulting from a multipolar economic map?

Gold has unique physical properties (malleability, conductivity, resistance to oxidation) and is very scarce which in part explains the fascination it has enjoyed since the night of times. Despite skepticism in academic circles, many individual and institutional investors view gold as a store of value which provides protection when other assets prices are plunging. This gives rise to the “asset demand” for gold bullions by central banks, fund managers, and households, as opposed to “use demand” by various industries.

The notion that gold is a hedge against a host of extreme events is based on a pattern of correlation and stable relative prices, for example the gold-oil price ratio which has remained within a well-defined range since 1971 and even before. Other secular stable relationships are illustrated in Harmston (1998). In short, gold maintains real purchasing power over time even though gold does not provide a stream of earnings.

The gold price can be affected by several factors such as US or global inflation, world GDP growth, currency fluctuations, risk aversion, flight to safety, gold leasing rates, interest rates, rate of extraction, sales by central banks, stock prices, and possibly many others. There is an extensive literature that examines jointly several of these factors or focuses on one deemed to be predominant (e.g. currency fluctuations). The empirical analyses (with few exceptions) tend to find to a various degree statistical linkages between the gold price and various macroeconomic variables, over different periods and through different techniques.

In general as we look at historical data two stylized facts emerge clearly: the gold price tends to spike in conjunction with high inflation periods or in times of severe slumps threatening to turn into depression and/or triggering a deflation. In essence gold represents a financial safe haven when the consumer price index is highly unstable (and volatile) and when the probability of extreme events (or ‘black swans’ as they have come to be described) is perceived to be unusually high. This function, which in the so called era of Great Moderation had been largely dismissed, came back forcefully during the sub-prime crisis. A recent IMF study measures the standard deviation from publicly-available consensus estimates for 13 macro-economic indicators. It finds that gold prices tend to be counter-cyclical, with the price rising when there is a downside surprise in the data, suggesting gold is seen as a safe-haven during “bad times” and concludes that: “gold prices react to specific scheduled announcements in the United States and the Euro Area (such as indicators of activity or interest rate decisions) in a manner consistent with its traditional role as a safe-haven and store-of value...”.

Nevertheless skeptics maintain that past evidence and past correlations are not solid enough to justify a renewed role for gold in the international monetary system. Their skepticism rests on the failure to identify

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11 Cai et al (2005) find, using high frequency data that the gold price is most influenced by unexpected news which affect the oil price.

12 Lawrence (2003) asserts that “There is no statistically significant correlation between returns on gold and changes in macroeconomic variables, such as GDP, inflation and interest rates”.

a value theory for gold. Psychological attitudes and long standing practices, they underscore, might swing, hence unless one can explain how inflation, exchange rates and other factors may -- together or singularly -- affect gold prices, the inclusion of gold in a global portfolio is nothing more than an act of faith rather than a rational decision. Stated differently, one should be able to define a stable link between a unit of gold and a representative basket of goods (and services) or a stream of financial yields before a case can be convincingly made.

However, the same criticism applies to many (if not all) asset classes. Equity valuation models are based on formulas that, albeit formally neat, have limited and haphazard application in real life. For example, to assert that a share value depends on the expected future cash flows has little practical usefulness. Even the price of a major commodity such as oil, which is used all over the world and whose market is continuously scrutinized by hundreds of thousands operators cannot be explained, let alone predicted by any rigorous model. In essence gold is a form of “money” whose value in terms of a basket of goods and services is mostly uncorrelated with the value of major fiat currencies and in particular circumstances, such as heightened tensions in financial markets, security threats, high inflation, tends to increase when measured in terms of fiat currencies. Gold is perceived as a hedge against extreme events and hence its price is dictated by the assessment that investors or some classes of investors make of those risks.

Central banks still hold a substantial portion of gold stocks. In this sense gold can be considered a sort of fiat money of different nature. Those who favor a central role for gold as a global unit of account argue that it is the only form of money that is not a government’s liability and therefore is not subject to the vagaries of political objectives. Such a property is crucial in current times when the government liabilities are swelling and as a consequence expectations are mounting that central banks will eventually monetize those fiscal problems. The view is supported by historical experience which suggests that virtually all severe fiscal crises have been largely resolved by inflating the debt away (see Fergusson (2010)).

Fig 4 - Average Gross General Government Debt-to-GDP Ratio

Source: IMF
We have argued that in a multipolar economic geography, with a decentralized international financial system, a single reserve currency issued by a country whose relative economic share is dwindling, exposes the world economy to severe instability and becomes a source of global systemic risk. The viable solutions rely either on a multicurrency system without major government intervention or on an international currency backed by the largest economies. The first alternative could prevail by default if there is no international consensus on a reform of the international monetary system but is not inherently stable as it is exposed to market determined exchange rate swings between free floating reserve currencies.

For the second alternative a candidate already exists: the SDR, which is the reserve asset created in 1969 through the IMF. It is essentially a virtual unit of account used in transactions among central banks, a stripped down version of the Bancor proposed by Keynes. The current arrangement backing the SDR however is inadequate. The value of the SDR was initially defined as equivalent to 0.888671 grams of fine gold—which, at the time, was also equivalent to one U.S. dollar, given the prevailing gold exchange standard. After the collapse of the Bretton Woods system in 1971, however, the SDR was redefined as a basket of currencies, today consisting of the euro, Japanese yen, pound sterling, and U.S. dollar. The basket composition is reviewed every five years to ensure that it reflects the relative importance of currencies in the world’s trading and financial systems15.

The SDR is not a currency strictu sensu, nor a claim on IMF assets, but is potentially a claim on convertible currencies of IMF members16. In this sense it is a form of fiat money (or liquidity to be more precise), whose supply is determined by the Board of Governors of the IMF and distributed to member countries in proportion to their quotas. The total stock of SDR amounts to 204 billion (equivalent to more than USD300 billion). The largest SDR allocation ever, 161.2 billion, became effective on August 28, 2009 implementing a decision taken by the G20 leaders in April 2009 for the IMF to take a pivotal role in addressing the many crisis hotspots ravaging the world economy.

This increased SDR supply however is not large enough to address the fundamental imbalances and to provide a significant alternative to dollar denominated assets in central bank reserves. The revamp of the international monetary system around a completely new currency and the supporting institutional arrangement would be a daunting task with likely insurmountable political obstacles. Merely increasing SDR issuance would not, however, be adequate. In fact it would not only be a matter of shifting the dollar denominated reserves into SDR. The SDR itself is backed by the economies of IMF members, so for the exchange of US$2 trillion in US Treasuries held in central banks reserves for IMF bonds to be acceptable would require the formal backing of all major IMF members, otherwise it would only give rise to a devastating degree of confusion on international markets. Or it could be perceived as a mere redenomination of liabilities because the SDR would be backed to a large extent by the US Treasury.

In other words, for the SDR to be an alternative reserve currency not only must the total issuance be greatly boosted but it would need additional backing and arrangements – in other words a “hard” version of the SDR must be created. It would be desirable to create a new SDR basket and include in it an asset whose value is largely uncorrelated with the value of fiat currencies. Gold would be the natural candidate with backing for the gold proportion coming initially from the IMF’s gold stock. Given that the IMF still holds substantial gold reserves, an SDR basket where the weight of gold would be between 20-25% could be reasonable.

To provide a rough estimate of the order of magnitudes involved to maintain such an arrangement we considered the total amount of official central bank reserves as recorded by the IMF which amounted to the equivalent of US$ 8.4 trillion in June 2010. Then we projected a growth rate of 5% for the total value

15 See the IMF factsheet on the SDR, www.imf.org/external/np/exr/facts/sdr.htm
16 Further information on the SDR can be found on the IMF website http://www.imf.org/external/np/exofaq/sdrallocfaqs.htm
of reserves (a rate that would reflect growth of trade volumes and international transactions in real terms) over the next 15 years (Fig. 5). Lastly we assume that about two thirds of the reserves will be kept in US dollars and half of this amount would be shifted in “hard” SDR, i.e. an SDR linked to a hybrid basket including a 20% share of gold, plus 20% euro, 8% yen 30% US dollar, 15% yuan, 7% other currencies (Indian rupee, Swiss Franc, British Pound assuming the UK will not adopt the euro). As is the case today for the SDR, the weights underlying the “hard” SDR would be reviewed periodically (every 3 or 5 years) in order to take into account the changes in the relative trade, financial and overall economic importance of the national currencies.

Fig 5 – Total Central Bank Reserves, 2010-2025 projected (in billion US$)

Source: IMF COFER and DIFC estimates

The value of gold that the IMF would need to hold in order to fully back such a commitment would be in the order of 27,000 metric tons of gold, if the price remains fixed at around 1300 US$ per Troy ounce, the i.e. about ten times its current gold holdings and close to the total gold held by central banks. Likewise, if half of the projected total central bank reserves in 2025 were to be held in hard SDR, the “gold content” of the SDR would be equivalent to 42,000 metric tons.

However, the IMF would only need to maintain a fractional gold reserve, sufficient to exchange gold for currencies on demand by central banks of member countries at market price. In fact the hard SDR would not imply a fixed price for gold in any currency, but it would be partially anchored to a unit of account independent of the vagaries of national monetary policies.

In any case the transition would be gradual, but it could be strengthened if the central banks of countries with large dollar denominated assets were to consider repo facilities in SDR and accept as collateral SDR denominated securities. In this way their banking systems and their economies could adapt more easily to the new multipolar world and would be in a position to better manage its challenges.
Fig 6 – Currency composition of the SDR

Source: IMF and DIFC estimates
The international monetary system, as the economic epicenter shifts eastwards, could be enhanced by a partial anchoring of an international means of payment to gold. In essence the history of the XX century is pervaded by the rise of the US dollar as the dominant reserve currency, in conjunction with the prominence of the US economy in the world. But this state of affairs is unlikely to remain unchallenged.

While a comprehensive theory of gold valuation remains elusive and hence the gold price depends on an ancestral function as a store of wealth, its role as an anchor in the new financial architecture cannot be downplayed for three reasons: a) the world is heading towards a multipolar economic configuration reminiscent of the first phase of globalization at the turn of the XX century; b) the role of the US dollar as a reserve currency is creating a set of serious tensions between domestic stability in the largest economy and the liquidity needs of an increasingly integrated world; c) mature economies are facing a public debt and fiscal crisis with the non-negligible risk that governments will want to inflate away their debt rather than raise taxes, reduce social and entitlement programmes and/or increase retirement age to postpone and reduce social security liabilities and other entitlement benefits.

In general the international monetary system (which is the most important component of the global financial architecture) can either hinge on a system of fixed (or semi-fixed) exchange rates among major currencies or be left to market determined floating exchange rates (which does not exclude the occasional intervention by central banks or even some form of “dirty” float).

The two systems differ in the way they tackle the inevitable imbalances or divergences that periodically arise among major economic areas. In the former, a multilateral arrangement among governments to address growing current account surpluses in one or a few countries (and the secular deficits elsewhere) is necessary (even if it conflicts with domestic objectives). This was the original function of the IMF within the Bretton Wood regime. In the latter the adjustment takes place through the nominal exchange rates and is left largely to the private sector. Neither system is free of risk or disruptions, and the international monetary system has oscillated between the past two centuries and actually in the last 20 years has prevailed an unusual hybrid, with certain major economies linked by fixed exchange rates (US and China, together with other East Asian and Middle Eastern countries) while other exchange rates, in particular the euro dollar and the yen dollar, were floating.

It is doubtful that this arrangement can be perpetuated and in particular the reserve currency role of the US dollar would come under strain as the relative size of the US economy shrinks. The reserve currency status allows a number of privileges in terms of seignorage and access to global savings. In particular the US can borrow easily even at critical junctures and sustain large debt-financed commitments both domestically and internationally: even though the US represented the epicenter of the crisis, US dollar denominated assets, foremost US Treasury securities, were considered – counter-intuitively – a safe haven. But these privileges are imposing non trivial costs to the rest of the world and also to the US which has to maintain a sizeable current account deficit with a consequent increase in its foreign liabilities and debt service.

The US dollar is currently widely accepted because the US economy is large and diversified and has financial markets with the requisite breadth, depth and liquidity. Holders of dollars expect to be able to purchase goods and services they need paying in dollars. But it is not so farfetched to think that the primacy of the dollar has been the result of unusual historical circumstances not the result of long term equilibrium. In short, the size of the dollar liquidity necessary to finance global trade and capital movements will in the foreseeable outweigh the size of the US economy.
In a multipolar world where the economies of China and Euroland have a size on par with that of the US, the international role of the dollar would come increasingly under strain. Furthermore, the significant role played by other countries, such as Brazil, the GCC, Korea, South Africa, on the world stage will lead to a more decentralized network of financial centers unlikely to be revolving only around the US dollar. So it is likely that the rise of China, India and other emerging markets will lead to a multicurrency international monetary system. But even in a multipolar financial world, it would be desirable to have a global unit of account as an anchor for international transaction. The currency of a primus inter pares is unlikely to confer the trust necessary for the global store of wealth, especially in a period where its public finances are not in order and the temptation to inflate away its debt looms. From historical experience and several empirical analyses one can argue that gold acts primarily as a hedge against financial downturns and wild swings in the price level (during periods of inflation or deflation).

In a nutshell, gold represents for many investors and a large portion of the general public an alternative to fiat currencies as a store of value and anything that saps confidence in paper currencies, from fiscal expansions to securities threats tends to be gold bullish.

So gold could assume a role -- not as central as during the gold standard heydays or the Bretton Woods system -- but nevertheless significant. One possibility would be to include gold in a basket underlying the new “hard” SDR. If the IMF currency were to assume a more relevant role in supplying international liquidity and possibly issue securities denominated in SDR, it would be desirable to add to the basket an asset that could confer stability to its value. An alternative, which would not exclude the previous, would be to give IMF members the option to take loans denominated in gold or in SDRs (or a combination of the two).
References

- Belke, A. and D. Gros, Global Liquidity, the World Savings Glut and Global Policy Coordination, DIW Berlin Discussion Paper No 973, DIW Berlin, German Institute for Economic Research, 2010
- Sabucchi, P. and J. Driffill (eds), Beyond the Dollar: Rethinking the International Monetary System, Chatham House Report, Royal Institute of International Affairs, London, 2010
Appendix - The Reserve Currency in a Multipolar World

Table A below highlights how unusual the situation was in the early 1970s -- when the fixed parity between gold and the US dollar was reneged -- in terms of relative size of major economies. In 1870 China and India were the largest economies, albeit not entirely integrated in the system of international relationships, while the US was emerging as the dominant Western economy. By the end of the Belle Époque the US had risen to the top spot, but 5 other countries contributed about the same share of world output i.e. around 8%, without taking into account their colonial dominions. After WWI the first wave of globalization receded due to a multitude of factors: the break-up of the Habsburg Empire, the end of the Ottoman Empire and of the Romanovs in Imperial Russia, the need to deal with the large build-up of public debt in warring countries and later the protectionist policies enacted in reaction to the Great Depression.

Hence the importance of international trade in the world GDP declined. Furthermore in the inter-war period debt piled up to sustain the conflict ravaged economies and left the US as the lender of last resort for all European countries whose industrial base was in shambles. Between 1913 and 1950, and except for a surge of activity during wartime, the world economy grew much more slowly than in 1870–1913, world trade expanded much less than world income, and the degree of inequality between regions increased substantially, with Asia experiencing the largest drop.

The US became the leading economy after WWII while a substantial share of the world GDP was accounted for by economies that were bent on self sufficiency, like former colonies, notably India, and/or were deliberately eschewing international trade because they had turned into centrally planned economies, primarily the Soviet bloc and China.17

So the liquidity necessary to sustain the bulk of international free trade was substantially lower than the size of the world economy would lead to think. The size of the US economy in relation to the GDP of free market economies allowed the dollar to become the dominant currency without much strain. The world economy grew faster from 1950 to 1973 than it had ever done before. World per capita GDP rose nearly 3% a year (a rate which implies a doubling every 25 years). While total world GDP rose by nearly 5% a year and trade by nearly 8% a year. The acceleration was greatest in Europe and Asia, but despite the narrowing gap between the US and the other advanced capitalist countries (Western Europe and Japan), the size of the US economy remained unrivalled until the demise of the Bretton Woods system, i.e. even after the reconstruction was completed.

The situation started to change in the 1980s first with the market oriented reforms in China, then later with the demise of Communism in Eastern Europe and the first liberalization measures in India. And the transformation accelerated in the late 1990s, when the emerging markets surged in the wake of the WTO launch and even more so after the Asian crises when the large emerging markets traditionally had run large current account deficits started to run current account surpluses, thereby accumulating reserves. Trade grew much more than GDP in the period from 1980 to 2008 when it was interrupted by the freeze in trade credit finance. Seen from a secular perspective the process is a reversion to the multipolar world that had prevailed for much of history or at least until the two world wars.

But a system of free floating currencies is subject to the risk of nominal exchange rate overshooting or undershooting, in other words might be inherently unstable. In a sense the Triffin Dilemma is a particular case of a more general Insurmountable Conundrum: either the international monetary system hinges on fixed exchange rates and as a consequence there must be a mechanism to address the buildup of external debts, or exchange rates are set by market forces, which eliminate current account surpluses, but impose drastic domestic adjustments.

17 By 1950 colonialism was crumbling. With one or two exceptions, the demise of sizeable empires was more or less complete by the 1960s, substituted by a confrontation, a ‘Cold War’ between the United States and the Soviet bloc for influence in the newly independent countries of Asia and Africa.
Table A – Share of the World GDP by Country

<table>
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<tr>
<th>Country/Region</th>
<th>GDP (millions Geary-Kharis dollars)</th>
<th>Maddison’s 2030 forecast</th>
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Source: Angus Maddison (2004) and Andrew Mold (2010). Note: Other WO refers to Western off-shoots; the line Rich represents the total of the rows above.