

## The Triffin Dilemma Again

*Edoardo Campanella*

*World Trade Organization, Geneva*

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### Abstract

Tiny changes in the American monetary policy can have dramatic effects on the rest of the world because of its double role of national and international currency. This is what I call the Triffin dilemma, an ever green concept in international finance. In the paper I show how it works through three examples: price of commodities, dollarization, and the international financial position of the US. I argue that to solve this situation, it would be important to create a more democratic monetary system, in which all the countries have a decision weight. In particular, I think that globalization and regionalization should be the two forces leading towards the new monetary system. The main economies should adopt the same currency through a system of fixed exchange rates (global money); developing countries should create regional monetary unions (regional money), preserving the real exchange rate as real shock absorber, but gaining in terms of time consistency and credibility.

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### Correspondence

Edoardo Campanella, World Trade Organisation, 154, rue de Lausanne, 1211 Geneva, Switzerland; e-mail: [edo.campa@hotmail.it](mailto:edo.campa@hotmail.it).

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## 1 Introduction

In the Sixties many economists were afraid about the double role of the dollar as national and international currency. The Triffin dilemma was in fashion and eventually turned out to be correct. It simply states that when a national money, like the dollar, is used in pricing primary commodities, trade settlements, and is globally adopted as reserve currency, there is a trade off between national and global effects of the monetary policy (Chinn and Frankel, 2006). Even if it was coined to explain the fragilities of the Bretton Wood system, it still applies to the current international monetary system. Few examples can address the idea. Firstly, during the 1980s soaring interest rates in the US generated large capital flows from developing countries, leading to the debt crisis (Chinn and Frankel, 2006). Secondly, in dollarized countries a decision by the FED's chairman, who only cares about the US economy, can have devastating effects. Thirdly, the appreciation of the yen between 1985 and 1995 weakened balance sheets and clogged up the Japanese banking system with non performing loans (Mundell, 2005). Finally, in emerging economies banks and firms borrow in dollars and lend in domestic currency, creating balance sheet mismatches, that can lead to a kind of crisis like the Asian one: the soaring dollar from 78 yens in April 1995 to 148 yens in June 1998 triggered the crisis (Krugman,1998).

The main point of the paper is to show how unwise is a system in which the international currency is managed according to the needs of only one country. There are no economic reasons justifying such a situation; it is only a show of political power. At the same time the system can boomerang on the anchor country itself, generating inside instability: from being a net creditor to the rest of the world at the beginning of the 1980s, the US became the world's largest net debtor by 2000 (Mundell, 2001). Lastly, the perspective of a competing reserve currency, the Euro, could be beneficial but also a source of instability, since unforeseeable escape from one currency to the other one could generate uncertainty in the financial markets: there are no historical records of more than one reserve currency at the same time (Chinn and Frankel, 2006).

In the paper I highlight how the anchor role of the dollar in the international monetary system creates systemic instability, because of its double role of national and international currency. My work suggests that to some time in the not-too-distant future the governments of the main economies should consider establishing a common currency.

Many authors suggested some kind of agreement among the main economies in order to create a global currency; however, to the best of my knowledge, nobody noted that a credible international management of

the new money can be achieved giving up the national currency, creating a global and regional monetary authorities, in order to eliminate the temptation of following national interests. The Bretton Wood system failed, when the US started to follow expansionary fiscal policies for financing the Vietnam war; something similar happened in the early 1990s when, after the German reunification, the Bundesbank tightened unilaterally the money supply, putting under speculative attacks many currencies of the European Monetary System.

Nevertheless, the proposal moves away from the traditional Optimum Currency Area (OCA) debate, since the aim is not to ease trade through a reduction in the transaction costs, but to make more stable and more “democratic” the financial system.

In the reminder of the paper, I will illustrate the central role of the dollar in the current system, stressing the main points of strenght and weakness. Then, I will illustrate my proposal of new monetary order, showing costs and benefits and how it could work.

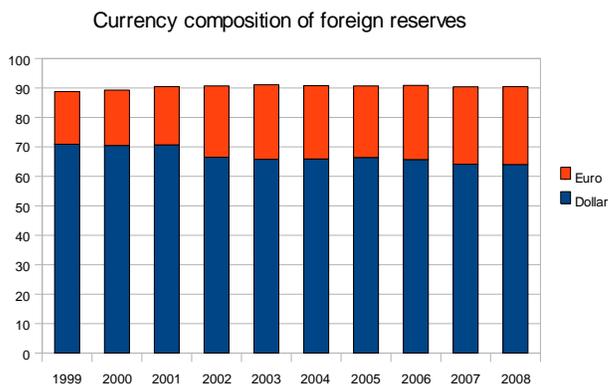
## **2 The International Dollar Standard**

Kenen (1983) states that the classic three functions of domestic money can be transferred to the international level for the dollar: store of value, medium of exchange and unit of account. However, I will only focus on foreign exchange reserves held by central banks, dollarization, and pricing of commodities. Before touching upon these topics I will evaluate the merits of the current system.

### **2.1 The benefits**

Some figures help to fully understand the impact of the dollar on the global economy: 52 countries in the world (37% of world output) have a currency with an important link to the US dollar, in the form of legal tender, dollar-based currency board, or hard peg (Starr, 2004). Overseas demand for the dollar is so strong that, in the mid-1990s, it was estimated that 2/3 of newly issued currency was going overseas (Porter and Judson, 1996). Almost the 70% of the official foreign exchange reserves are held in dollar, mainly because of its high degree of liquidity (Figure 1). In the last decade the share of Euro reserves increased to the detriment of sterling and yen rather than of the dollar, whose share was almost constant. Moreover, 80-90% of the international transactions are invoiced in dollars, especially for undifferentiated goods like primary commodities. A striking example is Korea: 85% of Korean exports and 80% of its imports are invoiced in dollars (McKinnon, 2004). Finally the vast majority of net issuance of net debt securities is in dollars, with an increasing role of the Euro (Starr (2004)).

Figure 1: Reserve composition



Besides Mundell (2005) points out that since the introduction of flexible exchange rates the world economy has been characterized by a pronounced dollar cycle; for instance, during the Seventies, in a period of weak dollar, we had two-digit-inflation, low real interest rates, soaring oil and gold prices, while the opposite happened in the Eighties with a strong dollar.

From an economic point of view, the international currency status of the dollar is a natural monopoly. In a world characterized by  $n$  currencies, if one of them, the  $n$ -th, becomes the vehicle money, you save a lot in terms of transaction costs, when organizing private interbank exchange markets: there will be  $n-1$  active markets instead of  $(n*(n-1))/2$  (McKinnon, 2005).

A similar pattern justifies the use of the dollar to invoice primary commodities, easing spot trading and, particularly, forward contracting. Nevertheless, the network externalities, in the form of scope economies, can explain why trade in goods among countries different from the US takes place in dollars (the case of Korea).

The above considerations can explain why an international currency can be useful but not why the dollar was the choice. The reasons can be summarized as follows: patterns of trade, US financial markets, and confidence in the value of the currency (Chinn and Frankel, 2006). It is not a case that the US are still the largest economy in the world in terms of output and trade.

Moreover the American financial market was open, free of controls, deep and well developed. A large financial sector and a credible central bank could counterbalance the political influence of the trade sector, avoiding competitive depreciation and giving credibility to the system.

The confidence in the American monetary policy is certainly very strong, otherwise you could not explain the huge number of dollarized countries around the world. Many emerging countries gave up their currency, permanently or temporarily, adopting the dollar as official currency (sometimes alongside with the national one), in order to solve problems of time inconsistency of the monetary policy: Argentina, for example, in the period 1992-2001 established a currency board, while Ecuador and Salvador adopted the dollar as official mean of exchange (Starr, 2004).

As Calvo and Reinhart (2000) point out, many countries are unwilling to let their currency float freely against the dollar, to avoid high rate of pass through of those fluctuations in domestic prices. The US have the privilege to conduct independently their own monetary policy, obliging other countries to target their dollar exchange rates. The reason is simple: foreigners are against depreciations because of long-term inflationary pressures and against appreciations for fear of losing mercantile competitiveness in the short and medium-term. This can explain why it is unlikely that central banks all over the world will stop accumulating reserves in dollars through purchases of US Treasury securities (McKinnon, 2001). Willy-nilly foreign governments will be creditors of the US.

Up to this point it seems we are living in the best possible world: the dollar generates scale economies reducing the number of inter-banking and commodities markets, creates network externalities, provides credibility and stability both in terms of time consistency and trade competitiveness. If it is so, there is no reason to criticize the current system, looking for an alternative. However, the above tale is only part of the story; in the next section considerations about the international financial position of the US will show how fragile and unfit is the current system.

## **2.2 The Triffin dilemma**

As I outlined in the introduction, whatever affects the dollar can have devastating effects on the world economy, what I called the Triffin dilemma. Even if this idea was coined under a completely different monetary system, characterized by fixed exchange rates, I think it is still useful to describe the fragilities of the current system due to the double role of the dollar as national and international currency. In what follows I will analyse few examples: price of commodities, dollarization, and the international financial position of the US. All of these arguments are well-known but they are essential to understand the rational behind my proposal.

### 2.2.1 Price of commodities

As I stated above, the pricing of all standard commodities, oil included, are carried out in dollars. Let's consider two kinds of goods: manufactures and commodities. The former are determined by production costs in the country of origin and are denominated in the local currency. The prices of standard commodities are determined by demand and supply in a truly supranational market, and are denominated in dollars. *Ceteris paribus*, if the dollar prices of commodities and the national currency prices of manufacturing do not change, then any change in the dollar exchange rates has two different effects: on the one hand it changes the terms of trade between the US and other countries, on the other hand it affects the terms of trade between any pair of countries (the higher the relative proportion of dollar goods involved in their trade, the higher the effect of the exchange rate) (Schulmeister, 2000 and Davidson 1992). Therefore changes in the exchange rates affect also income distribution.

Theoretically, if oil prices are sticky, a dollar devaluation decreases drilling activities in oil producing countries, whose costs are expressed in local currency; their dollars revenues, once transformed in local currency, would not be enough to cover the costs. So, those countries will face a reduction in their purchasing power. At the same time there will be an increase in the demand for oil by countries whose currencies are appreciating and there will be pressures on oil prices<sup>1</sup>.

In the short-term, US dollar depreciation does not affect supply and demand, but it does affect speculation and investment in oil futures markets. As the US dollar declines, commodities — including oil — attract investors. Investing in futures becomes both a hedge against a weakening US dollar and an investment vehicle that could yield substantial profit.

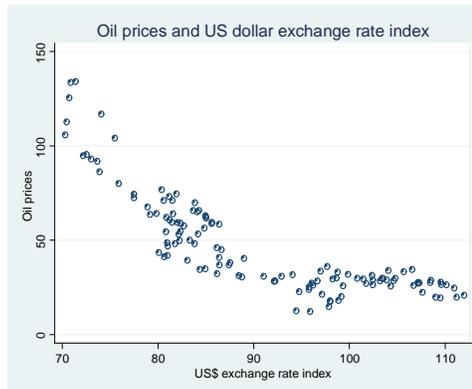
In the long-term, two scenarios are likely, depending on the monopolistic power. Net exporters of commodities will try to increase export prices as much as they can in order to offset the negative effect of the devaluation. In theory, if their market power is high they could try to increase the prices more than the value of the devaluation. If the oligopolistic power is low, a depreciation will imply a reduction in the production of commodities, reducing the supply and increasing the commodity price. On the demand side there could be pressures on the prices in the same direction: consumers in non dollar-appreciating currencies enjoy cheap oil. The result would be the same: oil prices will go up with some lags.

Monthly data of oil prices for the period 1999-2008 from Fred2 dataset,

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<sup>1</sup>Based on the Middle East Economic Survey (2008).

Figure 2: Oil prices and exchange rates

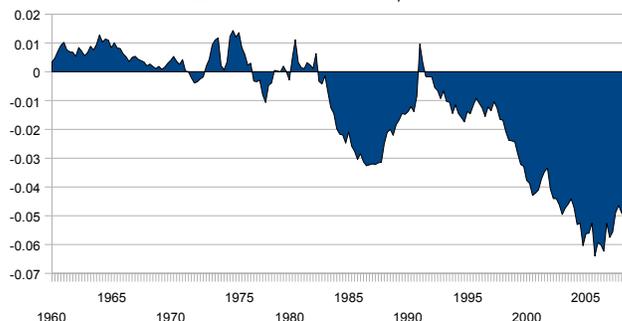


suggest a negative relationship between the dollar exchange rate index and oil prices (Figure 2), confirming the theoretical framework sketched above. The lower the index (and so the weaker the dollar), the higher the oil prices. The slope coefficient of the below figure is  $-1,89$ , suggesting a strong negative reaction of oil prices to dollar depreciation. Even if there could be problems of reverse causality, the relationship seems quite strong. Back to the Seventies something similar happened, since between 1971-1973 the dollar lost 25% of its value relative to DM, yen French franc and British pound. The dollar prices of manufacturing in international trade increased, and oil producers more than tripled oil prices late in the 1973, thanks to the oligopolistic power of the OPEC (Schulmeister, 2000). The real exchange rate was affected, since the increase of oil prices was bigger than the change in the exchange rate. In conclusion dollar dramatically affects oil prices, with repercussions on the rest of the world in terms of aggregate income and inflation.

### 2.2.2 Dollarization and debt accumulation

Now I switch to dollarization, a policy used to solve the time inconsistency problem of the monetary policy in emerging economies. A strong form of dollarization implies the adoption of the dollar as national currency. Many economists do not think this is a good strategy, since dollarized countries lose their monetary policy, the exchange rate as real shock absorber, and the seigniorage. Moreover, they would not have a lender of last resort, and the dollarization would be almost irreversible, since it would be very hard to introduce again the local currency with the needed credibility (Sachs and Larrain, 1999). Unless the domestic economy is highly integrated with the American one, the US monetary policy could harm the country. The story is always the same: the FED

Figure 3: US CA/GDP



pursues the interest of the US, without caring about the destiny of the dollarized country.

A weaker form of dollarization is the issue of debt in foreign currency (mainly dollar) for developing countries; apparently it is less invasive compared to the former, but it can actually have devastating effects. A striking example is the Asian crisis: a devaluation of the local currency increased the value of the debt in real terms, creating balance sheet mismatches, fear and an escape of foreign capitals. Even if being the anchor of the system implies a high responsibility, in this case the US cannot be blamed, since the governments of the dollarized countries are in charge of pursuing credible and not inflationary policies.

### 2.2.3 The international financial position of the US

As figure 3 shows, the US current account deficit started soon after the Smithsonian Agreements. From the 1970s on, the US started to be the largest debtor in the world. In the last decade the deficits increased dramatically and their funding was possible thanks to the massive purchases of dollar denominated assets by foreign central banks, mainly Asian. To have a sense of the situation, some figures can help: according to Roubini and Setser (2005), in 2003 world's central banks added \$400 billions of dollar reserves, financing the 90% of the US current account deficits. This situation led some economists to speak about a Bretton Wood II, since Asian economies tie their currency to the US dollar, like during Bretton Wood Europe and Japan did. Both Asia and US gain from this situation: the former can sustain an export-led growth, absorbing workers from the poorest agricultural areas, and the latter can rely on domestic demand to drive its growth.

However, what is happening is not surprising but it intrinsically derives from the special position of the dollar in the international monetary system. Being anchor of the system benefits the Americans with

seigniorage revenues, that are defined as “the “exorbitant privilege” of being able to borrow abroad large amounts of its currency at low interest rates while earning much higher returns on FDI and other investments in other countries” (Chinn and Frankel, 2005). In other words the US are the world’s banker. In theory the US credit line with the rest of the world is indefinitely long, and so the temptation for the American consumers to keep on borrowing is very high.

One of the basic lesson of economic theory is that there are no free lunch, and, therefore, running current account deficits must have side effects. On the one hand, high leveraged households and firms face a declining creditworthiness; on the other hand protectionism pressures will be stronger and stronger since massive imports erode the American industrial base (McKinnon, 2001). The current financial crisis stressed how problematic can be a system with highly leveraged economic actors. Even if many political leaders started to make pressure for a rethinking of the system, the faith in the dollar still holds; in the near future the situation could change and all the fragilities of the system could come out.

Now it is important to answer some questions: is the current monetary system sustainable? What could be the side effects of a loss of credibility of the system? According to Roubini et al. (2005), at the current interest rates, US dollar assets do not fully compensate foreign investors for future likely dollar devaluations; therefore financing America is more a burden than an opportunity. That could explain why the main lenders are foreign central banks rather than private investors. Such a situation is sustainable only if foreign central banks are willing to continue with these policies.

However, some countries, mainly China and Japan, are disproportionately over-funding the US, creating risk of inflations in their countries. Roubini et al (2005) think that if one of the over-financing central banks gave up this policy, there would be a chain effect, and all the other central banks would try to get rid of their dollars to avoid currency losses. If the Asian monetary authorities changed their policy, the most realistic scenario would be a strong devaluation of the dollar, an increase of the long term interest rates, a fall in the price of many risky assets (equities, housing), and a slowdown of the American economy. At the world level there would be negative externalities, since countries, whose growth relies on exports, would face a reduction in their GDP.

According to a study by Broda et al (2009), the sub-prime crisis seems to make tottering the entire system. Firstly there is an increase of the home bias, mainly among private investors. Moreover, a "saving drain" is taking the place of the “saving glut” of the last decade: the bursting of

oil bubble and China's shift towards domestic sources of growth, coupled with Japan's falling savings and a collapse in international trade, will reduce the funding resources from global lenders.

### **3 Towards a new financial order: the debate**

In the above section I showed how dollarization, commodity prices and the international financial position of the US are big shortcomings of the current monetary system. My proposal tries to deal with all of them and is based on the two opposite concepts of regionalization and globalization: some time in the not-too-distant future the US, the Eurozone, the UK, Canada and Japan should consider to adopt a common currency, in order to reduce the volatility in commodity prices and to solve the problem of the international financial position of the US (global currency). At the same time, in the rest of the world, monetary unions among countries with similar economic structures should be created: the externality effect and the time inconsistency problem would be solved, the seigniorage would be saved and the exchange rate could perform its duty of real shock absorber for all the currency area (regional currencies). We would end up with a sort of solar system: the global currency would be the focus and all the regional currencies would rotate around it.

The system would be characterized by a high degree of democracy, since all the countries would have a decision weight either at the regional or at the global level. Finally, the world would still benefit from a global currency but its management would be truly global and not national.

My proposal gets into two different debates: the global currency and the OCA literature<sup>2</sup>. However it moves away from them in many respects. Firstly, the OCA literature stresses how a common currency can be useful to reduce the transaction costs, easing trade among countries affected by similar shocks and with a high degree of labour mobility. The advocates of the global currency, instead, point out many fragilities of the flexible exchange rate system; in particular, the experience of the last three decades, characterized by a volatility of the exchange rates in excess of what would be warranted based on economic fundamentals, contrasts with the idea of a smoothly and constant adjustment of the exchange rates in response to inflation differentials (Cooper, 2005 and Mundell, 2005).

As it should be clear, the aim of my proposal is to make the system more stable and not to ease trade among countries; it could be a side effects, not the target. Moreover, I do not think that suppressing the

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<sup>2</sup>For a complete review of the first kind of literature check Starr(2004); for the OCA literature check Alesina and Barro (2002), Bayoumi and Eichengreen (1992),(1994), (1996a), (1996b).

exchange rate as a shock absorber would be a good strategy. That's the sense for regional currencies. It would be silly to think that all countries gave up their own currency, especially developing economies, in which adjustment mechanisms through prices and wages are even more inefficient than in the developed ones. However, a currency union among them could solve the problems due to dollarization. So, I support only a rationalization of the current situation, as Krugman (1999) would say: "Let a hundred currencies bloom. Well maybe 20 or 30".

Moreover, the OCA framework is unfit since based on ex ante considerations. In the OCA literature the degree of trade exchanges, labour mobility and asymmetric shocks are the discriminants. However, as Frankel and Rose (1998) and Rose (2000) showed, trade and the correlation of the business cycles are endogenous; so, it is likely that a currency union can push up the integration among economies, creating, ex post, the conditions for an OCA. Currency unions, increasing the integration among economies, generate more synchronized movements of output and smaller changes of relative prices (Engel and Rose, 2000).

Finally the majority of the existing works underestimates the importance of a collective management of the common currency. Many economists think that a world in which the number of currencies is equal to the number of independent countries is highly inefficient (Alesina and Barro, 2001); in their opinion, developing countries should adopt the currency of another country in order to control inflation and to reduce the mismanagement of the public finance. However, the cost of not having decision power on the monetary choice of the anchor country is too high. For instance Alesina et al. (2000) suggest the creation of monetary unions around the dollar, euro and yen, without stressing the importance of a direct participation in the monetary decisions. I suggest, by contrast, a collective management of the global and regional currencies, in order to make the system more democratic.

## 4 The proposal

Regionalization and globalization are the two forces that should lead the world towards a new financial order. The Leitmotiv of the paper was the Triffin dilemma; as I already mentioned the best way to cope with it is to create a collective management of the key currency, in order to offset the problem of representativeness lack of the current system. In what follows I will consider separately both of them.

### 4.1 The Global Money

Canada, the US, Japan, the UK, and the Euro-zone should consider establishing a common currency, with the aim to create a sort of mone-

tary union at the global level, in which the value of each currency with respect to the others is fixed and not adjustable<sup>3</sup>.

There should be a common Monetary Authority, whose decision-making body should consist of representatives of the participating areas and would be held accountable by their governments. To make the system as democratic as possible, each currency should have a vote proportionate to the GDP of the area. The countries of the Euro-zone (maybe UK included) could have a unique representative in order to contrast the power of the US. The monetary authority should issue the new currency and direct the monetary policy. In order to avoid opportunistic behaviour by single countries it is important to give up the national currencies<sup>4</sup>. Moreover the members should agree on an inflation target, a common index for measuring inflation, and a mechanism to redistribute seigniorage (it could be proportionate to equity in the new central bank).

What about the economics of the proposal? First, the involved economies are all large, highly diversified, open to trade and therefore the likelihood that asymmetric shocks affect them differently is low. Cooper (2005) highlights that asymmetrical monetary shocks disappear with a common currency: the adjustment costs due to diverse monetary policies and diverse expectations about future movements of the exchange rates would be eliminated.

Secondly the global currency would offset two out of three causes of the externality effects I considered above. The involved economies are the main consumers of oil; if oil prices were invoiced in the new currency and the exchange rate of the new money were fixed against those of the major oil producers, then gyrations of the exchange rate would not affect oil prices. In theory something similar could be already done (and partially it is done): oil producer countries could fix their exchange rate with the dollar. Fixing the exchange rate with the dollar, would eliminate the uncertainty about covering the production costs expressed in local currency. In that case there would still be the spillovers, because, if the dollar moves up or down with respect to other currencies, there would be indirect changes in the terms of trade with other countries. So, oil producers should hope that the US fix all their exchange rates, but it seems even more unrealistic of the proposal itself. With the global money, instead, there could still be movements in oil prices because of

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<sup>3</sup>Cooper (2005) made a similar proposal for the main economies considering only Japan, the Euro-zone and the US.

<sup>4</sup>An alternative system would be to define the new currency in terms of gold, as in the Bretton Wood fashion. However as Mundell (2005) points out there is no price of gold anywhere near current price levels that would make possible to convert the trillions of dollars claims into the precious metal. Therefore an agreement towards fixed and irreversible exchange rates would be the easiest solution.

exchange rate gyrations, but they would be rare. Oil producers should manage just one exchange rate, without being concerned about indirect changes in value of the other currencies (of the main oil consumers) with the dollar.

Such a policy would solve the problems of the international financial position of the US, that, of course, would bear a high cost, creating an obstacle to the implementation of the project. The US would lose the "exorbitant privilege" and central banks of the developing countries could differentiate their investments abroad, buying assets denominated in the new currency and issued by each member country, still preserving the value of their currencies. Thanks to a more equilibrated investment strategy, there would not be overinvestment in only one economy, and the current American imbalances would be avoided. The financial system would be more stable, since, the world should not rely on the willingness of the Asian central banks to fund American excessive consumption.

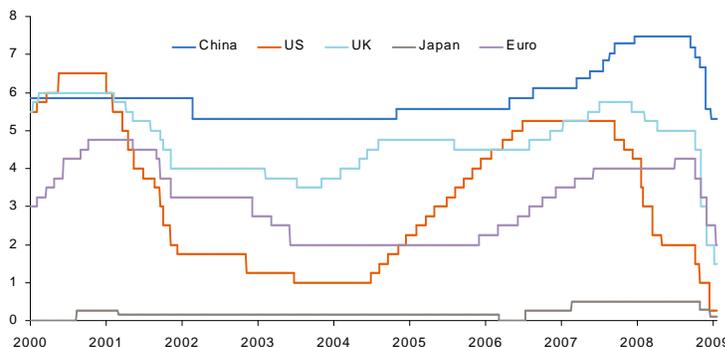
Finally, it is important to consider the loss of independent monetary policy for the members of the union. Before addressing the point, let's ask ourselves: Are now the monetary policies really independent? Look at figure 4 and the answer will be obvious: no. This is so because the degree of integration is very high and the biggest shocks affect these economies symmetrically. As Calvo and Reinhart (2000) point out, the "fear of floating" leads many countries to follow passively the American monetary policy, to avoid high rate of pass through of exchange rate fluctuations in domestic prices.

Moreover, Alesina and Barro (2001) highlight that the loss of monetary policy is not an important issue because nowadays central banks around the world are mainly focused on price stability rather than on active macroeconomic stabilization. The loss of monetary policy could induce a virtuous process inside the country: exchange rate flexibility is not a substitute for price flexibility. Efficient markets require thousands of flexible prices and the exchange rate provides only one price (Mundell(2001)). The absence of the exchange rate adjustment-mechanism, could develop other mechanisms: higher price-wage flexibility, regulation and so on.

## **4.2 The regional money**

In the first section I analysed a weak and a strong form of dollarization. The latter is when a developing country gives up its money and adopts the dollar; the former consists in balance sheet mismatches due to issuing debt in dollar and lending in local currency. The first is dangerous, because, if the business cycles of the client and anchor are not highly correlated, the monetary policy of the US could have devastating effects

Figure 4: Interest rates fixed by the central banks in some countries.



on the local economy. The second, instead, could lead to an increase of the real debt for the client if there are pressures on the local currency that lead to a depreciation. This is what happened during the Asian crises and it explains why the Economist (1998) called for a global money.

Of course dollarizing developing countries is not the best strategy because of opportunistic behaviours of the anchor. At the same time these countries are affected by time inconsistency of the monetary policy since local governments try to over-stimulate the economy or to issue debt printing money. Therefore, regional monetary unions could easily solve it (Sachs and Larraine, 1999). A democratic and independent monetary authority should be in charge of the monetary policy of the union, and the members should give up their local currencies to avoid the temptation of devaluation. The members should agree on a reasonable inflation target and the governments could hardly collude trying to pursue expansionary monetary policy. A more integrated financial market would ease the collection of capital and it would make possible to issue debt abroad in the new money because of the credibility of the common monetary authority. So, both the problems due to dollarization would be solved.

Besides, you should consider other four benefits. Firstly, a monetary union implies the presence of a lender of last resort, that could improve the stability of the financial system. Secondly, being client of the US, implies a loss in terms of seigniorage, that would be avoided with a proportional redistribution of seigniorage revenues inside the union. Thirdly, member economies would be more integrated and trade among them would increase. Finally, developing countries could still use the exchange rate as real shock absorber, since the price-wage adjustment mechanisms are highly unreliable in these economies.

### 4.3 The transition

A transition step is essential to minimize the adjustment costs due to passing from one system to the other one. I will start by considering what I called the global currency: imagine a transitory monetary system, in which for each currency you determine a target exchange rate based on PPP of wholesale prices, with a permissible band of 10% around this rate. Cooper (2005) and Mckinnon (1984) suggest wholesale prices to guarantee flexibility to the system. Real wages could still move up or down, since the monetary policy would care only about the producer price index, leaving room to differentials in consumer prices. Otherwise, if the target was the consumer price index, flexibility in exchange rates would be essential since wages are inflexible downward. However, flexible exchange rates are not the object of the proposal.

Over time a growing confidence in the system should lead to narrow the width of the band. Cooper (2005) suggests that the monetary authorities of the member countries should commit to stabilize their own domestic wholesale prices. Another point for the wholesale price index is that it is mainly composed of tradable goods and all the central banks should focus on almost the same index. Obviously, there would be inflation at the consumer price level, but it would be a good news since it could generate the needed flexibility, allowing each economy to react to asymmetric shocks. Success in stabilizing producer prices could lead to a convergence in expectations about exchange rates.

Because of the great American imbalances, the globalization and regionalization process should take place separately. Americans should try to increase the total savings of the economy and the Asian central banks should gradually invert their investment strategy. If the process will be well managed, there would be only a short recession.

For the regional currencies the transition path could be similar; since their trade is less differentiated compared to developed countries, you could consider a price index composed of the main traded goods among the members of the future unions. Lastly, since the exchange rates with the dollar determines the paths of all the others, the central banks of these countries should commit to fix their exchange rates with respect to the dollar; as above, they should choose oscillating bands, that could be narrowed over time.

## 5 Conclusion

The paper highlighted three of the main points of weakness of the current financial system, characterized by the double role of the dollar as national and international currency. The Triffin dilemma, coined in the Sixties,

still applies to the current system. In particular I focused on commodity prices, dollarization, and the international financial position of the US.

Most of the economists agree on these problems but my policy proposal is slightly different from the common view. Few economists (Cooper, Mundell) believe that the best solution would be the creation of a global money; many others (Barro, Alesina) think that it would be good to create monetary unions around the main three currencies (yen, euro, and dollar). My proposal suggests the formation of a global money limited to the main economies, in order to have a more stable and a more democratic anchor of the system: having an international currency generates scale economies, network externalities, and credibility.

However, a unique money would be dangerous because would not give enough flexibility to developing countries; at the same time, currency unions around the three main economies would not give enough decision weight to them. Creating regional monetary unions in less developed countries would be a good alternative: the Triffin dilemma and the time inconsistency problem would be solved, the seigniorage would be saved and the exchange rate could perform its duty of real shock absorber for all the currency area.

Future research should try to study what economies are suitable to share a common currency and the best ways to drive the transition process.

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