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The Triffin Dilemma Again

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Abstract Tiny changes in the American monetary policy can have dramatic effects on the rest of the world because of dollar's double role of national and international currency. This is the Triffin dilemma. The paper shows how it works through three examples: price of commodities, dollarization, and the international financial position of the US. And it makes a proposal to solve these issues, creating a more stable monetary system. In particular, it suggests the creation of an international monetary system of block regional currencies. Globalization and regionalization should be the two forces leading towards the new monetary system. The US and Europe should consider to adopt the same currency through a system of fixed exchange rates (global currency). This currency should perform its duty of anchor of the system, reducing global imbalances and gyrations in price of commodities. Developing countries, by contrast, should create regional monetary unions (regional currencies), preserving the real exchange rate as shock absorber, but gaining in terms of time consistency and credibility.

JEL F33

Keywords Triffin dilemma; global currency; regional monetary union; dollarization

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1 Introduction

In difficult time people are allowed, even encouraged, to think the unthinkable. The ongoing financial crisis certainly represents a good opportunity to give vent to your imagination. Financial regulation aside, many international organizations, such as the United Nations (2009) and the International Monetary Fund (as summarized by Mateos y Lago et al., 2009), see at the root of the financial market turmoil flaws in the international monetary system, that can be summarized in the so called Triffin dilemma.

It simply states that when a national currency, such as the dollar, is used in pricing primary commodities, trade settlements, and is globally adopted as reserve currency, there are fundamental conflicts between short-term domestic and long-term international economic objectives (Chinn and Frankel 2006). While benefiting from a widely accepted reserve currency, the globalization also suffers from the flaws of such a system. The frequency and increasing intensity of financial crises following the collapse of the Bretton Woods regime suggests the costs of such a system to the world may have exceeded its benefits (Xiaochuan, 2009).

Zhou Xiaochuan (2009), governor of the People Bank of China, recently emphasized these flaws and suggested to replace the dollar as reserve currency with the SDRs issued by the IMF. Unthinkable? Perhaps in the short run, because of American unwillingness to renounce to the exorbitant privilege of being anchor of the system, but in the medium run pressures from developing countries and advanced economies could make it political feasible. Really to think the unthinkable you need to be bolder than this.

So here is a proposal: An international monetary system of block regional currencies. Imagining a world *without* political constraints, globalization and regionalization should be the two forces leading towards the new monetary system. Europe and the US should consider adopting the same currency through a system of fixed exchange rates (henceforth “global currency”). At the same time, developing countries should create regional monetary unions (henceforth “regional currencies”).

Few authors suggested some form of agreement among the main economies in order to create a global currency (Cooper, 2004; Mundell, 2001). However, to the best of my knowledge, nobody noted that to eliminate the temptation of following national interests it is necessary to give up the national ones and not simply to fix

their exchange rates against the new global unit of account. For instance, Bretton Wood collapsed when the US started following expansionary fiscal policies to finance Vietnam war. And 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.

The paper is organized as follows. In the first section I will illustrate the main flaws of the current system, focusing on the price of commodities, dollarization and current global imbalances. The second section is devoted to my proposal and emphasizes costs and benefits, its functioning and discusses its political feasibility.

2 The Flaws of the International Monetary System

This section deals with three of the main flaws of the current monetary system, in part emphasized by Zhou Xiaochuan (2009). In particular, it will focus on the pricing of commodities, dollarization and global imbalances. This brief analysis will allow me to prove the rational of proposal, that moves away from the SDR based system suggested by the governor of the People Bank of China.

2.1 The International Financial Position of the US

The discrepancy between the size of the global market (i.e. economic borders) and the national dimension of economic policy (i.e. political borders) represents the main contradiction of the current monetary system, that is the Triffin dilemma. The reserve currency is a global public good, provided by a single country, the US, on the basis of domestic needs. This implies that the world easily experiences liquidity excess or shortage with negative spillovers for the real sector.

But not only. The current monetary *non-system* is the result of individual countries' choices among a broad menu of exchange rate regimes, ranging from monetary unions and hard pegs to freely floating rates (Saccomanni, 2010). Market pressures resulted in the gradual removal of capital controls, first in industrialized countries and then in the developing ones, easing the formation of global imbalances. These imbalances are generated by myopic and selfish economic policies implemented by emerging economies, that accumulate huge amounts of dollar reserves to react to sudden stops and speculative attacks against their domestic currency. This way interest rates are artificially kept low in the US, creating the conditions for speculative bubbles. The lack of international

coordination implies that all countries act in their self-interest, following exchange rate policies that impose negative externalities on their neighbors.

It comes as no surprise that in November 2008 the final declaration of the G-20 Summit emphasized that the global financial crisis was triggered by “inconsistent and insufficiently coordinated macroeconomic policies” (quoted by Suominen, 2010). Controversy still remains about the precise connection between global imbalances and the financial meltdown. Some economists argue that external imbalances had little or nothing to do with the crisis, which instead was the result of financial regulatory failures and policy errors. Others put forward various mechanisms through which global imbalances played a major role in causing the financial collapse (Obstfeld and Rogoff, 2009).

Even if global macroeconomic conditions were not at the origin of the crisis, they likely contributed to it. The building up of exceptionally large global imbalances in the last few years was an early symptom of growing risks faced by the global economy, that materialized very soon. Bini Smaghi (2008) reminds, for instance, the asymmetry characterizing the global financial system, the asymmetries in the international monetary system and insufficient macroeconomic discipline.

The current crisis and the global imbalances are the result of the discrepancy between economic and political borders sketched above. On the one hand, American aggregate national saving declined over the 2000s because of a strong reliance on foreign financing. The United States’ ability to finance macroeconomic imbalances through easy foreign borrowing, the so called exorbitant privilege, allowed it to postpone tough policies. Therefore, wrong policies and distortions that influenced the transmission of such policies through the U.S. and global financial markets are at the root of the crisis (Obstfeld and Rogoff, 2009).

On the other hand, Asian central banks, especially the Chinese, accumulated reserves more than justifiable insurance motives would suggest. Foreign banks’ appetite for assets that turned out to be toxic provided one ready source of external funding for the U.S. deficit (Blanchard and Milesi-Ferretti, 2009). As Obstfeld and Rogoff (2009) remark:

“Not only the U.S. were able to borrow in dollars at nominal interest rates kept low by a loose monetary stance. Also exchange rate and other asset-price movements kept U.S. net foreign liabilities growing at a rate far below the cumulative U.S. current account deficit, while countries with current account surpluses faced minimal pressures to adjust. China’s ability to sterilize the immense reserve purchases it placed in U.S. markets allowed it to maintain an undervalued currency and defer rebalancing its own economy. Complementary

policy distortions therefore kept China artificially far from its lower autarky interest rate and the U.S. artificially far from its higher autarky interest rate."

But a similar system is not sustainable. According to Roubini and Saetser (2005), at the current interest rates, US dollar assets do not fully compensate foreign investors for future likely dollar devaluations. 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 keep on these policies. And, as I will show later on, this economic instability brings about political tensions as well.

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

Summing up, part of the current crisis can be explained by global imbalances generated by an over-accumulation of dollar denominated assets aiming at preserving the exchange rate of emerging economies against the US dollar.

2.2 Pricing of Commodities

The pricing of all standard commodities, oil included, is carried out in dollars. A simple example can help to understand the effects of the American monetary policy on this market. Let's consider two 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, by contrast, are determined by demand and supply in a truly supranational market, and are denominated in dollars. *Ceteris paribus*, if dollar prices of commodities and the national currency prices of manufacturing do not change, then any variation of the dollar exchange rate 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; Davidson 1992). Therefore changes in the exchange rates affect also income distribution.

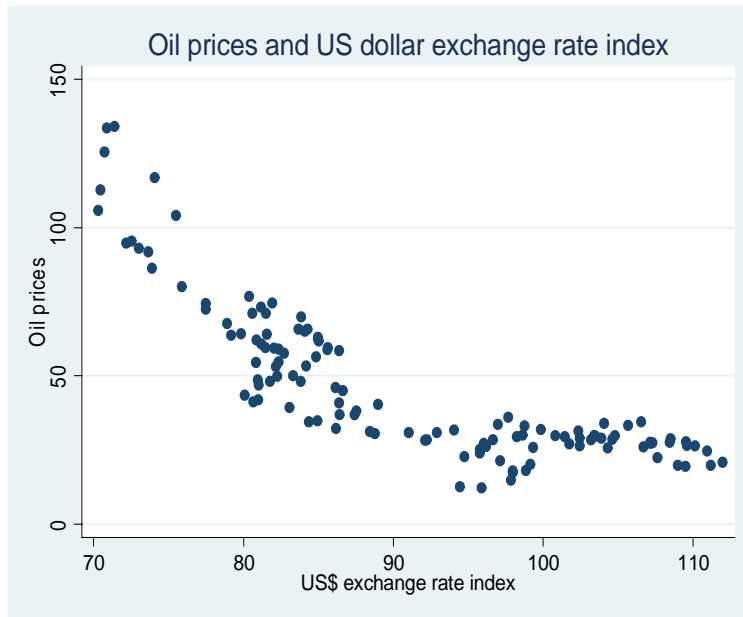
Theoretically, if oil prices are sticky, a dollar devaluation reduces drilling activities in oil producing countries, whose costs are expressed in local currency. Their dollar revenues, once converted in local currency, would not be enough to cover all costs. Therefore, these countries face a reduction in terms of purchasing power. At the same time, the increase in the demand for oil coming from countries whose currencies appreciated generates pressures on oil prices.

In the short run, a 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 (oil included) 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 run, two scenarios are likely, depending on the degree of monopolistic power. Net exporters of commodities try to increase export prices as much as they can to offset the negative effect of the devaluation. In theory, if their market power is high enough they could increase the prices more than the value of the devaluation. If the oligopolistic power is low, a depreciation leads to a reduction of the commodity's supply and to an increase of its price. On the demand side, there could be pressures on prices in the same direction. Eventually, oil prices go up.

Monthly data of oil prices for the period 1999–2008 from Fred (Federal Reserve Economic Data) dataset suggest a negative relationship between the dollar exchange rate index and oil prices (Figure 1), confirming the theoretical framework sketched above. The lower the index (and so the weaker the dollar), the higher the oil price. The slope coefficient is -1.89 and suggests a negative reaction by oil prices to dollar depreciation. Even if there could be undeniable problems of reverse causality, the relationship seems quite strong. Between 1971–1973 the dollar lost 25% of its value relative to DM, yen, French franc and British pound. 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 OPEC (Schulmeister, 2000). The increase of oil prices was bigger than the change in the exchange rate, affecting the real exchange rate. In conclusion, dollar gyrations affects oil prices, with side effects on the rest of the world both in terms of aggregate income and inflation.

Figure 1: Oil Prices and US Exchange Rate Index



Source: Fred (Federal Reserve Economic Data).

2.3 Dollarization and Debt Accumulation

In the post war era many developing countries have proved their inability in adopting credible and wise monetary policies, often leading to currency crises. Usually these crises are due to a time inconsistency problem or to lack of credibility of the policy makers. In the first case, a government adopts expansionary fiscal policies financed by printing money and depleting foreign reserves, threatening the sustainability of the fixed exchange rates (Krugman, 1979; Obstfeld, 1986). In the latter case, banks and firms in emerging economies borrow in dollars and lend in domestic currency, creating balance sheet mismatches, that can lead to a kind of crisis such as the Asian one. Foreign investors as well are unwilling to lend money in the local currency, since they are afraid of sudden depreciations. A devaluation of the local currency increases the

value of the debt in real terms, creating balance sheet mismatches, fear and an escape of foreign capitals (Krugman, 1998).

Dollarization is the usual orthodox solution to the problem (Alesina and Barro, 2001). Dollarization proponents (Calvo, 1999; Chang and Velasco, 2001) point out how both the time inconsistency problem and low credibility could be easily solved by introducing the US dollar (or euro) as official currency in developing countries. On the one hand, governments, deprived of the monetary policy, could not adopt inflationary policies aiming at “surprising” the economy. On the other hand, there would not be balance sheet mismatches, since both debts and credits would be expressed in the same currency.

However, there are several costs associated with this policy. Dollarized countries would 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 dollarization would be almost irreversible, since it would be very hard to re-establish the local currency with the needed credibility. Last but not least, if the business cycles are not highly correlated, the monetary policy adopted by the anchor could dramatically arm the client. Dollarization supporters usually undervalue these costs, saying that the alternative would be even worse and that they could be partially avoided through agreements between anchor and client (seigniorage revenues could be split between the two).

An alternative and unconventional view states that creating a regional monetary union among developing countries would better solve the problem (Sachs and Larraine, 1999). The argument is as follows. An independent and sovereign central bank in charge of keeping inflation close to a certain target should be created. In this case as well, national governments could not exploit the monetary policy, adopting inflationary policies; thus foreign investors would be induced to lend money in the new currency because of its consolidated credibility, avoiding balance sheet mismatches and creating a more integrated financial market. Moreover, the other costs due to dollarization would be avoided, since seigniorage could be proportionally distributed to the Members of the union, the exchange rate could still serve as a shock absorber, and the sovereign central bank could act as lender of last resort. This argument will be an essential pillar of my proposal later on.

3 Towards a New Financial Order

The above section showed how dollarization, commodity prices and the international financial position of the US represent the main flaws of the current monetary system. My proposal tries to deal with all of them and is based on a block of regional monetary unions.

Some time in the not-too-distant future the US and Europe should consider to adopt a common currency (*global currency*) to reduce the volatility in commodity prices and part of the global imbalances.¹ The global currency should aim at becoming the anchor of the system (that's the reason why I adopt the term "global") and its value with respect to each national currency should be fixed and not adjustable (like in the case of the Euro), in order to avoid opportunistic behaviors.²

The Common Monetary Authority should be formed by a decision-making body, consisting of representatives of the Member countries. To make the system as democratic as possible, each country should have a vote proportionate to the GDP of the area. The Monetary Authority should issue the new currency and direct the monetary policy. Moreover the Members should agree on an inflation target, a common index for measuring inflation, and a mechanism to redistribute seigniorage revenues. The world would still benefit from a reserve currency but its management would be truly supranational.

At the same time, the rest of the world should create monetary unions among countries with similar economic structures (*regional currencies*). This way the time inconsistency problem would be solved, the seigniorage would be preserved and the exchange rate could perform its duty of real shock absorber for all the currency area. In this case as well, an 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 tempting devaluations. They should also agree on a reasonable inflation target, making hard for the governments to collude pursuing expansionary monetary policies.

We would end up with a sort of solar system: The global currency would be the focus and all regional currencies would rotate around it.

¹ Cooper (2004) made a similar proposal for the main economies considering Japan, the Euro-zone and the US.

² In alternative you could define the new currency in terms of gold, as in the Bretton Wood fashion. However, as Mundell (2002) 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 represent the easiest solution.

3.1 The Economics of the Proposal

As I discussed in the second paragraph, the Triffin dilemma is due to a combination of lack of coordination and selfish policies. That analysis pointed out three main flaws. In particular, price of commodities and dollarization are two features of the system directly affected by the monetary choices of the anchor. By contrast, global imbalances are due to a combination of selfish policies implemented by both the anchor and developing countries that bring about overinvestment in the US. The final result is systemic instability.

Let's see how the proposal could solve the issue. First, the Members of the global currency are all large, highly diversified and open to trade economies. Therefore, the likelihood that asymmetric shocks affect them differently is low. As Cooper (2004) emphasizes, asymmetrical monetary shocks disappear with a common currency. It follows that the adjustment costs due to different monetary policies and diverse expectations about future movements of the exchange rates disappear.

Second, the global currency would offset two out of the three flaws. The Members of the global currency are the main consumers of oil.³ If oil prices were invoiced in the new currency and the exchange rate of the new currency 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 against the dollar, eliminating uncertainty concerning the coverage of production costs expressed in local currency. This way, however, there would still be negative 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.

To avoid this, the US should fix all their exchange rates, but it seems even more unrealistic than the proposal itself. With the global currency, by contrast, movements in oil prices due to exchange rate gyrations would be still likely, but rare. Oil producers should take into account just one exchange rate, without being concerned with indirect changes of relative prices of the other currencies (of the main oil consumers) against the dollar.

³ A careful reader would point out that China is one of the main oil consumers in the world. This is true. However, it is not included in the global currency because its economic structure is too different from those of the other Members and it would be unreasonable to put them together, because their monetary needs would not be the same.

A similar agreement would also solve part of the problems due to the international financial position of the US, that, of course, would bear a high cost, creating a political obstacle to the implementation of the global currency. Central banks of developing countries could differentiate their investments abroad, buying assets denominated in the new currency and issued by each Member. This way, developing countries would avoid to over-invest in just one country to preserve the value of their currency against the anchor. Thanks to a more differentiated investment strategy, at least part of the American imbalances would be avoided. And the financial system, as well, would be more stable, since, the world should not rely on the willingness of Asian central banks to fund American excessive consumption.

It is also essential to consider the effects due to the loss of monetary independency for the Members of the union. Alesina and Barro (2001) stress that this loss 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 in each Member economy, since 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 such as higher price-wage flexibility, regulation and so on.

The last flaw due to the time inconsistency problem in developing countries could be solved by the creation of regional currencies. With regards to dollarization, in the first section I analyzed a weak and a strong form. The latter consists in giving up the domestic currency and in adopting 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 on the local economy. The second, by contrast, could lead to a sudden increase of the real debt for the client if there are pressures on the local currency that lead to a depreciation.

Dollarizing developing countries is not the wisest strategy because of opportunistic behaviors of the anchor. At the same time these countries are affected by a time inconsistency problem of the monetary policy, since local governments try to over-stimulate the economy or to issue debt by printing money. Therefore, regional monetary unions could solve the issue (Sachs and Larraine, 1999). A more integrated regional financial market would facilitate the collection of capital for the Members of the monetary union, making possible to issue debt abroad in the new currency thanks to the established credibility of the new

common monetary authority. So, both the problems due to dollarization would be solved.

Furthermore, there are four other benefits. First, a monetary union implies the presence of a lender of last resort, that could improve the stability of the domestic financial market. Second, 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. Third, 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.

3.2 The Transition

A transition step would be essential to minimize the adjustment costs due switching 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 (2004) and McKinnon (1984) suggest wholesale prices to provide some flexibility to the system. Real wages could still move up or down, since 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. But flexible exchange rates are not the object of the proposal.

Over time a growing confidence in the system should narrow the width of the band. Cooper (2004) suggests that the monetary authorities of the Member countries should commit to stabilize their own domestic wholesale prices. Another reason for the wholesale price index is that it is mainly composed of tradable goods and all central banks could focus on almost the same index. Obviously, there would be inflation at consumer price level. But it would be good news since it could generate the required flexibility 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, globalization and regionalization processes should take place separately. Americans should try to increase their aggregate savings and Asian central banks should gradually invert their investment strategy. If the process will be managed correctly, there would be only a short recession.

For the regional currencies the transition path could be similar. Since their trade-patterns are less differentiated compared to developed countries, you could consider a price index composed of the main traded goods between the members of the future unions. Finally, since the exchange rates against the dollar determines the paths of all other rates, then central banks of these countries should commit themselves to fix their exchange rates with respect to the dollar. As above, they should choose oscillating band, that could be narrowed over time.

3.3 The Political Feasibility

Leaving aside the assumption of no-political constraints, this section deals with the political feasibility of the proposal. A monetary union among the US and Europe could appear unrealistic. But perhaps it is less unthinkable than one can imagine.

In 2006, German Chancellor Angela Merkel suggested the establishment of a transatlantic free trade area composed of the European Union and the United States (Rosecrance, 2010). The rationale of her proposal is clear. Throughout history States have sought to get larger through the use of force. Today, it is easier to enlarge the market through a trade agreement rather than a military expansion. The bigger the dimension of the market, the higher the stability of the domestic economy. The current financial crisis made clear this point showing how fragile and unstable are even the most advanced economies. Therefore, a transatlantic trade agreement could reduce the losses coming from new crises. Gaining greater markets abroad would represent a robust recovery strategy. If this was the case, then also Asian fast growing economies would try to follow the trend. It is not a case that China, Japan and South Korea joined an Asean +3 grouping in 1999 and Japan even suggested the creation of an Asian currency union (Rosecrance, 2010).

It is undeniable that signing a trade agreement is easier than establishing a currency union, because domestic currencies, especially the strongest one, are synonymous of nationalistic pride. In particular, it is hard to think that Americans will be willing to renounce to the greenback, losing their exorbitant privilege. However, a trade agreement between the US and Europe would be more efficient if associated to a currency union. As Frankel and Rose (1998) showed, currency unions increase their members' trade volume and growth. A benefit, that also the proudest American could hardly undervalue.

Finally, reforming the international monetary system could bring not only economic but also political stability. The current system is characterized by a “balance of financial terror”, quoting Joseph Nye (2010), analogous to the cold war when the US and the Soviet Union never used their potential to destroy each

other. The explanation is the following. Over time China amassed about \$2.5 trillion in foreign-exchange reserves much of it held in US Treasury securities. If Chinese bureaucrats decided to sell their dollars, then the effect would be catastrophic for the American economy, but also for China. The US, indeed, could not absorb Chinese imports, with great losses in terms of Chinese jobs. Therefore, to escape this prisoner's dilemma outcome, it could be useful for both sides to create a currency union between the US and Europe. On the one hand, China could diversify better its investments both in the US and in Europe. On the other one, the US would not run the risk of being under the knife of another power (China).

For completeness sake it is also important to emphasize the main political flaw of such a proposal. As the recent Greek crisis showed, the success of a currency union could be undermined if not associated to a strong political integration, at least in terms of fiscal policy. But imagining a political integration between the US and Europe or in other regions of the world is too visionary.

3.4 The Debate

This paper crosses the boundaries of different branches of the literature. In particular it gets into three different debates: the global currency, the OCA and the reform of the international monetary system literatures.⁴

But it moves away from them under many respects. First, the OCA literature stresses how a common currency ease trade among countries affected by idiosyncratic shocks and with a high degree of labor mobility. Advocates of the global currency, by contrast, point out the main flaws of the flexible exchange rate system such as a volatility of the exchange rates in excess of what would be warranted based on economic fundamentals (Cooper, 2004; Mundell, 2002).

The aim of my proposal is to make the system more stable and not to ease trade among countries. Moreover, suppressing the exchange rate as a real shock absorber would not be a good strategy. That's the rationale 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.

Moreover, the OCA framework is unfit since based on *ex ante* considerations. In the OCA literature the degree of trade exchanges, labor mobility and asymmetric shocks are key elements for the optimality of the agreement. However,

⁴ 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), (1996).

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.

Most of current research 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). According to their opinion, developing countries should adopt the currency of another country to control inflation and to reduce the mismanagement of public finances. However, the cost of not having decision power on the monetary choice of the anchor country is too high. For instance, Alesina et al. (2003) suggest the creation of monetary unions around the US dollar, euro and yen, without stressing the importance of a direct participation in monetary policy choices.

Finally, because of the dramatic effects of the current financial distress there is a growing literature suggesting a reform of the international monetary system (United Nations, 2009; Mateos y Lago et al., 2009). The orthodox view makes pressure for a reform of the SDRs issued by the IMF. But there would be many political obstacles. First, the IMF has been attacked by many developing countries for serving American and European interests. Second, the shareholding of China and other developing countries in the IMF is likely to rise in the future, but the US would not be willing to shift power from itself to a less American representative IMF (Aiyar, 2009). But even the IMF keeps the debate open, considering different options to address the tensions of the monetary system, such as a multiple currency system, a reform of the role of SDRs and even a global reserve currency (Mateos y Lago et al., 2009).

4 Conclusion

The paper emphasized three of the main flaws of the current financial system, characterized by the double role of the dollar as national and international currency, the so called Triffin dilemma. In particular, I focused on the pricing of commodities, dollarization, and the international financial position of the US. All economists agree on these issues but my policy proposal is slightly in contrast with the orthodox view. Few economists (Cooper, Mundell) believe that the best solution would be the creation of a global currency. Many others (Barro, Alesina)

think that it would be good to create monetary unions around the main world currencies (yen, euro, and dollar). My proposal suggests, by contrast, the formation of a global currency limited to the main economies to enhance the stability of the system. Having an international currency generates scale economies, network externalities, and credibility.

However, a unique international currency would not provide developing countries with the required flexibility. And at the same time, currency unions around the three main currencies would not give enough decision weight to them. Creating regional monetary unions in less developed countries, by contrast, would solve the issue. The time inconsistency problem would be solved, the seigniorage would be preserved and the exchange rate could still perform its duty of real shock absorber for all the currency area. And finally, the new monetary system could reduce part of the global political tensions.

It follows that world economic and political stability are less unthinkable than you can imagine. It is just a matter of willingness.

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