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How to manage global imbalances: some debates between economists (1940-1970)

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How to manage global imbalances: some debates between economists (1940-1970)

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Our paper is concerned with the history of economic and political ideas. It focuses on the debates between academics and higher officials which took place within two central periods and is based upon exploitation of original texts by these authors. The first one is related to the building and beginning of the Bretton Woods international monetary system and the second one developed during the crisis of this system in the late 1960s and early 1970s.

These debates center on two major issues. The first question concerns the international adjustment mechanism and the means of managing global imbalances while obtaining greater freedom for national economic policy and limiting the burden of adjustment. Was the exchange rate the most important variable in this field or were international reserves more important? Who has to support the burden of adjustment? The second question concerned the way of obtaining the stability of the exchange rates and more generally of other economic variables. Which regime is responsible for the destabilization resulting from speculation?

The following contribution is therefore composed of two sections, which can be summarised as follows.

1° The first section (I) studies the positions of Keynes and White, which were opposed during the preparations for the Bretton Woods System (BWS). An unpublished text by White[1] sheds light on his position, and in particular his defence of gold as global currency, the dollar being considered an imperfect substitute. In this respect he could not do other than oppose Keynes. On the other hand, this text reveals the extent to which White adopted an approach that considered exchange rates as the effect of monetary policy and which therefore required central banks and States to be vigilant as to their evolution and stability. White's "victory", as it were, can be explained by the fact that the Keynes Plan was extravagant, for at least two reasons. The first is explained in this section: the Keynes Plan quite simply did away with foreign exchanges markets, which represented quite a drastic treatment of the partisans of laissez-faire. Here we must emphasize a second reason. It is well-known (and Keynes knew better than anyone) that a monetary policy implies some form of fiscal policy.

[1] We thank P. Rojas (Paris - Dauphine University), who provided us with this text.

Supposing a sort of *global* fiscal policy, which is what the Keynes Plan did in reality, can only be understood within the very particular context of the period 1941/42, when the Atlantic Charter defined the outlines of the United Nations, conceived as a "society of nations" under the unified guidance of the victors of the war, above all the USA and the USSR. In a world where the Cold War had only been envisaged by a few secret German sympathisers, such a bright prospect was not absurd. But this world did not last for long.

2° Secondly, we study how the debate developed between "academics" for or against floating exchange rates at the time of the BWS crisis. At first glance, the advocates of floating exchange rates appear to have been theorising the position of the partisans of laissez-faire. The difficulties experienced by the latter in maintaining the fixity of exchange rates led to the emergence of an alternative theory affirming the efficiency of the foreign exchanges markets. This time, the partisans of laissez-faire appeared to have talented and influential spokespeople. The theory defended was that *if* the conditions necessary to the *existence*, unicity and stability of equilibrium on the foreign exchanges markets were satisfied, then the arbitrage performed by agents would allow this equilibrium to be reached all the more quickly since there was little reason to move away from it in the first place. This low level of deviation from equilibrium is one of the most important arguments put forward by the partisans of floating exchange rates in support of the stabilising nature of arbitrage. The fixity of exchange rates, on contrary, implies larger deviations and more abrupt movements (devaluations) which exacerbate the destabilisation provoked by speculators. This analysis was criticised by economists like Kindleberger, who highlighted the increasing importance of exchange risks and the coverage operations they require. The advantages and disadvantages of flexible exchange rates were studied by the Bellagio Group, who proposed a solution in favour of "limited flexibility", seeking to combine the advantages of both policies, while Triffin suggested alternative solutions, with little success (II).

Another field was opened to discussion, concerning the argument that flexible exchange rates favour policies of national independence, since fixed exchange rates imply the coordination of economic policies between the countries concerned, a requirement that flexible exchange rates would dispense with . This line of reasoning would be convincing, according to its opponents, if it did not suffer from the flaw inherent to the analysis of partial equilibrium (III).

Lastly, these debates addressed a major theoretical question. All the protagonists knew that a global economy can only function correctly with a global currency, and that a global currency was not on the agenda. Only one national currency (the dollar) could serve as global currency, and the BWS crisis simply showed that this system had reached its limits. The question was then to decide whether exchange rate flexibility could replace a global currency. Failing which, could coordination between the policies of central banks be sufficient? (IV).

As we know all, the last battle fought by Keynes was a lost battle.[2] It was the battle to create not only a post-Second World War world that would not reproduce the dramatic errors of 1918 and their consequences (Nazism, crises and the Great Depression) but also a stable international monetary system capable of providing economic agents with sufficient international liquidities. The Bretton Woods System (BWS) only partially fulfilled this purpose. During the Cold War, the liquidities the world needed were not supplied by the BWS, they were supplied by the Marshall Plan, under the pressure of the Soviet threat.

It is generally accepted (Skidelsky, 2000; Boughton, 2002) that Keynes "spent much of his energies during the war 'fighting for Britain' not against the Axis but against the ascending economic power of the United States". Correlatively, The White Plan is perceived as defending US interests. If this is right, the conclusion is inevitable: the balance of power entailed the defeat of Britain (and of Keynes). We know that this interpretation is partial, and D. Moggridge (1992) showed that the BWS was not the result of an ineluctable victory of US interests. We will show that It was the result of a conflict (and a final compromise) between three parties (and not two): Keynes, White and a third adversary, the anonymous "Laissez-faire" party.

The question is not whether Keynes and White were patriots or not.[3] The issue is to understand why Keynes, faced with the position of the business community, who was also adversary of the New Deal, was finally obliged to accept the White Plan (the BWS) as the lesser evil. We wish to explain a point that is not treated by Moggridge and Dostaler. Why did the banks and the business community feel threatened by the Keynes Plan?

The Keynes Plan and the White Plan were the result of the very difficult political position of these two economists just after the beginning of the war. In Europe, immediately after the defeat of the Allies in France, the Nazis had published a plan (the Funk plan) for the creation of a New Order for Europe, in principle radically different to the unjust order imposed by the Allies in the Treaty of Versailles and criticized by Keynes and not very far from Keynes' propositions made in the last chapter of the *Treatise on Money*. Then we will show the important difference between the Keynes Plan and the White Plan. Their secondary concerns may have been similar, but their primary concerns were completely different.

The primary concern of the Keynes Plan was the lack of international liquidity, responsible for the asymmetry between indebted countries and lender countries. The latter can cause economic depression in the former, which cannot repay their debts because they have no access to an international means of settlement. The secondary concern was the lack of coordination between monetary policies, blamed for causing the primary concern. An International Clearing Union (ICU) and a supranational currency (the "bancor") were the tools proposed to suppress this important cause of depression.

The primary concern of the White Plan was the lack of capital necessary to rebuild Europe and to invest in underdeveloped countries. The secondary concern was the lack of coordination between

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[2] Dostaler G. (2005).

[3] We are certain that Keynes and White believed that the interests of each nation are the same as the interests of all the nations of the world. They certainly believed that the international economic game is not a zero sum game. They were not mercantilist. We will not discuss this point, nor the venomous issue of White's relation with communism.

monetary policies. These two concerns were not well linked. Nonetheless, the International Bank for Reconstruction and Development (the World Bank) and the International Monetary Fund seemed appropriate tools to undertake this task.

Finally we will conclude by explaining why the final BWS was very far-removed from the Keynes Plan. The Keynes Plan called for the building of an international banking system around the ICU. This latter had a remarkable and singular feature that has rarely been acknowledged, as far as we know. The ICU would have drastically simplified foreign exchanges markets and forbidden speculation on these markets.. However, the White Plan and the BWS left room for active monetary policies. Finally, contrary to White's expectations, the World Bank never played a very important role in the reconstruction of Europe, and ironically, the Marshall Plan proved that Keynes was right and White was wrong.

The BWS itself is not easy to understand (today). On the one hand, it was "the nearest thing to a consciously designed international monetary system that the world has yet experienced" (Williamson, 1977, 1). On the other hand, its lack of consistency was striking. For example, it supposed a pegged and adjustable exchange rate system. As Eichengreen (1996, 94) wrote: "the adjustable peg proved to be an oxymoron". Each currency was defined in relation to the dollar; only the dollar was convertible to gold and only by central banks. Central banks could only change the rate of exchange with the dollar when a "fundamental disequilibrium" was offset by the IMF. However, nobody knows what the difference is between a "fundamental" and a "non-fundamental" disequilibrium.

In the same way, the "scarce currency clause" (Article VIII, 3) provided for possible sanctions against countries running a chronic surplus. This clause authorized the IMF to ration their currency, and members of the Fund could discriminate against the exports of such countries. This clause, of course, was never applied.

This lack of consistency is not surprising, because the BWS was a compromise. This compromise was complicated because it involved both practical and theoretical issues.

From a practical point of view, the US economy was evidently in the position of creditor and the British economy in the position of debtor. The compromise would allow the British to pay their debt without reproducing the errors of 1918.

From a theoretical point of view, the BWS was the result of a compromise between three positions.

a) Keynes's conception of international monetary relations. We will summarize his heterodoxy by his theory of liquidity preference: it is the lack of liquidity, and not the lack of capital which explains the crisis.

b) Harry White's conception. This is not completely known. However, the White Plan (Horsefeld [1969]) and an interesting unpublished document [4] (White, 1939-1940) allow us to call his ideas semi-heterodox. Like Keynes, White did not trust free competition to converge toward equilibrium on foreign exchange markets. He thought that monetary policy should be the

[4] We are grateful to Pierre Hernan Rojas who kindly communicated this text to me.

responsibility of the State, not the banking system. However, he believed that gold was the international money.

c) Finally, the doctrine of "laissez faire", whose advocates were quasi-anonymous and very powerful. The business community only accepted infractions to the principle of "laissez faire" in time of war, and strictly during those exceptional circumstances.

It is very easy to forget these theoretical and doctrinal dimensions if we suppose, like Boughton (2002), that Keynes was fighting for a *bilateral* approach preserving the interests of Britain – the imperial preference system, defended by the Conservative Party - and that White was fighting for a *multilateral* approach, in the spirit of the Atlantic Charter and the United Nations and in line with US policy which opposed any colonial empire.

To avoid neglecting these theoretical and doctrinal dimensions, we must follow Moggridge (1992), who shows that Keynesian ideas about international monetary relations were old (at least since *Indian Currency and Finance* and *The Treatise on Money*). The ideas that were to become the Keynes Plan were partially present in the Funk Plan (Funk, 1940), in July 1940. Here, the Reichsbank president and minister of economics of the Nazi government described the "New Order" imposed on defeated European countries. If local currencies subsisted, they could not be exchanged with each other. Any operation requiring foreign exchange must transit via the reichsmark. The Reichsbank would act as a clearing house. On these monetary bases, the New Order would create a new international division of labor, called "collaboration". The French regime of Vichy, agrarian and reactionary, accepted with alacrity this project of a rural France exchanging its agricultural produce for German industrial commodities. Of course the latter were not available; they were being accumulated in preparation for the attack on the Soviet Union.

When the British authorities became aware of this plan, Sir Harold Nicolson, of the Ministry of Information (married to Vita Sackville-West, the writer and friend of Virginia Woolf) asked Keynes to launch a campaign to counter Funk's proposals, in 1940 November. Keynes's answer was scathing:

"The dossier which you sent along with your letter seems to suggest we should do well to pose as champions of the pre-war economic *status quo* and outbid Funk by offering good old 1920-21 or 1930-33, i.e. gold standard or international exchange *laissez-faire* aggravated by heavy tariffs, unemployment, etc. etc. Is this particularly attractive propaganda? "If you think it is, I am certainly not the man to put it across. […] In my opinion about three-quarters of the passages quoted from the German broadcasts would be quite excellent if the name of Great Britain were substituted for Germany" (Keynes, *Collected Writings* [1980], 1-2).

Soon afterwards, Keynes responded to a similar request from Lord Halifax, the Secretary of State for Foreign Affairs and future Ambassador to the US. His answer was very clear. It was necessary to avoid the errors of 1919. Firstly, avoid the starvation of Germany, and secondly, find a solution to the problem of international liquidities. This second issue could only be resolved in concertation with the US. Evidently this bilateralism was the only one possible *because only two important monetary zones* existed at this date. For example, the *Union Latine* had disappeared in 1927, and the *Zone franc* in 1940. Other currencies were pegged to either the sterling zone or the dollar zone. The so-called bilateralism of Keynes was a consequence of the simple fact that international monetary

relations are relations between monetary zones and of the dramatic events of the time. There is no need to invoke an attempt to preserve a privileged position for the pound relative to the dollar.

In a first draft, Keynes criticized "the currency scheme of Dr. Funk. The Funk mark pretends to offer a stable currency for post-war purposes. How can this be so if it has no command of resources outside Europe? It has only one merit, namely that it avoids some of the abuses of the old *laissez-faire* international currency arrangements, whereby a country could be bankrupted, not because it lacked exportable goods, but merely because it lacked gold" (Keynes [1980], 12). Then Keynes explained what Germany's New Economic Order was: "a plan by which high-grade industry is to be mainly concentrated within Germany herself, the satellite and the tributary states being compelled to confine themselves to the kinds of production which suit the convenience of Germany and chiefly to agriculture, and by which the terms of exchange between Germany's high grade products and the output of the other states will be fixed so as to maintain a standard of life in Germany much above that of her neighbours". If the English version of the Funk Plan published on a website (Dr. Rath Health Foundation, which gives data about the links between I.G. Farben and the Nazis) is correct, the Funk Plan was perfectly unambiguous: "The price level will have to be adjusted to that of Germany. But a currency union will bring about a gradual leveling of living standards which even in the future *will not* and *should not* be the same for all the countries linked with the European clearing system" (our italics).

Keynes must have been very optimistic to expect, at the end of 1940, this association between Britain and the USA to lead to the building of a radically new monetary world. The power of the isolationist movement was great. It led Harry White, the Assistant to Morgenthau, to write an argument at the end of 1939 in favor of American assistance to France and Britain.

His text "Preliminary Draft. The Future of Gold" is conserved at Princeton University, in the *White Archives*. In it, White replies to adversaries who are not quoted. They were adversaries of the sale of commodities to the Allies, who argued that these sales only generated gold entries into the USA. France had gold reserves and the British Empire (South Africa) was the world's biggest producer of gold. So 1) those gold entries would continue during the war and 2) this gold had no purchasing power; for if it had any purchasing power, evidently it would not accumulate in the USA. These arguments are sound, yet they are misleading. If the USA helped the Allies against the Nazis, this help was not part of a normal commercial exchange, and the USA was virtually in a state of war. Of course White's adversaries denounced this situation. White's reply was not easy. He argued vaguely that the situation was temporary and that the American trade surplus would necessarily be cancelled. (White, 1939-1940, I, 11).

A second argument was that, in any case, gold had no monetary value. Gold became nothing more than a metal when bank money replaced species. Naturally, White accepted the idea that gold has no internal value: "its usefulness does not depend upon those domestic uses; gold really derives its importance as a monetary metal not from its use within a country but because of its utility as a medium of international exchange. Even much importance as it may be thought within a country derives largely from its utility as an international medium of exchange. In the performance of that function, gold is yet without peer".

If exchanges were always balanced, gold would be unnecessary (White, 1939-1940, II, 9-10).

However, international exchanges are never at equilibrium and international money is therefore necessary *as a count unit of assets and liabilities*. This argument is not very different to that of Hawtrey (1919), and up to this point, Keynes would perhaps agree. However, he would reject the immediate conclusion that: "Gold is the only medium that every country will willingly take".

According to White, "there are only four possible ways in which a country can keep its international accounts in balance *without resort to foreign borrowing*". They are:

1) "By adopting strict foreign exchange and/or import controls […]
2) By permitting fluctuation in exchange rates to take place freely […]
3) A third method is to conduct international trade exclusively on a barter basis […]
4) A fourth method is to permit trade to operate without any restrictions […] and depends entirely upon gold, as a means of settling any difference in the balance of payments […]

Most countries adopted a combination of the procedures to keep their international account in balance. […] But no matter what method or methods are used, all countries supplement those measures *by the use of some gold*" (White, A1939-1940, II, 15,16, 17, italics added).

White's thesis is therefore that convertible money is a necessary tool for the equilibrium of balance of payments, an equilibrium for which all governments have a duty to strive.[5] This neo-mercantilist position is not so far-removed from Thomas Mun's famous formula: "England's Treasure by Forraign Trade".

Now, could a national money or a basket of national moneys "as good as gold" (and not convertible) replace gold?

Of course White raised this question. And his answer was negative. If some countries (Sweden, Switzerland and Argentina) keep some their reserves of international means of payment in the form of a dollars balance or even US Government securities, it is because they are convertible into gold and because the United States has large reserves of gold to ensure this convertibility.

However, White added: "There may possibly come a time when gold will no longer retain its superiority over other devises, but it can only be when national monetary systems and national monetary policies cease to exist and are replaced by an inter-governmental authority which will decide the monetary, credit and trade policy that each nation is to pursue. A sort of monetary League of Nations which would control world economy policy. If and when that time arrives, gold possibly will no longer be needed to settle international balances" (White, 1939-1940, III, 11).

White was evidently very skeptical. A "monetary League of Nations" seems a pure dream. It supposes that countries abandon an important part of national sovereignty: "There is nothing in past history and certainly nothing in current events which gives assurance that a group of major countries will

[5] Note that White scarcely mentioned the international movement of capital, which is relegated, for example, to a footnote (White, 1939-1940, II, 13): "This is, of course, quite apart from the real possibility that a country may have an inflow of capital lasting over decades when justified by the long term investment situation".

agree to resign their sovereignty on so fundamental matter as the value or their currency in terms of other currencies" (ibid., 13).

So gold lost its internal monetary function because of the co-existence of a national banking system and a national monetary policy. It will lose its international monetary function if and only if those two conditions are met at the international level. And White knew that this was a long way off. We will see that the White Plan was drafted with these constraints in mind.

As we know, the year 1941 saw three major events that turned the European war into the Second World War, made the Allies' victory highly probable and required the preparation of new policies and new institutions to avoid the errors made at the end of the First World War. Those three events were the German attack on the Soviet Union, the Atlantic Charter and the Japanese attack on Pearl Harbor.

The Soviet Union's entry into the war radically changed the situation. If the Nazis won, Britain would be unable to continue the fight against an enemy with complete domination over Europe; if the Soviet Union won, Britain alone would be unable to stop the Red Army in Europe. Evidently, the Churchill and Roosevelt governments had to escape from this dilemma by all possible means. The Atlantic Charter – never presented to Congress – laid out the principles underlying the policies of the United Nations led by the USA and Britain. One of those principles was not to inflict starvation on Germany.[6]

Finally, the entry of the USA into the war completely changed the perspectives. Nobody knew how long the war would last, but everybody knew that victory could not escape the Allies.

It was in the context of the Atlantic Charter that Keynes built what was to become the Keynes Plan. This first draft is particularly interesting because it shows in a pure form the conditions of a full employment policy in an open economy. As a matter of fact, the Keynes plan concerned not only the postwar period, but also the normal regime of international monetary relations.

On 8 September 1941, Keynes wrote two memoranda. The first was entitled "Post-War Currency Policy" and began by setting out what seemed the most important issue: "the secular international problem", in other words "the problem of maintaining equilibrium in the balance of payments between countries. […] The failure to solve this problem has been a major cause of impoverishment and social discontent and even of wars and revolutions" (Keynes [1980], 21).

Keynes asserted that the only way to solve this problem was that used by Schacht in Germany: international bilateral barter. The Schacht "solution" is efficient. However, it is not a solution; it simply suppresses the "secular international problem" radically by returning to barter.

According to Keynes, the instability of the balance of payments equilibrium is provoked by the scarcity of international liquidities. An asymmetry exists between a creditor economy and a debtor economy. The creditor economy will make the debtor economy implement, by will or by force, a policy of economic austerity. The creditor is all the more insistent because there is no alternative

[6] The fourth point of the Charter says: "They" (USA and Britain represented by Roosevelt and Churchill) "will endeavour, with due respect for their existing obligations, to further the enjoyment by all States, great or small, victor or vainquished, of access, on equal terms, to the trade and to the raw materials of the world which are needed for their economic prosperity."

(such as borrowing from a banking system) to recover its debts. Evidently, this policy implies recession, and the debtor economy must increase its indebtedness instead of reducing it.

In the second text entitled "Proposals for an international currency union", Keynes proposed a fascinating alternative. He did not call for a world central bank; he proposed that foreign exchange markets should be organized by an "International Clearing Bank". This organization (which he later called the International Clearing Union or ICU) is smart[7]. It forbids (although how it does this is not clear) all agents from trading foreign currencies with any other agents. Currencies can only be exchanged at the Clearing Union, and only for bancors:

"The idea underlying such a Currency Union is simple, namely, to generalize the essential principle of banking, as it is exhibited within any closed system. The principle is the necessary equality of credits and debits, of assets and liabilities. If no credits can be removed outside the clearing system but only transferred within it, the Union itself can never be in difficulties. It can safely make what advances it wishes to any of its members with the assurance that the proceeds can only be transferred to the clearing account of another member" (Keynes [1980], 112).

Each member of the Clearing Union subscribes to its capital and acquires, as a result, a right to borrow bancors exchangeable against foreign currency. Bancors are not convertible.

Local central banks are preserved, from this point of view. Each monetary area is free to pursue its own monetary policy and to modify, if it is necessary, the parity between its currency and bancor. National sovereignty – inside each monetary zone - is not suppressed by the Keynes Plan.

In a later draft, written in 1942, Keynes described exactly what "we need":

a) "We need an instrument of international currency […] used by each nation in its transactions with other nations.

b) We need an orderly and agreed method of determining the relative exchange values of national currency units, so that unilateral action and competitive depreciations are prevented.

c) We need a quantum of international currency […] governed by the actual current requirement of world commerce, and also capable of deliberate expansion and contraction to offset deflationary and inflationary tendencies in effective world demand.

d) We need a system possessed of an internal stabilizing mechanism, by which pressure is exercised on any country whose balance of payments with the rest of the world is departing from equilibrium in either direction, so as to prevent movement which must create for its neighbours an equal but opposite want of balance.

e) We need an agreed plan for starting off every country after the war with a stock of reserves appropriate to its importance in world commerce, so that without due anxiety it can set its house in order during the transitional period to full peace-time conditions […]

f) […]

[7] A first sketch of this Plan was published in the last chapter of the *Treatise on Money*.

g) […]

h) More generally, we need a means of reassurance to a troubled world, by which any country whose own affairs are conducted with due prudence is relieved of anxiety, for causes which are not of his own making, concerning its ability to meet its international liabilities; and which will, therefore, make unnecessary those methods of restriction and discrimination which countries have adopted hitherto, not on their merit, but as measures of self-protection from disruptive outside forces" (Keynes [1980], 169).

The difference from the White Plan is simple. The Keynes Plan, as Keynes wrote, is a plan to establish an international banking system, and the bancor is its keystone. The great idea is that the Keynes Plan preserves local money and therefore local monetary policies. The latter are subject to one very heavy obligation: they must keep their balance of payments at equilibrium. However, they now have the means to do so. The Keynes Plan would impose penalties not only on economies running deficits, *but also on those with a lasting positive balance*.

The Keynes Plan aimed to solve the "secular international problem" because it is fundamentally the same as the internal problem: the fear of a lack of liquidity is the principal hindrance to investment.

Comparing the White Plan and the Keynes Plan, as governmental propositions, the two plans had very different objectives and the reader wonders how communication was possible during the Bretton Woods Conference. What are the "inescapable problems", according to the White Plan?

"One thing is certain. No matter how long the war lasts […] we shall be faced with three inescapable problems: to prevent the disruption of foreign exchange and the collapse of monetary and credit systems; to assure the restorations of foreign trade; and to supply the huge volume of capital that will be needed virtually throughout the world for reconstruction, for relief, and for economic recovery" (Horsefield, 37).

The White Plan aimed to solve the problems of the post-war period. The first two problems were studied by Keynes in the *Economic Consequences of the Peace*. White rejected a return to laissez-faire policies. According to him, state control of foreign exchanges is *not* an exceptional and transitory measure; balance of payments equilibrium is a permanent goal of economic policy. This is significant. Like Keynes, White did not believe in the laissez-faire doctrine. White would probably have adhered to the famous Keynesian proposition: "To suppose that there exists some smoothly functioning automatic mechanism of adjustment which preserves equilibrium if only we trust to methods of laissez-faire is a doctrinaire delusion which disregards the lessons of historical experience without having behind it the support of sound theory"[8] (Keynes [1980], 21-22).

However, the third problem is quite opposed to the Keynesian approach, since White wanted to organize state intervention to prevent the *scarcity of capital*.

The objectives of the White Plan were twofold:

1) In the long term, to ensure stability of the foreign exchanges market, based on the convertibility of currencies into dollars and the convertibility of dollars into gold;

[8] Today, we know how "sound theory" (for example, the general equilibrium theory) proves how dogmatic the laissez-faire doctrine is. In general, if general equilibrium exists, it is multiple and highly unstable.

2) In the short term, to ensure the "huge volume of capital" needed for the reconstruction of Europe.

White separated the issue of monetary equilibrium from that of growth. And growth was evidently central for him. That is why, according to White, the most important institution was the "Bank for Reconstruction and Development of the United and Associated Nations", the future World Bank. The stability of exchange rates is only an (important) condition of "reconstruction and development", and it is the task of the second institution: the IMF.

Here the difference between Keynes and White is clear. According to Keynes, the rate of growth is explained by the incentive to invest, and this is strongly correlated with "the investor's anxiety" concerning their indebtedness. According to White, the rate of growth is explained by the propensity to save.

Thus Keynes and White defended very different theoretical positions. For Keynes, the rate of interest measures the anxiety of borrowers and lenders. For White, the rate of interest measures the scarcity of capital and the World Bank is needed to provide capital at a cost below that of the market. However, as Moggridge established, they had to make a common front against the same enemy. They had to fight, not the Nazi government or Nazi supporters, but the partisans of *laissez-faire*. And the political context was particularly intricate.

Who were the partisans of *laissez-faire*? Who was afraid of Keynes and less afraid of White?

The Keynes Plan supposes that borrowing units (monetary authorities) have to pay the International Clearing Union rising interest charges. On the other side, the ICU confiscates the surplus of lending units. The Euthanasia of the Rentier would be a sinecure compared to this task. The scarce currency clause is probably the only echo of this Keynesian proposition.[9]

That's not all. As we have seen, the Keynes Plan was intended to avoid the deflationary situation provoked by relations of indebtedness between monetary zones. As far as we know, Keynes himself did not seem to perceive *another stabilizing factor*, which is the direct consequence of his Plan. If the bancor is the obligatory medium for exchanging currencies, the number of foreign exchange markets is significantly reduced. We know why foreign exchanges markets are necessarily unstable: if there are *n* currencies, with *n* monetary zones, and *n* central banks, then there are *n* foreign exchanges markets where n(n-1) other currencies are quoted. Of course, we all know how fast arbitrages are. However, this speed does not imply a convergence toward equilibrium. So the most striking feature of Keynes' ICU and bancor is the existence of a numeraire, indispensable for the stability of international exchanges markets. Instead of *n* markets, there are only bilateral relations between Central Banks and the ICU.

Thus the Keynes Plan closes all foreign exchanges markets. Only the ICU remains. On the contrary, the White Plan and the BWS do not modify the number of foreign exchange markets.

Moreover there is a limit to the analogy between the ICU and a banking system. The bankruptcy of an agent is possible inside a banking system. The bankruptcy of a monetary area (hyperinflation) is very difficult to manage.

[9] Harrod was very happy with this clause, Keynes was very dubitative. See Moggridge (1992).

However, governments are empowered to adopt economic policies coordinated by the IMF. This is the great difference between the BWS and the Gold Exchange Standard.

These permanent infringements on *laissez-faire* policy were probably the best that could be obtained by Keynes *and* White against the *laissez-faire* partisans.

Moggridge and Dostaler refer to the opponents of Keynes and White as *laissez-faire* partisans. But who were they? They were not, for example, future members of the Mount Pelerin Society, such as Stigler or Hayek; because Keynes did not fight against the lack of knowledge or awareness. Keynes did not fight principally against economists. He fought against interests. As he wrote at the end of the *General Theory*:

"Is the fulfilment of these ideas a visionary hope? […] Are the interests which they will thwart stronger and more obvious than those which they will serve?" (Keynes, [1936], 383).

Admittedly, *laissez-faire* is a "doctrinaire delusion". And a very old one. Keynes quoted Turgot in *The End of Laissez Faire*. According to Turgot (and Keynes) the first occurrence of the Laissez Faire was the answer made by the merchant Legendre to Colbert who asked him "que vous faut-il ?". The Laissez Faire is perhaps the first statement of the identity of the Merchants Interest (Legendre) and the State Interest (Colbert). This statement is old and powerful.

The alliance between Keynes and White against those partisans of *laissez-faire* was urgent - as Moggridge underlines – but the worm was in the fruit. The BWS would fail because it made a national currency (the dollar) the international currency, as if the world was identical to the dollar zone. The interest of the US business community was identified to the interest of the world community.

II

While there are general retrospective studies on the entire international monetary system of Bretton Woods (Bordo, 1992; Eichengreen, 1992), it seems necessary to look at some specific points in more detail notably the controversy over the benefits and disadvantages of a system of flexible or fixed exchange rates which developed during the crisis of the Bretton Woods system in the late 1960s and early 1970s. Here we identify the arguments of the protagonists themselves at that time, including M. Friedman, H. Johnson, C. Kindleberger, F. Machlup, J. Meade, L. Meltzer, R. Mundell, J. Rueff, R. Triffin and J. Williamson.

The opposition between fixed or flexible exchange rates in economists' debates centered on three major issues. The first question concerned the way of obtaining stability of the exchange rates. Which of these two regimes is responsible for the destabilization resulting from speculation? The controversy then turned to the international adjustment mechanism and the means of obtaining greater freedom for national economic policy. Was the exchange rate the most important variable in this field or were international reserves more important? The basic challenge lay in the theory of a monetary economy and banking theory, because these two issues were related by the protagonists,

who were adopting different positions on the exchange rate regime. The discussion lastly focused on the status of international money.

We first study a debate between Johnson, Kindleberger and Friedman.

According to Johnson (1969), there was a revival of interest for flexible exchange rates around 1969 because fixed exchange rates were in fact losing their credibility. There had already been a lot of instability in the Bretton Woods system at that time. The 1967 sterling crisis, the 1968 dollar crisis and the 1968 French franc and Deutschmark revaluations were examples and proofs of instability of the fixed exchange rates system adopted. The case against flexible exchange rates was rarely stated in a reasoned fashion and consisted of unfounded assertions; there was a *penchant* for attributing to flexible exchange rate systems the problems of a fixed system, according to Johnson. A system of flexible exchange rates is a system in which exchange rates are determined by the markets daily, without restrictions on supply and demand. The existing system (Bretton Woods) was different; it was an "adjustable peg" in which countries committed themselves to make their exchange rate vary in a narrow margin around the par value, which itself could be changed in case of a "fundamental disequilibrium". However, a system of flexible exchange rates is not a system in which there are "widely fluctuating" or "unstable" exchange rates. "The freedom of rates to respond to market forces does not in fact imply that they will move significantly or erratically; they will do so only if the underlying forces governing supply and demand are themselves erratic (which is not the case) – and in that case any international monetary system would be in serious difficulty" (Johnson, 1969, p. 12).

The debate was about the links between speculation and the instability of exchange rates. Bordo (1992, p. 18) recalls that at the origins of the Bretton Woods system was the critique of the interwar system, stressed notably by critics of flexible rates, as the latter were said to favor speculation. On this point, he was referring to Nurkse (1944).

According to Johnson, random deviations from the equilibrium level would be eliminated by the action of speculators; and the necessity to change the exchange rate due to changes in the conditions of the economic equilibrium would be brought about gradually by the action of speculators too. The movement of the rate would be smoothed by them. The speculative activity is a factor of the stability of the foreign exchange market.[10] However, while it was not sure that the private speculators would correctly perform their function of stabilizing the exchange rate, it was possible for the government to create its own "speculation agency" (Johnson, 1969, p. 17). But the question was whether this agency would confine itself to stabilize speculation or to promote an official view of what the rate should be, which would have been a return to "the adjustable peg system".

A further argument against flexible changes is that this system will encourage "destabilizing" speculation. But, according to Johnson, first the latter is difficult to define. Moreover, he remarks that speculators, when they are engaged in this sort of speculation (that will make the rate move away rather than towards the equilibrium level), will constantly lose their money because they will consistently buy when the rate is high (over the equilibrium level) and sell when it is low. Of course, it

[10] See A.J.C. Britton "The Dynamic Stability of the Foreign Exchange Market", *Economic Journal*, March 1970, quoted by Williamson, 1977.

is possible that clever speculators can make profits in leading amateur speculators in destabilizing speculation.

The principal argument by Johnson was that speculation under flexible rates will itself move the spot rate which will depend on the speculators' transactions and this will create uncertainty in the minds of the speculators about their prospective profits. By contrast, in a fixed rate system, the spot rate can only move "one way". So the system offers speculators the possibility to speculate against the ability of the monetary authorities to maintain the parity, in other words speculators can take out a "one-way" option. The flexible system does not offer them such an easy objective. So "the fixed exchange rates system courts 'destabilizing speculation'" (Johnson, ibid. ,p. 20)

Kindleberger (1969), answering to Johnson's article on this point, considered that hedging exchange rate risk is impossible. For him, there is less exchange risk in a fixed exchange rates system. He stressed that promoters of the flexible exchange rates insisted that it was possible to limit exchange risks by introducing forward markets (Kindleberger, 1969, p. 102).

Moreover, according to Kindleberger (1969), there is the risk that the spot rate or the forward rate can move after the trader has entered the markets.[11] A second point was raised by Kindleberger in his 1976 article ("Lessons of floating exchange rates"). The criterion he used to judge whether speculation is stabilizing or destabilizing was whether it narrows or widens the variance in the movement of the exchange rate over time. The issue whether speculation is useful or disturbing turns on the assumption that speculators have an accurate long run view of what the rate should be (and governments do not). That is why "criteria should be applied *ex post,* and not *ex ante*" (Kindleberger, 1981, p. 193).

Triffin also preferred fixed exchange rates, using (among several arguments) the argument of destabilizing floating rates which encourage the destabilization of capital inflows and outflows. "Such de-stabilizing capital movements might, it is true, still be dubbed "equilibrating", but merely in the sense of accelerating the adjustment of exchange rates to price and cost disparities fostered by the system itself, and which might have been avoided under a system of stable exchange rates" (Triffin , 1964, p. 39).

Triffin recalls (1978, p. 13), that in 1960[12] he pointed to the "ratchet effect" or "vicious circle" of flexible exchange rates. If the latter can be credited with facilitating prompter adjustments of exchange rates and eliminating the stigma of devaluation, they can also amplify capital movements and over-correcting exchange rates. So Triffin continued to propose that floating rates should be managed internationally rather than nationally and that international agreements should help to stabilize rates eventually within so-called "optimum currency areas" while at the same time defending less strongly rates between optimum currency areas.

For Friedman (1969, p.114), concerning the issue whether there is less exchange risk in fixed exchange systems (this was Kindleberger's essential argument to which he devoted his discussion on forward markets), there are no serious empirical studies that could demonstrate that flexible

[11] "This is protecting the trader against a change in the rate by producing that change, the logic of which escapes me…" (Kindleberger, ibid., p. 105).
[12] Triffin, R., "Gold and the dollar crisis: the future of convertibility", Yale University Press, 1960, pp. 82-86.

exchange rates are more prone to instability and encourage destabilizing speculation.[13] On this point, Friedman (1953) criticizes Nurkse (1944). Friedman considers that "the evidence he cites is by itself inadequate to justify any conclusion…In general, Nurkse's discussion of the effects of speculation is thoroughly unsatisfactory….It is a sorry reflection on the scientific basis for generally held economic beliefs that Nurkse's analysis is so often cited as 'the basis' or 'proof' of the belief in destabilizing speculation" Friedman, (1953, p. 176).

Uncertainty also exists with fixed exchange rates. The difference between the two systems is the form that uncertainty takes. With fixed exchange rates, there is uncertainty due to big changes in rates or capital controls or different restrictions. But in fact uncertainty comes from real forces (trade, economic policies). These forces are present in any exchange system and in a system of flexible changes, they manifest themselves in the form of the variation of the rate of exchange, promptly but gradually; in fixed rates systems, they manifest themselves in a discontinuous way and through big changes (in the exchange rate peg). Hence uncertainty is less disturbing with flexible rates. This argument was also developed in Friedman (1953, pp. 173-179).

The recurrent foreign exchange rates crises in the United Kingdom in the postwar period could not have happened in a flexible rates system because markets (without the rigidities introduced in a fixed system) would have adjusted rapidly and continuously before big disequilibrium would have appeared. Rate modifications in a regime of fixed rates are always too late (Friedman, 1953, p.163).

In fact, we do not need a forward market to hedge long term investments of capital. Hedging in this case is done through variations in the rate of exchange which reflect variations in prices of one country relatively to another (due to real variables). Investment is made in real terms, not nominal terms. For Friedman, the equilibrium rate of exchange is a "real variable" or determined by real variables.

Machlup was clearly in favor of flexible rates for "solving the problem of the present international monetary system"(1962, p. 51). When exchange rates are free to move, there is always a price to equilibrate receipts and disbursements. So Machlup's arguments are built on a notion of equilibrium of the foreign exchange market which can always be attained. A system of "adjustable changes", as was possible in the system existing at the time only in case of a fundamental disequilibrium, is not practicable because it is difficult to make the diagnosis that a fundamental disequilibrium exists. There is no great likelihood that non-monetary changes in "real" data can cause "fundamental disequilibrium". In fact, these deviations from equilibrium will be offset in the long run (over the cycle), because the effects on the balance of payment of variations in real variables will neutralize each other. In contrast, if it is generally known that the official exchange rate will be adjusted when there is a fundamental disequilibrium, this will encourage speculation (ibid., p. 55).

Machlup in 1962 considers that the most practicable system is the one of "freely flexible exchange rates with reservations" (ibid., p. 53).

Machlup influenced projects to reform the international monetary system in the years 1963-1970, notably those discussed in the Bellagio Group and the Bürgenstock Conferences (Connel, 2011a and b ; Marris, 1970 ; Triffin (1977) 2015). Connell (2011b, p. 79) shows that archival records (the

[13] "Destabilizing speculation is a theoretical possibility, but I know of no empirical evidence that it has occurred even as a special case, let alone as a general rule." (Friedman, ibidem.)

Machlup Papers at Hoover Institution and the Triffin Papers at Yale) support Triffin's claim that adoption of flexible exchange rates which won the policy debate has to be credited to "F. Machlup's influence on policy makers and academics through his leadership of the Bellagio Group Conferences". Machlup turned opinion toward exchange rates as the major instrument to correct balance of payment problems and restore confidence in the international monetary system in selecting members of the Bellagio Group, keeping its close relations with the Group of Ten, promoting its work and in framing the issues of adjustment, liquidity and confidence which is the problem of the world monetary system reform. The Bellagio Group recommendations put a primary focus on flexible rates to moderate confidence in reserve media but adopted a hybrid solution in opening the way to the creation of Special Drawing Rights in the line of potential shortage of liquidity originally exposed by Triffin in presenting his own plan for centralized reserves (Maes, 2013; Connell, 2011b). So the original Triffin plan was different from the Bellagio Group recommendation.

Thirty-two economists (academics and official negotiators in international institutions) of different theoretical positions and opinions from eleven countries participated in the Bellagio Conferences from 1963 to 1964 organized by Machlup, Fellner and Triffin.[14] Triffin (1977)[15] provided full information on these conferences which he and Machlup had envisaged as early as 1952.[16] As regards the working methodology of the Bellagio Group, members would first expose and explain their analyses and own propositions, keeping their differences. Then they would seek their "second-best" solutions and a consensus (Triffin, 1977). The latter convergence had been a rejection of both two systems: the one of a "semi-automatic gold standard" and the one of unmanaged flexibility (ibidem;, p. 130). Convergence as a consequence of the group deliberations (the "Bellagio consensus") was on a system of "limited" flexibility of changes complemented with a centralization of international reserves.

Machlup organized other conferences on this subject later in 1969, known as the "Bürgenstock conferences" (Marris, 1970) with the collaboration of Halm and Roosa (20 officials from banking and industrial firms and 18 academic economists from 10 countries participated) and which reached the same conclusion in recommending "limited flexibility", smaller and more frequent variations of exchange rates, and a widening of the variation bands.

For Laidler (1988, p. 426), the system of flexible exchange rates amplified instability originating elsewhere, but nevertheless this amplification created enormous difficulties.

However, what are the elements in the Bretton Woods system that most contributed to stability according to Eichengreen (1992)? Perhaps such stability was not due to fixed exchange rates themselves but to institutions and rules which actually permited stability of different variables. For

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[14] Notably Haberer, Kindleberger, Lamfalussy, Kenen, Fellner, Dieterlen,, Dupriez, Friedman, Harrod, Johnson, Mundell, Machlup, Malkeil, Ohlin, Niehans, Rueff, Scitowski, Triffin and Uri. They were sometimes joined by senior officials of the Group of Ten (Connell, 2011a).

[15] This text is the first draft of a contribution by Triffin to a book in honor of F. Machlup, "The impact of the "Bellagio Group" on international monetary reform", in J.S. Dreyer, *Breadth and depth in economics, Fritz Machlup- The man and his ideas*, Toronto, Lexington, 1978, pp. 145 and sq. Other information can be found in the Triffin papers in Yale University (See Connell 2011 a).

[16] A report entitled *International monetary arrangements: the problem of choice*, IFS, Princeton, (1964) was published which attracted attention from officials attending the 1964 annual meeting of the IMF.

example, after the end of Bretton Woods, the average risk premium on foreign exchange rate increased very little. Stability was in fact supported by capital controls (which were themselves permitted by Article VI. 3 of the Agreements). As the Bretton Woods system progressively ended, this control was eroded and that was why the system collapsed and it became impossible to preserve fixed exchange rates (ibidem., p. 30).

III

The controversy then turned to the international adjustment mechanism and the means of obtaining greater freedom for national economic policy. Some participants were in favor of the independence of national monetary policy which was possible with flexible rates. Others were in favor of more international coordination in of monetary policies.

Authors specified under what conditions flexible exchange rates could permit to isolate domestic conditions of every country.

Before 1960, in a fixed rates system, there was no strategy for balance of payments adjustments and fiscal and monetary policies were destined to internal stabilization (this was “the scarce currency clause” period). After 1960, these policies began to be used for international adjustment. For Mundell (1962), in a system of fixed exchange rates, deficits could be reduced with interest rates increases and capital entries and with a fiscal policy to stimulate demand (which permits reserves not to be used). According to the “monetary approach of the balance of payments” (Meade, 1951), movements in the supply and demand of money could restore equilibrium in the balance of payments without impacting the national economy and reserves.

It was only from 1970 onwards that movements of the exchange rate were seen as possibly playing a role in international adjustment. There was a “second generation” model of the “monetary approach to the balance of payments” which considered that if an increase of the money supply could not be “exported” in the short term; then there would be a variation of the exchange rate because of the variation of the country’s price level in comparison with the world price level.

More generally, exchange rate adjustments had to be made by countries whose costs of production were different from other countries (Williamson, 1977, p. 12). However, for the adjustment, the question was what relative role to assign to financial policies or to exchange rate changes, and the necessity of using partial or general equilibrium analysis.

The first point presented by those who were in favor of flexible exchange rates was that fixed rates necessitate coordination or centralization of monetary policies and flexible exchange rates allow for independent monetary policies.

According to Johnson (1969, p.12), the fundamental argument for flexible exchange rates is that they allow countries autonomy with respect to their use of fiscal, monetary and other policy instruments, consistent with the maintenance of their freedom to participate in international transactions by automatically ensuring the preservation of their external equilibrium. This is a rapid external adjustment while not requiring countries to deflate or inflate beyond politically intolerable limits. There had been a growing interest for flexible exchange rates in the context of the “stop-go “ policies of the British economy.

For Johnson (ibidem), the case for fixed exchange rates could be seen as a part of a more general argument for national economic policies leading to international economic integration. But there are

international barriers to the free trade of goods and factors that often do not exist at the national level. So fixed rates cannot be considered as a system equivalent of a single international money (a currency whose purchasing power tends to equality throughout the market area). And if the fixity of exchange rates is obtained by the way of restrictions to trade and payments (and not through the variations of the respective purchasing power of the different currencies), it is in contradiction with the basic argument for fixed rates as a means for obtaining internationally the advantages provided domestically by a single currency. There is no transfer mechanism at the international level that exists at the national level to compensate regional distress or disparities of regions suffering from economic change. In the Bretton Woods system of fixed rates, there is no discipline over the centralized money supply (as there was under the gold standard system). There is no control over "irresponsible" domestic policies.

Flexible exchange rates could make it possible to remove international trade protection.

For Machlup (1962), the role of flexible exchange rates in adjustment renders international liquidity unnecessary and can be a method for solving the problem in the international monetary system. In effect, only in a system of fixed rates, surpluses and deficits would exist and reserves are then needed to compensate these. A flexible rate system would remove the use of reserves for foreign payments and would relieve the central banks' function for ensuring international payments. "This is so because the equality of receipts and disbursements would be secured through the free adjustment of foreign-exchange rates to the supply and demand situation of the moment" (Machlup, 1962, p. 51).

According to Machlup, prerequisite conditions for fixed rates were not fulfilled in the 1970s, especially the necessity to deflate to preserve exchange rate stability (ibid. p. 53). Fixed rates are incompatible with an independent credit policy to maintain full employment (ibid., p. 58; (the proximity with Friedman's argument is shown below). As Johnson, he remarks that fixed exchange rates necessitate a coordination of monetary policies of different countries .[17]

Daily adjustments of exchange rates are better than periodic adjustments when a "disequilibrium" is developing. There is no reason to postpone this necessary variation. If all central bankers were determined to fight inflation in the same manner (that is to limit inflation), there would be no differences between fixed and flexible exchange rates systems. Fixed exchange rates can only be maintained in those countries that accept to coordinate their monetary policies with each other and flexible exchange rates are devoted to those which pursue "internal objectives", regardless of external effects and which do not want to subordinate their monetary policy to the requirement of external balance. This a matter of consistency (Machlup, ibidem., p. 61).

Friedman argued that there should be extra autonomy for individual countries. Suppose a country has no causes of disequilibrium and these causes are in other countries which are in disequilibrium. The former has only to adjust its exchange rates to be disconnected from the latter countries, and to offset inflationary or deflationary policies of other countries and not to make an unnecessary internal

[17] These conditions are analogous to the ones necessary to maintain a single currency in one country. "The preconditions for the maintenance of fixed exchange rates among different countries and for the maintenance of a uniform currency for the different parts of one country are essentially the same, to wit, that no country and no part of a country is independent in the manufacture of money" (Machlup, ibidem, p. 61)

adjustment. It does not have to change the real value of money wages. Instead, it has to change its exchange rate in order to prevent a modification of the real value of money wages. Moreover, in contrast to what Kindelberger says, the hypothesis that there is no money illusion is required to produce equilibrium with flexible rates.

"In principle, changes in internal prices could produce the same effects on trade as changes in the exchange rate….Primary reliance on changes in internal prices and incomes was tolerable in the 19th century partly because the key countries of the Western world placed much heavier emphasis on freedom from government interference at home and unrestricted multilateral trade abroad than on domestic stability; thus they were willing to allow domestic economic policy to be dominated by the requirement of fixed exchange rates and free convertibility of currencies… Modern conditions, with the widespread emphasis on full employment at home and the extensive intervention of government into economic affairs, are clearly very different and much less favorable to this method of adjustment" (Friedman, 1953, p. 167).

The proximity of the arguments above by Johnson and Machlup are clear (see above, pp. 18-19).

Triffin (1967) was clearly in favor of a coordination of monetary policies in a fixed rates system.

The second point, presented by those who favored fixed rates (notably Kindleberger), was the necessity to introduce an appropriate general equilibrium point of view, notably to state the conditions of a national economic policy.

In his answer to Johnson, Kindleberger (1969) considers that autonomy for economic policy which would follow flexible exchange rates is illusory, and he points out the contradictions for this regime. There are conditions for this extra autonomy. A floating rate may balance some variables and not others. It may provide external equilibrium, but exert upward or downward pressures on employment, prices and other macroeconomic variables. Capital flows move in response to changes in interest rates, across floating rates. So there is a necessity to fine-tune monetary policy, more than autonomy.

In fact, the theoretical arguments presented for flexible rates imply that we are in a partial equilibrium analysis.

A change of the exchange rate will maintain the balance of payments but it will put pressure on other variables (prices, employment, etc.) so that the latter have to be manipulated at the same time, in the right direction by an economic policy (Kindleberger, idem, p. 96). It seems that the exchange rate is independent of other variables, but it is not and we cannot consider that a partial equilibrium analysis can be used (with a *ceteris paribus* condition). The exchange rate is a "strategic" variable linked to many others, and balance of payments disequilibrium is the result of many variables. It is necessary to use a general equilibrium analysis.

Moreover, "the discussion tends to veer back and forth between the impact of floating on a single country whose viewpoint is adopted, and the impact on the world, that is between floating as a national policy and floating as a payment system" (Kindleberger, "Lessons of floating exchange rates", 1976, in Kindleberger, 1981, p. 184)

Kindleberger discusses the role of capital movements in the flexible exchange rates regime which makes it difficult to pursue independent monetary policies. He considers (ibidem, p. 185) that floating had not produced the desired changes in current accounts because of low elasticities, and the short term capital movements that were destabilizing and would have required central bank intervention. More generally, monetary autonomy cannot be achieved due to the continuation of capital movements under floating (as had been observed).[18]

"Note first that the existence of capital movements upsets many of the clichés about the effects of flexible exchange rates. Take, for example, Henry Wallich's aphorism, not cliché, that one can have any two of fixed exchange rates, joined capital markets or independent monetary policies, but not all three. If capital chooses to move under flexible exchange rates one can have only one. …It is still necessary to manage the money stock and interest rates with an eye to the rest of the world, or in the case of small countries, to yield monetary policy to world forces" (Kindleberger, ibidem., p. 201).

Kindleberger discusses the N-1 problem which is a serious problem for a system of flexible exchange rates. First, it requires choosing a *numéraire* (Kindleberger, 1970, 1981, p. 77). He remarks[19] that this was recognized by Friedman in 1969, who advocated not a freely fluctuating exchange rate for the dollar, but passive acceptance by the dollar of free fluctuations of all other rates.

For Kindleberger (1981, p. 77), the consequences of the N-1 problem "makes evident that not all exchange rates can move in the same direction, and that not all can effectively be freely fluctuating". If there is extra autonomy for one country, then this exists at the expense of another country (a system of N flexible exchange rates for N countries is over-determined). In fact, countries would move up to a floating system and leave the major country "the Unites States stuck with whatever the reciprocal of the N-1 countries will produce" (Kindleberger, 1969, p. 96). In this case, there are no problems with the US current account deficit. So, the "N-1 problem" shows that all countries could not separately have balance of payments adjustment objectives because they are incompatible. A solution is the continuing deficit of one country as a "reserve country" whose currency becomes "demand determined", so that other countries could reach their own objectives. This is the "benign neglect" of the US.

So a system of flexible exchange rates requires either cooperative intervention or an extraordinary form of cooperation. The former implies that no country can pursue an unconstrained policy, which is claimed to be an advantage for flexible rates, and requires that a single major country allows its currency to be used as a *numeraire* as advocated by Friedman (according to Kindleberger, 1981, p. 77). But if flexible rates with coordinated intervention between various countries are desired, it is hard to see how this would differ from the (Bretton Woods) situation of a fixed exchange system in which rates are changed by mutual agreement.

[18] "The fact is that floating exchange rates did not effectively separate capital markets, and hence did not provide monetary autonomy to the several countries in the system…..and the market therefore afforded no test of Mundell's position that monetary policy is effective with fluctuating exchange rates not because of failure of capital to move, but because it continues to respond to interest rates." (Kindleberger, ibidem., p. 194)

[19] Kindleberger, ibidem, p. 84, Note 1.

Friedman (1969) discusses Kindleberger (1969).[20] Of course, he agrees with the N-1 problem. If there are N countries, there are N-1 independent rates. That is why, contrary to Kindleberger, Friedman does not make a difference between the case of universal flexible exchange rates and the case in which only one exchange rate is fixed (Friedman, 1969, p. 110). The system he favors is the same as the one he favored at an earlier date. "What the US alone can do, and what I continue to believe it should do, is to set the dollar free by ceasing to peg the dollar. It can leave it up to other countries whether the dollar floats or whether they link their currencies to the dollar" (Friedman, 1969, p. 111).

IV

International money and foreign currency systems were related to banking and monetary theory by the protagonists, though they had different positions on the exchange rate regime.

In this matter, one question is whether the system of fixed exchange rates conforms to the analogy of one international currency. A second question concerns the necessity of international coordination and central banking. However, we show that propositions by Post Keynesians , at that time, were different from Keynes's ones and Keynes's Plan.

The discussion of exchange rate systems often concentrates on the costs of fixed rates which are seen as being higher than those of flexible exchange rates. For Kindleberger (1981, p. 9), the benefits of international money are seldom considered, although this is often the case for the discussion of domestic money. Advocates of flexible exchange rates consider "that there is nothing that an international money can do that flexible exchange rates cannot do as well or better. This seems to me to be the negation of all we teach about money in a domestic context. The case for international money is the general case for money" (Kindleberger, ibidem, p. 22). For Kindleberger (1969, p. 99), flexible exchange rates "break up the world market", it is a system analogous to barter. But he argued it would evolve and a single international money would emerge from trade.[21]

It may also be argued that a fixed exchange rate system is not identical to the existence of international money (for example, a system with movable pegs). Nonetheless, it is possible to broadly identify fixed rates with the existence of international money, notably because there are interventions to stabilize exchange rates through a single currency which serves as an international money and this may be the source of economies of scale. In fact, transaction costs under fixed rates are less than under flexible rates without international money.[22]

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[20] Friedman's arguments in 1969 were the same as those he used in 1953. References here are to his 1953 book for the few arguments which were not put forward in 1969.

[21] If we consider that the *numeraire* in which all other currencies float is consonant with the existence of international money (Kindleberger (1981), "The benefits of international money", p. 9).

[22] "Exchange dealers need to maintain inventories only of international money and the national currency, with markets for N-1 currencies, rather than N(N-1)/2" (Kindleberger, 1981, p. 11). And costs of resources devoted to forward markets for hedging are often ignored in the discussion.

Moreover, for advocates of flexible exchange rates, the latter system offers the closest approximation of equilibrium exchange rates. So, if equilibrium always prevails in the foreign exchange market, relative prices after trade will be the same with money as under barter conditions (Kindleberger, 1981, p.15). So advocates of flexible exchange rates do not take into account the function of money as a unit of account. Nor do they pay attention to the function of store of value of money which permits the problem of inter-temporal balancing to be solved. The system is based on Say's law which is rejected for the domestic level. What is obvious in a domestic economy is neglected for international economy. It is left to result from stabilizing speculation.[23]

For Kindleberger (1969), the "first best" solution is a world money with a world authority (system 1) which would regulate the quantity of money and its value. This would be an integrated economic world with a common state of prices and interest rates and with a redistributive mechanism between regions to compensate adjustments that can cause distress. Almost identical with this first best situation is the fixed rates system with a coordination of monetary policies (system 2), when two currencies that are freely convertible into one another at a fixed rate can be considered as a single money (ibidem, p. 105). To maintain such fixed rates, cooperation of monetary policies is necessary to distribute money throughout the world (the gold standard or credit money with fixed exchange rates imply that prices and interest are adjusted with one another). For the money supply, central control is unavoidable.

The worst system is based on fixed exchange rates with capital movements. Systems 1 and 2 are unattainable. So the "third best" system is a "dollar exchange standard internationally managed" (a "national currency standard") which has a chance of being achieved and the "fourth best" is a "crawling peg system". And very far behind, in last position is the flexible exchange rate system.

Triffin in the Bellagio group emphasized the problem of liquidity more than the problem of adjustment stressed by Machlup. That is why he was in favor of a centralization of international reserves. J. Rueff (1971, p. 34) agreed with Triffin in his criticisms of the Bretton Woods system and that there was a problem of adequate liquidity, but he rejected Triffin's plan (which he considered very close to the Keynes plan), which would have created a new "forced" and non-convertible money and would give too much power to the central bank issuing the currency.[24] Rueff preferred a rise in the price of gold, in order to obtain more liquidity.

Kindleberger (1967) expanded on why the "dollar exchange standard" was a good system. The reason was efficiency, more than prestige. The dollar was the world's unit of account or the "world's standard of value" and of differed payments. Its liquidity was supported by the strength of the most important international capital market centered on New York and its bonds and also extended through the Eurodollar markets which provided liquidity and credit to the world and which was the basis of the efficiency of this system. The dollar's efficiency was also clear in terms of the dollar as a medium of exchange.

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[23] R. McKinnon (1969) has suggested that private dealers themselves could stabilize the foreign exchange market in buying and selling international money out of a stock maintained at hand. To the extent that dealers undertake this function, flexible exchange rates approach a fixed exchange rate system with international money, with the public good provided by international money undertaken privately and at private cost. (Kindleberger, 1981, p. 12). Kindleberger remarks that it is not Friedman's point of view as he considers that money is not provided privately and is a public good.

[24] Maes., 2013, pp. 1141-1142

It was said that this system had to be completed by international arrangements (such as the Basle agreement of 1961which introduced discounting in a crisis). But Kindleberger would have preferred a "true" international central bank. What was needed to transform the IMF into a central bank? A central feature of Bretton Woods had to be changed: "the provision of liquidity in advance of need by owned reserves"; "the availability of unlimited amounts of assistance, through rediscounting in periods of crisis"; "the amounts of owned reserves is not a vital aspect of the system"; "lines of credit must be unlimited and hence conditional"; "an international central bank could make its own arrangements for repayment of rediscount"; "when the crisis is over, the accumulated obligations could be transformed into long-term debts" (ibidem., p. 6). There has to be a mutual surveillance (as in the Basle arrangements) and international cooperation.

Kindleberger was proposing that, even with a dollar standard which means that one country is directing world monetary policy, US monetary policy should be determined by an "Atlantic open market committee" including Japan. This committee would state the international interest rates on the basis of conditions of different countries. The United States would still have had a more powerful voice in this determination. There was an asymmetry between American capital markets and extensions like Eurodollar market as with European markets.

"In capital markets as in foreign exchange markets, subsidiary markets within the total can be ordered hierarchically" (ibidem. , p. 7).

When a peripheral central bank (a European one) changes its discount rate, it changes the spread between it and the others, when the United States central bank changes its own, it changes the level of the total. It is the same between the Federal reserve bank of New York and another federal reserve bank (for example, Minneapolis)

"...the United States has major responsibility for the level of rates in the international money market. But it should and must consult those countries affected by the international market and let policy be guided by some weighted impact of the views of all."(ibidem)

So there was no necessity to create a new international money. The use of the dollar was like the use of a language (a vehicle language or *a lingua franca*). Kindleberger suggests an analogy between language and money at the international level. There are costs of translation analogous to costs of transactions when dollars are converted to gold and when it is dollars that are necessary to transactions. The myriad of plans to reform the system wanted to create a new international language "perhaps better suited to the task" but "they share the basic weakness that they do not grow out of the day-to-day life of markets as the dollar standard based on New York has done, and likewise the Eurodollar" (ibid. ,p. 10).

The economists who proposed flexible exchange rates between national currencies in fact were proposing a return to Babel which maximizes transactions costs and minimizes international discourse. A medium term solution could be the following: groups of many countries or areas sharing fixed rates, a common language and flexible rates between them. This had been proposed by economists from different perspectives (such as Johnson and Friedman who were in favor of flexible rates and Mundell who was in favor of fixed rates) (Kindleberger, 1981, p. 202). Kindleberger would have preferred to invert the scheme and let the smaller countries use fixed or flexible rates as they

chose. That is why in 1976, Kindleberger did not think that flexible rates were full of dangers (ibidem; p. 203)

Friedman, though adopting a different position on the exchange rate regime, was also introducing a link between monetary and banking theory. Flexible exchange rates are related to national rules of money issue.

The important point discussed between Friedman and Kindleberger was whether fixed exchange rates are a step on the way to a global money.

According to Friedman, it was wrong to say that, to promote world integration, the best way was to promote fixed rates. He agreed that a good system is a system of global money. For him, fixed exchange rates are not analogous to the "money's money" case. There is a confusion in the whole discussion of exchange rates between a unified currency (which exists in the US, for example, across the different states) on the one hand, and a system of national currencies linked by fixed rates with different monetary authorities on the other hand.

What was the best international monetary system for Friedman? "In my judgment it is a world money *without* a world monetary authority" (Friedman, 1969, p. 117). This means that there is no international institution that issues the international money.

This is because as a unified currency is a currency among political units that do not have separate monetary authorities, it is difficult to think that different national governments would be in favor of a real world monetary authority.[25] But the most important reason is that this world authority would be "politically irresponsible" because it would not have a "representative relationship "to the people of the world" (Friedman, ibidem). The first best system would be a world money like gold (or peanuts) that cannot be manipulated.

However criticizing the Bretton Woods system, Friedman introduced a connection between the flexible exchange rate regime and the internal banking and issue system. Friedman thus gave preference to a fiduciary national standard system based on banking reform, that is to say a state monopoly issue following a "tax" rule, rather than to an international commodity standard (like gold), as suggested by some authors.

Friedman was in favor of a flexible exchange rates system. Different national monies would have to be guaranteed by a "fiduciary standard" and a national disciplinary rule for monetary policy and issue. For Friedman, competition cannot determine an adequate quantity of a fiat currency. "There is no stable competitive equilibrium except when the fiat currency declines so much in value that it becomes a commodity currency, the commodity being the paper and services used in producing currency" (Friedman, 1953, p., 216).

So, for him, the production of a fiat currency was a "natural" and "government" monopoly. He refers to H. Simons (Friedman, 1953, p. 216) and considers that the best way to control such a currency occurred with the Peel Act of 1844. But this control is more difficult in a fractional reserve system. In fact, "the provision of the fiat element in the monetary system has been taken over by 'banks' as an

[25] Friedman (1969, p. 117) refers to a book by the Governor of the Banque de France Moreau, edited by J. Rueff (1954) and to his own book "Dollars and deficits", Englewood Cliffs, 1968.

indistinguishable part of their lending and investing activities. Such a connection is clearly inevitable" (ibidem., p. 217). This fact has created government intervention in these lending activities, in order to control money issue.[26]

A fractional reserve system with different types of currency (commodity reserve currency and fiduciary currency) necessarily produces "inherent instability" in the total volume of currency, according to Friedman. A partial commodity standard thus leads to instability in the monetary system and government control of banks in their lending activity. A better system is a complete fiduciary standard (a circulating medium only composed of a fiat currency). In this case, problems would be eliminated if government monopolized the creation of currency. This is because the State would then not intervene in banking lending activities to regulate money, as would be the case in a system where private banks can also create money, even if they are subject to strict rules. In this latter case, in order for the State not to interfere in lending activities, there needs to be a strict rule such as the "100% per cent reserve proposal", because it would be the only rule that "would permit the lending and investing activities of banks to be left free from government control" and that would also eliminate instability.

Friedman, however, criticized Meade's argument for a 100% reserve system of banking as a unique rule. In this case, according to Meade,[27] internal adaptations to external changes would take place at a slower rate than with a lower reserve ratio (Friedman, 1953, p. 186).

The gold standard and commodity reserve standard both provide a complete automaticity and freedom from political control if all changes in the money supply are in the form of the commodity currencies themselves, or literal warehouse certificates for them. However they would require the use of substantial resources to provide for the growth of money supply. Friedman promotes flexible exchange rates. This system is incompatible with the existence in more than one country of a fixed nominal price of gold, and free convertibility of currencies into gold. According to Friedman, the logical domestic counterpart of flexible exchange rates is a strict fiduciary currency with rules for its issue to promote domestic stability.

That is why Friedman preferred a kind of fiat currency embedded in a monetary and fiscal framework.[28] This fiat money would be issued by the State and completed by 100% reserve banking. There would be no more discretionary policy by the central bank or other monetary authority (Friedman, 1953, p. 241). Changes in the quantity of money would be produced through the government budget; deficits would be financed by issuing additional currency. Surpluses would contract the quantity of money. Deficits and surpluses would be automatically produced by the conditions and variations in the real world, and would be balanced over the cycle (cyclically stable). The level of government expenditure, transfers and the tax structure would be cyclically stable. If the community wants to change the level of public services, this change would have to be calculated on the basis of a hypothetical level of income corresponding to long term, full employment. Currencies of different countries so regulated would be connected through flexible exchange rates. In each country, prices are determined by the fixed tax structure and transfer programs. The government

[26] "Thus it has meant extension of government control to activities that could appropriately be left to competition if they were not intertwined with the creation of currency" (ibidem., p. 218)
[27] Meade, 1951, vol 1., p. 185.
[28] Friedman developed this analysis in chapter 5 of his *Essays in Positive economics.*

budget exerts an influence towards higher or lower prices in relation to the yield of the tax structure, minus payments for transfers and the costs of public services. The relative prices of the latter do not vary very much. Therefore, the basis of the fiat standard is a complex of the weighted average of incomes, subject to taxes and transfers, and of prices of goods purchased by the government. It is expected that this is the source of less price instability than the commodity reserve standard and could be a solution to the problem of the stability of the value of money.

So, for Friedman, his criticism of the Bretton Woods fixed rates system was linked to his criticism of the commodity reserve standard and international money, and his preference for national standards of fiduciary, completed by a principle of stability: a rule for currency issue in any country.

For most authors, though they belong to different traditions in economic thought, problems and propositions for reforming the exchange rates system at the end of Bretton Woods had a deep connection with monetary theory, to which they made an important contribution in response to events. It seems that the basis of the opposition between exchange rate regimes was opposition concerning the nature of an international currency and the rules of money issue. Although they all underlined the role of the dollar as “the world’s money”, authors differed in the way it has to play this role.

These Bretton Woods debates referred to older ones in the history of economic thought (for example, the Currency School-Banking School debates, partial equilibrium-general equilibrium, and even the existence of equilibrium, etc.).

One of the most important questions that was debated was about the role of a system of exchanges rates. Does it permit several problems of the international monetary system such as balance of payments problems to be solved, and make international liquidity as promoted by those in favor of flexible rates unnecessary? Or do problems of liquidity remain, as was Keynes’ point of view? This question is related to the nature of economic equilibrium because economists in favor of flexibility consider that equilibrium (real equilibrium) is always attainable: there are no disequilibrium problems, only cyclical problems.

This question is also related to the nature of international money. If the major role is given to the exchange rate system, the latter is not so important. But if the emphasis is on disequilibrium and international liquidity, an international money has to be introduced. This situation again raises questions about the theoretical functions of money which are the same in a domestic economy and at the international level. What is a monetary economy?

Is a fixed exchange rates system analogous to a world money system or is it a precondition? In this field, all the protagonists considered that international monetary policy cooperation is necessary for fixed rate systems. But because such cooperation is illusory, many favored flexible rates. They rejected the centralization that is related to the existence of an international money, namely an international central bank and budgetary redistribution. That is why there is a clear opposition between Keynesians promoting this international bank with its specific rules for liquidity issue and international monetary policy cooperation and Friedman’s views promoting flexible rates and national rules of issue.

Conclusion

The Keynes' Plan was relevant in the very peculiar context of the narrow period which takes place from the Atlantic Chart to Cold War. Even in this context it opposes the Laissez Faire Party. This Party is a very old one and is still active today. So the Bretton Woods system was seen as a second best solution. However a second best is a second best. The third best was cooperation between central banks. Now, since the 2008 crisis, this third best is clearly insufficient.

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