Triffin Dilemma and Regional Monetary Approach: An appraisal

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Abstract

Robert Triffin (1960) has been the first to formalize that, under the gold exchange standard, the key currency issuing country faced a dilemma. Either the United States would stop providing more dollar balances for international trade and finance, leading to world stagnation and deflationary bias in the global economy; either the United States would continue to provide more of the international reserve currency, leading ultimately to a loss of confidence in the dollar. This paper shows that the formulation of this dilemma is the consequence of Triffin's early critics of the Bretton Woods system in the 1940s leading him to advocate a reform of the international monetary system at the regional level, ie. the European one, in the 1950s.

Keywords: Bretton Woods, clearing mechanism, European Payments Union, International Monetary Fund, international money, Triffin.

Classification J.E.L: B30, E50, F30.

"This substitution of a general, multilateral agreement for the present network of bilateral agreements would find its most practical expression in the creation of a European Clearing Union." (Triffin, in RTPY, 1947, box 19, p. 4)

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1. Introduction

This article focuses on Robert Triffin's critics of the Bretton Woods system and his proposals to reform it at the regional level in the 1940s and in the 1950s. Triffin (1911-1993) is traditionally associated with his famous 1960 book, *Gold and the Dollar Crisis*, in which he diagnoses the instability of the gold exchange standard grounded on the gold convertibility of the dollar. This diagnosis, known as the Triffin dilemma[2], is as follows: if the United States (thereafter US) stops running balance of payments deficits, other countries will see their main source of creation of international liquidity reducing, limiting world trade expansion and potentially leading to world deflation. On the contrary, excessive US balance of payments deficits fuel world economic growth with international liquidity, that would undermine other countries' confidence in gold convertibility of dollar balances. Considering that the United States was not able to provide necessary amount of liquidity for sustained global growth, Triffin forecasted, "within a relatively short span of years, (…) a new cycle of international deflation devaluation and restrictions, as it did after 1929" (1960, p. 70). It was exactly the opposite happened since the US expansionary monetary policy since the 1950s, guided by national considerations, fueled global inflation. Nevertheless, Triffin's analysis has rightly stressed the inherent instability of the gold exchange standard and announced its ineluctable demise. A purely historical analysis of the 1950s, leading us to think back of the circumstances of the time, as does Allan H. Meltzer (2009, p. 221), presents the Triffin dilemma as the consequence of the growing role that the dollar had in the international monetary system since the 1950s. We consider that this approach leads to a misunderstanding of the origins of the Triffin dilemma. This article shows that Triffin's critics of the Bretton Woods system were prior to the dollar glut of the late 1950s, leading him to formulate concrete propositions for European monetary integration to escape what will become the dilemma.

Triffin's formative and first professional experiences are of importance to understand his carrier as an economist and policy adviser. Born in Belgium, under graduated in economics at the University of Louvain in 1935, Triffin studied economic cycles theory under the leadership of Léon H. Dupriez, a Harvard-trained economist, who introduced a statistical method to test business cycle theory in Europe. In the line of this tradition, Triffin published two works criticizing Cassel's purchasing power theory[3], stressing the necessity to distinguish the structure of prices in a country – prices of raw materials or finished products but also industrial and

[2] It was not Triffin but Oscar L. Altman (196, p. 164) who first used the term "dilemma".

[3] "*Les mouvements différentiels des prix de gros en Belgique de 1927 1934. Calcul et interpretation d'indices de groups comparables"* (1935) and *"La théorie de la surévaluation monétaire et la devaluation belge"* (1937).

agricultural goods that were imported and exported – in order to understand the balance of payment adjustment mechanism. In 1935, Triffin went to Harvard to achieve his PhD dissertation, under Schumpeter's direction and Leontief and Chamberlin's guidance. Far from his first empirical works, Triffin made a dissertation on *General Equilibrium and Monopolistic Competition*, defended in 1938[4]. In 1942, he was hired as Chief of the Latin America section of the Board of Governors at the Federal Reserve System in Washington. This opportunity to join an American administration was a turning point in Triffin's career because he abandoned pure theory in favor of monetary and policy-oriented economics. Between 1942 and 1946, Triffin became a money doctor and was sent to Latin American countries at a time when the money doctoring orthodoxy was replaced by a new form of thinking national and international adjustment mechanism in southern countries[5].

In his article about the origins of the Triffin Dilemma, Ivo Maes (2013) rightly points out the continuity of Triffin's thinking on "the vision that the international adjustment process was not functioning according to the classical mechanisms" (Maes, 2013, p. 1145). This consistency throughout Triffin's career in the 1930s and the 1940s, pointing out the discrepancy between the economic theory and the facts, provides a better understanding of his analysis of the gold exchange standard instability. However, we consider this analysis as incomplete since it is obscuring Triffin's regional monetary analysis and his first critics of the Bretton system in the second half of the 1940s. Indeed, in 1946, Triffin became Director of Exchange Control at the International Monetary Fund (thereafter IMF) at a time when the young Bretton Woods institution did not succeed in providing a multilateral system of payments based on full currencies convertibility. According to Triffin, because countries were not prepared to trade on dollar-convertibility, bilateralism and trade and exchange restrictions were unavoidable in the immediate postwar years. As a remedy, Triffin made reform proposals to cope with the structural IMF's inability to eliminate exchange restrictions on current transactions and to outlaw bilateral payments arrangements. In a series of IMF memoranda released between 1947 and 1949, Triffin advocated for a European clearing union, similar to Keynes's International Clearing Union, aiming at fostering and liberalizing European trade while economizing international reserves. First at the IMF and then at the Economic Cooperation Administration – which administrated

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[4] Triffin was granted a scholarship by the Belgian Fondation Universitaire to study at Harvard in the goal then to return to Belgium and to be appointed at the University of Louvain coupled with a part time assignment in the Research Department of the National Bank of Belgium. According to him, "A few weeks at Harvard, (…), sufficed to convince me that what I missed most was an adequate training in pure theory, then taught at Harvard by Professor Schumpeter whose broad culture in that field, and others, was as unique as his class showmanship" (Triffin, 1981, p. 241).

[5] According to Eric Helleiner (2003, p. 249), "in place of currency boards and the gold standard, they [Latin American countries] introduced capital controls, more flexible exchange rates, and powerful national central banks designed to serve the domestic goals of rapid industrial development and nation-building".

the Marshall Plan – Triffin succeeded in promoting his ideas, giving rise to the European Payments Union (thereafter EPU) in 1950. The success of such an institution during the 1950s strengthened Triffin's belief to call into question the architecture and functioning of the Bretton Woods system, stressing that an international monetary system centralized around the US currency and policy did not foster its flexibility and stability[6]. Barry Eichengreen (1992, p. 203) and Michael D. Bordo and Eichengreen (1998, p. 21) argue that Triffin would have already developed what will become the dilemma in a 1947 article that sums up his analysis about international liquidity issue after his money doctoring missions. Even if this article is enlightening, especially since Triffin advocates for a flexible international monetary system able to provide enough international liquidity, we do not share the authors' analysis. In 1947, Triffin did not consider that the gold exchange standard was unstable *per se* because a national money is used as an international one. His analysis of the Bretton Woods defects and his proposals for a decentralized reform of the international monetary system was carried by step. Jacques de Larosière referred to the "pragmatism as a practitioner" and as "a man of action" (1991, p. 136) to qualify Triffin. In the second half of the 1940s, Triffin was pragmatic and tackled with the policy problem in Europe. His experience in Europe and his further reflections on the operation of the monetary system will give Triffin the arguments to propose early in the 1950s an analysis and remedies that will be exposed in his 1960 book. Actually, the formulation of the Triffin dilemma in 1960 was the consequence and not the cause of Triffin's involvement into broader regional monetary integration.

Although Triffin was a prolific writer throughout his career, we have studied his archives located at the University of Louvain in Belgium and Yale University in the US. This archival work has confirmed our intuition that the study of the 1940s and the 1950s is crucial to understand the origins of the dilemma. Our analysis will be on double level: the first level is more theoretical and shows that only three years after the 1944 Bretton Woods negotiations, the debate on the nature of the international monetary system carried on. The second level, historical, concerns the way that Triffin constantly underpinned his view of a regional monetary integration to make proposal for a reform of the international monetary system. Throughout our analysis, we will highlight that the international liquidity[7] issue – its use, its provision and its composition – was at the core of Triffin analysis when he questioned the ability of the gold exchange standard to make compatible

[6] This idea was suggested by Guido Carli, former President of the EPU and Governor of the Bank of Italy: "(…) it is probable that Triffin's close involvement with and understanding of the EPU led to his early diagnosis of the ills that would eventually undermine the system of stable but adjustable exchange rates based on the dollar as the primary reserve asset" (1982, p. 167).

[7] International liquidity has to be understood as resources readily available for monetary authorities in order to finance balance of payments deficits and defending exchange rate stability. These resources could be liquid assets, such as gold and foreign exchange, or facilities for borrowing abroad.

the conduct of discretionary national economic policies and the respect of balance of payments equilibrium. The second section deals with Triffin's critics in the 1940s of the supposed working of the international gold standard. Indeed, Triffin attempted to highlight the discrepancy between the theory and the facts, questioning the automatic and symmetric features of such a system. In that way, Triffin pointed out the necessity to have a flexible international monetary system providing sufficient international liquidity to enable countries to conduct counter-cyclical monetary policies. The third section examines Triffin's first proposal for a European clearing union in order to promote trade liberalization and provide international liquidity. Triffin is known as one of the EPU architects and we will reinforce this assertion by a comparative analysis between his proposal made in his IMF memoranda and the 1950 EPU. The fourth section is devoted to present the Triffin dilemma in the light of the analysis previously offered. We will concentrate our attention on Triffin's continuous involvement into a deeper regional monetary integration in order to cope with the inconsistency of the Bretton Woods system.

2. A case for a more flexible International Monetary System (1942-1947)

Triffin's academic career at Harvard was interrupted during the summer 1942 when the US joined the second world war[8]. To work on post-war reforms, US government administrations, such as the Treasury or the OSS, launched a large surge of recruitment among American universities. Triffin accepted to join the Federal Reserve Board (thereafter FRB) in order to head the new Latin America section. Between 1942 and 1946, Triffin led money doctor missions in countries such as Paraguay, the Dominican Republic, Ecuador or Guatemala. From an analysis of the economic structure of the Latin American countries, Triffin advocated monetary and banking reforms in order to support the long run objective of economic development. In a series of articles published between 1944 and 1947, Triffin challenges the theoretical framework in which were designed the Latin American central banks in the 1920s, highlighting the gap between the orthodox gold standard theory and the reality of the international gold standard operation. Triffin's recommendations for Latin American countries, especially the promotion of counter-cyclical monetary policies, were grounded on the understanding of this gap.

[8] After obtaining his PhD, Triffin returned to Belgium in the fall of 1938 but failed to find any position because of the recruitment policy of Belgian institutions at that time. Triffin reminded that "a decent number of Flemings would have to be appointed first in order to approximate parity with the Walloons, who had up to then filled most of the existing openings" (Triffin, 1981, p. 241). Later, Triffin pointed out that Dupriez, his former professor at the University of Louvain, was disappointed that he did not continue the industry localization studies at Harvard. Moreover, Dupriez wanted him to achieve another PhD at Louvain. See Catherine Ferrant and Jean Sloover (2010, p. 27). Therefore, in 1939, Triffin accepted an appointment as instructor in economics at Harvard.

2.1 Criticism of the Orthodox View of Gold Standard Operation

From his thorough empirical analysis of the Latin American countries situation, Triffin depicts the balance of payments adjustment mechanism within the orthodox theory, based on the hypotheses of automatism and symmetry. The orthodox theory ascribed balance of payments disequilibria to domestic price and cost levels, and interest rates disparities between countries. A deficit in the balance of payments, resulting in gold exports, could only be absorbed by a contraction of the domestic money supply. According to Triffin:

> The automatic adaptation of the money supply to the fluctuations of the balance of payments was, of course, considered as perfectly normal and desirable in the orthodox gold-standard theory. A favorable or unfavorable balance of payments was taken as a sign of a fundamental disequilibrium in international price and cost levels, and it was assumed that the disequilibrium would be corrected by the domestic expansion or contraction brought about by the inflow or outflow of exchange. (Triffin, 1944, p. 108)

Indeed, the contraction of money supply restores the balance of payments equilibrium through two significant transmission channels, the capital and goods flows:

> The automatic monetary contraction produced by gold exports would raise interest rates and attract capital from abroad. It would at the same time exert a downward pressure on domestic prices and costs, thus stimulating exports and discouraging imports. Both of these movements – capital and trade – would tend to correct the balance of payments deficit in which they originated. (Triffin, 1947a, p. 48)

So the automatic adjustments of the balance of payments rely on market forces and central banks are supposed to follow the rules of the game policies, "which deprives them of real any control over the supply of money and credit" (Triffin, 1944, p. 96).

To sum up, the orthodox thinking, based on the automatic and symmetric features of the adjustment mechanism, left no room to monetary management by central banks. Triffin rightly reminded that this thought of pattern "inspired so much of the academic thinking and legislative controversies regarding national and international monetary mechanisms during the nineteenth and even the twentieth century" (Triffin, 1947a, p. 49) while it offers an unrealistic description of the gold standard operation. In the 1920s, this view was the cornerstone of the money doctoring missions led by the US officials in Latin American countries which used to set up rigid monetary systems, such as currency board or gold exchange standard. The leading figure of these policies was Edwin W. Kemmerer (1875-1945) who was committed to set up a gold exchange standard in countries such as Colombia, Chile or Ecuador, because they could not support the heavy cost of holding metallic reserves for internal and external circulation (Rebeca Gomez Betancourt, 2008, pp. 230-5). In Kemmerer's view, monetary policies in gold exchange standard countries could be exclusively oriented towards the stability of exchange rate with the mother country's currency, i.e. the US dollar[9].

Triffin raised criticisms to the orthodox theory, highlighting that it developed only one special category of disequilibria, "originating in cost maladjustments between a single country and the rest of the world" (Triffin, 1947b, p. 322). The assumptions whereby the world consists of homogenous countries and economic imbalances are only national do not stand the study of facts. According to Triffin:

> The most cursory examination of statistical data clearly shows that many of the most spectacular disequilibria in balance of payments are *worldwide* in scope, and must be traced to cyclical fluctuations of an international character rather than to national price and cost maladjustments. (italics in the text, Triffin, 1947a, pp. 55-56)

Triffin pointed out another category of disequilibrium which results from the international business cycle and "make the problem of monetary stability in Latin American countries radically different from that face by older, more diversified economies" (Triffin, 1945, p. 7). Denied by the orthodox theory, an asymmetry structures the international monetary relations between the center – industrial and capital exporting countries – and the periphery – primary goods producing and capital importing countries. In the line of Ralph G. Hawtrey (1919) or William A. Brown (1940), Triffin highlights the hierarchical structure of international finance, centralized around the creditor position of England[10]. Considering the leading position of London as an international financial center, the orthodox theory failed in describing the British adjustment mechanism nor the way that global cycles originated from changes in British discount rate. The international gold standard was in fact a gold-sterling exchange standard whose the leader was the Bank of England. In order to respond to domestic goals (stabilizing domestic prices and making money market more liquid), the Bank of England conducted monetary policy by controlling domestic credit. But changes in its monetary policy impacted the financial conditions of foreign countries because their bills were contracted in London in order to finance international trade. Triffin points out:

> To a very large extent, increases in the London discount rates brought about a readjustment in the British economy, but through their effects on the outside world and especially on the agricultural and raw material countries. (1947a, p. 59)

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[9] Central banks established by Kemmerer had the duty to reproduce the gold standard mechanism substituting exchange reserves for gold flows to correct balance of payments fluctuations and stabilize the exchange rate. So money supply variations were closely tied to the external constraint and "the monetary function of the central banks was largely limited to the conversion of foreign exchange surpluses or deficits into equivalent changes in the volume of currency or commercial bank reserves" (Triffin, 1945, p. 7).

[10] Triffin never mentioned Hawtrey while the latter had a clear-sighted analysis of the asymmetrical structure of the international monetary system in the 1910s. See P-H Rojas (2016, p. 3).

> The failure of British discount policy to effect the type of readjustment contemplated in classical theory (…) was due primarily to the *international* character of the London discount market, whose expansion and contraction affected foreign prices as much as or more than British prices. (italics in the text, Triffin, 1947a, pp. 62-3)

The contraction of international credit, understood as British credit, not only deprived British demand for goods but also international demand tending to decrease foreign prices. As a financial center, England was able to improve its terms of trade – domestic prices relative to foreign prices – and attract short-term capital to restore balance of payments equilibrium without resorting to deflationary policies advocated by the orthodox theory.

Moreover, this theory is of no help to understand the operation of the gold standard in peripheral countries. According to Triffin, the balance of payments fluctuations in peripheral countries, especially in Latin America, are not governed by international cost comparisons but "dominated by the international movements of capital and by the fluctuations of imports and exports" (Triffin, 1944, pp. 104-5), consequence of the international business cycle. The peripheral countries are often poorly diversified economies, specialized in the production of one or two goods whose the supply "may be determined by the vagaries of the weather" and the demand " is predominantly influenced by the state of the business cycle in the buying countries". (Triffin, 1944, p. 108). The fluctuations of their balance of payments are reinforced by violent shifts in capital flows resulting from speculative calculations. Contrary to the core countries, in peripheral countries, "capital tended to flow toward them in times of prosperity and away from them in times of depression, irrespective of their discount policy" (Triffin, 1947a, p. 60). Understanding that balance of payments disequilibrium did not result from price and cost levels disparities but from world cycles, Triffin called for a revision of orthodox remedy.

2.2 The Advocacy for Counter-Cyclical Monetary Policies

Triffin's analysis and bold reform proposals were facilitated by the development of a new neighborhood policy by the US administrations[11]. According to Helleiner (2003, p. 255), the US policy makers' stance evolved during the 1930s. Following the demise of the international gold standard in 1931 and the effects of the Great Depression in the 1930s, the US officials from the Treasury and the Fed became aware of the vulnerability of the southern countries' economies, most of them being agricultural and suffered largely from volatile capital flows. They considered

[11] This change in thinking the US financial diplomacy *vis-à-vis* Latin American countries probably explains why the FRB has given Triffin full autonomy and independence during his money doctoring missions, not given any prior instructions. See Triffin (1981, p. 242).

that orthodox policies “magnified – rather than minimized – the impact of international instability on the domestic economy in this context” (Helleiner, 2003, p. 251) and did not promote domestic economic activity and high level of employment[12].

It was in this context of break in US financial diplomacy that Triffin began his work at the FRB. Unlike Kemmerer missions, Triffin missions aimed at highlighting the specificities of each country to adapt the recommendations for monetary and banking reforms. According to Triffin:

> The nature of the essential monetary problems, the present level of development reached by national monetary institutions, and the availability or efficacy of various techniques of control are fundamentally different from country to country. A full understanding of these differences and of these national characteristics is an indispensable prerequisite to any intelligent approach towards international monetary cooperation. (Triffin, 1944, pp. 94-5)

Indeed, Triffin insisted on the fact that peripheral countries’ specificities differed from those in the core countries. Contrary to England or the US, their financial and banking system were not so developed making inoperative the control of money supply via the discount rate and open market policies. Moreover, foreign banks financed development in peripheral countries, making the latters strongly dependent of capital flows from financial centers. In case of external disequilibrium in a peripheral country, the orthodox rules of the game policies strengthened domestic instability.

> (…) The classical prescription for remedial policy becomes as misleading as the diagnosis on which it is based. Deflationary efforts at readjustment by individual countries are largely self-defeating because they aggravate the depression rather than cure the disequilibrium. Any initial success that they may have in curbing imports or expanding exports aggravates the difficulties in their supply and exports markets as well as in competing countries, and leads to similar and mutually offsetting measure of defense or retaliation. (Triffin, 1947a, p. 57)

To avoid the propagation of the cycle from the center to the peripheral countries, that accentuated world economic fluctuations, Triffin advocated the establishment of central banks able to manage the monetary and banking system through a variety of instruments: changes in reserve requirements, quantitative and qualitative banking loans, the empowerment by the central bank to undertake open-market operations to control money and credit. Triffin’s reforms were grounded on the slackening of the rigid link between legal tender money/deposits and

[12] The US cooperation policy towards Latin America was not only driven by the desire of economic development. Reminding the geopolitical issue in the context of the second world war, Helleiner (2009, p. 6) writes that “this shift [in neighborhood policy] emerged partly in the context of US worries about growing German influence in the region”.

international reserves (gold and foreign exchange)[13]. Triffin developed another tools, such as multiple exchange rates and exchange control[14], to relieve the burden of international instability on Latin American countries.

Let us note that Triffin's views on monetary management in the 1940s was also influenced by Raúl Prebisch, the leading figure of the center-periphery analysis, who was the designer of the Argentinean central bank created in 1935 of which he was the first General Manager (1935-1943). This institution was designed to offset the erratic fluctuations of the balance of payments, strengthening his power over the monetary and banking system. Prebisch aimed at smoothing the effects of economic cycles through the use of international reserves so as to ensure monetary stability. Triffin considered that the work achieved by Prebisch in Argentina must serve as an example for other Latin American countries:

> In the short period since 1935 the Central Bank of Argentina has developed into an outstanding institution among central banks not only in Latin America but in older countries as well. Credit for this achievement is due largely to the brilliant leadership of Raoul Prebisch, general manager of the bank during most of this period (Triffin, 1944, p. 100-1)

Triffin met Prebisch for the first time at the central bank of Mexico in December 1943 where he learned from him about the role of the central bank and the functions of stabilizing activity in a view of economic development. Therefore Triffin invited Prebisch to join him during his missions in Latin America. In a FRB report related to his trip in Argentina in January 1945, Triffin wrote:

> I was in Buenos Aires for about three weeks. A great deal of that time was spent in consultation and conversations with Dr. Raul Prebisch. (…) Measured by any standards – not merely by Latin American ones – Prebisch is an outstanding personality in our field. I was surprised as he was to encounter an extraordinary amount of agreement between the ideas which we have ourselves developed in the last years and the conclusions to which he had been led by his practical experience in the Argentine Bank. (RTPY, box 3, Triffin, 1945, p. 3)

Triffin never ceased to remind the importance that had the work of Prebisch in this field on the development of his ideas in the 1940s[15].

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[13] As developed earlier, this set of ideas was not so new when we analyze the American monetary thought in the 1930s, especially at the US Treasury. Like Triffin, Harry D. White, one of the architects of the Bretton Woods system and member of the US Treasury, was deeply involved in these kind of recommendations for US economy during the 1930s, such as control of capital flows or changes in reserve requirements, in order to manage the monetary and banking system (Rojas, 2016). Helleiner (2014, p. 86) showed that White was also committed in this new approach of money doctoring in Latin American countries, leading missions in Cuba in the second half of the 1930s.

[14] Triffin considered that these measures were more effective alternatives than traditional policies, such as deflation or devaluation, which did not sufficiently target the categories of transactions. For instance, the exchange control could reduce the balance of trade deficit by restricting less essential imports, such as luxury goods.

According to Triffin, not only peripheral countries had to promote a form of monetary management that insulated the national economy from international disruptions, but also the core countries had the responsibility to smooth worldwide fluctuations. Since the cyclical disturbances originated from their leading position, the core countries had to follow a new set of economic policies stabilizing purchasing power of money and income. On that topic, Triffin was clear:

> The only satisfactory corrective of cyclical disequilibria in the balance of payments which are not due to fundamental maladjustments in international price levels thus lies for most nations, not in internal deflation according to the "rules of the game" recipe, but in *the restoration of economic activity and purchasing power in the centers of the cyclical disturbance* (our italics, 1947a, p. 64)

Regarding the peripheral countries, they would have to resort to international reserves, such as gold and foreign exchange, to cope with worldwide fluctuations in economic activity if they want to preserve domestic stability. Indeed, if a country ran balance of payments difficulties, monetary authorities had to meet large demand for foreign currency. Since the country did not tight domestic credit, the depletion in international reserves could lead to liquidity difficulties and exchange crisis. Triffin was conscious of that problem, noting that the general adoption of counter-cyclical monetary policies "would tend to amplify the instability of national reserves of gold and foreign exchange" (1947a, p. 64). That's why this kind of policies "requires a high level of international reserves (…) and the willingness to spend these reserves liberally in times of crisis (…)" (Triffin, 1947a, p. 80).

Triffin strongly advocated a general revision of the way of thinking the international gold standard operation and monetary policies design in order to reconcile national objectives with international balance. This process was the result of Triffin's career at the FRB when he was involved in money doctoring missions. According to Triffin, the international monetary system had to be more flexible in the provision of international reserves to enable countries to cope with temporary deficit in the balance of payments resulting from global cycles.

3. Triffin's Advocacy for European Monetary Integration (1947-1950)

The previous section was devoted to analyze the reasons why Triffin supported the use of international reserves. In case of temporary deficit of the balance of payments, linked to the global economic cycle, countries should not reduce the deficit by leading a deflationary policy but

[15] On the relationship between Prebisch and Triffin during the 1940s, see Helleiner (2009, 2014), Matías Vernengo and Esteban Pérez Caldentey (2012).

rather finance it by resorting to international reserves. This present section tackles with a complementary issue: the provision of international liquidity. Did the Bretton Woods agreements set up a financial mechanism making available to the member countries additional international reserves in times of need? It did in theory since the innovation of the agreements was the establishment of the IMF whose aim was to supply additional international reserves for deficit countries. According to Triffin (1947a, p. 80), "when reserves are insufficient, foreign or international assistance – such as is contemplated under the International Monetary Fund – will be necessary". This assistance would both provide reserves for deficit countries without resorting to internal deflation or exchange control and protect other countries from being impacted by the effects of these measures. However, the international monetary system that prevailed after the second world war was far different from the system that the Anglo-American delegations foresaw. Actually, the IMF was unable to carry out its missions of overseeing the international monetary system – reducing exchange restrictions and providing the return to currencies convertibility – and smoothing countries' external adjustment. In time of bilateralism and dollar shortage, characteristics of the second half of the 1940s, Triffin, then Director of Exchange Control at the IMF, supported a clearing mechanism to facilitate the implementation of the Marshall plan in European countries.

3.1 Bilateralism and liquidity shortage: the IMF's failure

The Bretton Woods system represented an unprecedented experiment in the implementation of rules and international institutions so as to reconcile international balance and autonomous national economic policies. Briefly, the purposes of the IMF (Article I, IMF Articles of Agreement), were to promote (i) international monetary cooperation, (ii) to facilitate the maintenance of full employment and rapid growth, (iii) to maintain stable exchange rates and avoid competitive devaluations, (iv) to provide a multilateral system of payments and eliminate exchange restrictions, (v) to provide resources to meet balance of payments disequilibria without resort to drastic measures, and (vi) to shorten the duration and lessen the degree of payments disequilibria. The IMF articles developed the necessary means to achieve these goals. Firstly, the Article IV of the Agreement seeks to attain the objective of exchange rate stability by requiring members to agree on a par value of their currency either in gold or in dollar. This was achieved at the end of 1946 by major European countries. Secondly, the IMF aims at establishing a multilateral system of payments based on currencies convertibility for current account transactions (Article VIII) while allowing capital control (Article VI, Section 3). However, the IMF allows member countries to postpone the return to convertibility for current account transactions for an indefinite transition period (Article XIV). Actually, the currencies inconvertibility period lasted until 1958. Finally, the IMF offers facilities to finance short-term balance of payments disequilibria (Article V). Indeed, countries could borrow from the IMF a foreign currency in exchange of its own in order to settle a deficit with a particular country[16]. To avoid the shortage of a particular currency in IMF resources, the IMF could activate the scarce currency clause (Article VII). When it appeared to the IMF that its holdings of a particular currency were likely to be exhausted – a creditor country's currency – the Board of Directors should propose to declare this currency scarce and above all, authorize other countries to limit and ration country's exports whose currency has been declare scarce. This clause meant to avoid the perpetuation of an overall surplus of a country towards the world.

Despite the innovative nature of such an institution empowered to foster international monetary cooperation, the IMF failed in achieving its objectives. Actually, the economic environment in which the IMF was supposed to intervene was far different from the immediate post-war period. According to Brian Tew (1952, p. 94), "many of the Fund's failures have undoubtedly been due to the fact that it has had to bat on a bad wicket: the stresses and strains of the post-war years have been of such unparalleled severity that the new organization has never had the chance of proving its value in relatively normal circumstances". Far from promoting multilateralism and providing sufficient international reserves, the IMF failed to avoid bilateral approach of economic relations and world liquidity shortage.

After the war, only the dollar was both convertible into gold at fixed parity ($35 the ounce of gold) and in other currencies[17]. When the IMF went officially under way in March 1947, most of countries decided to extend exchange and trade controls, postponing the return to full currencies convertibility. The reason has to be found in the economic consequences of the war. Indeed, following the destruction of European industry and the growing needs for consumption and capital goods, European countries ran a structural current account deficit with the US until the mid-1951. According to Eichengreen (1993, p. 11), this deficit amounted to $5.6 billion in 1947, $3.4 billion in 1948 and $3.2 billion in 1949[18]. In that context, exchange and trade

[16] According to the Article III, each country could borrow from the IMF up to an amount limited by its quota. IMF's resources are made up of countries' initial contributions – equal to the borrowings rights – divided up between 25% in gold and 75% in national currencies.

[17] We follow Triffin's distinction (1950, pp. 5-6) between gold convertibility of currency – the ability for private individuals to convert freely national currency into gold at the official fixed price – and the convertibility on the foreign exchange market, which referred to the ability for private individuals to buy and sell freely the national currency into a currency of another country. Under the Bretton Woods system, except for the US, countries were only concerned with the second form of convertibility.

[18] European countries needed immediate key imports such as foodstuffs to meet the basic needs. Moreover, European industry did not produce exports that would have financed this increase in imports. To boost industrial activity, new and improved capital was required. The need for both primary and capital goods explains the extent of the European current account deficit.

restrictions enabled countries to allocate the sole means of settlement acceptable by all, the dollar. However, these measures were supplemented by bilateral arrangements that were negotiated between each pair of countries and consisted of licenses and quotas for imports and exports. But these agreements resulted in a trade diverting policy and strengthened the reallocation of international reserves:

> To maximize the availability of hard currency [gold and dollars] that might be used to purchase from the dollar area the imports to which they attached priority, European countries restricted their imports from the rest of Europe to the value of their receipts in each European trading partner's currency. (Eichengreen, 1993, p. 13).

Bilateralism permitted a resumption of trade between countries partners thanks to the opening of mutual credit lines which allowed them to escape from the strict bilateral balancing of their imports and exports. These reciprocal overdrafts rights were promoted on the idea that surplus and deficits would alternate between countries, permitting to a deficit country to repay the credit allowed when later it will be in surplus. But these bilateral agreements were constraining because there was no surplus and deficits alternating between countries, leading to credit lines' exhaustion:

> Experience demonstrated (…) that some countries tended toward persistent deficits, others toward persistent surplus. Once credit ceilings were reached, additional credits were not forthcoming. And once credits were exhausted, bilateral clearing became increasingly constraining. (Eichengreen, 1993, p. 16)

The dollar shortage, fueled by the structural current account deficit from European countries towards the US, was reinforced by the overvalued official parities established in the end of 1946. Bordo (1993, p. 39) points out the IMF pressures on members' countries to declare the parity of their currencies as soon as possible. In this context of general disequilibria, the IMF considered the scarce currency problem in 1947 but did not decide to take action under the Article VII, nor later. The Executive Directors of the IMF were aware of the origins of the gap between the demand for and the supply of dollars, that resulted "from a shortage of productive facilities, particularly in European countries, with which dollars could be earned. The real scarcity therefore was one of production, and not of dollars" (John K. Horsefield, 1969, p. 193). Since the IMF was "not intended to provide facilities for relief or reconstruction or to deal with international indebtedness arising out of the war" (Article XIV, Section 1), European countries hardly draw resources from this institution during the second half of the 1940s.

Facing the gap between the means of the IMF and the challenges of the post-war years to restore an international economic and monetary system, the Truman administration decided to implement the European Recovery Program; known as the Marshall Plan. It has to be highlighted that the US desire to finance European reconstruction and allow European trade resurgence was grounded on a proactive policy of communism containment[19]. As a condition for US help, European countries had to agree on a program to allocate US loans and donations[20]. A Conference on European Economic Cooperation (thereafter CEEC) was held in Paris in July 1947, giving rise to an official committee of western European governments that had to agree on a four-year programme. Simultaneously, the US Congress authorize the creation of the Economic Cooperation Administration (thereafter ECA) to administrate the Marshall Plan. From the beginning of the summer of 1947, the IMF entered the discussions between the United States and European countries, under the leadership of the new Managing Director, Camille Gutt, the former Belgian Minister of finance.

3.2 A multilateral approach: Triffin and the European Payments Union (EPU)

After four years at the FRB, Triffin was recruited by the IMF on July 1946 and appointed Director of the Exchange Control. Until the mid-1947, Triffin continued the projects started during his years at the FRB, especially Latin American missions. Immediately after the IMF joined the negotiations between the CEEC and the ECA, Gutt and Edward M. Bernstein – then Research Director of the IMF – asked Triffin to work on European first proposals. According to Kaplan and Schleiminger (1989, p. 362), the first projects of multilateralization of payments, based on the clearing mechanism, were supported by Felix LeNorcy, an official of the French Ministry of Finance, and by the Benelux officials during the CEEC meeting in July 1947. Despite the failure of theses first proposals, Triffin studied it, especially the Benelux plan, and began to shape his first proposal for a European clearing union (Jérôme Wilson, 2015, p. 461). Between 1947 and 1949, Triffin issued a series of eight IMF memoranda to promote multilateralization in Europe[21].

[19] After an official visit to Moscow early in 1947, Marshall, Secretary of State, realized that Joseph Stalin did not intend to reduce its influence on European territories occupied by the Soviet army, the reverse was the case. According to Jacob J. Kaplan and Günther Schleiminger (1989, p. 15), "Regardless of Soviet behaviour to their east, economic hardship seemed to strengthen the appeal of western European Communist parties, particularly in France and Italy. Thus a westward expansion of Soviet hegemony appeared within the realm of possible".

[20] Marshall's speech on 5 June 1947 at Harvard was explicit: "It is already evident that, before the United States Government can proceed much further in its efforts to alleviate the situation and help start the European world on its way to recovery, there must be some agreement among the countries of Europe (…) This is the business of the Europeans. The initiative, I think, must come from Europe".

[21] RTPY, box 19, "Summary of Triffin's IMF memoranda and proposals for the multilateralization of Intra-European credits and settlements (September 1947 – December 1949)".

In his first memorandum, *The Unresolved Problem of Financing European Trade*[22], written in September 1947 but released by the IMF in December 1947[23], Triffin points out that "the difficulty to be met here is one of providing adequate machinery [to resurge European trade], and not merely financial assistance in terms of gold and dollars" (RTPY, Triffin, 1947, p. 1). Indeed, financial assistance is required to supply European countries in hard currency in order to meet the deficit with the dollar area, but Triffin considers that a mechanism should be implemented between European countries to avoid resorting to reserves. According to Triffin (RTPY, 1947, p. 2), "as long as gold and dollar reserves remain at their present low level, only further credits can relieve the pressure for bilateral balancing of inter-European trade". So he proposed to multilateralize all European claim and debts, and to extend credit lines within a multilateral framework. In other words, this multilateral agreement would transfer the credits commitments which existed under the bilateral agreements from individual to all countries participating in a clearing house, entitled "European Clearing Union" (RTPY, Triffin, 1947, p. 4).

> The total credit commitments made by each country to other Clearing members would be paid into the Clearing in its own currency, and the country would receive an equivalent balance in the Clearing which it could then use to settle current account deficits with any Clearing member. (RTPY, Triffin, 1947, p. 4)

The first feature of Triffin's plan is the compensation mechanism which enables to offset a large part of bilateral imbalances between countries and the European Clearing Union. The benefit of the clearing house is the economy of means of settlement (gold and dollar) coupled with the participating countries' renouncement to discriminate European partners. Moreover, balances in the Clearing should be expressed in a new unit of account:

> This essential aspect of the Clearing's mechanism could be dramatized by the introduction of an inter-European currency unit, equal in value to one American dollar, and called, let us say, "European dollar" or "interfranc". (RTPY, Triffin, 1947, p. 4)

According to Triffin (RTPY, 1947, fn1, p. 4), the bookkeeping nature of this new unit may change in the future if European countries deepen monetary integration. For now, Triffin does not propose a European currency. Clearing's assets would remain in participating countries' currencies and national currencies would retain their existing independence and autonomy.

[22] RTPY, box 19, "Triffin's EPU proposals…1947-1948", *The Unresolved Problem of Financing European Trade*, December 16, 1947, IMF Staff Memorandum N° 160.

[23] According to Wilson (2015, pp. 460-61), the IMF staff was not enthusiastic by Triffin's proposal because it considered that a clearing mechanism favored the exchange of non-essential goods, delaying the European economic reconstruction. Moreover, since the debate on the implementation of the Marshall plan was a political issue, outside the scope of the IMF, the IMF staff felt uncomfortable.

The second feature of Triffin's plan was the payment mechanism of net balances. Indeed, even if a large part of European trade would be settled, some European countries will have a net over-all deficit or surplus toward other European countries; this was the case for respectively France and Belgium. One of the objective of the US aid is so to provide European countries for dollars in order to finance these net balances within the European Clearing Union framework. But Triffin raised a second issue: since European countries ran an overall deficit towards the US, it will deteriorate both European Clearing Union's and countries' reserves without being sure of replenishing it later. To avoid the paralyzation of the whole clearing machinery, the US aid should be large enough. Related to the problem of the amount of the US aid, Triffin points out the need to "define, for each European country, the maximum deficit which could be reasonably and safely incurred" (1947b, p. 7) but without defining a clear rule. In a second memorandum, released in May 1948 and entitled *Multilateralization of European Payments Agreements among Fund Members*[24], Triffin does not support an automatic rule in additional credits granted by European surplus to deficit countries:

> Further credits may be required in the meanwhile, but their amount will necessarily depend on the prospective lenders' appraisal of the efforts made by each country to redress its situation. (RTPY, Triffin, 1948, p. 423)

In later memoranda, Triffin discusses rules of the financial machinery, especially the proportion of the deficit that could be financed with credit and the one that should be paid in gold and dollars.

Even if Triffin never mentions Keynes's pioneering work on that topic, his proposal for a clearing house fits in his International Clearing Union as a remedy for bilateralism and exchange and trade restrictions[25]. However, Triffin does not propose yet to replace the dollar by a supranational money; his innovative idea laid on the regional monetary approach to solve European concrete problems. Triffin was pragmatic considering that "[the IMF's] administrative machinery had been planned for a world order in which the Fund could deal with on country at a time in isolation from the others" (Triffin, 1952, p. 270), Triffin asserted that this institution was ill-adapted to regional issues, here the structural European deficit towards the US. The US Treasury and the Fed were strongly opposed to Triffin's proposal for a European Clearing Union. They argued that this "regional liberalization of intra-European trade and payments (…)

[24]RTPY, box 19, "Triffin's EPU proposals…1947-1948", *Multilateralization of European Payments Agreements among Fund Members*, May 7, 1948, IMF Staff Memorandum N° 226.

[25] According to Wilson (2015, p. 369), Triffin found out the Keynes Plan in September 1942 when his hierarchical superior at the FRB, Walter Gardner, forwarded him a copy.

would stifle worldwide competition and create a high-cost uncompetitive European area, condemned to increasing discrimination and protectionism to fight its deficits with the rest of the world, particularly the United States" (RTPL N782, Triffin, 1977, p. 1). Moreover, Triffin's proposal was seen as a nose thumbing to the IMF while the latter was unable to promote trade liberalization and payments mechanism in Europe. To be fair to Triffin, we highlight that he always tried to integrate the IMF in his proposals for a clearing union in Europe, especially in making the IMF the supplier of scarce currencies along with the US aid. However, the IMF remains rather reluctant to Triffin's proposals (see Wilson, 2015, pp. 472-501). But the ECA and the State Department shared the same view as Triffin to solve European payments disequilibria. First send to Paris by the IMF in 1948 to follow European negotiations[26], Triffin left the IMF in December 1949 when he was asked to formulate concrete proposals in the name of the US – inside the ECA – to negotiate with the Organization for the European Economic Cooperation (thereafter OEEC)[27]. After nine months of negotiations, eighteen countries of the OEEC signed the European Payment Union Agreement on 19 September 19 1950 with retroactive effect from 1 July 1950. Triffin 's involvement in the multilateralization of European payments was significant enough for Eichengreen (1993) qualifies him as the EPU architect. Without being too categorical, we cannot deny the importance that had Triffin in the debates within the ECA to establish the EPU face to the reluctance of many officials in US administrations and at the IMF.

The EPU incorporates the broad lines of proposals outlined by Triffin few years ago. Concerning the compensation mechanism, at the end of each month, each EPU's country net balances with each other country were reported to the Bank of International Settlement[28], the EPU's financial agent, which offset claims to not individual country but the Union as a whole. Only mattered the net position of each country *vis-à-vis* the rest of the group. Concerning the payment mechanism, net debts could be financed initially with credits, but eventually these liabilities had to be settled in dollars and gold. As in the Keynes plan, the weight of the external adjustment is borne by the deficits countries as well as by the surplus countries. The payment in gold or dollars is determined by a quota allocated to members and by a scheme of borrowings rights and lending obligations (see Appendix 1). Contrary to Keynes' proposal, the EPU architects, including Triffin, rejected the idea of an automatism in the credits granted by surplus to deficit countries beyond the quota credits. They advocated a case by case evaluation of the

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[26] It was Triffin's request to be the first technical representative of the IMF in Western Europe. Triffin (1981, ft2, p. 243) reminded that he was appointed "Roving Technical Head of the IMF in Europe", reflecting the absence of a clear definition of his role there. Actually, he took the opportunity to be closer to discussions between European countries and to develop his own ideas on possible remedies, giving rise to calls of order by Bernstein, his IMF superior (Wilson, 2015, pp. 484-96).

[27] This CEEC was converted into the Organization for European Economic Cooperation in April 1948.

[28] Even in the EPU operation, the IMF decided not to play a role.

opportunity to grant credits, through the control of the EPU's Managing Board. Moreover, the Board was empowered to monitor the economic policies of member countries and to formulate recommendations in case of permanent balance of payments disequilibrium.

Triffin's critics of the inadequate IMF architecture to promote multilateralization echoed back the debates between Keynes and White in the early 1940s. The international monetary system did not provide a mechanism to meet European demand for dollars. In absence of such a system and to reduce this demand, the EPU coupled with the Marshall plan were set up and solved temporarily the scarce currency problem. The ECA allocated dollars to the estimated needs, i.e. to buy American goods, and allowed additional funds to cover the probable net outgo of dollars form the system[29]. To a certain extent, the EPU finished its task successfully and while it was expected to come to an end in 1952, the EPU was postponed until 1958 when the participating countries restored current account convertibility. Between 1950 and 1958, three quarters of participating countries' balances were offset, the later quarter necessitated payment in gold and dollar. The economy in means of settlements was obvious. Moreover, on the same period, the European trade had more than double in value. The EPU Agreement helped to stimulate trade between European countries, to deter them from discriminate their trade partners and tend to reduce trade and exchange transactions between participating countries. Nevertheless, Triffin acknowledged that even if the "EPU system has restored multilateralism over a wide area, [it] has left intact – and might even increase – discrimination against the dollar area" (1952, p. 299). Indeed, in the EPU framework, European countries were able to maintain their exchange and trade restrictions towards the US. Triffin reminded that the absence of trade liberalization towards the US by European countries was no more than the scarce currency clause (Article VII of the IMF) putting into practice:

> So I argued that mutual preferences decided by the EPU were only the equivalent of the clause 7 of scarce currencies, but expressed in a positive form rather than negative, and therefore more easily acceptable by public opinion and the US Congress. (Triffin, in Ferrant and Sloover, 2010, p. 39)[30]

Without resorting to full currencies convertibility and relying on the clearing mechanism in a regional cooperation framework, European countries succeeded in coping with dollar shortage

[29] The Marshall plan helped to establish the EPU's working capital ($350 million) and in addition gave assistance to member structural debtors. In his 1948 memorandum, Triffin (RTPY, 1948, p. 5) had yet proposed an external aid of $338 million to constitute the Clearing's working capital.

[30] Originality written in French: « J'argumentai donc que les préférences mutuelles dictées par l'UEP n'étaient que l'équivalent de la clause 7 sur les monnaies rares, mais exprimé sous une forme positive plutôt que négative, et dès lors plus aisément acceptable à l'opinion publique et au Congrès américain. »

and bilateralism. Even if Triffin was not the first to propose a clearing mechanism[31], he has become a leading figure in both negotiating the EPU in the end of the 1940s and promoting the idea of multilateralization of payments.

4. Triffin Dilemma and Central Banking (1950-1960)

In this section, we examine Triffin's further reflections and propositions for regional monetary approach in the 1950s. According to Triffin (1960), the gold exchange standard is unable to provide a sustainable amount of international liquidity without impeding the stability of the whole international monetary structure. The composition of international reserves appeared problematic in the late 1950s since the dollar shortage situation was replaced by a dollar glut, weakening the net reserve position for the US. Further, provision of international reserves appears to be US' decision to have a large deficit in the current account or to export capital to foreign countries. In other words, under the gold exchange standard regime, the international liquidity issue was utterly tied down to the US state of affairs and policy.

Before presenting the problem in those terms – the Triffin dilemma – in his 1960 book, Triffin developed in the early 1950s a bottom-up approach to reform the international monetary system: his implication in the EPU gave him the theoretical and empirical basis to advocate firstly the systematization to third countries of the compensation mechanism and secondly the development of another form of liquidity. In a November 1951 memorandum transmitted to the ECA, entitled *The Path from EPU to European Monetary Integration*, Triffin reminded that world-wide cooperation was to be decentralized, "promoting a closer integration between neighboring countries than would be either objectively desirable or politically feasible in a broader framework" (1951, p. 451). The EPU was an example of a first step towards regional monetary integration and was not considered by Triffin as an alternative to the IMF's objectives. On the contrary, far from being the IMF's rival, the EPU was an integral part of international cooperation framework. So, the formulation of the Triffin dilemma results from his willingness to deepen regional monetary integration under the leadership of a reformed IMF. As stated earlier, the formulation of the Triffin dilemma was the consequence and not the cause of Triffin's involvement into regional monetary integration.

[31] See Kaplan and Schleiminger (1989, pp. 360-3) for an account of the source of ideas at the origin of the EPU.

4.1. The European Central Bank

As one of the EPU architects and the US representative at the OEEC since 1949, Triffin became the US alternate representative in the EPU's Managing Board. Disagreeing with the instructions that he received from the new US administration, Triffin resigned in August 1951[32] and was made professor at Yale University until 1977. After several years of negotiations about international monetary issues, both at Washington and in Europe, Triffin strengthened his conviction that monetary reforms had to be implemented at the regional level. In a memorandum, dated from 31 July 1953 and entitled *Convertibility and the EPU*, Triffin saw Keynes' Clearing Union as an "ideal one" (RTPL N593, Triffin, 1953, p. 9) but regarded it "as still premature and utopian" (ibid.). Moreover, Triffin remains pragmatic and points out the practicability of a closer regional integration rather than a centralized approach promoted in the Keynes' plan:

> (…) It is extremely difficult to create an effective form for quick negotiation among fifty countries or more, on the multiple issues for discretionary decisions by the Union: monetary policy, commercial policy, exchange rates, etc. Such discussions and negotiations can be conducted effectively only between a limited number of participants, all interested in the question at issue, highly interdependent on one another decisions, keenly aware of this interdependence, and willing to trust one another to fulfill the obligations assumed. (RTPL N593, Triffin, 1953, p. 9)

Triffin considered that the generalization of EPU principles to a decentralized international monetary system is a better way to prepare the return to full currencies convertibility. From the early 1950s, Triffin never stopped to consider that "the EPU Agreement [was] only the first of many steps on a long road toward the eventual integration of European monetary policies and institutions" (Triffin, 1966, p. 449).

On a regional scale, Triffin proposed to deal with monetary integration in depth. His final objective was to transform the EPU into a European Central Bank (thereafter ECB), able to lend and rediscount to national central banks, with a unit of account that could be also a means of payments between countries and centralizing participating countries' international reserves. These three features of such an institution could lead to the creation of a single currency area in which a European currency would be used for international transactions without remove national monies for national transactions. Triffin acknowledged that it would be the natural evolution of the EPU:

> The evident value of EPU to its members will ensure their loyalty and their desire to strengthen and develop it themselves, as required by the logic of events. I, for one, feel confident that this will transform fairly rapidly EPU into a Central Reserve Bank for Europe, and may even end up in something approximating a single currency area. (Triffin, 1951, p. 458)

[32] Triffin reminded this event in its carrier without shedding light on the content of US instructions. However, it could be supposed that the US administration wanted to undermine the EPU. See Ferrant and Sloover (2010, p. 41).

This long run view shapes Triffin's proposals to deepen European monetary integration. The first step toward a fuller monetary integration in Europe was to build a joint reserve fund for European countries:

> Such centralization of reserves is certainly one of the first prerequisites and functions of a European Central Bank. (Triffin, 1951, p. 459)

The concentration of international reserves, originally held by European countries in its own central banks, in the ECB would be a means to economize gold and dollar. The excess credits, for countries which ran a net surplus position beyond the quota against other European countries, would be settled in convertible accounts rather than dollars or gold. Cash economized could guarantee these accounts. According to Triffin:

> Unspectacular in itself, the convertible account technique would set in motion the very mechanism out of which modern banking actually developed over the course of history. (Triffin, 1951, p. 459)

The second step towards fuller monetary integration was the strengthening of the EPU managing board influence on the member countries' monetary policies to avoid excessive current account deficit or surplus. With the centralization of reserves and the convertible account technique, the ECB "could place at the disposal of its members [gold and dollars] in case of need" (Triffin, 1951, p. 459). In that way, it could reinforce the influence of the EPU managing board by placing at their disposal larger financial resources to "back up its advice to members" (ibid).

The perpetuation of the EPU through the centralization of reserves is a recurrent idea in Triffin's works during the 1950s. Triffin reminded the importance to create convertible accounts to facilitate monetary transfers inside the EPU and with the dollar area. In order to strengthen the ability of the EPU to lend more to members' countries, theses latters should have to contribute to the increase of the EPU's working capital "to finance automatic or special assistance overdrafts facilities to the countries whose convertible account is exhausted, and who lack other resources or current earnings to replenish it" (RTPL N593, Triffin, 1953, p. 13). By centralizing EPU members' reserves, "the convertible account system should develop EPU into a major monetary center attracting a portion at least of the monetary reserves of non-member countries as well as of member countries' (ibid.). This would require the development of the EPU unit of account into a regional means of exchange and store of value (Triffin, 1951, p. 452). Drawing on his experience, Triffin tried to set up an institution in charge of monetary flows between Europe and the Dollar area through a collective management of national reserves (Eric

Bussière and Olivier Feiertag, 2012, p. 76). This European monetary framework would aim at avoiding the dollar shortage experienced by European countries in the second half of the 1940s while reinforcing monetary integration at the regional level. It should be noted that Triffin advocated the creation of European liquidity without yet considering the suppression of the dollar and gold, that is to say the pillars of the gold exchange standard.

Triffin's advocacy for a European reserve fund was reiterated in 1955 when the European Monetary Agreement was signed in order to replace the EPU in time. This agreement provided for a fund in order to lend in the short run to weaker European countries. These loans enabled them to achieve the return to currencies convertibility. According to Triffin, this fund was not enough ambitious and he "advocated the transformation of the EPU into a European Clearing House that would also pool about 20% of the total gold and foreign exchange reserves held by European central banks" (Maes and Erik Buyst, 2004, p. 433). Despite Triffin's warnings, in December 1958, the EPU was cleared and all European countries returned to full currencies convertibility. At this moment, Triffin tried to highlight that the risk of returning to full currencies convertibility without more cooperation between countries to ensure the operation of the international monetary system will be a blind-alley. This analysis was exposed in his 1960 *Gold and the Dollar crisis*.

4.2 International liquidity: the dilemma and the remedy

As reminded by Bordo (1991, p. 61), the IMF questioned the level of international liquidity to meet countries' need at a time when world trade was increasing. In a 1958 report, the IMF recommended the increase in members' quotas to face the return to currencies convertibility in an expanding world. In his 1960 book, Triffin tackled the same issue asserting that the whole international monetary system was not adequate to the growing needs of international liquidity. Indeed, making his diagnosis on the evolution of the international monetary system, Triffin forecasted that if the US corrected its persistent balance of payments deficit[33], the gold production at 35$ an ounce would not be sufficient to meet the growth of the needs of international reserves and lead to a deflationary bias. On the other hand, if the US kept running deficits, its foreign liabilities – dollars balances held by foreign countries – would excess by far

[33] We have to be more precise when we use the term "persistent balance of payments deficit". Indeed, until the early 1970s, the US ran a current account surplus with the world. When Charles de Gaulle's Finance Minister, Valéry Giscard d'Estaing, spoke of the US "exorbitant privilege" in the 1960s, he referred to the ability for the US to borrow on short term easily and at low cost to lend on long term to the rest of the world. In other words, "the source of the dollar balances accumulated abroad was net capital outflows, nor current account deficits" (Richard Portes, 2012, p. 196).

the American ability to convert these assets in gold on demand and resulting in the suspension of the gold exchange standard by the US.

> The most fundamental deficiency of the present system, and the main danger to its future stability, lies on the fact that it leaves the satisfactory development of world monetary liquidity primarily dependent upon an admittedly insufficient supply of new gold and an admittedly dangerous and haphazard expansion in the short-term indebtedness of the key currencies countries. (Triffin, 1960, p. 100)

This diagnosis was at the core of Triffin's analysis when he pointed out the dangerous state and prospects of international liquidity: higher will be the growth of world trade, the more international reserves countries will need (Triffin, 1960, p. 49). According to Triffin (1960, p. 61), since the end of the 1940s, the American gold reserves decreased from $24.6 billion in 1949 to $20.6 billion in 1958. At the same time, dollar balances held by foreign countries for official and private transactions shoot up from $6.4 billion in 1949 to $15.6 billion in 1958. The haphazardly development of this structure of international reserves threatened all of the international monetary and financial architecture, which would lead to the collapse of the gold exchange standard in a case of a confidence crisis. Triffin explicitly drew the parallel between 1931 and a probable demise of the Bretton Woods system:

> This [the run on key currencies and flight to gold] happened to the United Kingdom in 1931. The collapse was then brought about by large shifts of sterling balances into gold and dollars, leading to the devaluation of sterling. (Triffin, 1960, p. 67)

Triffin put to the light the inconsistency of the gold exchange standard. To some extent, the threat of a crisis confidence in dollars denominated assets holdings increased the instability of all the international reserve system[34].

This diagnosis was not only an alarming observation of the actual working of the Bretton Woods system and its prospects, but also an acknowledgment of failure of the regional monetary integration. Indeed, *Gold and the Dollar Crisis* has to be read in a historical perspective, that is to say the abandonment of the EPU when European countries returned to currency convertibility. As clearly summarized by Maes and Buyst (2004, p. 433):

> It is very remarkable that, in 1955-1957, the six "Schuman" countries made two very different choices: a regional one for the integration of goods markets, with the Rome Treaty, and a

[34] In his 1957 *Europe and the Money Muddle*, Triffin already forecast the formulation of the dilemma: "The enormous improvement of foreign countries' reserves which has taken place in recent years has been primarily the result of vast redistribution of net reserves from the United States to the rest of the world (…) it is evident that such a movement could not continue indefinitely without eventually undermining confidence in the dollar itself" (Triffin, 1957, pp. 296-7)

> worldwide one for monetary integration, with complete convertibility in the framework of the Bretton Woods system.

To get out of the dilemma, Triffin strengthens his former proposals to reform the international monetary system.

The first level would be the development of regional monetary integration, on the European example. In that scale, a regional central bank would offset balances between countries, centralize reserves and grant credits to deficit countries. Actually, Triffin iterated the same propositions as before:

> The participating countries would establish jointly a Clearing House centralizing all payments among their separate central banks. These payments would be effected through corresponding debits and credits to the account maintained by each central bank with the Clearing House. (Triffin, 1960, p. 124)

The resources of the clearing would be made up of gold and convertible foreign currencies, in order to maintain the convertibility of participating countries' accounts. As highlighted by Triffin, this reform proposal for European countries "would be regional, rather than world-wide in scope, (…), and could probably negotiated and implemented more easily, more rapidly and more fully within such a framework" (1960, p. 125). So Triffin supported regional monetary integration, on the European example, but for others regional zones like Latin American and African Countries[35]. However, Triffin's plan suffers from defects, rightly highlighted by Maes (2016), concerning the ins and outs of closer regional monetary integration. Indeed, Triffin did not make a significant distinction between a monetary union and a fixed exchange rates system explaining that in both case, countries have to "subordinate their internal monetary and credit expansion to the maintenance of equilibrium in their balance of payments" (Triffin, 1957, p. 289). In the light of the recent euro zone crisis, Maes (2016, p. 65) reminded that, under a monetary union with capital flows, disequilibria are not necessarily corrected between countries. Moreover, monetary union in Triffin's view did not imply fiscal federalism. Again, Maes (ibid.) points out "a major weakness of Triffin's analysis".

The second level of reform is an international one and consisted in a reform of the IMF's structure. To cope with the instability of using national currencies as international money, Triffin advocated to replace gold and foreign currencies balances, such as dollar and sterling ones, by gold-guaranteed deposit accounts at the IMF (Triffin; 1960, p. 102). These IMF balances would be gradually the major source of increase of international reserves. In other words, the IMF would control the expansion of world liquidity to countries' needs. As the EPU for European

[35] Triffin's efforts to promote regional trade and payments agreements in Latin American countries, Asia or Africa were important since the 1950s. See Triffin (1966, Chaps. XII and XIII).

countries, the IMF would be able to clear balances between countries and propose credits from the net surplus to the net deficits countries (Triffin, 1960, p. 115).

Triffin saw the new IMF as a central bank of the national central banks, whose objective would be to regulate disequilibrium between regional monetary zones. Gold would remain an international reserve but the IMF would create a new international money, consisting in bank deposits. In the end, the IMF would act a clearing house, centralizing countries' reserves. It has never been mentioned that this proposal was already developed by Triffin in the early 1950s, especially in a OEEC memorandum, released on 8 August 1952 and entitled *Major Proposals for E.P.U. and I.M.F. revision*[36]. In parallel to a reform of the EPU, Triffin advocated yet a reform of the IMF to establish a mechanism that enable countries to draw on the IMF to settle any balance with another member country:

> Emphasis in Fund transactions should shift from individual salvage operations to triangular or multilateral operations designed to maintain a multilateral framework for monetary settlements. (…) the Fund should give maximum attention and automaticity to the mobilization of bilateral earnings necessary to cover bilateral deficits in other directions. (RTPY, Triffin, 1952, p. 13)

Far before the dollar glut, Triffin attempted to "reintroduce in the I.M.F. operations some essential features of the Keynes Clearing Union Plan" (RTPY, Triffin, 1952, p. 15). Nevertheless, as reminded in his 1990 interview (Ferrant and Sloover, 2010, pp. 48-49), Triffin considered the creation of a supranational central bank as a pious hope but regional central banks, on the EPU model, could be feasible. In the end, the management of the new international monetary system would be decentralized, regional monetary zones acting under the leadership of the IMF.

5. Conclusion

In his 1960 *Gold and the Dollar Crisis*, Triffin warned the IMF and the leading countries that the Bretton Woods system was not sustainable because the huge accumulation of foreign dollar balances to meet international liquidity needs made the system dynamically unstable. According to de Larosière (1991, p. 137), "Robert Triffin was the first to show how persistent US balance of payments deficits and the accumulation of dollars would ineluctably led to an embargo on gold and devaluation of the dollar". Despite some marginal arrangements to relieve pressure on the Bretton system from 1960 – the Gold Pool in 1961 and the creation of the Special Drawing Rights as a new form of international liquidity in 1968 – the system collapsed in 1971.

[36] RTPY, box 19, "EPU revision 1952", *Draft Outline of Major Proposals for E.P.U. and I.M.F. Revision*, August 8, 1952, N° 00005.

In this article, we focused on the origins of the formulation of the Triffin dilemma. We supported the idea that understanding the *Gold and the Dollar Crisis* analysis calls for a study of Triffin's involvement in European monetary integration. Firmly convinced that his 1947 plan for a European clearing mechanism was the solution to resurge European trade and reduce permanently the demand for dollars from European countries, Triffin began to see regional monetary integration as a solution for the defects of the Bretton Woods system. Throughout the 1950s, Triffin was the instigator of enlargement and deepening of the clearing mechanism to other regional currency areas and to the IMF. His proposals to create other forms of liquidity than the dollar and gold shows his commitment to improving the use and provision of international liquidity. Fearing the unilateral return to full currencies convertibility under the Bretton Woods framework, Triffin never stopped to promote deeper European monetary integration and cooperation as complementary to a reform of the international monetary system. Guided by the EPU achievements, Triffin took awareness of the inability of the gold exchange standard to provide both sufficient international liquidity and stability in the making of external payments. From the early 1950s, gradually, Triffin was convinced that regional monetary integration was the solution to return to full currencies convertibility, and in that sense, we agree with Maes (2016, pp. 83-4). However, Triffin rapidly considered that the decentralization of monetary cooperation between regional monetary zones were the cornerstone of a new international monetary system in which national currencies should have to be replaced by a new form of liquidity, created by bodies, such as the EPU and the IMF.

As one of the EPU architects, Triffin was influential during the 1950s even if his thorough proposition for regional monetary integration was not followed. Very humble, Triffin reminded that his contribution to international monetary analysis was simple: "(…) my only originality, as an economist, is to have constantly stressed that "bon sens" [reason] is often the opposite of "sens commun" [common sense]" (Ferrant and Sloover, 2010, p. 67).

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Appendix 1

<u>EPU Quota</u> (in million US$)

Sterling area	1060	Norway	200
France	520	Denmark	195
West Germany	500	Austria	70
Belgium Luxembourg	360	Portugal	70
Netherlands	355	Turkey	50
Sweden	260	Greece	45
Switzerland	250	Iceland	15
Italy	205		

Each country received a quota equal to 15% of its total merchandise trade (visible and invisible transactions) with EPU members' countries in 1949. For each country, its quota limits the rights to borrow or the obligations to lend. The settlement of balances – in gold or dollars – is as follows.

<u>Borrowings rights and lending obligations</u>

% Of Quota	DEBTORS		CREDITORS	
	Credit	Gold Payment	Credit	Gold Payment
20	20	-	20	-
20	16	4	10	10
20	12	8	10	10
20	8	12	10	10
20	4	16	10	10
100	60	40	60	40

To illustrate the mechanism, let us take the example of West Germany, with a quota of $500 million, which runs a deficit *vis-à-vis* the EPU of $100 million during the first period. Since its deficit is equal to 20% of its quota, it is entirely financed by credit. Let us assume now that during the next period, West Germany accumulates a deficit amounting $200 million, that is to say 40% of its quota. In that case, it can borrow a further sum of $80 million ($\frac{16}{20}$ x $100 million) and pay to the EPU $20 million ($\frac{4}{20}$ x $100 million) in gold or dollars. The more the country runs a deficit with the EPU, the more in proportion it has to pay its debt in gold/dollars. For creditors countries, the mechanism is the same: the more a European country runs a current account surplus with the EPU, the less in proportion it is paid in gold/dollars.