5. Robert Triffin and the Case for Exchange Controls

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Abstract

This article discusses Robert Triffin's (1911-1993) position on exchange control measures, which should be implemented by the central bank or by a specially-created government institution. Following the experience of such measures in the 1930s and during the war, exchange controls faced general rejection by both official and academic economists. Like most of his contemporaries, Triffin advocated a multilateral international monetary system that would be, ideally, without any discrimination. However, Triffin's macroeconomic analysis and his international monetary reform proposals led him to a pragmatic position in support of exchange controls on several grounds. First, the world economy is disrupted by cycles and turbulence that call for many countries-especially developing countries-to apply safeguard measures to foreign exchange markets. Second, exchange controls have several advantages for facilitating the balance of payments adjustment. Third, the introduction of exchange controls is inherent in the operations of the international clearing house of which Triffin, inspired by Keynes' Clearing Union, was a strong supporter.

Robert Triffin et la question des contrôles des changes

Cet article traite de la position de l'économiste Robert Triffin (1911-1993) au sujet des mesures de contrôle des changes, dont la charge devrait être assurée par la Banque centrale ou bien par une institution gouvernementale créée *ad hoc*. À la suite de l'expérience des années 1930 puis de la seconde guerre mondiale, un plaidoyer pour l'établissement de contrôle des changes apparaissait impossible à défendre de manière catégorique, compte tenu du rejet dont ces contrôles faisaient l'objet, par les économistes « officiels » aussi bien qu'académiques. Comme la plupart de ses contemporains, Triffin a par ailleurs affirmé dans ses écrits son souhait de voir naître un système monétaire international multilatéral qui serait idéalement dépourvu de restrictions et de discriminations. Toutefois, l'analyse macroéconomique de Triffin tout

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comme ses propositions de réforme monétaire internationale l'ont conduit à défendre de manière pragmatique un système coordonné de contrôles des changes en s'appuyant sur plusieurs arguments. D'une part, l'économie mondiale est confrontée à des cycles et donc des turbulences qui appellent un grand nombre de pays, en particulier les économies en développement, à appliquer des mesures de sauvegarde sur les changes. D'autre part, les contrôles des changes peuvent faciliter l'ajustement de la balance des paiements. Enfin, la mise en place de contrôle des changes est inhérente aux opérations de la chambre de compensation internationale dont Triffin, inspiré par la *Clearing Union* de Keynes, était un fervent partisan.

Mots-clés
Triffin, contrôles des changes, convertibilité, banque centrale

Keywords
Triffin, Central Banking, Exchange Controls, Convertibility

JEL Classification: B22, E58, F31, F33

1. Introduction

In modern textbooks, Robert Triffin is remembered as the eminent economist who highlighted the unsustainability of the Bretton Woods' international monetary system. According to Triffin, since the world economy uses a national currency for international settlements, the national economy issuing the reserve currency has to record balance of payment deficits[2], which are unsustainable over time as the deterioration of the issuing country's external accounts eventually undermines the confidence in its currency. Therefore, the international economy is torn between, on the one side, the understandable wish to end the balance of payment deficits and, on the other side, the need to provide the world with international liquidity. Hence, the "dilemma" (which came to be known as the Triffin dilemma) was born, which is still debated today (Bordo and McCauley, 2017)[3]. Triffin's solution for satisfying the world's liquidity requirements and preventing the continuous balance of payments deficit is to create an International Clearing Union, with the power of issuing the international currency.

Although several recent and well-documented studies of economic thought have focused on Triffin's career (Wilson, 2015; Maes, 2021) and his prominent role in rethinking regional monetary integration (Maes, 2013; Maes and Pasotti, 2016; Rojas, 2020), the significant role of exchange controls in his thought has not been the specific focus of further research. Caldentey and Vernengo (2018) deal with Triffin and exchange control policies, but their study addresses only his Latin American years (1942-1946). Our article's central idea is that exchange control policy is essential to Triffin's work because exchange control allows the articulation of several policy objectives that Triffin advocated in parallel. We define exchange controls as the channelling by the central bank of all foreign currency operations. In normal circumstances, these operations are left to private operators. Therefore, economists considered exchange controls to be an interference, e.g., Raymond Mikesell, who defined them as "any interference on the part

2. By definition, the balance of payments cannot be in deficit since deficits are always financed. The essential representation behind the "balance of payments deficits" is the sales from the US gold stock, additions of foreign dollar balances, and other liquid claims on the United States.

3. The dilemma was born in Triffin's essays in 1959 (1959a; 1959b), although the term "the dilemma" appeared in a paper written by Altman (1961) two years later.

of the government with the freedom of the market for the exchange of one country's money for that of another" (Mikesell, 1954, p. 59). Triffin, however, supported the idea that exchange controls should be part of the toolkit of central bankers[4]. This position reflected the influence of several historical episodes as well as theoretical discussions on Triffin's thinking. One might say that the exchange controls were part of the *zeitgeist*. Triffin himself, however, considered his policy advice revolutionary (Caldentey and Vernengo, 2018, p. 91; Maes, 2013), especially in the United States (Balogh, 1946, p. 82). Most post-war economists unequivocally denounced exchange controls as a bureaucratic arrangement and only war may have made it acceptable. Triffin (1946b, p. 66) once wrote that "The very name of "exchange control" unfortunately suffices to raise such emotional reactions with many people as to prevent any serious discussion of the subject". Another reason to study Triffin's view on exchange controls is related to the proposals to reform the international monetary system on which economists have been thinking for eighty years. The challenging question of whether foreign exchange markets should be free or controlled is also crucial to scholars interested in the reform of the international monetary system and its implications.

The next section (section II) will introduce Triffin's representation of the international monetary system after 1914 and the gold exchange standard's failure. The third section emphasizes the context for the development of Triffin's position by analysing the rejection of exchange controls at Bretton Woods by most economists, with the notable exception of Keynes. Finally, the fourth section will review the arguments highlighted by Triffin in his advocacy of exchange controls: the trade cycle and the asymmetry of international adjustment due to the role of the reserve currency; the superiority of exchange controls (combined with quantitative restrictions on imports) over other forms of adjustment (protectionism, devaluation, and deflation); the need for the machinery of exchange controls to perform the clearing process resulting from the international monetary reform.

4. Exchange controls can be defined as "the channeling of all foreign exchange operations through national central banks or ad hoc institutions" (Hirschman, 1951, p. 61). This means that commercial banks cannot convert foreign exchange into national currency-and vice versa-under exchange control regulations without the central bank's authorization.

2. The evolving international monetary system and the pivotal issue of convertibility

According to Triffin, the continuous pressure put on currencies' convertibility was the core issue of the international monetary system. The definition and principles of convertibility have, since the First World War, been shaken by the effects of the Great Depression and the two world wars[5]. The pre-1914 meaning of convertibility was the ability to convert national currencies into gold at a predefined exchange rate. The gold standard was a *system* because gold was the common denominator of national currencies, and thus able to coordinate national currencies (currencies were valued and compared to each other according to their precious metal content). The development of bank money in the pre-1914 period did not in itself pose a theoretical problem to this state of affairs: banking institutions were only bound by the commitment to convert their customers' deposits at their request, in the same way that today deposits are redeemable in cash, although at that time national currencies were defined by parity with gold. According to Triffin, such a system was supposed to exert upstream pressure on national banking systems by preventing excessive expansion of bank credit (Triffin, 1960, p. 27).

In this narrow sense, convertibility did not survive the First World War (Bickerdike, 1920). The First World War called for substantial financing, and thus an expansion of credit disconnected from the available resources in gold. Additionally, the expansion of banking systems occurred without any international coordination. The international conferences convened after the war-especially the Genoa conference (1922)-discussed the question of international liquidity and concluded that gold-convertible national currencies-i.e., the pound sterling and the US dollar-would fill the role of international liquidity. Therefore, in this gold exchange standard, national currencies were "convertible" when they could be converted into the two key currencies that still promised to convert deposits into gold on demand (see, e.g., the narratives in

5. Triffin devoted two articles in 1959 to the question of the changing meaning of "convertibility." These articles, published in two successive issues of the *Banca Nazionale del Lavoro Quarterly Review*, were assembled and published as a book in 1960.

Triffin, 1946b; Triffin, 1960). This definition of convertibility was valid between 1944 and 1971 as well[6].

The problem raised by the interwar context was that national currencies were based on commercial banking systems whose credit policies were primarily oriented by domestic needs (Triffin, 1946b, p. 57). The gold exchange standard lacked the international coordination that gold was supposed to provide before 1914. Exchange rate depreciations often followed uncoordinated monetary expansion. In the ranks of the proponents of the gold standard, this prompted the famous criticisms against the rise of "monetary nationalism" (Hayek, 1937). It should be noted that Triffin illustrated with "the pendulum" the fact that national central banking swung between favouring monetary nationalism/isolation and subordinating this to the goal of exchange stability (1946b, p. 58). Though the Bretton Woods agreement was an attempt to deal with these contradictory impulses, its faulty rules reproduced the gold exchange standard principles-with the dollar as the key currency-and prevented the creation of a sustainable system.

The other interwar problem was that the gold exchange standard led to the accumulation of national currencies-mainly US dollars-because the gold supply was insufficient to meet liquidity needs. The persistent accumulation of "key" national currencies as reserves undermined the gold exchange standard's stability. The instability came from cross-border capital flows, which react to central bank policies. The central bank policies, as mentioned above, are primarily determined by domestic needs. In such a context, reserve holders have the power to cause the collapse of the system. As Triffin explains: "Since reserve holders remained free to switch, at any time, from one currency into another, or into gold, a dangerous instability was built into the system." (Triffin, 1969, p. 482). Hence, in the foreseeable future, the gold exchange standard leads to jeopardizing the economies of peripheral countries *and* the economy of the country issuing reserve currency.

However, while criticizing the failed gold exchange standard, Triffin (1971, p. 6) did not support the "pure" gold standard. He held the pure

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6. The current meaning of convertibility has further evolved with the decision to close the gold window in 1971: as explained by Guitián (1996, p. 22), "convertibility now refers to the right to convert freely a national currency at the going exchange rate into any other currency." The reference to gold has vanished.

gold standard responsible for tremendous problems[7]. On the one hand, the gold standard did not distinguish between the balance of payment adjustment following fundamental disequilibrium and the adjustment following turbulence linked to the business cycle. On the other hand, the system did not react uniformly but had a different impact according to the countries involved. Consequently, the adjustment mechanisms produce unequal results from one country to another. Triffin (1946b) gives the example of the United Kingdom, where interest rate changes aiming to adjust balance of payments imbalances propagated further turbulence abroad due to London's prominence as a global financial center. If Britain raised the interest rates to readjust the balance of payments, it did not trigger Britain's deflationary pressures. Instead, it attracted foreign capital at the expense of the least developed countries. By contrast, in periods of favourable balances, Britain experienced an outflow of capital. The least developed countries suffer from the opposite trends: inflows of capitals in periods of favorable balances, outflows in periods of crisis.

Furthermore, Triffin rejected the gold standard in his conviction that central banks should intervene in the economy through counter-cyclical policies, assuming a central role in modern monetary systems. Triffin was a proponent of counter-cyclical monetary policies (Caldentey and Vernengo, 2018). As a result, the lack of involvement of central banking implicit in the gold standard was unacceptable in the contemporary period that required interventionist monetary policies. The gold standard was, therefore, not to be saved.

Another critical stance for Triffin was his support of fixed exchange rate regimes. He was not dogmatic on this question, admitting that devaluations were sometimes necessary to adjust to structural misalignments (Triffin, 1948). Fixed but adjustable parities formed the position that dominated the wartime and Bretton Woods debates (Irwin, 2017). Triffin (1959, p. 136) explained that the opposite position in favor of flexible exchange rates, then adopted by an increasing number of economists such as Friedman, Meade, and Haberler, had several shortcomings. According to these economists, central banks

7. In 1960, Triffin did not consider the appreciation of gold vis-à-vis the US dollar to be a solution to international liquidity issues. Incidentally, it would also advantage South Africa and the USSR (the gold producers), who were not allies of the United States for different reasons.

should let the currency float to benefit from market-led adjustments and independent monetary policies. Triffin, however, argued that depreciation could quickly increase the price of imports and accelerate the economy's difficulties without the supposedly self-rebalancing mechanisms being put in place. To stop the currency depreciation, once the latter is deemed intolerable, the central bank will eventually be encouraged to intervene in the foreign exchange markets at an even higher cost.

3. General rejection of exchange controls at Bretton Woods

Before 1931, exchange controls were unanimously condemned as they were considered interferences in international flows of capital-although many countries occasionally resorted to them in case of currency shortage or capital flight. In a sense, exchange controls are a particular sort of capital controls inasmuch as they compel foreign currency transfers to be channelled through the central bank, with the latter's approval. By making inward and/or outward payment flows under scrutiny from the monetary authority, exchange controls allow taxes and quantitative restrictions, or even barriers to capital flows, but such subsequent decisions are not inevitable and therefore must be distinguished from exchange controls themselves. The aim of the 1930s' exchange controls was to prevent the free and decentralized functioning of foreign exchange markets that make possible to change a national currency against another currency. During the 1930s, they were generalized in Central and Eastern Europe following the Great Depression and US capital repatriation.

As Europe was preparing for war, exchange controls-which were still viewed as an emergency measure implemented to satisfy short-term external issues-were gradually adopted by most Western countries (including France and Britain) and trade partners in other continents (e.g., South American countries). Exchange controls had gained ground throughout the world. In Britain, as of 1939, exchange regulations were strengthened to address the problem of the flight of capital and maintain the resources that Britain would need for war. As Newton (2004, p. 259) explains, "Sterling convertibility was suspended for the first time since the Napoleonic wars while foreign sterling balances were blocked and bilateral trade and payments arrangements introduced to cover economic relations with neutral states and non-Sterling-Area allies". Keynes, who was undecided on exchange controls until 1939, eventually supported the new regulations in the UK. In March 1940, in the wake of *How to pay for the war* (Keynes, 1940), Keynes emphasized the need for exchange controls to support the war economy (Keynes, 1978 [1940], p. 158).

In 1940, Keynes was even nominated Head of the newly created Exchange Control Commission and in November that year, he started working on its proposals for an International Clearing Union (Keynes, 1980a, p. 1–7). His implicit requirement was to implement exchange controls as a permanent feature of the clearing union in order to make national currencies non-convertible and restricted to national banking systems. Indeed, the proposals for the Clearing Union expected "the submission of all exchange transactions to the prior scrutiny of an authority which is the only legal source and repository of foreign exchange." (Keynes, 1980a [1943], p. 216).

In February 1943, Keynes (1980a [1943], p. 212) set out his overall position as follows:

> We also assume a system which in fact, I think, is applied in nearly all your parent countries, that is of centralising henceforward exchange dealings in a national institution, not allowing purely private enterprise dealings in exchange. I do not know that that is an essential feature; it is certainly one that greatly facilitates matters. We contemplate the central bank or similar institutions monopolising dealings in foreign exchange for its own nationals and an internal clearing with separate banks. Then it is left with a final balance for or against and that final balance would then be cleared with this international clearing union. That would get rid of the whole element of exchange speculation which caused so much trouble after the last war.

This position was formulated in more nuanced arguments in the *Proposals for an International Clearing Union* published as a white paper in April 1943:

> It is widely held that control of capital movements, both inward and outward, should be a permanent feature of the post-war system-at least so far as we are concerned. If control is to be effective, it probably involves the machinery of exchange control for all transactions, even though a general open licence is given to all remittances in respect of current trade. But such control will

> be more difficult to work, especially in the absence of a postal censorship, by unilateral action than if movements of capital can be controlled at both ends. It would therefore be of great advantage if the United States and all other members of the Currency Union would adopt machinery similar to that which we have now gone a long way towards perfecting in this country; *though this cannot be regarded as essential to the proposed Union*. (Horsefield, 1969, p. 13, emphasis mine).

Exchange controls had no massive support among economists despite their wide use in external policies around the world. Economists agreed to condemn them. Controls were associated with protectionist barriers, restrictions on imports, and mindless bureaucracy. The harshest criticism came from liberal circles, e.g., the Austrian economist Friedrich von Hayek. In *The Road to Serfdom*, Hayek (1944, p. 95) wrote that:

> The extent of the control over all life that economic control confers is nowhere better illustrated than in the field of foreign exchanges. Nothing would at first seem to affect private life less than a state control of the dealings in foreign exchange, and most people will regard its introduction with complete indifference. Yet the experience of most Continental countries has taught thoughtful people to regard this step as the decisive advance on the path to totalitarianism and the suppression of individual liberty. It is, in fact, the complete delivery of the individual to the tyranny of the state, the final suppression of all means of escape-not merely for the rich but for everybody.

The US delegation in Bretton Woods, led by H.D. White, adamantly rejected exchange controls (Helleiner, 2015). Not only did the US financial community throw them out, but those controls would have implied the establishment of clearing offices in the US, i.e., bureaucratic machinery with which the United States was utterly unfamiliar. Furthermore, US economists were much more hostile in general to exchange controls than their European fellows (Balogh, 1943; Bloomfield, 1966, p. 186).

The US position prevailed in Bretton Woods. Keynes made many concessions in the period from 1943 up to the final agreement (Helleiner, 2015). He was unable to convince the Americans of the necessity to keep some sort of exchange controls as a permanent feature of the post-war international economic order. In rallying behind the 1944 Joint Statement, Keynes also had to accept the explicit proviso in the official agreement that scheduled the end of exchange controls as soon as possible[8].

Speaking of capital controls in the House of Commons in 1944, Keynes proudly declared that "what used to be a heresy is now endorsed as orthodox" (Keynes, 1980b [1944], p. 17). Nevertheless, at this time, he no longer defended exchange controls[9]. Exchange controls had lost their leading voice. As Newton (2004, p. 260) emphasizes, Keynes' strategy for financing a postwar reconstruction program was to search for external support from the United States "in return for concessions to Washington's determination to build a world economic order characterized by non-discrimination in trade and payments (which meant sterling convertibility for current transactions at least)".

Triffin was at this time working for the Federal Reserve in Latin American countries. Like many of his colleagues, he condemned exchange controls under bilateral clearing agreements because governments had decreed them without coordination in pre-war Europe. While he was working on the post-war restoration of trade and payments in the Western world, he stated that "If we are to rebuild a multilateral system of trade and payments, our first and overriding objective must be the gradual relaxation and abolition of exchange controls and quantitative restrictions" (Triffin, 1949 [1966], p. 184). Nevertheless, it must be emphasized that Triffin refused to reject exchange controls, which remained, he argued, a useful tool of economic policy: "These measures, hastily devised, and with purely nationalistic objectives and criteria of administration, were often internationally harmful and mutually self-defeating. *They have, however, enriched the apparatus through which monetary policy can be made effective. The situation calls for exorcism rather than for excommunication*" (1947, p. 323, my emphasis).

8. As noted by one of the reviewers, the Bretton Woods era was a period that tolerated capital controls. However, the Bretton Woods agreements made clear (in article VIII) that the member countries should restore current account convertibility as quickly as possible, meaning the abolition of exchange controls for current account transactions.

9. It is worth noting that Keynes then justified his view in a letter to the *Times* (18 May 1944) with arguments related to the international role of London and the pound sterling: "Our traditional arrangements were based on the general convertibility of sterling; for who, except in conditions of war and out of a readiness to help us finance it, would bank in London if the funds deposited there were not freely available? To adapt a famous phrase, Schachtian minds ill consort with great Empires." (Keynes, 1980b, p. 9).

4. The case for exchange controls

In the immediate aftermath of the war, Triffin explained the conditions under which exchange controls may be necessary and useful, and he managed to get his point of view accepted with some success. He demonstrated (i) that exchange controls operated by central banks help stabilize the external flows of any country; (ii) that as a stabilizing measure, exchange controls are a lesser evil compared to other acceptable instruments; (iii) that they were necessary for the implementation of an international monetary reform in the spirit of Keynes. As mentioned above, Triffin worked for the United States, a country hostile to exchange controls, which also explains his tentative wording. Considering most American economists' orientation at this time, Triffin's views on exchange controls looked very innovative.

4.1. Exchange controls for Latin America and the developing world

Triffin considered that exchange controls should be used "with extreme care" (quoted by Caldentey and Vernengo, 2018, p. 94). They could be part of the solution "as a third line of defence" (Triffin, 1946b, p. 75) for stabilizing the domestic banking system from external shocks. Triffin developed his argument based on several Latin American countries' experience since the 1930s, which he observed as a Federal Reserve advisor to Latin American governments (from 1942 to 1946). In Latin America, he supported such policies under the influence of Raùl Prebisch (Caldentey and Vernengo, 2018; Helleiner, 2009, p. 18).

Exchange controls displayed several virtues: preventing liquidity shortages, stabilizing the inflows of short-term capital, and making central banking possible in the periphery. Exchange controls were part of the toolkit of central bankers in Latin America for insulating the domestic economy from harmful external fluctuations. For instance, regarding the wartime exchange control legislation in Paraguay, Triffin wrote that it "should be revised in such a way as to make it a more flexible instrument of monetary policy, to be used as a weapon not only against shortages of foreign exchange but also at other times against the inflationary impact of an excessive inflow of foreign exchange" (Triffin, 1944, p. 48).

For countries exporting agricultural products, international fluctuations dramatically influence domestic conditions through monetary expansions and monetary contractions. The proceeds of exports lead to an overly rapid monetary expansion in favorable periods. Triffin noted that the developing countries' banking systems were highly vulnerable to the trade cycle:

> "Thus every surplus in the balance of payments tended to bring about a multiple expansion, and every deficit a multiple contraction, in the total money supply. ...This extreme vulnerability to international fluctuations makes the problem of monetary stability in Latin American countries radically different from that faced by older, more diversified economies. As a consequence, the monetary and banking mechanisms which had developed in England and the United States and which were transplanted in many Latin American countries in the 1920s meet the different needs of these countries" (Triffin, 1945b, p. 525).

But "traditional" economic adjustment does not fit their problems. Due to the lack of central banking tools for avoiding the business cycle's international transmission, a developing country exporting raw materials and confronted with a fall in export receipts will implement contractionary policies. However, the fall in receipts may not result from a lack of competitiveness (Triffin, 1946b, p. 59), especially if all developing countries exporting the same commodity face the same problem. The contractionary policy is likely to worsen world demand and, further, reduce the proceeds of exports. In the absence of contra-cyclical policies at the supra-national level, exchange controls enable stabilizing the domestic conditions rather than amplifying the international cycle's effect:

> "With the collapse of the gold standard, in the latter part of 1931, every Latin American country attempted to promote internal recovery without waiting for improvement in world conditions. Although the policies adopted did not always follow a clear and conscious pattern, they were generally characterized by liberal credit policies, direct or indirect central bank financing of government deficits and of agricultural and developmental loans, currency devaluation, and exchange control. Coupled with more favorable conditions in the export markets, these measures assisted in lifting the national economies stage by stage from the depths of the depression. Exchange control constituted, in most cases, an important element of these policies. Without

> it the drain on reserves would have proved unbearable and would have led either to new credit restrictions or to runaway depreciation of the currencies." (Triffin, 1945b, 527)

Triffin considered it regrettable that exchange controls were condemned almost everywhere by Western economists reluctant to understand the situation of Latin American countries. He noted this, for example, in a book review published in 1945 (Triffin, 1945a).

As the Chief Economist in the Exchange Control Division of the IMF, Triffin wrote a contribution in 1948: "Exchange Control and Equilibrium." In this short text, he reviews the various existing adjustment tools available for policy-makers in the event of balance of payments disequilibrium. Among the measures that Triffin reviews are deflation, devaluation, subsidy measures, and taxes.

Triffin considered deflation to be a poor alternative "because of the additional discouragement to business activity associated with the slow and painful process of downward price adjustments" (Triffin, 1948, p. 415). The other classical adjustment policy was devaluation. Devaluation was sometimes clearly required, especially if the country had experienced inflation and needed to correct structural disequilibrium. However, devaluation has significant limitations, especially for commodity-producing countries characterized by inelasticity of exports and imports. As explained above, their problem is not competitiveness, which could have been solved through deflation or devaluation. For countries in temporary imbalance or those at the limits of their output capacity, due to post-war reconstruction for example, devaluation has the same shortcomings.

This leaves as the preferred solutions exchange controls and quantitative barriers, which must be carried out in concert in certain circumstances[10]. Exchange controls (in the sense of central bank centralization of foreign exchange operations and the absence of a freely functioning foreign exchange market) are not by themselves a remedy for the imbalance in current accounts, as they do not directly impact the level of imports and exports. However, since they induce centralization of trade and foreign exchange, they facilitate quantitative restrictions, which

10. "Self-denial through exchange restrictions may be preferred, both by a member country and by the Fund, to excessive borrowings, internal deflation or exchange depreciation" (Triffin, 1946b, p. 66).

are sometimes a preferable means of adjustment to the alternatives mentioned above (deflation or devaluation).

Since the central bank supervises payments for imports and exports, the central bank can decide how much to be imported (either directly or indirectly because it can delegate this task to authorized commercial banks through import licenses). Exchange controls compel the exporter "to make his foreign exchange earnings available to the community so they can be allocated among the various claimants" (Mikesell, 1954, p. 73). In a time of crisis, the management of these foreign exchange reserves becomes a strategic policy to maximize the social utility of imports.

A few publications give a detailed description of the measures undertaken under the aegis of the Federal Reserve missions headed by Triffin or inspired by them (Alter, 1945; Kafka, 1956). Exchange controls are required by the extraordinarily low level of foreign exchange reserves. The country that decides to implement exchange controls should establish a level of reserves-as was the case in Paraguay (Alter, 1945, p. 11). When the country's reserves fall below the threshold (35%), it has to establish controls. Once its reserves are above this threshold, the controls have to be removed. This rules-based law is designed to prevent discrimination and abuses in the use of exchange controls. The monetary authorities buy the proceeds from exports, at a fixed exchange rate (in exchange for domestic currency). As explained by Caldentey and Vernengo (2018, p. 94):

> A hierarchy of imports was established by the Central Bank of Paraguay on the basis of the economic needs of the country. The international currency proceeds obtained from the exports were to be transferred to the Central Bank who would then proceed to auction to these importers.

Triffin was in line with Prebish in proposing to establish a hierarchy of the country's needs and then to distribute the proceeds from the exports to the importers according to their position in the hierarchy (Caldentey and Vernengo, 2021). He also emphasized that in some developing countries, such as Latin American countries, the inequalities are so important that the importation of luxury goods is a heavy burden on countries' external accounts in a period of crisis. Selective controls "make it possible to concentrate the main burden of the restrictions on luxuries or, at least, less essential imports, and to bridge the gap in the balance of payments without the multiple income contraction mentioned above" (Triffin, 1948, p. 415–416).

Triffin (1946b, p. 68) proposed a dual system in which the essential imports are separated from "unessential imports and services." The former (essential imports) could be bought through the usual channels and without difficulties, while the rest of the imports (including, e.g., luxury products) could be imported with the foreign exchanges made available, through a system of free auction organized by central banks. In this way, the monetary authorities prioritize the country's imports.

This solution, according to Triffin, could foster economic development, and, at the same time, leave market mechanisms undamaged[11]. It is important to note that this reform takes into account the criticism against exchange controls in their traditional form (for a review of exchange controls' shortcomings, see Marshall (1961) and De Vries (1969)). As summarised by Alter (1945, p. 13), "the policing of the more conventional exchange control system, with its individual allocations, would be practically impossible. The new Paraguayan system limits narrowly the discretion of operating officials and brings out into the open the decisions of the exchange authorities as to those imports which are to be given preferential treatment." The auction mechanism is supposed to preserve a market logic (superior to a discretionary and arbitrary allocation logic). At this time, Triffin was already eager to promote international cooperation and prevent nationalist and non-cooperative behaviour. He suggested "the broadening, through an international convention, of the type of exchange control legislation recently adopted in Paraguay and Guatemala" (Triffin, 1946a, p. 2).

But the extension of such a proposal to advanced economies was criticized. Henderson (1946) criticized this proposal because in war-torn economies, such as post-war Britain, the reserves of convertible currencies would be exhausted even before the country could import the basic products necessary for its essential needs. Another criticism leveled by Henderson was that Triffin assumed the US dollar as the only acceptable currency for international settlement for export and import. Otherwise, the auction principle could be circumvented through settlement in other available currencies (e.g. the pound sterling for UK importers). Triffin's assumption was, nevertheless, realistic at the time,

11. "In any case, […] the nature of the controls should be chosen so as to minimize administrative interference with individual choices of action" (Triffin, 1948, p. 416).

since the Bretton Woods system put the US dollar at the top of the international monetary system as the only gold-convertible currency.

4.2. Exchange controls in Europe

After 1947, the context was more favourable to the advocacy of exchange controls. The system adopted in the Anglo-American Agreement of 1944 proved to be impracticable. By signing this agreement in 1946, Britain committed to making the sterling convertible within one year from its effective date. On July 15, 1947, Britain decreed the pound sterling convertible in dollar. Due to a severe dollar drain, it had to put it on hold five weeks later, on August 20 (Triffin, 1948, p. 425; Newton, 1984). The sterling convertibility crisis put an end to the hopes for the rapid restoration of free foreign exchange markets in Europe. Other European countries experienced similar difficulties and could not restore their currency's convertibility into "hard currencies" such as the US dollar [12]. In such a context, Triffin took a leading role in the deliberations about Europe's reconstruction as a representative of the IMF. But European currencies' de facto inconvertibility was the only short-term prospect for European economies. The main question, therefore, was how to cope with this situation of inconvertibility?

Triffin provided the solution with a plan for a European Clearing Union (Maes and Pasotti, 2018) [13]. Facing the dollar shortage and the need to reconstruct their war-torn economies, European countries depended on the US dollar and US aid. Their immediate response in order to save international liquidity was to impose exchange restrictions and sign bilateral agreements. The shortcoming of these bilateral clearing agreements was that they prevented the use of bilateral claims for importing from a third European country and consequently delayed European recovery.

The European Payments Union created an area with external exchange controls at the borders of the Union (Faudot, 2020). This area

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12. Triffin opposes "workable" convertibility to "unworkable" convertibility (Triffin, 1954, p. 7). The latter corresponds to the attempt to make a domestic currency convertible without any chance of succeeding, eventually leading to the reestablishment of exchange controls.

13. Several of Triffin's memoranda on the nascent European Payments Union were published in Triffin (1966, chap. 11).

enabled the development of intra-European trade and the decrease in the dependence on the US dollar. As Conolly, a Bank for International Settlements (BIS) official, stated in 1951, "The alternative at the present moment is not between EPU and convertibility but between EPU and the worst form of bilateralism" (OECD, 1951). Even for the US officials, it was of utmost importance to reduce US dollar dependence, even if this implied discrimination against the US dollar area and the postponement of the return to general currency convertibility. European governments committed to boosting intra-European trade by accepting trade credit as payments, which reduced the need for US dollars. In other words, they forced their exporters to accept payment in the form of inconvertible credit money (created by overdraft) rather than in gold or dollars (hard currency convertible in gold), when the partners were located in Europe-below a certain threshold (Rojas, 2020). The payments created by overdraft were compensated at the end of each month by the BIS, which acted a multilateral clearing bank. The goal of the EPU was to promote trade and growth and make progress toward general currency convertibility by taking several measures "to ensure the immediate transferability and the progressive convertibility of European currencies" (Triffin, [1949] 1966, p. 447).

Another argument in favour of the EPU was its compatibility with the Bretton Woods institutional framework. Triffin (1946, p. 67) argued that the International Monetary Fund's provisions did not exclude exchange controls. The Bretton Woods agreements called for the abolition of exchange restrictions for current account transactions (Article VIII), but they tolerated some exceptions: the transitional period article (Article XIV), which does not set any expiration date, and the "scarce currency clause" (Article VII). Although the Fund aimed to stabilize exchange rates without resorting to exchange controls, Article VII of the Fund provided that countries facing a crisis in their balance of payments and their drawing rights' exhaustion can implement exchange controls[14]. It is by using a similar argument that Triffin justified the creation of the European Payments Union.

In Europe, exchange controls were pivotal in Triffin's approach to regional integration and the reform of monetary institutions. Behind exchange controls lies the possibility of liberalizing an entire area

14. This clause has never been activated. A country willing to activate it would need the approval of the United States at the IMF.

sheltered from the need to procure and accumulate international reserve currencies. Triffin (1946, p. 71) stated that "It would indeed be absurd to enforce general restrictions against all imports because of the unavailability of one, or a few, currencies only." It is in this sense that we must understand the European Payments Union, seen by some as a fortress because of the exchange controls applied against the dollar area, but which nevertheless enforced with great effectiveness the liberalization of intra-European trade[15]. Even though this may seem quite paradoxical, the use of exchange controls, as implemented in the European Payments Union framework, was an instrument that would eventually make trade liberalization and integration possible.

Triffin did not unconditionally support exchange controls in all circumstances but instead exposed the dangers behind the decision to make a currency convertible and the unsustainability of the situation resulting from such a decision.

4.3. Exchange controls are necessary to the Clearing Union

Triffin highlighted that Keynes' International Clearing Union was a great idea that the world should implement, although Keynes' proposal was "premature and overambitious" (Triffin, 1959a, p. 55). Triffin shared the view (as did Keynes) that under the gold exchange standard, the international payments system remained "primitive" compared to domestic banking systems. He considered the creation of the International Clearing Union to be the replication of a process that occurred at the national level with the unification of banking systems and central banks' emergence. Triffin hinted at the long-term evolution of monetary economies from "commodity money" to "credit money" in the national monetary systems, forced by the necessity to create national central banks. According to Triffin, the time had come for the world to experience a similar evolution with the creation of a world clearing bank (Triffin, 1964, p. 40–41). While national economies have, for mainly practical reasons, developed much

15. Wilson (2015) assumes that Balogh (1946) might have influenced Triffin in his regional integration approach. Balogh was a prolific heterodox economist involved in the discussion on international adjustment and international monetary issues. His 1946 paper was a comment on Triffin's paper published in the same issue of the *Review of Economic Studies*. Like Triffin, Balogh strongly opposed devaluation as a solution that could restore international equilibrium. Balogh was also a proponent of exchange controls.

more efficient banking systems, the international monetary system has remained in the Stone Age, without any appropriate international banking structure.

The appropriate institution would facilitate international payments by making foreign claims interoperable between one country and another, as emphasized by Triffin (1990, p. 94):

> "The first merit of the [Clearing] Union was to guarantee, by means of its clearing mechanism, that all bilateral claims would be convertible into bancors which could be used for the settlement of any bilateral debts to other countries, while the IMF itself does not accept any obligation of this sort."

The central bank realized the domestic banking system's unification through the channeling of interbank payments, the oversight of the payment system, and the issuance of central bank money. This allows commercial bank money to be acceptable and interoperable-whatever the issuing commercial bank-in the entire domestic banking system. At the international level, the Clearing Union machinery should be similarly pivotal in enforcing the multilateral system. However, this problem was dismissed in the discussions related to the design of the International Monetary Fund, as Triffin (*ibid.*, p. 94) relates:

> "The only reference that I have found to this problem in the record of pre-Bretton Woods negotiations is a question by Professor D.H. Robertson, asking how trilateral payments could be effected under the Fund's machinery. His question was curtly dismissed by Harry White as simply a technical detail which he would gladly leave to the drafting committee! It is precisely this 'technical detail' which was to deprive the Fund of any real influence on the bilateral payments system of the immediate post-war period, leaving a vacuum which Europe and the United States later felt impelled to fill through the creation of the European Payments Union."

The problem alluded to by Triffin and dismissed by Harry D. White was that foreign bilateral claims were of no use with third countries unless they were held in the US dollar or gold in the immediate post-War world. It was, in turn, desirable to impose the commitment to accept the multilateralization of payments. The easiest way to enforce it is to channel international payments into a single entity in charge of making the proceeds of exports interoperable.

This is the cost of having a multilateral payment system in which national currencies are treated equally. Therefore, for practical reasons, the Clearing Union needs exchange controls to achieve its unification, as Triffin points out:

> "The organisation of such a payments system would evidently imply its generalised application *to all international settlements*, forbidding therefore any settlements in so-called 'reserve currencies', notably the dollar and sterling, or in gold. I will not bore you with the technical regulations which would be required in the transition period to deal with the reserves of gold and foreign currency inherited from the past." (Triffin, 1990, p. 97, Triffin's emphasis).

Hence, it is hardly imaginable that the Clearing Union would carry out international payments without simultaneously preventing the use of national "reserve" currencies in international settlements. Otherwise, a handful of national currencies would continue to be used as a parallel means of settlement by private traders and accumulated as reserves, resulting in the imbalances so forcefully denounced by Triffin throughout his academic career. It is no accident that such controls were a feature of the European Payments Union, undeservedly dismantled in 1958. As explained by Triffin (1991, p. 418),

> "Paradoxically, the first twenty years of the European Community were marked by an enormous regression of European monetary cooperation. The United Kingdom argued that the very success of the European Payments Union should spell its termination in favor of a worldwide restoration of convertibility based, as before, primarily on the pound and the dollar as the main instruments of international settlements and reserve accumulation and therefore eliminating the EPU unit-of-account as a rival of sterling.
> The EPU was replaced by the European Monetary Agreement (EMA) under which most clearing transactions were returned to the private markets, and credit provision no longer included partial automatic financing of intra-European balance-of-payments deficits by the countries in surplus."

Two final remarks should be made here. Although Triffin supported the case for exchange controls through central bank intervention, he opposed all forms of nationalist adventurism. Exchange controls, he asserted, must be subject to international agreements to determine what is acceptable at both national and international levels, both in terms of duration and method. Triffin remained obsessed with the need for international cooperation since his early work[16]. In his various proposals, he suggested that the countries' national central banks had to coordinate with the Clearing House, i.e., the (revamped) International Monetary Fund (Triffin, 1960), also named the Single Reserve Center (Triffin, 1964).

The second remark is that the central banks' role as intermediaries in channeling foreign exchange transactions does not necessarily involve trade restrictions (Hirschman, 1951). Some "soft" non-intrusive exchange controls are conceivable. In essence, exchange controls do not entail damage or distortion to international trade as they cannot be compared to import licenses or taxes. They may be merely a new (and compulsory) channel through which international trade should occur to avoid the accumulation of national reserve currencies[17]. As mentioned above, Triffin supported the "interconvertibility" of national currencies, which is not provided by the laissez-faire international monetary order based on the dominance of the US dollar. Interconvertibility means that each national currency should be acceptable as any other national currency at a fixed exchange rate. Interconvertibility should be understood as full transferability of national currencies, i.e., that national currencies automatically qualify for reciprocal clearing under the International Clearing Union (Triffin, 1962, p. 245).

5. Concluding remarks

In a sense, the end of dollar-gold convertibility in 1971 proved that Triffin was right: the United States could not provide liquidity to the rest of the world while remaining committed to exchanging dollar against gold on request. After 1971, however, the tendency has been to remember Triffin only for the dilemma, which is very reductive, as this article has demonstrated.

16. This concern led him to participate in the Bellagio group in the 1960s, in which he discussed international monetary issues and cooperation.

17. As Hirschman once wrote, exchange controls "are compatible with convertibility. This is often not realized. It is possible to imagine a situation in which convertibility in the most general sense prevails, with all foreign exchange freely bought from the central bank and all foreign exchange earnings sold to it against local currency" (Hirschman, 1951, p. 61).

This paper has dealt with Robert Triffin's approach to exchange controls- an aspect of Triffin's work that has not been the specific focus of further research. Nonetheless, exchange controls have been shown in this paper to be essential to Triffin's analysis and proposals. According to Triffin, exchange controls are a solution as long as the international monetary system's structural issues remain unresolved. Nowadays, Triffin's thought may look outdated at first glance, as the United States has been pouring US dollars into the global economy through various channels, e.g., Eurodollar markets and central banks swap agreements. Hence, the dollar standard might give the impression that the world does not need a "revolutionary" reform of the international monetary system in the spirit of Triffin. However, the structural issues raised by the US dollar standard are still unresolved and may force us to rethink our international payments system.

Triffin always sought to offer a solution to the issue of reserve currencies' accumulation. This problem continues to exist today and is a threat to the global economy (Prasad, 2014). International monetary reform, resulting in creating a Clearing Union, remains on the agenda to address the problem.

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