

Morgan, Jamie , and Heikki Patomäki , ed. *Deweaponizing Interdependence: Bringing the Idea of International Clearing Union into the Twenty-First Century*. New York: Bloomsbury Academic, 2026. Bloomsbury Collections. Web. 18 Apr. 2026. <<http://dx.doi.org/10.5040/9781350574830>>.

Accessed from: www.bloomsburycollections.com

Accessed on: Sat Apr 18 2026 11:07:57 Central European Summer Time

Copyright © Massimo Amato. Luca Fantacci. Lucio Gobbi. Copyright © Jamie Morgan and Heikki Patomäki 2026. This chapter is published open access subject to a Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International licence (CC BY-NC-ND 4.0, <https://creativecommons.org/licenses/by-nc-nd/4.0/>). You may re-use, distribute, and reproduce this work in any medium for non-commercial purposes, provided you give attribution to the copyright holder and the publisher and provide a link to the Creative Commons licence.

Regional clearing systems

From the European Payments Union to current initiatives confronting dollar dominance

Massimo Amato, Luca Fantacci and Lucio Gobbi

Introduction

The International Clearing Union proposed by Keynes at Bretton Woods was designed not only to avoid using a national currency as an international means of payment and reserve asset, but also to provide a source of funding for temporary balance of trade disequilibria. Moreover, the proposal for collective commodity management would have provided liquidity to the international currency by ensuring its convertibility in a basket of foodstuffs and raw materials. The ICU proposal was unsuccessful but experienced a successful regional application in Europe in the 1950s with the European Payments Union. Since the early 1960s, the regional EPU solution has attracted interest outside Europe.

Today, as emerging economies show a growing political interest in reducing their dependence on the US dollar, the issue of regional clearing regains attention. The twin objectives of supporting regional trade growth and reducing exchange rate risk against the dollar are driving solutions based on multilateral payment technologies.

This chapter starts by analysing the structural features of Keynes's Clearing Union proposal and discussing their relevance for rethinking and reshaping the international monetary system today (section 1) and it then illustrates the regional application of those features in the EPU (section 2). Finally, it analyses various regional payment systems that are currently being proposed or implemented, investigating how they may reduce reliance on the US dollar as a means for international settlement and how they may be understood (and perhaps further enhanced) in the light of the principles of multilateral clearing (section 3).

The structural features of the International Clearing Union and their relevance today

The International Clearing Union proposed by Keynes at Bretton Woods was designed not only to avoid using a national currency as an international means of payment and reserve asset, but also to provide a source of funding for temporary balance of trade disequilibria.

As we know, the plan was fully based on what we can call ‘the principle of clearing’ (Amato and Fantacci 2016): multilateral clearing, coupled with overdraft facilities based on the commercial capacity of each country and a symmetrical treatment of debtor and creditor positions, would have allowed minimizing the amount of international liquidity needed to oil the machine of international payments. Leveraging on the circuit velocity instead of on the quantity of money, the ICU would have allowed full financing of temporary international trade imbalances without the need for short-term capital movements. A system of adjustable pegs of national currencies to the international unit of account, the *bancor*, was designed to resolve any structural imbalance. Moreover, the proposal for collective commodity management would have given liquidity to the international currency by providing certain stability to its prospective value (Hayes 2018; Amato 2020), and by ensuring its convertibility in a basket of foodstuffs and raw materials (Fantacci 2024).

Eighty years have elapsed since the formulation of Keynes’s proposal, fifty-three since the end of the Bretton Woods system, and above all seventeen since the outbreak of the GFC, which could possibly be interpreted as an initial weakening of US hegemony and the beginning of the end of a unilateralist model of international relations, both political and economic, as the reactions to the crisis suggest, since they did not happen under a common and recognized leadership.

The increasing signs of weakening of the present global monetary order are, we think, a sufficient reason to go back to Keynes’s original project precisely today, not so much with a view to historiographical reconstruction (which, moreover, has already been extensively and excellently carried out, by Steil 2014), but with the aim of seeing whether and how the principles and aims that inspired that project can be reinterpreted and taken up again in a radically different context from that of 1944.

Indeed, the ICU proposal was unsuccessful at a global level, but it nonetheless experienced a successful regional application in Europe in the 1950s with the

European Payments Union; and, since the early 1960s, the regional EPU solution has attracted interest outside Europe.

Today, as emerging economies show a growing political interest in reducing their dependence on the US dollar, the issue of regional clearing regains attention. The twin objectives of supporting regional trade growth and reducing exchange rate risk against the dollar are driving solutions based on multilateral payment technologies.

If we want to assess the legacy of Keynes's ICU today, it is then necessary to separate the contingent elements of the Keynes plan from what we can call its structural components. The latter are essentially three, mutually interrelated and ultimately based on the third.

1. The first is the irenic trait of the proposal. It is well known how Keynes describes the nature of his plan and the conditions for it to be implemented, already in 1941 and then in the version of 11 February 1942:

a greater readiness to accept super-national arrangements must be required in the post-war world than has been accepted hitherto. The arrangements proposed could be described as a measure of Financial Disarmament. They are very mild in comparison with the measures of Military Disarmament, which it is to be hoped the world may be asked to accept [version of 11 February 1942, CWK 25].

This was, from a political perspective, and with hindsight, the least realistic feature of the whole plan, given the way in which the relationships between former allies would quickly have evolved towards a Cold War needing to be heavily financed.

The Bretton Woods conference was convened in 1944 by the signatories of the Atlantic Charter, one of which was trying to save a colonial empire, while the other was gearing up to exercise hegemony in a global context on the verge of becoming fully bipolar. The post-war phase inaugurated at Bretton Woods, essentially marked by the hegemony of the dollar in a context of relative world political stability, is now coming to an end. The context is now that of an unstable world, characterized by potential fracture or recomposition of a global monetary order and by 'asymmetrical multipolarism' (Ashford and Cooper 2023), in which trade is very often weaponized, and in which the redefinition of value chains is accompanied by the redefinition of the payment and trade finance systems to which they give rise.

But in a time of potential deglobalization and trade wars, the issues raised by Keynes's plan are relevant, both in principle and in practice. Indeed, as Keynes emphasized when commenting on American intentions as expressed in the

Atlantic Charter, international trade can only become the trigger for balanced world development only if the starting conditions have been decided in such a way as to ensure substantial equal treatment for all participants (Fantacci 2017: 167). And the exigence of a fair rebalancing of the trade conditions is exactly what is at stake now for those emerging/emerged economies that often reposition themselves within the BRICS, and that, in any case, do not accept anymore their inherited position in the hierarchies of the postcolonial world.

2. The second crucial component of Keynes's project was its implicit adherence to the principle of comparative advantages. Obviously, as De Cecco (1975) had already shown when discussing the Ricardian foundations of the theoretical gold standard as opposed to List's 'National System of Political Economy', this aspect rests, not only on assumptions of political irenicism, but also on the assumption that capital investments remained preferably domestic. However, while classical liberalists simply assumed the absence of international capital movements, Keynes's ICU project was intended to provide liquidity to trade without the need of capital movements. In this case, the theoretical conditions for comparative advantage would have applied also in practice.

What we are witnessing at present is the need of a redefinition of specialization within changing global value chains, based at the same time on free trade and massive investments. The case of the African Continental Free Trade Area (AfCFTA) is by all means exemplar in this sense, as it goes along, not only (as we will see) with settlement and payment schemes, but also with the emergence of continental development banks (see following sections).¹

While Keynes's ICU proposal aimed at setting all participants on an equal footing at a global level, based on fair quotas and on the symmetrical treatment of debtor and creditor positions in clearing mechanisms, the historical gold standard, gold exchange standard and Bretton Woods 'dollar standard' are to be interpreted as profoundly hierarchical and West-centred monetary systems, which manage to last as long as the force of the hegemon is able to hold together the overall framework of relations between centre, semi-periphery and periphery. This feature fully applies to the bipolar world in which Bretton Woods was launched, characterized by a firmly US-led 'benign multilateralism' [James 2012]. In short, as Marcello De Cecco argued in the 1970s, and as Perry Mehrling (2022) has recently reiterated, the relevant theme is here 'money and empire': a system based on an established hegemony can only last if a not-too-asymmetrical distribution of advantages and disadvantages arising from the participation in the system is guaranteed by the hegemon. To the extent that the project of American unilateralism is encountering ever-increasing difficulties,

showing itself less and less multilateral and benign, the emerging asymmetrical multipolarism increasingly bears the features of a competition between regional poles in key leading sectors, with a focus on hegemonic control over strategic raw materials, but with much looser hierarchies and wider manoeuvring room for emerging economies.

Precisely in relation to the questioning of established hierarchies that characterizes the current phase of global relations, it is worth remembering that in Keynes's intentions, the ICU was only one of the three legs on which he aimed to ground the stability of the international negotiating table. The other two were an International Investment Fund, literally a development bank aimed at bridging technology gaps through international investments, and a Commodity Control, i.e. a global buffer stock programme, aimed at reducing commodity price volatility through coordinated commodity management (in order to balance the interests of both commodity producers and consumers).

As we shall see, if there is a chance to return, if not to the project, then at least to the principles of the ICU, then these two issues (banks and regional development agencies and fairer management of commodity markets) are absolutely crucial.

3. The third essential component of the ICU project, which is even more relevant when it comes to re-evaluating the ICU's political message today, is the increasingly anti-hegemonic and multipolar feature of the proposed ICU operation. Whereas in Keynes's first drafts the hegemonic role of the United States and the United Kingdom is strongly emphasized, his later drafts envisage decidedly more open governance perspectives. This non-hegemonic and 'horizontal' trait relies not only on the provision of symmetrical rebalancing mechanisms but also on the necessary interplay between rules and discretion that Keynes put into the hands of a markedly supranational board (Draft of 11 February 1942, CWK 25: 117). Not only is the functioning of the ICU conceived as strictly multilateral and symmetrical, but governance itself is potentially multipolar and obedient to supranational logics.

Keynes was perfectly aware of the enormous ambition of his plan (CWK 25: 33), but, while he may have been over-optimistic on the maximum goal, he was strictly correct on the minimum point: no international monetary system can truly last without some form of cooperation among the actors involved. In fact, no system, from the classic gold-sterling-standard to the Bretton Woods gold-dollar-standard survived the collapse of the political conditions that underpinned it. The same would seem to apply, prospectively, to the current 'Post-Bretton Woods non-system' (Eichengreen 2008).

This is an even more crucial issue now, at a time in which international political and economic institutional settings and organizations are subject to increasingly marked centrifugal and disintegrative pushes. For some time now, particularly in the BRICS+ area, we have been witnessing an increasingly decisive strategy aimed at subtracting large areas of the globe from the dominance of the 'Washington Consensus', through the formation of regional monetary funds, and in general regional investment agencies. At the same time, the enlargement of the BRICS to vast African regions, starting with South Africa, which joined in 2010, up to the recent admissions, and above all the applications for admission that are still pending, risks leading to a substantial redefinition of the balances on the continent, jeopardizing the survival of organizations that arose with decolonization, for example, ECOWAS.

In this sense, the only way for the ICU spirit to be reappraised now, is to go even more decidedly in the direction of the fundamental anti-unilateralist character of the ICU project. This aspect is gaining greater momentum today, in the context of a potential redefinition of balances between blocs, one has to wonder whether there will be 'persistence in the structure of the system, which remains dollar-based and US-led to a remarkable extent', or whether 'the system is evolving away from the United States and the dollar, towards a multipolar world in which several consequential international and reserve currencies will coexist, other countries will no longer rely exclusively or even mainly on the US for international liquidity and governance will be a collective endeavour' (Eichengreen 2019).

The markedly optimistic, not to say utopian, trait of the three crucial components of the ICU plan explains why a diametrically opposite path was taken at Bretton Woods. But it is also the reason why it is perfectly reasonable, if not necessary, to reappraise them in the present context of an often strongly advocated redefinition of global equilibria.

Indeed, the question that is keeping political analysts, economists and historians busy is precisely whether the current tensions associated with an emerging multipolarism will give rise to an internal transformation of the inherited hegemonic order or a more radical change. But this is not the only question: the other, related question is whether the current asymmetrical multipolarism can give rise to stable alternative configurations. Conversely, the research question concerns constructing plausible scenarios about whether current trends are to be read as confirmations or denials of one's own hypotheses.

The two extreme scenarios are

- (a) a continuation of the current monetary hegemony of the dollar due to a sheer lack of alternatives (argued with different arguments, for example, by Vernengo 2021 and Bordo 2017)
- (b) an orderly transition to a new multipolar collaborative framework (cf. Carney 2019).

In between lies the much more potentially unstable and opaque scenario of an uncoordinated and potentially conflictual shift in economic, geopolitical and monetary power relations.

In all cases, a reconsideration of the potential and limits of the clearing scheme proposed by Keynes can help to better delineate the current picture. The variants to the scheme found in the different preparatory drafts drawn up by Keynes between 1941 and 1944 can also help in this sense.

In particular, one variant is of interest to us here: in the second version of the 'Proposals for an International Currency Union', drafted in November 1941, Keynes envisaged the construction of the multilateral and non-hegemonic order of the ICU starting from the adhesion not of individual nations but of homogeneous geographic-economic areas represented by a single currency, in the form of an actual means of exchange or of a pure unit of account:

One view of the post-war world which I find sympathetic and attractive and fruitful of good consequences is that we should encourage small political and cultural units, combined into larger, and more or less closely knit, economic units. [. . .] Thus it would be preferable, if it were possible, that the members should, in some cases at least, be groups of countries rather than separate units. (CWK 25: 55-6)

The basic ICU rationale is the extension 'banking principle' already operating at the national level, to the international level. The effect Keynes expects from such an extension is by no means irrelevant, as he is well aware that the adoption of a multilateral payment system implies, ipso facto, the adoption of a scheme for financing international trade. The same applies to the EPU, the analysis of which constitutes one of the crucial points of the next section.

Even now, in many regional emerging economies, the crucial question is how to promote the establishment of a lively interregional trade without compromising the possibility of an opening to global trade. And now, as then, monetary (payment) and financial (clearing) conditions play an essential role.

From the considerations made so far, on the ICU and its historical fate, but also on the vicissitudes of the system that took its place at Bretton Woods, we now make our hypothesis for the second part of our discourse. The hypothesis is the following: the spirit if not the letter of the ICU can be taken up in the present context through the proliferation of regional compensation schemes, which for the time being develop in a disorganized manner, but which at a later stage might be unified at a higher level.

This is a hypothesis that deserves to be tested both in terms of its historical precedents (EPU as a model) and in terms of emerging practices, while being absolutely clear on one point: for the time being we are witnessing spontaneous phenomena and processes and not the unfolding and elaboration of a deliberate plan. We will leave the conclusions on possible scenarios and plausible dynamics to the end of the chapter.

The European Payments Union as a form of regional clearing

The European Payments Union, established in 1950 and functioning until 1958, was intended to serve both as a *payments system*, avoiding the need to rely on foreign exchange markets or on correspondent banking, and as a *financial system*, more specifically as a source of funding for temporary current account disequilibria, avoiding the need to rely on international capital markets. In technical terms, the dual function may be described as the combination of multilateral and intertemporal clearing.

This dual function of the EPU was clear from its genesis. After the Second World War, European economies needed to finance a chronic trade deficit, particularly with the United States. The European Recovery Program was originally designed and implemented with the purpose of financing the dollar gap. However, absent an actual recovery of European productive capacity, the gap persisted year after year: chronic European trade deficits acted as a bottomless sink for US aid. In fact, despite the ERP, recovery in production was dramatically hampered by restrictions to trade within Europe, due to the reluctance of individual countries to settle their reciprocal obligations with hard currency that could be used to purchase essential commodities in the United States, and in general in the Western Hemisphere.

It soon became clear to contemporary observers that ‘the ultimate success of the European Recovery Program depends in large measure upon the nature and size of intra-European trade’ (Mikesell 1948: 516). Even the United Nations

Economic Commission for Europe recognized that 'one of the preconditions for the cure of Europe's acute external disequilibrium is the restoration of intra-European trade' (1948: 88 quoted in Bean 1948: 403).

Already in the logic of the European Recovery Program, intra-European cooperation was considered as a condition for assistance. In a speech before the OEEC Council in Paris, on 31 October 1949, the head of the Economic Cooperation Administration, Paul Hoffman, went further, calling upon Europeans to demonstrate by early next year that they intended to move towards 'nothing less than an integration of the Western European economy' (Hoffman 1949, quoted in Berend 2016: 31).

This was achieved not in the form of a European Monetary Union, but of a European Payments Union: the records of the EPU, held by the Bank for International Settlements in the name of the member States' central banks, allowed to:

- keep track of mutual obligations arising from international trade at fixed (but adjustable) exchange rates
- calculate the net position of each Member State vis-à-vis the EPU, according to the principles of multilateral clearing
- perform a net settlement of outstanding positions on a monthly basis
- provide funding in the form of overdraft facilities to deficit countries up to a certain portion of their deficit (according to the size of the latter in relation to a predetermined quota)

The functioning of the system required a certain degree of coordination in the monetary policies of member states 'in exchange for an expanded level of trade and industrial production' (Lees 1962: 515). However, unlike other international monetary systems, such as the gold standard or a full-fledged monetary union, the EPU did not entail a conflict between domestic and international objectives (Lees 1962: 515).

The original plan envisaged the establishment of a supervisory board with ECA representation 'to maintain a kind of surveillance over the internal financial policies of the member countries' (quoted in Flexner 1957: 243–4). The idea, however, was eventually abandoned because European countries were reluctant to surrender part of their sovereignty to an international organization, especially where the United States were involved (Flexner 1957: 244).

Despite the fact that, in traditional accounts, the Marshall Plan gets all the credit for the recovery of Europe, it would not have achieved its goals without the EPU. The EPU finances trade, but also reconstruction and development and economic

miracles, providing an alternative to financial markets as a source of funding for current account deficits, within the area of application, but without closing it off to trade with the rest of the world. That the EPU clearing system represented an alternative to private capital flows as a funding mechanism for current account disequilibria is perhaps confirmed by the fact that the EPU was eventually shut down precisely in the same year in which the Eurodollar market was developed.

The liberalization of international capital movements on the Eurodollar market was not the automatic consequence of technological progress, but the result of deliberate decisions, on the part of the governments of the United States and United Kingdom, to promote the development of such market as a source of funding for their respective current account deficits (Schenk 2010: 149).

Since the early 1960s, the regional EPU solution has attracted interest outside Europe. In particular, the EPU is at the origin of Robert Triffin's regional approach towards international monetary integration (Maes and Pasotti 2018). In the 1960s Triffin proposed similar schemes for other regions, in Latin America, Asia and Africa (Ibid. p. 185; see also Amato and Nubukpo 2020). None of these, however, lead to the establishment of regional clearing systems comparable to the EPU.

Variety of payment mechanisms and applications in three regional monetary areas

Since a payment system of the type of ICU is also, inextricably, a financing instrument, as argued above, it is worthwhile to explore the relationships between different payment systems and their financial aspect, in order both to investigate what we can call the trade-off between liquidity and risk, and to provide a typology according to which the emerging regional monetary projects can be evaluated.

Whenever two economic agents need to exchange goods or services with each other they put in place a financial contract, which determines the value in monetary terms of the exchange, the currency or commodity used in the transaction as well as the date of payment. Table 1 shows the basic characteristics regarding the principles governing real and financial payment contracts within the economic system.

The rows in Table 1 depict the settlement and termination modes of contracts and their main characteristics. In terms of payment modes, we indicate real time gross settlement (RTGS), gross settlement (GS), bilateral netting (BN) and multilateral netting (MN).

Table 1 Main Features of a Payment System

	Settlement Modes	Timing	Trade off	Regional System
A	Real Time Gross Settlement	Continuous	High liquidity cost and null counterparty risk	Target 2 (T2)
B	Gross Settlement	Deferred	Moderate liquidity cost and high counterparty risk	-
C	Bilateral Netting	Deferred	Low liquidity cost and low counterparty risk	Sistema de Pagamentos em Moeda Local (SML)
D	Multilateral Netting	Deferred	Lowest liquidity cost and moderate counterparty risk (but possibly with a change in counterparty)	Asian Clearing Union (ACU); Common Market for Eastern and Southern Africa (COMESA); PAPSS Sistema Único de Compensación Regional (SUCRE); European Payments Union (EPU); Keynes plan

Source: Gobbi (2018) and our elaborations

In RTGS, financial obligations between two economic entities are settled as they arise. For example, the sale of a good in a real market can ideally be split into two moments. The first, in which the asset is chosen by the potential buyer and in which the buyer accepts the terms of the financial contract (emergence of the debtor-creditor relationship), and the second, which coincides with a transfer of monetary means from the debtor to the creditor that extinguishes the relationship between the two counterparties. Since the financial contract is settled as soon as it comes into existence (Real Time), no credit risk arises. Nevertheless, this payment mode is the most onerous: the debtor must transfer to the creditor an amount of means of payment equal to the face value of the financial contract (Gross Settlement).

As for GS, in this type of contract the two counterparties indicate a specific date on which the debtor must settle its debt through the transfer of means of payment equal to the agreed nominal value. The difference from the real time case is that the debtor is given time in order to collect the amount due. This time extension of payment implies however a credit risk for the creditor. The liquidity outflow for debt payment, *ceteris paribus*, is the same as for RTGS. Nevertheless,

since the debtor takes a longer time to close the financial contract, in terms of the financial burden for the debtor, GS is preferable to RTGS.

Netting systems are bilateral or multilateral. Bilateral netting occurs when two economic agents agree to offset their net financial position. In the case where economic agent A is a creditor of 10 euros to economic agent B and, at the same time, economic agent B is a creditor to agent A of 6 euros, the two agents may decide to originate a new contract in which A is a creditor of B for 4 euros. This makes it possible to reduce the liquidity required to settle the two original financial contracts. Usually, the netting procedure does not take place in real time but on a date defined by the counterparties. For this reason, bilateral netting results in the emergence of credit risk for the net creditor.

Multilateral netting, on the other hand, is the case where more than two agents want to offset their total net financial position. Assume that A, B, and C need to calculate their overall net financial position and that A is creditor to B and C respectively for 5 euros, and at the same time B is creditor to A for 5 euros. Therefore, A's total net creditor position is 5 euros, B's is 0 while C is net debtor for 5 euros. The multilateral netting procedure reduces systemic net financial exposure, but also in this case, netting increases credit risk compared to RTGS systems. Moreover, as the number of agents grows, it will not be straightforward for each agent to calculate their overall net financial position. In more realistic settings, the net financial position between agents is usually calculated by a clearinghouse. Often, financial contracts between agents are novated by contracts between each agent and the clearinghouse.

When analysing payment systems and the financial contracts subject to them, it is necessary to keep in mind that financial contracts put in place between counterparties (households, firms, states, other private actors) are one thing while financial contracts entered into between actors in the payment system are another. It is perfectly usual that the payment of a gross settlement contract entered into between two enterprises may be settled in bilateral netting between two banks.

After this general overview we can now turn to regional cross-border monetary agreements. To date, there are several regional systems that use the clearing principle (bilateral or multilateral) to settle transactions among participants. This section presents six cases and it focuses on the main features of each of them. As we shall see, with the Eurozone's exception, the main reason why public or private actors join these systems is to reduce the need for liquidity. This need takes the form of demand for the most important currencies traded in international money markets, principally dollars and euros.

1. Sistema de Pagamentos em Moeda Local (SML)

SML has been designed by the Brazilian central bank and operates jointly with the central banks of Argentina, Uruguay, and Paraguay (Fritz et al. 2023; Shvandar and Khomyakova 2022). Its main purpose is to conduct international transactions of goods without using third-party international currencies, reducing liquidity costs and, more importantly, without the need to enter into foreign exchange contracts. The system processes bilateral payments between Brazil and other components of the system in net settlement. As well described by Fritz et al. (2023).

The SML has been designed as a simple payment system that allows the use of the national currency for bilateral trade denomination and settlement between an importer, an exporter, and commercial banks. Consequently, there is no need to exchange, for example, the Brazilian Real for US dollar and then Argentinian Peso (or vice versa). Payments are made in local currencies through local banks previously authorised to transfer the operations from private agents to the central banks and vice versa. Although the trading parties and their respective banks only settle payments in local currency, the net settlement of all operations is cleared, usually in US dollars, directly between the two regional central banks involved in this operation. The use of a central currency for the net settlement of operations is explained by the fact that neither central banks are willing to hold the other's currency in their foreign exchange reserves. Therefore, the reliance on the US dollar is reduced, but the use of this currency cannot be completely discarded. The maximum period for this clearing is three days, but it usually takes just 24 h.

2. Sistema Único de Compensación Regional (SUCRE)

SUCRE was established in 2009 by the Bolivarian Alliance for the Peoples of Our America, an international organization founded in 2004 by Cuba and Venezuela and now including ten full members among Latin American and Caribbean countries. SUCRE is the unit of account for the multilateral clearing system. Its main objective was to reduce the use of foreign currency by member countries netting payments and by granting payment deferrals in commercial transactions. SUCRE also offers the possibility of a bilateral netting of trade deficits between countries (Shvandar and Khomyakova 2022).

3. Regional Payment and Settlement System (REPSS)

As for Africa the first significant case was that of the Common Market for Eastern and Southern Africa (COMESA), established in 1994 by Djibouti, Egypt, Kenya,

Madagascar, Malawi, Mauritius, Sudan and Zimbabwe, in order to strengthen trade interaction among countries in the area, the REPSS was introduced.

REPSS is managed by the COMESA Clearing House, based in Harare, Zimbabwe. It is a multilateral clearing system with end-of-day settlement. Banking intermediaries access the system through their respective national central banks. Hence, central banks can avoid the complex payment chains that sometimes occur in correspondent bank arrangements. The currencies in which central banks settle their net payments are the dollar and the euro. The special feature of the COMESA clearing house is that the clearing of payments made in international currencies is not centralized, but is carried out by each member central bank at its own rates (Shchegoleva 2017).

4. PAPSS

On 13 January 2022, the Pan-African Payment and Settlement System (PAPSS) has been launched, operated by Afreximbank, established as a continent-wide multilateral financial institution in 1993 and gradually recapitalized to cope with growing institutional commitments. When read together and in perspective, both these dynamics hint at a shared long-term strategy aimed at

- (i) increasing inter-African trade by amending the terms of trade with the ROW
- (ii) decreasing the adhering states' dependence on the dollar as a currency for trade and its financing

From the perspective of what interests us here, attention must first converge on the PAPSS platform, which is not mentioned except in passing by Fritz et al. (2023), but which seems to fit very well into the typology of local monetary union sketched in the article on the basis of Latin American experiences in particular.

The declared goal is to rationalize local initiatives already in place on the continent, such as REPSS, which we discussed above: the strategic aim is to integrate REPPSSs into PAPPSS, thereby emancipating the payment system from the use of dominant currencies

We could hierarchize as follows the operations that PAPSS should take charge of, on the basis of *not* adopting a common unit of account, and thus certainly on the basis of the accumulation of suitable monetary reserves. In any case, the design of the PAPPSS is consistent with the criteria set forth by Chang (2000), quoted by Fritz et al. 2023:

a reduction of foreign currency flows and associated transaction costs can be obtained mainly in two ways. First, the number of transactions is reduced to net final settlement at the end of the period, while transactions of equal value cancel out. Second, temporary liquidity is provided to the deficit countries' central banks by the surplus countries' counterparts, as they allow each other to cancel mutual obligations not immediately, but only at the end of a clearing period. In effect, an efficiently run regional payment system in this simple version may slightly improve the terms of trade for intra-regional trade transactions.

Under this framework, PAPPS could provide essentially three facilities:

- (a) payment (real time gross settlement, like TARGET)
- (b) netting (liquidity saving mechanism, like EPU)
- (c) financing (overdraft facilities, like ICU)

5. Asia

Central banks of India, Iran, Nepal, Pakistan and Sri Lanka since 1974 have agreed to settle their regional payments using a multilateral clearing system called Asian Clearing Union. Subsequently, the system expanded by incorporating Bhutan, Myanmar and Maldives. As with other regional clearing systems, the main objectives are to reduce transaction costs and the need for liquidity to finance international transactions. Settlement of net payments takes place primarily in dollars or euros (Shvandar and Khomyakova 2022). The United States has recently imposed a number of restrictions on the use of the system (Financial Express 2023), another case of what is called a 'weaponization' process of the payments system (Fantacci and Gobbi 2024, 2023).

The payment systems analysed generally pertain to countries where saving international currency reserves and reducing liquidity costs is vital to the stability of their economic and financial systems. The use of clearing, bilateral or multilateral, perfectly meets this need.

6. Target 2

A typical example of a regional monetary system using a real time gross settlement system is T2, the payment system of the twenty countries that make up the Eurozone. Payment orders from commercial banks and central banks holding an account with the ECB are settled in T2. T2 is used for both transactions pertaining to monetary policy operations and interbank payments,

is participated by more than 1,000 banks and transacts an amount of payments close to the entire euro area GDP value every five days. As with all payment systems operating in real time, a process very cash-intensive, the main variables for assessing their efficiency relate to the ability to be able to conduct predefined time transactions, liquidity reservation facility, payments priorities and liquidity pooling (ECB 2024).

The recent evolution of T2 proves that even a RTGS system can acquire a financial dimension, by offering a source of funding for balance of payments disequilibria of member countries. Since the outbreak of the GFC in 2007–8, T2 balances of national central banks have diverged, with the accumulation of substantial debtor positions (most notably Italy and Spain) and creditor positions (mostly Germany) with overall outstanding credits and debts exceeding €1,000 billion (Figure 3.1). T2 remains a RTGS system, which allows cross-border payments between any two entities within the Eurozone to be settled in real time. However, to the extent that after the GFC the inflows and outflows for each member country are no longer balanced, these very settlements cause the respective central banks to accumulate net debtor or creditor positions vis-à-vis the clearing system as a whole. While T2 continues to function as a RTGS for public and private actors within the Eurozone, for the central banks of member countries it acts as a clearing system that fails to clear: the financial function



Figure 3.1 T2 balances. Source: <https://www.eurocrisismonitor.com/>.

dominates over the payment function (for a proposal to reform T2, see Amato, Fantacci, Papadimitriou, Zezza 2016). The case of T2 raises the question of whether it could represent a precedent for other regional payments systems, which in principle could follow similar trajectories, morphing from (real-time) settlement systems into full-fledged international clearing systems with a substantial financial function.

This section clearly shows how a payment system can be designed to meet the needs of its members. Moreover, it highlights how these needs are different between the different regions considered. Furthermore, all the systems presented focus on a geographically defined economic area where ICU has a planetary horizon. Nowadays, the historical and geopolitical conditions seem to indicate that the regional scale is the maximum attainable.

The BRICS community and multilateral development banks

The process of globalization, from the fall of the Berlin Wall to GFC, was characterized by the widening of the trade network between countries, the growth of China's role as a major global creditor as well as a strengthening of US hegemony in the international financial system. From that point on, abetted by the loss of importance of Europe's role, the process of 'friendshoring' initiated by the United States, combined with the growing leadership of non-G7 economies in the production of a range of goods and services, as well as in the supply of raw materials, seems to have reversed the direction of globalization.

More precisely, it is not that the world is de-globalizing; on the contrary, there are pushes that are taking entire production chains out of G7 countries without witnessing a re-nationalization of supply chains. Nonetheless, this does not imply that this process is necessarily efficient, as it is often dictated by political relations between states rather than economic reasons.

Leading this metamorphosis of globalization is the BRICS+ group. The original bloc of BRIC countries (Brazil, Russia, India and China) was born in 2009 as a reaction to the GFC that erupted in 2007 and, following South Africa's accession in 2010, updated its acronym to BRICS. As of this year (2024), the community expanded to include five more countries (Iran, Egypt, Saudi Arabia, the United Arab Emirates and Ethiopia), thus redefining itself into the expanded BRICS+ group (Second Joint Declaration of BRICS Country Leaders.²)

Looking at the BRICS+ community, albeit for different reasons, the decrease in the use of the dollar seems to be a shared goal. This theme emerges explicitly, as the Second BRICS Joint Declaration (Article 12) clearly states:³

In the interest of promoting international economic stability, we have asked our Finance Ministers and Central Bank Governors to look into regional monetary arrangements and discuss modalities of cooperation between our countries in this area. In order to facilitate trade and investment, we will study feasibilities of monetary cooperation, including local currency trade settlement arrangement between our countries.

We gather here some relevant information with respect to the potential role played by the implementation of cross-border payment systems, and the diffusion of bilateral trade agreements in the process of dedollarization among BRICS+ countries.

Considering trade relations, China has been the main trading partner of Brazil for fourteen years and bilateral trade reached a record \$171.5 billion in 2022, up 4.9 per cent year on year (Global Times 2024). At the BRICS summit in Johannesburg in 2023, South Africa and China announced that Chinese companies had signed agreements to purchase South African products worth about \$2.2 billion. At that same gathering, plans were announced for China to import more South African agri-food products, as well as donate \$8.9 million worth of Chinese energy equipment to South Africa, in addition to an irredeemable loan worth \$26.9 million to enable the country to cope with the energy crisis (Virusha 2023). The value of trade between India and China has also increased between 2012 and 2022 by 83 per cent (Pravakar and Ashwani 2023; Gobbi 2023). India's Ministry of Commerce claimed that India's total exports to Russia increased 46.2 per cent year-on-year to \$2.7 billion in the first eight months of fiscal year 2023/4 ended March, while imports increased 54.8 per cent to \$40.5 billion in the same period (Reuters 2024).

Focusing on payment systems, in February 2023, the central banks of China and Brazil signed an MOU to establish yuan clearing arrangements in Brazil (Yeping and Jingyi 2023). Since 2014 the Russian Federation, due to the conflict in Crimea and Donbass as well as the violation of Ukraine's territorial integrity, has been the target of financial sanctions by NATO member countries and their allies. Since the beginning of the conflict, Russia's central bank has tried to respond to sanctions by creating its own credit card payment system called Mir. In 2021 the Mir system processed about 25 per cent of payments within the Russian financial system. In order to reduce dependence on the SWIFT system

of payments, the Russian government developed a replica called SPFS (System for Transfer of Financial Messages). The following year China also launched its own system called CIPS (Cross Border Interbank Payment System). Unlike SPFS, CIPS is not only a messaging system to transmit payment orders, but also a settlement and clearing system to enable the execution of payments (Fantacci and Gobbi 2024, 2023). Considering the Russian case, we note how over the decade between 2012 and 2022 dollar-denominated exports declined by 30 per cent.

A further thrust to the dedollarization process may come from the enlargement of the BRICS community into BRICS+, with the joining of several commodity and oil producing countries. An emblematic example of the potential internationalization of the yuan is the fact that China and Saudi Arabia have reached an agreement on a currency swap worth about \$7 billion. The three-year agreement provides for a maximum of 50 billion yuan or 26 billion riyals (Reuters 2023b).

The BRICS community has equipped itself with a new multilateral development bank (MDB) in 2014. The establishment of the New Development Bank (NDB) and the Contingent Reserve Arrangement (CRA) (Hooijmaaijers 2022) was announced at the sixth summit of BRICS countries. The main objective of this institution is to raise and mobilize resources for financing development projects of community countries. The NDB's subscribed capital is \$50 billion immediately available, with an authorized capital of \$100 billion. Considering governance, the governing body consists of the board of governors and finance ministers of the five BRICS countries, and the voting power is proportional to the capital shares held by each country. Capitalization allows the NDB to do its borrowing at low cost with a benefit to all members (Hooijmaaijers 2022) and to take advantage of the benefits of diversification of lending. When it comes to the CRA, it consists of a financial safety net that allows the provision of liquidity should actual or potential pressures arise on the balance of payments in the short term.

In the same year, twenty-one countries located in Asia, including China and India, created the Asian Infrastructure Investment Bank (AIIB). The AIIB was formed by fifty-seven countries joined by others in the following years with US\$ 100 billion in authorized capital. Considering governance, the maximum share held by non-regional members cannot be more than 25 per cent (Wang 2019). To date, the percentage of Asian shareholders is 76 per cent, and China is the largest shareholder with a 26.5 per cent share (AIIB 2023)

As argued by Ye (2017) the Asian Infrastructure Investment Bank has adopted a more internationalist approach than the New Development Bank. The first

Table 2 Comparison of GDP of Countries Belonging to the G7 and BRICS +

Countries BRICS	GDP (\$ billions)	Global GDP Share	Countries G7	GDP (\$ billions)	Global GDP Share
China	\$19.374	18%	US	\$26.855	25%
India	\$ 3.734	4 %	Japan	\$4.410	4%
Brazil	\$ 2.081	2 %	Germany	\$4.309	4%
Russia	\$ 2.063	2 %	UK	\$3.159	3%
South Africa	\$ 399	0.4 %	France	\$2.923	3%
Saudi Arabia	\$ 1.062	1 %	Italy	\$2.170	2%
Argentina	\$ 641	0.6 %	Canada	\$2.090	2%
United Arab Emirates	\$ 499	0.5 %			
Egypt	\$ 387	0.4 %			
Iran	\$ 386	0.4 %			
Ethiopia	\$ 156	0.2 %			
Brics+ total	\$ 38.767	29%	G7 total	\$45.916	43%

Source: World Bank

goal of the AIIB is to implement a sustainable one through cooperation between countries belonging to the region and other multilateral banks. The AIIB is concerned with enhancing infrastructure connectivity in Asia by investing in infrastructure and other productive sectors (AIIB 2023).

As with the NDB, the establishment of an MDB managed by the member countries of the regional community has a strong political impact. This is clear from the words of US Treasury Secretary Lawrence Summers, who in early April 2015, following an avalanche of countries asking to join the AIIB, said, ‘This past month may be remembered as the moment when the United States lost its role as guarantor of the global economic system’ (Summers 2015).

Figure 3.2 shows the value of loans disbursed by major Multilateral Development Banks (African Development Bank (AfDB); Development Bank of Latin America (CAF); Asian Infrastructure Investment Bank (AIIB); New Development Bank (NewDB); Asian Development Bank (AsDB); Inter-American Development Bank (IADB); International Bank for Reconstruction and Development (IBRD); International Development Association (IDA); International Finance Corporation (IFC); European Bank for Reconstruction and Development (EBRD); European Investment Bank (EIB)). The light grey line indicates institutions where the majority of voting rights belong to lender countries while the dark grey line represents institutions where the majority of voting rights belong to borrower countries.

It can be clearly seen that the majority of disbursed funds mainly pertain to foreign countries, typically members of the G7. Over the years 2014–19,

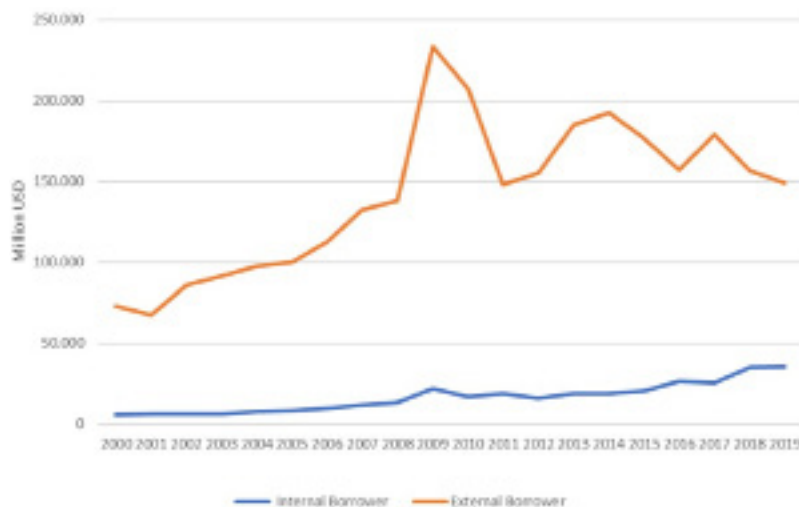


Figure 3.2 Funds allocated by MDB borrowers or lenders. Source: Annual reports of each institution.

however, the funds disbursed by resource-receiving countries has grown by 88 per cent while that of disbursing countries has dropped by 22 per cent.

Multi-currency CBDCs as a form of regional clearing⁴

If there were an international clearing system, such as the ICU designed by Keynes, cross-border settlements could rely ultimately on the possibility of settling (net) balances through the accounts of member central banks with the clearing centre. Instead, the current international payments system is based on correspondent banking: a network of agreements between private banks, located in different jurisdictions, on the basis of which one maintains an account with the other in local currency (Brandl and Dieterich 2023; Robinson, Dörry, and Derudder 2023). This private infrastructure, to date mainly centred on the ‘offshore dollar’ or ‘eurodollar’ system, plays a key role in making possible those cross-border payments that underpin international trade, finance and foreign remittances (Murau, Rini, and Haas 2020).

This current configuration has been the subject of much criticism from monetary authorities, such as Fabio Panetta (2023), governor of the Bank of Italy and former member of the board of the ECB, and international bodies, such as the IMF (Adrian and Mancini Griffole 2023) and the WEF (2023). On

the one hand, the system is judged to be inefficient due to excessive slowness, high costs and lack of transparency. On the other hand, since 2011 there has been a major reduction in the number of correspondent banking relationships. The trend towards oligopolistic concentration could be further reinforced by digitization. The outcome would be particularly inauspicious for the most vulnerable countries which, due to a reduction in the number of ‘corridors’ available to them, would have increasingly limited access to the international financial system.

To address these problems, a number of initiatives have been launched internationally to improve the functioning of cross-border payments. This is where wholesale CBDCs appear. The G20 roadmap, established by the Saudi Arabian presidency in 2020, is currently being developed by the Financial Stability Board (FSB), in collaboration with the Committee on Payments and Market Infrastructure (CPMI) of the Bank for International Settlements (BIS) and other leading international organizations and standards setting bodies. The 2020 CPMI report, in particular, emphasized the importance of exploring the international dimension of CBDCs to improve cross-border payments. To this end, since the joint work published in 2021, CPMI has been working closely with the Innovation Hub of the BIS, the International Monetary Fund and the World Bank. The catalytic role has undoubtedly been played by the BIS. Indeed, the latter has initiated, in collaboration with some national central banks and in parallel with other types of experiments, several projects aimed at testing the potential of wholesale CBDCs in cross-border payments (Table 3).

There are several options on the ground. It is worth noting, however, that this is not merely a technical issue, but a deeply political one. As Tobias Adrian, head of the IMF’s Monetary and Capital Markets Department, has pointed out, the payments system is one of the fundamental pillars of the international monetary system along with exchange rate agreements and capital controls. No wonder, then, that in a recent speech, Banque de France Deputy Director Denis Beau said that ‘with the ongoing work on wholesale CBDCs, central banks are laying the groundwork for a new global and multilateral monetary system’.

Indeed, as emerging economies show a growing political interest in reducing their dependence on the US dollar, the issue of regional clearing regains attention. The twin objectives of supporting regional trade growth and reducing exchange rate risk against the dollar are driving solutions based on multilateral payment technologies, both within monetary unions and in the absence of a common currency.

Table 3 Cross-border CBDCs Promoted by BISIH

	Jura	Dunbar	mBridge	Icebreaker	Mariana
Experiment design	CH Bdf, SNB	SG MAS, SARB, RBA, BNM	HK HKMA, BoT, PBoC, CBUAE	SE CBs of SE, NO and IS	EU, SG, CH BdF, MAS, SNB
Output Type of CBDC	Prototype Wholesale, Intraday	Prototype Wholesale, O/N w/o interest	Pilot Wholesale, Intraday & O/N	PoC Retail	PoC Wholesale
Currencies	EUR, CHF	AUD, MYR, SGD, SAR	HKD, CNY, THB, AED	ILS, NOK, SEK	EUR, SGD, CHF
Transaction type	Retail value	Simulated	Retail value	Simulated	Simulated
Interoperability model	Common plat. w subnetworks	Common platform	Common platform	Hub and spoke	Common platform for FX
DLT	Corda	Corda, Quorum	mBridge Ledger	Corda, Hyperledger Besu, Ethereum Quorum	Ethereum
Operator	Private	Central banks	Central banks	Central banks	Central banks
Extra use cases	PvP ¹ , DVP ² , offshore	PvP ¹ , offshore	PvP	PvPvP	FX trading PvP

¹ A settlement mechanism that ensures that the final transfer of a payment in one currency occurs if and only if the final transfer of a payment in another currency or currencies takes place.

² A securities settlement mechanism that links a securities transfer and a funds transfer in such a way as to ensure that delivery occurs if and only if the corresponding payment occurs.

A significant initiative of the latter type is mBridge, a prototype of multi-currency central bank digital currency jointly developed by the BIS Innovation Hub Hong Kong Centre, the Hong Kong Monetary Authority, the Bank of Thailand, the Digital Currency Institute of the People's Bank of China and the Central Bank of the United Arab Emirates.

As other similar initiatives, mBridge is usually presented merely as a technical device to provide 'faster, cheaper and more transparent payments across borders' (BISIH 2022: 5). However, upon closer inspection, such experiments prove to offer also a distinctly financial service. For instance, Inthanon LionRock2, a project developed by BIS together with the Hong Kong Monetary Authority and the Bank of Thailand, builds on smart contracts to develop an 'algorithmic liquidity saving mechanism to reduce the nostro-vostro liquidity' (ibid.). In other terms, this platform based on DLT helps reduce the reliance on correspondent banking as a source of funding for international payments.

The establishment of wholesale CBDCs for use in payments could impact two of the fundamental pillars of the current system. On the one hand, they would call into question the coordinates governing public-private relations in global currency governance. On the other, as feared by the Atlantic Council, their spread could even pose a possible threat to the hegemony of the dollar (Tran and Matthews 2023). Indeed, wholesale CBDCs are designed precisely to facilitate cross-border payments without having to resort to currency markets, where the dollar has so far retained an 85 per cent share. In turn, the reduction in the use of the dollar as a medium of exchange in international payments would inevitably lead to a further decline in its holding as a reserve instrument by central banks (accentuating a descent that has already been going on for a couple of decades).

Moreover, one need not even imagine that, in its hegemonic position at the centre of the international monetary system, the dollar would be replaced by another currency. Already in official reserves what the dollar has lost has been gained not by a single rival currency (and certainly not by the euro), but by a plurality of smaller currencies. *A fortiori*, in the system of international settlements, interoperable digital technologies, such as wholesale CBDCs, could make it possible to reduce dependence on the dollar without necessarily requiring its replacement by another single currency. The scenario could be one of progressive fragmentation.

A more desirable alternative might involve the establishment of a global central bank. This role could be assumed by an international body such as the BIS, which could aspire to become fully, according to the original design of its creators, a central bank of central banks. The International Monetary Fund also

seems to be moving in this direction with the creation of the XC platform, aimed at creating a single, globally unified ledger: could this be a first step towards transforming the Fund into a Clearing Union on the model designed by Keynes?

Conclusions

We started from an analysis of the reasons for Keynes's failure at Bretton Woods but also from the acknowledgement that the hegemonic balance of the dollar can no longer be taken for granted. We then tried to analyse the *lato sensu* anti-hegemonic tendencies that are now emerging. It would be excessive, however, to consider the emerging phenomena in the current framework as elements of an alternative order in the process of being composed. We are in an intermediate phase, in which an old order is beginning to show its limits and a new order is far from appearing on the horizon. Indeed, we can read the phenomena analysed as both elements of response to the potential disintegration of the old order and as active factors in that disintegration, but certainly not as elements of a new order with already defined features. However, precisely for this reason, it is worthwhile not only to closely follow these attempts as ambiguous indications of a potentially 'productive incoherence', but also to read Keynes's project at Bretton Woods as a framework that could be, with some care, adapted to the new situation.

On the one hand, the ICU is for Keynes compatible with the adherence not of individual states but of cohesive monetary economic blocs; on the other hand, it is an expression of the need for an overarching principle of order, which, as Eichengreen (2019) rightly points out, becomes even more necessary in a framework of greater horizontal articulation of relations between economic blocs than in a framework dominated by an undisputed hegemon.

As emerging economies show a growing political interest in reducing their dependence on the US dollar, the issue of regional clearing regains attention. The twin objectives of supporting regional trade growth and reducing exchange rate risk against the dollar are driving solutions based on multilateral payment technologies. It is perhaps too soon to say whether these will develop into full-blown applications of the clearing principle at a regional scale, such as in the case of the European Payments Union. There is, however, the possibility that they will increasingly acquire the function not just of facilitating cross-border settlements, but also of providing a source of international liquidity to fund balance of payments disequilibria.

This chapter is a first step and a first attempt at framing, which will obviously require both theoretical refinement and careful monitoring of the lines of evolution of a global world at risk of fragmentation.

Acknowledgement

This work was supported by the Italian Ministry for Universities and Research, grant PRIN PNRR 2022 n. P2022EZBTE, CUP: G53D23006790001, financed by the European Union – Next Generation EU.

Notes

- 1 For Keynes, the specialization implied by comparative advantage could be seen as an efficient solution because no industry is strictly strategic, and therefore the only constraint is given by productive efficiency, which is then reflected in the relative prices of technically reproducible goods, while for raw materials and commodities in general Keynes envisages a regime of controlled prices, also thanks to a third pillar of his post-war plan, an international institutions for the management of commodity buffer stocks, which in turn would strengthen the smooth functioning of the ICU.
- 2 <https://brics2023.gov.za/wp-content/uploads/2023/08/Jhb-II-Declaration-24-August-2023-1.pdf>
- 3 <http://www.brics.utoronto.ca/docs/100415-leaders.html#:~:text=We%20call%20upon%20all%20states,our%20own%20countries%20and%20worldwide.>
- 4 This section builds largely on Fantacci and Magurno (2023).

Bibliography

- Adrian, T., and T. Mancini Griffoli. (2023), *The Rise of Payment and Contracting Platforms*, Fintech Notes No 2023/005, IMF, retrievable online at: <https://www.imf.org/en/Publications/fintech-notes/Issues/2023/06/16/The-Rise-of-Payment-and-Contracting-Platforms-534794>.
- Amato, M. (2020), ‘The Nature of Money in a Clearing System. From Liquidity to Liquidness’, *PACO (PARteecipazione e CONflitto, * The Open Journal of Sociopolitical Studies)*, 13 (1): 409–37.
- Amato, M., and K. Nubukpo. (2020), ‘A New Currency for West African States: The Theoretical and Political Conditions of its Feasibility’, *PSL Quarterly Review*, 73 (292): 3–26.

- Amato, M., L. Fantacci, D. Papadimitriou, and G. Zezza. (2016), 'Going Forward From B to A? Proposals for the Eurozone Crisis', Economics Working Paper Archive wp_866, Levy Economics Institute.
- Ashford and Cooper. (2023), 'Yes, the World Is Multipolar And that isn't Bad News for the United States', *Foreign Policy*, 5 October, retrievable online at: <https://foreignpolicy.com/2023/10/05/usa-china-multipolar-bipolar-unipolar/>.
- Asian Infrastructure Investment Bank AIIB. (2023), AIIB Annual Reports and Financials. <https://www.aiim.org/en/news-events/annual-report/overview/index.html>.
- Bean, R. W. (1948), 'European Multilateral Clearing', *The Journal of Political Economy*, 56 (5): 403–15.
- Beau, D. (2023), Unveiling the Potential of Wholesale CBDC: What Insights and Prospects?, Concluding Remarks by Denis Beau, First Deputy-Governor of the Banque de France. Conference Banque de France, 3 October, retrievable online at: <https://www.banque-france.fr/en/governors-interventions/unveiling-potential-wholesale-cbdc-what-insights-and-prospects>.
- Benn, Steil. (2014), *The Battle of Bretton Woods John Maynard Keynes, Harry Dexter, and the Making of a New World Order*. ISBN 978-0-691-16237-9. OCLC 876136552.
- Berend, T. I. (2016), *The History of European Integration – A New Perspective*, New York: Routledge.
- BIS Innovation Hub. (2022), Using CBDCs Across Borders: Lessons From Practical Experiments, Bank for International Settlements, June.
- BIS Innovation Hub. (2023), Lessons Learnt on CBDCs. Report Submitted to the G20 Finance Ministers and Central Bank Governors, Bank for International Settlements, July.
- Bordo, M. D. (2017), 'The Operation and Demise of the Bretton Woods System; 1958 to 1971', Working Paper 23189, <http://www.nber.org/papers/w23189> National Bureau of Economic Research.
- Brandl, B., and L. Dieterich. (2023), 'The Exclusive Nature of Global Payments Infrastructures: The Significance of Major Banks and the Role of Tech-driven Companies', *Review of International Political Economy*, 30 (2): 535–57, DOI: 10.1080/09692290.2021.2016470.
- Carney, M. (2019), The Growing Challenges for Monetary Policy in the Current International Monetary and Financial System, Speech given by Mark Carney, Governor of the Bank of England, Jackson Hole Symposium 2019, 23 August 2019.
- Chang, R., 2000. Regional Monetary Arrangements for Developing Countries. (Working Paper). <https://www.g24.org/wp-content/uploads/2014/03/210.pdf>(open in a new window)
- De Cecco, M. (1975), *Money and Empire: International Gold Standard, 1890–1914*, Oxford: Blackwell Publishers.
- Economic Commission for Europe. (1948), *A Survey of the Economic Situation and Prospects of Europe*, Geneva: United Nations Department of Economic Affairs.

- Eichengreen, Barry. (2008), *Globalizing Capital: A History of the International Monetary System*, Princeton: Princeton University Press.
- Eichengreen, B. (2019), 'Two Views of the International Monetary System', *Intereconomics*, 54 (4): 233–6.
- European Central Bank. (2024), What is T2, available at: <https://www.ecb.europa.eu/paym/target/t2/html/index.en.html>.
- Fantacci, L. (2017), 'Reconciling money and goods: Keynes's commodity and currency plans for the postwar worlds.' *Annali della Fondazione Luigi Einaudi*, 51 (1): 149–76.
- Fantacci, L. (2024), 'Shifting Liquidity Preference from Money to Goods: Hayek and Keynes on a Commodity Reserve Currency', in Maria Cristina Marcuzzo, Annalisa Rosselli, and Arie Arnon (eds), *Money in Times of Crisis: Pre-Classical, Classical and Contemporary Theories*, Roma: Bardi.
- Fantacci, L., and L. Gobbi. (2023), 'The Future of the International Monetary System: Geopolitics and Technology', in N. Bilotta e F. Botti (eds), *Digitalization and Geopolitics: Catalytic Forces in the Future International Monetary System*: 19–47, Roma: Edizioni Nuova Cultura, Istituto Affari Internazionali.
- Fantacci, L., and L. Gobbi. (2024), 'Stablecoins, Central Bank Digital Currencies and US Dollar Hegemony: The Geopolitical Stake of Innovations in Money and Payments', *Accounting, Economics, and Law: A Convivium* 14 (2): 173–200. <https://doi.org/10.1515/acl-2020-0053>.
- Fantacci, L. and Magurno, J. (2023), 'Monete digitali: ritorno a Keynes?', ISPI Global Watch, 22 dec. <https://www.ispionline.it/it/pubblicazione/monete-digitali-ritorno-a-keynes-157839>
- Financial Express. (The) (2023), US Imposes Restrictions on ACU Payment, available at: <https://thefinancialexpress.com.b>.
- Flexner, K. F. (1957), 'The Creation of the European Payments Union: An Example in International Compromise', *Political Science Quarterly*, 72 (2): 241–60.
- Fritz, B., A. Kaltenbrunner, L. Mühlich, and B. Orsi. (2023), 'South-South Monetary Regionalism: A Case of Productive Incoherence?', *New Political Economy*, 28(5): 818–31, DOI: 10.1080/13563467.2023.2184471.
- Global Times. (2024), China, Brazil Foreign Ministers Vow to Bring Partnership to New Heights, available at: <https://www.globaltimes.cn/page/202401/1305725.shtml>.
- Gobbi, L. (2018), 'Clearing Mechanism in Real and Financial Markets', PhD thesis, University of Trento.
- Gobbi, L. (2023), 'De-Dollarizzazione: La Sfida Dei Paesi BRICS', *Moneta e Credito*, 76 (304).
- Hayes, M. (2018), 'The Liquidity of Money', *Cambridge Journal of Economics*, 42 (5): 1205–18.
- Hoffman, P. (1949), Statement by the E.C.A. Administrator at the 75th Council Meeting, Organisation for European Economic Co-Operation, Paris, 31 October, retrievable online at www.let.leidenuniv.nl/pdf/geschiedenis/eu-history/EU_03.doc.

- Hooijmaaijers, B. (2022), 'The Internal and External Institutionalization of the BRICS Countries: The Case of the New Development Bank', *International Political Science Review*, 43 (4): 481–94.
- James, H. (2012), 'The Multiple Contexts of Bretton Woods', *Oxford Review of Economic Policy*, 28 (3): 411–30.
- Lees, F. A. (1962), 'A Critical Analysis of the European Payments Union', *The Journal of Finance*, 17 (3): 514–5.
- Maes, I., and I. Pasotti. (2018), 'The European Payments Union and the Origins of Triffin's Regional Approach Toward International Monetary Integration', *History of Political Economy*, 50 (1): 155–90.
- Mehrling, P. (2022), *Money and Empire: Charles P. Kindleberger and the Dollar System*, Cambridge: CUP.
- Mikesell, R. F. (1948), 'Regional Multilateral Payments Arrangements', *The Quarterly Journal of Economics*, 62 (4): 500–18.
- Murau, S., J. Rini, and A. Haas. (2020), 'The Evolution of the Offshore US-Dollar System: Past, Present and Four Possible Futures', *Journal of Institutional Economics*, 16 (6): 767–83. doi: 10.1017/S1744137420000168.
- Panetta, F. (2023), 'The World Needs a Better Cross-Border Payments Network', *Financial Times*, 31 October, retrievable online at: <https://www.bancaditalia.it/media/notizie/2023/Panetta-The-world-needs-FT.pdf>.
- Pravakar S. e Ashwani, B. (2023), 'Rising India–China Trade Deficit: Policy for Bridging the Gap', *Economic and Political Weekly*, 9 settembre, 58 (36), <https://www.epw.in/journal/2023/36/discussion/rising-india%E2%80%93china-trade-deficit.html>.
- Reuters (2023), "Exclusive: India, Russia Suspend Negotiations to Settle Trade in Rupees", disponibile al link: <https://www.reuters.com/markets/currencies/india-russia-suspend-negotiations-settle-trade-rupees-sources-2023-05-04/>
- Reuters. (2023a), Rupee Payments Double Value of India's Engineering Exports to Russia, available at: <https://www.reuters.com/world/india/rupee-payments-double-value-indias-engineering-exports-russia-2024-01-31/>.
- Reuters. (2023b), China, Saudi Arabia Sign Currency Swap Agreement, available at: <https://www.reuters.com/markets/currencies/china-saudi-arabia-central-banks-sign-local-currency-swap-agreement-2023-11-20/>.
- Robinson, G., S. Dörry, and B. Derudder. (2023), 'Global Networks of Money and Information at the Crossroads: Correspondent Banking and SWIFT', *Global Networks*, 23: 478–93. <https://doi.org/10.1111/glob.12408>.
- Schenk. (2010), 'The Regulation of International Financial Markets from the 1950s to the 1990s', in Battilossi, S., and J. Reis (eds). *State and Financial Systems in Europe and the USA*. Farnham: Ashgate.
- Shchegoleva, N. G. (2017), Retrospective of Payment Systems of Regional Unions of African and Latin American Countries: Experience for the EAEU. In Russia: Trends and Development Prospects. Yearbook. Resp. ed. V.I. Gerasimov. Moscow (In Russ.).

- Shvandar, K., and L. Khomyakova. (2022), 'Regional Payment Systems of Asia, Africa, Latin America as a Tool for Regional Integration. Prospects for the Eurasian Economic Union', *Finansovyy zhurnal – Financial Journal*, Financial Research Institute, Moscow 125375, Russia, 14 (2): 43–54, April.
- Summers, L. (2015), 'A Global Wake-up Call for the US?', *Washington Post*, 5 April. www.washingtonpost.com/opinions/a-global-wake-up-call-for-the-us/2015/04/05/6f847ca4-da34-11e4-b3f2-607bd612aeac_story.html (accessed 10 June 2016).
- Tran, H., and B. C. Matthews. (2023), CBDCs will Further Fragment the Global Economy – and Could Threaten the Dollar, *Atlantic Council*, November 16, retrievable online at: <https://www.atlanticcouncil.org/blogs/econographics/cbdcs-will-further-fragment-the-global-economy-and-could-threaten-the-dollar/>.
- Vernengo, M. (2021), 'The Consolidation of Dollar Hegemony After the Collapse of Bretton Woods: Bringing Power Back in', *Review of Political Economy*, 33 (4): 529–51.
- Virusha, S. (2023), South Africa and China: Trade Relations Grow Stronger, available at: <https://www.globalcompliancenews.com/2023/09/09/south-africa-and-china-trade-relations-grow-stronger/#:~:text=Trade%20between%20China%20and%20South,markets%20for%20South%20African%20products.>
- Wang, H. (2019), 'The New Development Bank and the Asian Infrastructure Investment Bank: China's Ambiguous Approach to Global Financial Governance', *Development and Change, International Institute of Social Studies*, 50 (1): 221–44.
- World Economic Forum. (2023), Unlocking Interoperability: Overcoming Regulatory Frictions in Cross-Border Payments, White Paper, September, retrievable online at: <https://www.weforum.org/publications/unlocking-interoperability-overcoming-regulatory-frictions-in-cross-border-payments/>.
- Ye, Y. (2017), 'Jinzhuan Yinhang de Bentuhua Fazhan Jiqi Chuangxin Yiyi' ['The Localization of BRICS Bank and Its Significance for Innovation'], Shanghai: Shanghai Institute of International Studies.
- Yeping and Jingyi. (2023). <https://www.globaltimes.cn/page/202303/1288326.shtml>