



Special on purpose: complementary currencies in the hierarchy of money

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Abstract

No money is universally acceptable. What distinguishes special-purpose monies (SPMs) from national currencies is not the fact of geographical or institutional constraints on their acceptability as such, but the intentional imposition of such constraints as a design priority. This article integrates SPMs into the theoretical framework of the credit theory of money and proposes a novel typology of complementary currencies. In this view, any money is part of a global hierarchy of credit monies. The position of each money in that hierarchy depends on its liquidity, including the degree of commensurability and convertibility, and on the degree of sovereignty that backs it, including aspects of sovereignty that are based on monopoly power and social norms that have no necessary link to states. The position of national currencies in the global hierarchy can be assessed along the dimensions of liquidity and sovereignty. Along the same lines, four types of SPMs can be distinguished. Non-commensurable SPMs backed by some form of sovereignty and connected to public provisioning systems appear to be a more promising instrument than private convertible currencies for supporting effective sustainability transitions.

Keywords Special-purpose money · Local currencies · Currency hierarchy · Monetary sovereignty · Credit theory of money · Degrowth

Introduction

The essential goal of special-purpose money (SPM) is de-linking from the capitalist world economy. By creating an “ecosystem” of separate monetary and economic spheres, SPMs are supposed to foster locally embedded economic practices that involve relatively low levels of resource and energy throughput (Lietaer et al. 2012; Parrique 2019, p. 640; Hornborg 2017) and are 'de-linked'. (Amin, 1987) from global capitalism. The strategy of de-linking monetary spheres from one another raises the question how exactly such spheres are linked today—and what economic and

ecological dynamics govern these interactions, including the interactions between special-purpose currencies and conventional money. This set of questions can be divided into two components: first, how are monetary spheres, including different types of SPM spheres, connected to one another? Second, how do the dynamics evolving around these connections matter for sustainability?

This article makes a theoretical argument that addresses the first of these two sub-questions: all modern monies, including SPMs, are part of a global hierarchy of credit monies. Many sustainability-oriented SPMs, in particular local currencies, occupy a position in this hierarchy that is similar to the position of peripheral national currencies. The next section of this article introduces a conceptualization of monetary hierarchy along the dimensions of liquidity and sovereignty, as well as a method for empirically classifying national currencies based on this conceptualization. The third section applies the same conceptual framework to distinguish four schematic types of SPM, and discusses their similarities and differences to peripheral national currencies.

While this analysis provides an answer to the first sub-question, a hypothesis addressing the second sub-question

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is presented elsewhere: monetary hierarchy affects the flow of biophysical resources through ecologically unequal exchange (Olk 2024, forthcoming; see also Svartzman and Althouse 2020). Taken together, the two arguments imply that the position of a given special-purpose money in the global monetary hierarchy matters greatly for its ability to support a reduction and more equitable distribution of biophysical resource throughput. The implications for the design and governance of SPMs are briefly discussed in the concluding fourth section.

Related literature

Degrowth scholars argue that special-purpose monies (SPMs) could localize economic activity, promote more responsible consumption patterns, fund sustainable provisioning systems, build culturally diverse and resilient communities, and ultimately even help phase out the use of money altogether (e.g. Latouche 2009; Lietaer et al. 2012; Seyfang and Longhurst 2013; Gerber 2015; Lenis Escobar et al. 2020; Hornborg 2017; Parrique 2019, ch. 10). The empirical evidence for the benefits thus claimed remains relatively limited (Dittmer 2013; Larue 2020a). Existing proposals for using SPMs for sustainability have also been criticized for their lack of a coherent monetary theory (e.g. Cahen-Fourot and Lavoie 2016; Svartzman 2020; Larue 2020b). Most scholars discuss SPMs against the stylized backdrop of a closed (national) macroeconomy in which one single (national) “general-purpose money” is used (e.g. Hornborg 2017; Hornborg et al. 2022), an abstraction they generally share with mainstream economics and political economy (e.g. Cohen 2018; Eichengreen 2019). The major expectation is Blanc (2017, 2018), who insists that these abstractions misrepresent the existing monetary system, a system that is already characterized by monetary pluralism: SPMs always coexist and interact not with some abstract universal money, but with multiple other monies. Credit theorists of money, including Post-Keynesian economists and scholars of critical macro-finance, conceptualize the mode of interaction between monies as one of “monetary hierarchy” (e.g. Bell 2001; Mehrling 2012; Prates 2017; de Paula et al. 2017; Bonizzi et al. 2019; Gabor 2020; Murau et al. 2022). The literature on monetary hierarchy has not covered SPM, and consequently, the position of SPMs in this hierarchy is unclear. Closing this conceptual gap will require first a return to the origins of the distinction between “special-purpose” and “ordinary” money.

Is all modern money special-purpose money?

Polanyi (1957, p. 264) introduced the distinction between “special-purpose money” and “all-purpose money”, where the second serves both as a “standard of value” (i.e. unit

of account) and as a “means of exchange”. In contrast, special-purpose money, supposedly the domain of pre-capitalist societies, does not fulfil both functions simultaneously (1957, p. 266). This functionalist view is sometimes expanded, by defining SPM as any money that does not simultaneously fulfil the four functions of (1) medium of exchange; (2) unit of account; (3) store of value; and (4) means of payment—for instance, many of the earliest pre-modern monies that functioned as a unit of account but not a medium of exchange or store of value (Graeber 2011, p. 37); or the Matawai society in Suriname using rum as a means of payment but not a standard of value or medium of exchange (Green 1976). Another, slightly distinct interpretation of Polanyi defines SPM as money that circulates “in only part of the economy”, in contrast to capitalist economies where, supposedly, “everything [...] circulates in an economy unified by the market principle and the universal solvent, general-purpose money” (Isaac 2005, p. 16).

This view not only neglects capitalist institutions whose predominant mode of social organization is not market exchange, such as bureaucracies or unpaid reproductive labour. Crucially, many non-market institutions that are central to modern capitalism, including banks and central banks, already use special types of money that are not available to other economic actors, nor circulate in other economic spheres. Scholarship in the “credit theory of money” tradition sheds light onto this diversity of monetary spheres, which fundamentally challenge the Polanyian concept of SPM.

The credit theory of money: the inherent hierarchy of money

The defining proposition of the credit theory of money is that any modern money is a form of debt (Schumpeter 2014 [1970]). In a modern monetary economy, everyone is subject to the imperative of settling debts when they are due—Hyman Minsky’s “survival constraint” (1986), equivalent to the “balance of payments constraint” (Thirlwall 1979) on the international level. The essential property of money—what fundamentally distinguishes it from commodities or capital—is its ability to settle debts (see also Keynes 1930, 2017 [1937]; Marx 2013 [1867]; in: Brunhoff 2015 [1976]). Debt—and thereby credit—is created through a swap of “I owe you” commitments (IOUs) when two parties make a promise to pay money to each other (typically at different moments) in the future, e.g. by issuing a bank loan and simultaneously creating a deposit (MacLeay et al. 2014). Money then is whichever asset both parties will, when transferred, accept as a means of keeping the promise they gave to each other. But such an asset—money in one context—usually itself is only credit, i.e. a *promise to pay money*, in

another context. A set of such “contexts” is linked into one monetary sphere that has an inherent hierarchy, as “promises to pay (i.e. credit) at one level in the system serve as means of payment (i.e. money) lower down” (Mehrling 2017, p. 2). The acceptability of one type of debt as a means of settling other debt—its “moneyness” (Koddenbrock 2019)—depends on the position of the creditor and debtor in that hierarchy. For example, central banks issue sovereign money (reserves and cash) as their liabilities. Banks use these reserves to settle debt among each other. Non-bank actors in turn use bank deposits (i.e. banks’ promises to pay reserves) to settle their debts. Deposits thus appear as credit to banks and as money to depositors. Non-bank actors may themselves issue credit (e.g. asset-backed commercial paper or money market fund shares) and derivatives (e.g. bills of exchange, Eurodollar futures, or foreign exchange swaps), that essentially are promises to pay out deposits, which may in turn function as “near-money” (Ingham 2002) or “shadow money” (Mehrling et al. 2013; Gabor and Vestergaard 2016) among themselves. Monetary hierarchy, then, is the web of relationships between liabilities whose moneyness, and hence position in the hierarchy, is determined by the degree to which they are either themselves acceptable as a means of settling other liabilities, or the degree to which they can be converted into more acceptable means of settlement.

Crises reveal hierarchy. Normally, credit monies on different levels of the hierarchy trade at par; indeed, keeping par to higher ranking money can be taken as the defining feature of credit that functions as money (Pozsar 2014). But the par relationship can break during liquidity crises. The typical case is a bank run, when depositors demand cash until banks may be forced to devalue the deposits, unless a central bank intervenes as lender of last resort to restore par between the two monies. In the last instance, central banks determine what counts as money by ensuring the convertibility of lower ranking money into higher ranking and ultimately sovereign money, particularly during crises (Bell 2001; Gabor and Vestergaard 2016). National (and supra-national) monetary systems are public–private hybrids, less “purely governed by market principles” (Isaac 2005, p. 16) than by historically evolving coalitions of governments and finance capital (Arrighi 1994; Schwartz 2009; Aglietta 2018).

International currency hierarchy

Hierarchy also reigns on the global level: many national currencies that may appear to be “general-purpose money” are, in fact, not “acceptable in exchanges of all kinds of values” (Hornborg et al. 2022, p. 1). Throughout modern history, the privilege of issuing an internationally acceptable “world money” has been exclusive to one or a few hegemonic powers (Aglietta 2018; Cohen 2018). Even pre-modern societies often used one money domestically and another one, often

based on precious metals, for external trade (Ingham 2002; Graeber 2011). Today, multiple currencies are used internationally to some degree, but the US dollar stands firmly at the apex of the system (Eichengreen et al. 2018; Binder 2023). All other monies’ acceptability is subject to varying degrees of geographical constraints. Besides the dollar, some national currencies (in Ben Cohen’s terms, “Patrician” and “Elite” currencies) are used in international trade, whereas all others must be exchanged into internationally acceptable money first (Cohen 2018). The acceptability of the most peripheral currencies is constrained even where they originate: “Permeated currencies” face domestic competition and are often used only as a regional means of payment, but not for supra-regional exchange or as a store of value (Cohen 2018). For instance, the Cambodian Riel, the Congolese Franc or the Lebanese Pound are acceptably as payment only for a limited set of locally produced goods and services, while the US dollar is used in the same geographical context for many larger transactions, for long-term contracts, and for saving (Menon 2008; Bitar 2021; Pinshi 2021; Amer 2022). Finally, “Pseudo-currencies” and “quasi-currencies” are “largely rejected” (Cohen 2018, p. 5) even in their home countries—such as in Panama, where the Balboa is no serious competition for the dollar (Goldfajn et al. 2001).

Re-defining special-purpose money

Applying Polanyi’s definition *verbatim* to modern capitalist societies, one would have to conclude that they make abundant use of SPMs. In fact, it seems as if they use nothing else: multiple credit monies share the same unit of account, but fulfil the other functions of money to vastly different degrees in different contexts (Mitchell-Innes 2004 [1914]; Keynes (2017 [1935]); Ingham 2002; Mehrling 2012; Pozsar 2014). Nor does any single money serve as a medium of exchange, means of payment or a store of value universally, i.e. in all institutional or geographical contexts. The acceptability of money is always constrained, whether across geographical space, time (consider that credit has a maturity), or by legal and institutional limits on their acceptability. Multiple credit monies are inserted into one “monetary space” (Ingham 2002) or “monetary sphere” (Blanc 2018, p. 5; Aglietta 2018, p. 42), but each of them circulates “in only part of the economy” (cf. Isaac 2005, p. 16), and convertibility among them must actively be provided by a banking system that puts limits on conversion and can fracture during crises. Therefore, no single money can act as a “universal solvent” that is acceptable in all kinds of payments or exchanges, or circulates in all spheres of the global economy. Only together, multiple credit instruments constitute a modern monetary system; in that sense, all modern monies are complementary.

If taking either Polanyi's definition of SPM ("shared standard but different functions") or Isaac's version of it ("universal solvent") too literally, one would have to conclude that the monetary system today consists entirely of special-purpose money (see also Blanc 2018, p. 5). The meaning of that term would blur considerably. To escape this conclusion, Blanc abandons the functionalist definition in favour of Polanyi's concept of "forms of economic integration" (exchange, redistribution, reciprocity, communal sharing) to develop a typology of monies. But he never reintroduces any clear distinction between SPMs and other monies.

What, then, does define SPMs? It is useful at this point to return to a rather vernacular definition of the concept, namely that of an umbrella term which comprises local currencies, community currencies, social currencies, time banks or local exchange-trading systems. In this understanding, SPM is money for whose issuers the *intentional* imposition of constraints (e.g. on its acceptability, convertibility or purchasing power) is an explicit design priority. This distinction maps well onto existing typologies of SPM that are based on normative objectives and design choices (e.g. Fare and Ahmed 2017; Parrique 2019, ch. 10; Larue 2020a). Expressed in Isaac's (2005) terms, whereas national and supra-national currencies are typically supposed to create a unified sphere of exchange—although this may not necessarily be achieved in practice—SPMs are an intentional attempt at creating separate spheres of economic activity, de-linked from global capitalism. It is primarily because constraints on their functions and scope are imposed intentionally that they tend to be stronger than the constraints that are imposed on peripheral currencies by the structure of the global monetary system. In short: SPM may not be the only money whose purpose is special, but it is the only money whose specialness is created on purpose.

In contrast, I use the term "national money" to describe the spectrum of all units of account (including supra-national currencies like the Euro or CFA Franc) that are geographically more constrained than US dollars. The dollar, and to lesser degrees other key currencies, are "internationally acceptable money" (IAM), but not "general-purpose money" since the acceptability even of different dollar-denominated monies is still limited to certain contexts.

Given these definitions, there is little reason to assume that the interactions between SPM and national currency should be fundamentally different from those between different national currencies. The premise that interaction between national monies is structured along a global hierarchy invites the question of where SPMs fit into that hierarchy. Addressing that question requires slightly broadening the existing concept of monetary hierarchy, which is limited to monies with sovereign backing.

Getting money accepted: three types of confidence

The fundamental problem of money from the perspective of the credit theory of money is, as Minsky put it, that "everyone can create money, the problem is to get it accepted" (1986, p. 228). But how to get money accepted? The obvious answer—trust that someone else will accept it—is logically circular; the question is how to inspire trust in the first place.

Michel Aglietta distinguishes between three types of trust, based on the "ambivalent character" of money as "on the one hand, a set of rules and norm" backed by *sovereignty* and, "on the other hand, a privately appropriable [...] object that we call *liquidity*" (2018, p. 7; italics added). Sovereignty corresponds to an inalienable "vertical debt" that members of a society owe to the totality of the social whole, typically proxied by the state; while the private payment system runs on forms of alienable, reciprocal "horizontal debt" (2018, p. 60ff). The first, overarching type of trust, "ethical confidence", rests on the legitimacy of the values and principles that govern these two types of debt. Monetary authorities inspire, second, "hierarchical confidence" when guaranteeing the continuity and stability of a payment system (Aglietta 2018, p. 78). States do this by regulating private finance and by imposing the use of national currency for paying taxes and fees. This points to the first practical way to get one's liabilities accepted as money: one can compel others to accept them by credibly threatening violence, deprivation from essential needs, social sanctions, but also by promising material benefits. The ability to do this is, in essence, "monetary sovereignty". Third, "routine confidence" arises from the repetition over time of the "proper settling of debts" (Aglietta 2018, p. 78). The corresponding second way to get one's liabilities accepted as money is to ensure that they can be exchanged on short notice, in large volumes, and without major price changes into a more acceptable means of settling debt; importantly, sovereign debt. Economists and financial market practitioners call this property "liquidity". Based on Aglietta's distinction, monetary hierarchy can be and has been operationalized in terms of *sovereignty* and *liquidity* (see also Prates 2017, p. 507; Mehrling 2012). The question is: how can liquidity and monetary sovereignty be further conceptualized, and operationalized for empirical observation in a way that accounts for both SPMs and national monies?

Hierarchy as liquidity

Liquidity is closely related to two properties that are fundamental to the concept of SPMs: *commensurability*, defined as the "ability to obtain a common valuation of [two monies] through a given rate" (Blanc 2017, p. 5) and *convertibility*, the possibility of actually exchanging them at such a rate. Non-commensurable monies are necessarily

non-convertible, as conversion requires commensurability. It is the defining feature of many SPMs that their convertibility and sometimes even their commensurability are intentionally limited or eliminated.

Liquidity acts as a constraint upon both of these properties. While national monies are normally regarded as fully commensurable with and convertible into each other, in practice, the possibility of converting a currency, the conversion rate, and the very existence of conversion rates (i.e. commensurability) all depend on the currencies' liquidity. Modern foreign exchange operations involve a sequence of credit creation and destruction (Mehrling 2013). The quantity of a currency that can be converted is, therefore, constrained by the ability and willingness of foreign exchange dealers (i.e. banks, central banks or local currency issuers) to hold it on their balance sheet. Doing so exposes dealers to liquidity risk (plus credit and exchange rate risk). The size of this risk depends on the liquidity of the currency. In non-crisis times, the degree of risk will merely be reflected in prices, as profit-oriented dealers typically demand a monetary compensation for bearing liquidity risk, the "liquidity premium". This premium is observable in the form of small deviations between prices of money that should be equalized by arbitrage (if liquidity did not matter), including spreads between bid and ask quotes, forward and expected spot rates (Lavoie 2003; Lee and Jung 2020) and forwards and futures (Mehrling and Neilson 2014). During monetary crises, liquidity premia increase, as fewer and fewer dealers are ready to take the growing risk on their balance sheets. Money markets may even cease to function altogether as tools for the construction of prices, as they did in 2008 (Tooze 2018, p. 240). Absent liquidity, commensurability between supposedly general-purpose currencies can "fragment" (Blanc 2017, p. 12); such currencies are then no longer commensurable with nor convertible into each other.

The conversion of peripheral currencies is in practice also constrained by the central banks' holdings of or access to IAM (Mehrling 2013; Cohen 2018). One example is the disintegration of Sri Lanka's official foreign exchange markets in 2022 (Wijewardena 2022). Moreover, capital controls limit the convertibility of many currencies (Eichengreen and Rose 2014). Even if a certain volume of each national money may be indirectly convertible into IAM in normal times, it would thus be mistaken to conclude that one is functionally or qualitatively equivalent to the other, in any sense other than a temporary equivalence established by the fluctuating market price of a given quantity. To put the argument as a *reductio*: if all currencies that are to some extent directly or indirectly convertible into USD were "general-purpose money", then most local currencies would have to be regarded as general-purpose money, which would render that term meaningless. Instead, convertibility is a spectrum, and its degree depends fundamentally on liquidity.

The liquidity of any money necessarily impacts those of others. Besides a time-varying component that depends on trading volumes, the competitive structure of the market and broader macroeconomic conditions, there is a structural component of liquidity attached to each money that is relatively stable over time. This component depends crucially on the connection between its issuer and the issuers of higher ranking money. For instance, central banks that share a swap line with the Federal Reserve enjoy more liquidity than those who must rely on the FIMA repo facility,¹ let alone those who access dollars primarily through the International Monetary Fund (Murau et al. 2022). Since banks in turn are backstopped by central banks (and shadow banks by banks), the access to dollars through public channels directly influences the liquidity risk faced by private dealers. Therefore, a lack of connection to a powerful sovereign backstop places clear structural limits on the liquidity and convertibility of any money, including both peripheral and local currencies. But what exactly makes a backstop powerful? This question points to the second dimension of monetary hierarchy.

Hierarchy as sovereignty

Monetary sovereignty is commonly defined as the ability of a government to issue means of payment and control their prices within its jurisdiction (Zimmermann 2013, p. 3; Pistor 2017). In contrast to this *territorial* notion, Sahr (2022, p. 98) proposes an *agential* definition of monetary sovereignty as the ability to settle debts without having to access others' liabilities, by producing money without being dependent on others' consent or material scarcities. Put differently, monetary sovereignty is the ability to position one's money at the apex of a monetary sphere. This conceptualization has the advantage of abstracting from the limited, Westphalian territorial notion of sovereignty (see also Murau and van't Klooster 2022). On its basis, the three key conditions for monetary sovereignty that are typically proposed by modern money theorists (Wray 2015; Tymoigne 2020; Wilson 2022a) can be modified to account for the forms of monetary sovereignty that non-state money issuers may achieve.

First, an actor with monetary sovereignty must be able to enforce the use of a unit of account (Knapp 1924; Bell 2001; Tcherneva 2006). States define a "legal tender" as the unit for paying taxes and fees; and possibly enforce its use also in the private payment system, ultimately by threatening legal punishment. This condition ultimately rests on the effective power of states to raise taxes, backed by its Weberian

¹ "Repos"—repurchase agreements to sell a security for cash and repurchase it in the future—are a key instrument through which private actors and central banks create short-term liquidity. The Federal Reserve's FIMA repo facility provides dollar liquidity to allied central banks through repurchase agreements.

monopoly on legitimate violence (Weber 2008 [1919]). Indeed, many peripheral currencies are issued by states with limited taxation capacity, e.g. the Cambodian Riel (Menon 2008). In contrast, the Italian Mafia apparently manages to keep the Lira in local use as a parallel currency (Totaro 2019), presumably harnessing its ability to raise “taxes” (cf. Schwartz 2009, ch. 1, on states as sophisticated mafias).

Second, monetary sovereignty requires a floating exchange rate, zero public debt denominated in foreign currency, and no convertibility into gold (Tcherneva 2006; Tymoigne 2020; Wray 2015). Guaranteeing convertibility into someone else’s liabilities (or gold) at a fixed rate means positioning one’s liabilities below it, which is the opposite of monetary sovereignty. Up to 1971, the dollar involved a direct promise to pay out gold, which thus stood above all sovereign monies in the global hierarchy. Today, states who guarantee convertibility into higher-ranking money at a fixed rate compensate for their inability to get investors (and sometimes their own citizens) to accept their own money. Similarly, borrowing in foreign currency—the “original sin” of international economics (e.g. Eichengreen 2019)—implies the need to access IAM to settle one’s debts.

Third, the ability to issue liabilities into a monetary sphere without causing inflation or financial instability hinges directly on the capacity to regulate other actors that create money in the same unit of account (Tankus 2022; Wilson 2022a). The lowest stage of monetary sovereignty is thus occupied by those states that have officially transferred the right to conduct monetary policy and macrofinancial regulation to foreign core countries via currency boards (Koddenbrock and Sylla 2020).

Monetary sovereignty beyond the state

Clearly, private local currency issuers (like some of the most peripheral states) cannot effectively impose the use of their own liabilities by legal means. This lack of monetary sovereignty may explain much of their difficulties in achieving sustained use (Dittmer 2013; Larue 2020a). In a few exceptional cases, municipal authorities issue local currencies, like Barcelona’s *Rec Moneda Citudiana*, or even accept them in payment of (a share of) taxes and fees, like the *Bristol Pound*. But the resulting incentive for their use is limited, so long as taxes and fees can also be paid in another currency. Moreover, if public authorities raise taxes in SPM, they must either also spend in it, or offer conversion at rates calibrated to manage the relative supply of SPM and national currency (Wilson 2022b).

But sovereignty can be backed by monopolies other than the Weberian monopoly on legitimate violence. Issuers can ensure that their liabilities are convertible into an essential commodity over which they have monopoly control. This is altogether different from guaranteeing convertibility into

others’ liabilities or competitively produced commodities like gold. Monopoly power may amount to an effective form of coercion, as in the case of colonial mining companies or landowners who paid their employees with tokens that could only be used in their own warehouses, while preventing others from setting up shop in the area (Rulau 2000). Similarly, during the Chinese civil war, the communist forces established a local monopoly over salt and grain and declared themselves ready to exchange these essential goods only against the currency they themselves issued (Weber 2021, p. 74). One could argue that the dollar’s global hegemony is based on a similar monopoly, as the US effectively employ their diplomatic and military power to set the global unit of account for oil (Aglietta and Coudert 2019; Mitchell 2014). Similarly, proposals for SPM backed by a promise to provide energy (e.g. Douthwaite 2012; Turnbull 2018) seem to assume some degree of regional monopoly over (sustainable) energy production. Clearly then, non-state actors can achieve a degree of sovereignty by substituting the state’s monopoly on legitimate violence with a monopoly on essential goods and services.

A special kind of monopoly power can also be rooted in social norms that prohibit the billing of specific goods in money issued by others—think of time banks, where accepting national money in return for a service would break the social norm of using labour hours as the unit of account. Such cases point to the more general role of moral norms in any monetary system, as in Aglietta’s “ethical confidence” (2018, p. 78). The normative force of concepts like “nationhood” may warrant the use of national currency. For instance, patriotism requires Swiss citizens to shop in Switzerland, even if the price level in neighbouring countries is significantly lower (Handelszeitung 2015).

Similarly, SPM spheres can inspire “ethical confidence” through social norms resting on values like autonomy, sustainability, or justice. In time banks, the persuasive moral principle of equal reward for equal labour time is a key motivation for using SPM. Strengthening such norms, and sanctioning their violation effectively, may to some extent compensate for a lack of “routine” and “hierarchical” confidence. Even non-state SPM spheres can thereby achieve a degree of “value sovereignty” (Parrique 2019, p. 637) or “sovereignty of the common” (Aglietta 2018, p. 171). Yet, SPM spheres should be resilient to variations in the level of ethical confidence. Cryptocurrencies (though arguably not SPMs) provide a case in point: initially, bitcoin’s rise was driven by ethical confidence in the advent of a crypto-libertarian utopia, but since 2020, large cryptocurrency exchanges find themselves forced to prove sufficient national currency reserves, i.e. guarantee convertibility into sovereign-backed money, to preserve routine confidence in their tokens (Asmakov 2022; Olk and Miebs 2024, forthcoming). In short, SPM issuers can be said to have monetary sovereignty when they

can impose the use of their SPM (through social norms or, better yet, monopolies and taxes), when they do not legally guarantee convertibility into higher-ranking monies, and when they can regulate others who issue money in the same unit of account.

At the same time, the acceptability of any money, i.e. its position in the global hierarchy, does depend on its convertibility into higher ranking monies, and, therefore, on its liquidity. There can be harsh tradeoffs between sovereignty and liquidity at the lower end of the global hierarchy: peripheral central banks must often provide liquidity themselves, and give up some of their monetary sovereignty (by pegging, borrowing in higher ranking currencies, etc.) to compensate for the lack of liquidity support from the issuers of higher-ranking monies and get private actors to accept their liabilities at all (Prates 2017; Bonizzi et al. 2019).

Special-purpose money in the hierarchy

To recap, special-purpose money and national currencies both fulfil specific functions, circulate in specific spaces and occupy specific positions in the global hierarchy of money. The defining characteristic of SPMs is that intentional limits are imposed on their acceptability, and often their convertibility and even commensurability. The degree of liquidity and sovereign backing are directly linked to the degree of convertibility: the value of any money is backed by the promise of its convertibility into higher-ranking money, ultimately into sovereign money. In practice, the convertibility of any money depends on the willingness and capacity of private or public actors (like dealers, central banks or SPM issuers) to actually exchange it into higher-ranking money. The convertibility of illiquid monies is, therefore, limited. Armed with this conceptual framework, the question can be revisited: where do special-purpose monies feature in the global hierarchy of credit money?

If monetary hierarchy is a spectrum on a plane whose dimensions are monetary sovereignty and liquidity, then four schematic types of SPM occupy the four corners of that plane: non-sovereign convertible currencies, like most local currencies, derive their moneyness entirely from their convertibility into state money, and therefore their degree of liquidity. Non-sovereign non-commensurable SPMs, in contrast, require relatively stronger backing by way of monopolies or social norms, precisely because they are not convertible into state money. Sovereign non-commensurable SPMs are, as of yet, a hypothetical but promising type of money, as they would break the link between sovereignty and liquidity. Finally, sovereign convertible SPMs function much like ordinary sovereign money, but may enable promising forms of economic planning.

Non-sovereign convertible money

Most local convertible currencies (e.g. the Eusko, Wära or Brixton Pound) and “Anglo-Saxon LETS” (Blanc 2018) are promised by private firms or associations to pay out deposits or cash (Dittmer 2013; Fare and Ahmed 2017; Parrique 2019, p. 636), similar to short-term corporate debt, cryptocurrencies, or entries on the PayPal ledger. Local currency issuers thus need to hold national currency reserves to guarantee convertibility at par. Indeed, many are even legally required to keep reserves in national currency at a 1:1 ratio to their own liabilities (e.g. most of the 40 local currencies that emerged in France between 2010 and 2016; see Blanc 2018). Although they are legally non-bank institutions, they effectively act like banks under a full reserve system or a currency board. Guaranteed convertibility into higher ranking money at a fixed rate (violating the third condition of monetary sovereignty) without any form of public backstop, and a fortiori full reserve requirements, means that they cannot create credit according to demand. A notable exception is the Chiemgauer, a local currency convertible at par to the Euro but backed only by a fraction of Euro reserves. If this sounds just like ordinary bank money, the reason is that two-thirds of Chiemgausers are in fact issued by banks, who apparently treat them exactly like their Euro liabilities. The social and ecological benefits of the whole scheme are unclear (Dittmer 2013, p. 9).

What all types of private convertible money share is their lack of sovereign backing. As promises to pay higher-ranking monies neither backed by the issuers of these monies, nor by effective means of imposing their use, private convertible currencies occupy the lowest possible position in the global monetary hierarchy.

In addition, the relative purchasing power of local currencies tends to be below that of national currencies.² For instance, one study (Sotiroupolou 2015) of price-setting in a non-sovereign convertible LETS in Chania, Crete, finds that prices were generally copied from the outside market prices in EUR, but that goods that had been imported into the LETS (and thus paid for in euros) tended to be relatively more expensive than goods produced specifically for the LETS.

Similarly, Anderson’s (2001, p. 337) study of barter markets in post-soviet Central Siberia also finds that prices in the non-sovereign ostensibly non-commensurable *Katanovka* coupons and mutual debit systems were set at a level above the effective market-equivalent amount of rubles,

² Elsewhere, I propose and empirically substantiate the hypothesis that a lower degree of liquidity and sovereign backing translates into lower purchasing power also in the case of national currencies (Olk 2023).

because sellers needed rubles to pay for imports. Again, the purchasing power of the local coupons was below their exchange rate.

Money whose exchange rate lies above its value in terms of commodities can be exploited through arbitrage, as a profit can be made from exchanging overvalued money (e.g. national currency) against undervalued money (e.g. local currency), to then buy commodities billed in undervalued money. This, first, creates an incentive to accept only overvalued money (a dynamic similar to Gresham's law), and second can lead to net outflows of resources. SPM schemes should be resilient to such arbitrage. Otherwise, they tend to stagnate (Evans 2009; Blanc 2017) or even collapse. For instance, under-the-counter arbitrage played a key role in the disintegration of the Argentinean *trueque* around 2002 (Dittmer 2011; Blanc 2017, p. 15), and evidently also occurs in the Monedar PAR system (Valdecantos et al., this issue).

Often, local currency issuers try to limit currency competition and prevent capital flight by imposing a fee on selling (or a discount on buying) local currency (Blanc 2017, p. 8). Many allow conversion only by firms, but not individuals. But protecting local currencies from competition by limiting their liquidity paradoxically renders them even less acceptable. As monopoly control over locally produced goods and social norms against conversion are typically absent or weak, non-par under-the-counter conversions and practices of arbitrage and speculation often develop.

In short, the combination of low liquidity and sovereignty makes it difficult to get local currencies accepted, while their convertibility and commensurability imply a relatively high risk of arbitrage. Perhaps that is why empirical studies find that local convertible currencies “are not particularly robust competitors in the money market” (Evans 2009, p. 1038), and many have disappeared because they were not “economically effective enough to outcompete large-scale alternatives” (Dittmer 2013, p. 6). In practice, they tend to be “luxury goods”, used only by those whose basic needs are already met (Rösl 2006). That is presumably also why countries with a relatively stable national currency are likely to host a relatively higher number of local currencies (Pfajfar et al. 2012).

Non-sovereign non-commensurable money

Mutual credit systems like the Sardex or WIR (see Larue 2020a), time banks like the Fureai Kippu system (see Hayashi 2012), other forms of labour money (e.g. Paulson, this issue), and most LETS credits are not officially convertible. Their issuers, though private, do not need to keep reserves in some higher-ranking money. They issue money that constitutes an entire monetary sphere. Non-convertibility hence already implies a certain degree of monetary sovereignty. Many non-convertible SPMs are

also not commensurable. They inhabit “a separate symbolic universe” (Blanc 2017, p. 12), as the social construction of value within them diverges from the valuation practices prevailing in capitalism (Hornborg 2003). Without commensurability, private under-the-counter conversion becomes much more difficult (see Pfajfar et al. 2012), so that there is less risk of arbitrage.

One challenge that the issuers of such SPMs face is preserving internal price stability. The paradigmatic example here is the Capitol Hill Babysitting Co-op, a time bank that variously ran into deflationary and inflationary problems, the reasons arguably related to the quantity of SPM in circulation (Sweeney and Sweeney 1977; Krugman 2008). Yet, the key question may be why, throughout the crisis-ridden history of the co-op, no one seems to have abandoned the system in favour of dollars. Possibly, social norms prohibited the sale of childcare for dollars, providing the co-op with local monopoly power over a scarcely substitutable service.

However, non-commensurability does not provide complete isolation from the phenomenon of lower monetary compensation for embodied resources. In the Argentinean *trueques*, local barter markets, *créditos* function as a non-sovereign, non-commensurable SPM. Gómez (2015, p. 42) found “substantial evidence” that “labour in the trueque was paid substantially less than in the regular economy” (Gómez 2015, p. 48). Once practices of under-the-counter-conversion and arbitrage spread, the outflow of goods resulting from arbitrage may have well been a key factor in the eventual demise of the *trueque* system (Blanc 2017, p. 14).

To the extent that non-commensurable SPMs can compensate for their lack of convertibility into higher-ranking money through social norms and by monopolizing essential goods, they are a relatively more promising device for a broader de-linking from global capitalism than local currencies. This applies a fortiori to non-commensurable money with state backing.

Sovereign non-commensurable money

The third type of SPM consists of tokens issued and allocated by the state that cannot be readily exchanged against other monies. Such tokens are best described as production and consumption quotas—not so much the domain of finance as of economic planning. Hypothetical cases include the (digital) calculation units proposed in recent years by scholars of socialist planning (e.g. Saros 2014; Groos 2021; Varoufakis 2021). Since these proposals assume a high degree of public control over money creation and no convertibility into another money, their issuers fulfil all conditions of monetary sovereignty.

In the real world, no sovereign money with full non-commensurability exists. There are historical cases of semi-planned economies using sovereign money with at

least “fragmented commensurability” (Blanc 2017, p. 12), including the Soviet Union and China. Both used multiple exchange rates and mandated “price scissors” to steer the flow of resources across their borders and between urban and rural regions within their territory (Weber 2021, p. 95).

It is precisely because they allow for a democratically planned steering of resource flows that sovereign non-commensurable quotas and socialist calculation points might be the most promising avenues for the future development of SPMs for sustainability. Backed by the force of the state—through taxes, other legal and social norms and possibly monopolies—sovereign non-commensurable monies are likely to enjoy more acceptance than non-sovereign SPMs. As Dittmer (2013, p. 1), reiterating Marx’ criticism of the utopian socialists’ time banks, puts it: “successful monetary systems require resources that are not available behind society’s back, notably the power to levy taxes”. Sovereign non-commensurable monies could allow for the highest possible degree of de-linking from global capitalism. Obviously, democratic economic planning would require far-reaching political changes, but there is no obvious reason why spheres using non-commensurable tokens could not survive in social niches while simultaneously engaging in a struggle for sovereign backing (see also Wright 2010; Barlow et al. 2022). Further conceptual and technical development seems to be a promising research field.

Sovereign convertible money

The Ecor (Aguila et al. this issue), “Green Special Drawing Rights” (UNCTAD 2019; see also Svartzman and Althouse 2020) or the “Carbon Coin” in *The Ministry for the Future* (Robinson 2020; see also Chen et al. 2017; Paulson, this issue) would be internationally acceptable sovereign convertible special-purpose money, created by central banks or, respectively, the IMF and usable only for “green” investments, yet exchangeable against normal national currencies in liquid, if regulated markets. Such internationally acceptable SPMs could alleviate balance-of-payments constraints for the periphery, but their introduction is politically demanding.

Modest in comparison, Hornborg (2017) suggests that states could issue a convertible SPM (as basic income) that can only pay for goods produced within a defined geographical radius around the point of issuance, thus incentivizing local production. The state would not raise taxes in this SPM, but guarantee conversion into national currency for firms at a rate that would “compensate the authorities for loss of tax revenue [and] balance the in- and outflows of [SPM] to the state” (Hornborg 2017, p. 628). One practical challenge will be to maintain an adequate conversion rate to national currency that limits arbitrage opportunities. The relatively undervalued currency will tend to displace

the relatively overvalued currency from circulation (recall Gresham’s law); and if the SPM currency is undervalued, outsiders may use national currency to buy up locally produced goods cheaply and then export them at a profit. The problem seems comparable in scale to Maoist China’s operation of rural–urban price scissors (Weber 2021, p. 75), but that system was backed by an authoritarian state apparatus with significant control not only over taxation but also investment, foreign exchange and trade.

One improvement, based on the theoretical framework developed above, would be to issue an SPM that is not only created as basic income and destroyed again through taxes, but that is also accepted as the sole means of payment for services provided by public monopolies—think of sustainable, resource-efficient provisioning systems (in transport, housing, energy, or communication). It is not unreasonable to assume that governments could (re-)establish a monopoly over such essential services. Since they could then set the SPM prices for such services very flexibly, they would command an effective, flexible and targeted instrument to manage price stability and ensure demand for the SPM, while creating a de-commodified and de-linked sphere of needs-based provisioning. Incentivizing the conversion of excess savings from national money into this SPM could also help to mitigate inflationary pressures arising during the construction of public provisioning systems, by pushing effective demand outside of the national monetary sphere (Olk et al. 2023). The possibilities of creating sovereign SPMs with varying degrees of convertibility seem to be a promising avenue for further research.

Conclusion

The global monetary system consists of multiple monies, where each is constrained to specific purposes—either by design (SPMs) or because the hierarchy inherent in modern credit money limits the acceptability of *any* money along geographical, temporal and legal boundaries. Anyone who sets out to design an SPM for sustainability then should consider its position in the global hierarchy. Failure to do so may have often contributed to an overly optimistic bias regarding the spread of SPMs and their potential for sustainability (as diagnosed by Dittmer 2013; Larue 2020a).

An emerging body of research argues that hierarchy between national currencies accentuates and perpetuates unequal patterns in the flow of biophysical resources through ecologically unequal exchange (EUE) (Svartzman and Althouse 2020; Althouse and Svartzman 2022; Olk, forthcoming). If it is the case that a subordinate position in the global monetary hierarchy coincides with net outflows of biophysical resources, and if some SPM spheres occupy a subordinate position in that hierarchy, then net

outflows of biophysical resources should be expected for these SPM spheres.

SPM spheres may effectively eliminate the *internal* EUE of *specific* resources. In time banks, for example, where the compensation for 1 h of labour is always one unit of SPM, an unequal exchange of labour time is impossible (which indeed is the whole idea). However, this precludes neither the internal EUE of embodied resources other than labour time, nor EUE across the boundaries of the time bank sphere. In particular, one (though not the only) mechanism through which unequal exchange operates is the deviation of exchange rates from purchasing power parity (PPP) rates (Köhler 1998; Elmas 2009; Hickel et al. 2021; Olk 2024, forthcoming). In three of the cases introduced above, the purchasing power of the respective SPMs remained below the market-equivalent quantity of national currency. The implications for sustainability are significant, and perhaps counterintuitive: adopters of a local convertible currency are likely to work longer, dissipate more energy, extract more resources and create more environmental pressure, unless they are ready to reduce their total consumption on top of adopting local currencies. Under the assumption that people are generally ready to reduce their consumption only if their basic needs are covered, the creation of monetary pluralism will need to occur in tandem with the construction of sustainable provisioning systems, which will have to be funded at least partly with national money (Olk et al. 2023).

SPM designers face clear tradeoffs. If it is true that low liquidity and low sovereignty tend to result in lower purchasing power, then a trilemma emerges between the design choices of guaranteeing convertibility, doing without sovereignty, and protecting against arbitrage—designers can only ever choose two of the three: guaranteeing convertibility without sovereign backing renders local currencies illiquid, prone to arbitrage and potentially resource outflows. Moreover, convertibility provides a direct channel through which arbitrage can exploit differences in purchasing power. Non-commensurable SPMs backed by sovereignty are relatively better candidates for de-linking than local convertible currencies, especially in the periphery of the world system. While backing by the state is not easily won, social norms and monopolies may replace a lack of state backing to some degree. In particular, the strategy of using public monopolies to ensure acceptance while promoting sustainable economic activities seems underappreciated by SPM designers so far. Needs-based provisioning systems require both payment and calculation units, and sovereign-backed SPMs like labour time credits or carbon coins can combine both functions (Paulsson, this issue). Following the “price scissors” example (Weber 2021, p. 75), SPM spheres could be designed so as to reverse the prevalent flow of resources from periphery to core regions or from public to private spheres.

SPMs of all types may have the best chances of sustained and widespread use when the overall monetary hierarchy is in crisis. For instance, the *trueques* spread not only in a recession, but in a historical moment where the Argentinean state had lost its effective monetary sovereignty and the peso had turned into a pseudo-currency (Gomez 2015). In contrast, German *Regiogeld* schemes arguably remain marginal because of the Euro’s consistently prominent position in the global hierarchy. Flattening that hierarchy is essential to making SPMs more attractive in the capitalist core, where a reduction of material throughput—degrowth—is most desirable.

Still, any monetary sphere, including non-capitalist ones, is subject to an external balance-of-payments constraint and thus bound by monetary hierarchy on the global level. For example, the German Democratic Republic likely exported large quantities of labour and energy to its capitalist West German neighbour to generate IAM revenues (Childs 2014, pp. 129–146). Supra-national SPMs like the Ecor (Aguila et al. this issue) or the Carbon Coin (Robinson 2020) could theoretically relieve balance-of-payments constraints, reducing global ecologically unequal exchange. Conversely, any serious attempts at flattening the global monetary hierarchy are likely to imply profound changes in global trade and resource flows beyond the purely monetary level, along the lines of a degrowth transition (Svartzman et al. 2020; Svartzman and Althouse 2020).

Finally, any efforts de-linking from the global monetary system should be complemented by a strategy of changing that system. A first step of radical reform may aim at restoring the ability of governments to regulate and steer private money creation, which seems to be a necessary condition for democratizing economic policy (e.g. Pettifor 2020; Tankus 2022; Olk et al. 2023). States are likely to remain the ultimate guardians of what is acceptable as money. Therefore, the introduction of special-purpose money for sustainability will have to be embedded in a broader transformational politics oriented towards building democratic power on the level of the state. Since states, in turn, are embedded in a capitalist world system in constant flux, and since stability is not a likely overall outlook for that system, opportunities both for radical reform and the creation of new special-purpose monies will continue to arise.

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