Commons-based monies for an inclusive and resilient future

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There is a Chinese proverb that goes “the fish is the last to know water” – a visual metaphor that succinctly conveys how blind we can be towards what we see every day. It describes our inattention to the obvious; our inability to question because we have never confronted a different way of perceiving, the normalised patterns of thought concerning phenomena we encounter regularly. This lack of ability to grasp a phenomenon characterises our relationship with money.

Money, for most of us, is experienced as a “thing” – one either has it or does not, an asset one always wants more of. We are taught that money is neutral to the inner workings of the economy, that it merely serves to grease the wheels of commerce (Tobin 1972). Immersed in such thinking, many progressive policy makers root our sustainability plight in the individual behaviour money seems to elicit – the constant search for profit for money’s sake. Blind to the internal architecture of money, this argument tends to center on the vice of corporate greed that exploits nature, oppresses workers, and transforms citizens into consumers (Chertkovskaya & Paulsson 2021). The solution under such analysis implies that monied capitalist behavior must change. Ignoring altogether the monetary system itself, for such scholars and policy makers, reform comes in the form of individual resistance: as eco-friendly consumers, we are to reduce our levels of material and energy consumption to minimise social and environmental damage (Schumacher 1973; Jackson 2009); as oppressed workers, we are to organise work through trade unions or the cooperative ownership of the means of production (Cheney et al. 2014; Azzellini 2018; Souleles 2019); as inhabitants of the Earth, we must care for all livelihoods, biodiversity, and promote production processes that rely on waste and recycling instead of on newly extracted or non-local natural resources (Reichel et al. 2016; Korhonen et al. 2018).

Ignorant of money’s internal design, these strategies look past how the form money takes shapes the behaviour they so want to change. A pattern of thought that sees money as an asset

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blinds us both to the malleability of the monetary architecture and to money's institutional capacity to organise the very system of production and distribution that green policy makers and activists insist on transforming. Implicitly building their analysis on an assumption that money is neutral to the inner workings of the real economy, they disregard the very element of the system that gives the economy its boundary, shape, dynamic, and rhythm. While urgent, such solutions are bound to remain inoffensive and marginal because the monetary infrastructure that surreptitiously steers the economy towards over-exploitation and degradation is kept intact.

With the increasing frequency of financial and economic crises, and with the growing impotence of orthodox monetary policy to stabilize our monetary system, our understanding and assumptions around money are changing. Emergent critical lessons that contradict the traditional view of money include: that money can be supplied freely alongside deflation (see Japan from early 1990s until now); that newly issued money can be used to stabilize not only banks during financial crises but small businesses and individuals as during the Covid-19 lockdown; that a currency can be manufactured privately by non-state and non-bank actors (see Bitcoin). These radical changes tipped the fishbowl and revealed water to the fish. Among both money activists, teachers and scholars, there is a growing desire to educate the public on what money is (for some, see Kennedy 1995; Greco 2009; Lietaer et al. 2012; Arnsperger, et al. 2021). **The primary task is to show that money is in fact a political and social technology (Ingham 2004), an infrastructure that humans design and implement to coordinate the economy and to organise society.**

In contrast to traditional conceptions of money as a public good, an asset created by governments for its citizen's benefit, these activists and scholars conceive of money as a commons (Bollier & Conaty 2015; Slater and Jenkin 2016; Barinaga 2020). Armed with this new understanding of money, communities, citizens and grassroots groups around the world set to make their own complementary monies – often referred to as local or community currencies (Lietaer 2001). In reimagining contributions and appropriations, in reorganizing communal participation, and in rethinking relations between not just creditors and debtors but members and resources in a community, organisers of local monies hope to build more inclusive, resilient and sustainable interactions between producers, consumers, third-party actors, governance institutions, and resource systems.

Not all reorganizations of money are, however, equally conducive to a sustainable future. Trapped in a dominant understanding of money as a commodity (a publicly or privately produced 'thing') and caught in monetary designs and practices intrinsic to such an understanding, many complementary currency initiatives risk reproducing the ills of today's national monies. To steer away from such risks it is important to first understand the root of those ills. Only then will we be able to design monies that enable us to overcome the monetary origin of our unsustainable present. Entire books have been written on the shortcomings of our current conventional monetary system, identifying the many features that lead us to

unsustainable and unequal societies.[2] This chapter will focus only on those that guide most local communities when reclaiming, redesigning and implementing complementary currencies.

Problems with today's national money

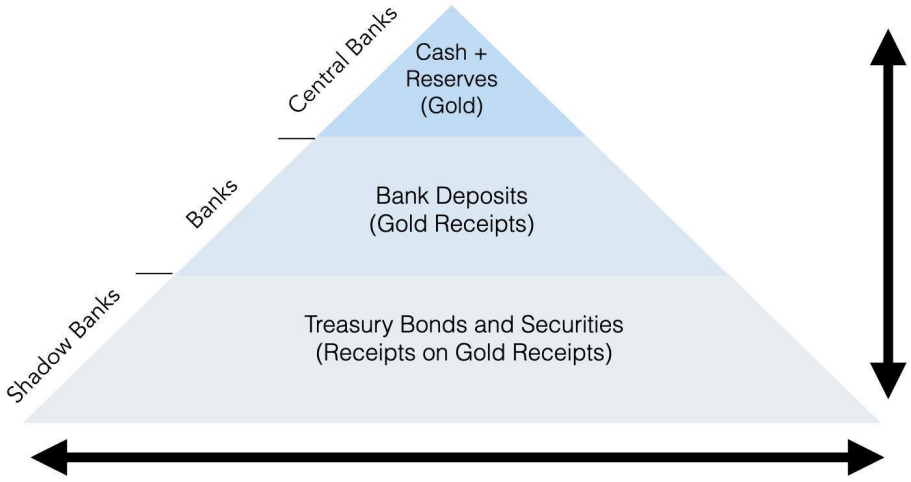
The story of money that many believe is the story of gold. Gold is seen as an intrinsically valuable commodity, that people dug up and gave to goldsmiths for safe keeping in exchange for an inventory receipt. The inventory receipts became the 'means of payment,' money that was used around town to trade for goods and services and clear accounts. If the gold bullion was minted into coins – like the *florin* in AD1252 Florence – then gold was money. But given gold's scarcity, it was the inventory receipts issued by reputable goldsmiths that was the more common form of money and 'as good as gold.' According to this story, goldsmiths discovered early on that they could issue more receipts than what they stored in gold. By lending or spending receipts independent of gold, goldsmiths – later banks – offered an elastic supply of money as needed by the community.

Today's monetary system is built on the goldsmith's story. To the story's two forms of money – gold coins and bullion first, 'receipts for gold' second –, a third was added – 'receipts for gold receipts.' Non-bank financial companies could store bank 'receipts for gold' (invested in treasury bonds or money market mutual funds) and issue their own inventory receipts – called repurchase agreements or 'repos'. Each layer of financial innovation serves as money to clear accounts between different sets of users with their own institutional arrangements. Central banks became the primary holders of gold in the 20th century, representing their sovereigns and issuing central bank reserves for settlement between other central banks. Private commercial banks held gold inventory receipts (later digital central bank reserve receipts) to settle payments with each other, and issued their own bank (deposit) receipts. And financial firms used bank money or other securities to clear accounts between each other, and in the process they issued their own 'receipt on receipt' or 'repos'.[3]

In a system with such an elastic monetary supply, each form of money is more expansive than the reserve upon which it is based, building a money pyramid, which can expand in layers vertically or in supply horizontally.

[2] For the reader interested in learning more about the monetary design roots of our growing inequality and unsustainable plight, see, for instance, Ryan-Collins et al. 2012, Jackson and Dyson 2012, McLeay et al. 2014, Dyson et al. 2016, Pettifor 2017, Desan 2020, Arnsperger et al. 2021.

[3] See Gabor and Vestergaard 2016 for their discussion on repurchase agreements, shadow bank money, and the hierarchy of money. Here.



A simple 'money hierarchy' stylized upon Mehrling (2013), and Garbon & Vestergaard (2016), using gold as fictional meme.

While our national monetary systems no longer rest on gold, this hierarchy of money remains a fair description of today's national monies (Mehrling 2013). Modern day central bank reserves are *digital entries* in a central ledger. Another central bank reserve is cash (paper notes and coins), but this is not the primary money we use. Rather, private bank money (bank deposits) makes about 97% of the money circulating in an economy (for the UK, see McLeay et al 2014).

Anthropologists, historians, economists, and legal scholars have repeatedly shown that the goldsmith story is not an accurate description of the history of money. Money's history is far more pluralistic, with historical epochs and currency designs that run the gamut from money specifically as a commodity, to money only used for clearing, and some combination of the two (Graber 2011; Amato and Fantacci 2012; Desan 2014; Martin 2014). And yet, that story continues to shape contemporary national money in at least five problematic ways. Recognizing these architectural problemsis the first step to develop 'monetary awareness' on which to rethink, redesign and repurpose money.

1. Unstable pro-cyclical dynamics

Not all layers of money are equally accepted for final payment, their 'moneyness' varies over the business cycle. During the business cycle upswing, demand for credit expands. Expecting the economy to grow, bankers and financial actors become less risk averse, increasing leveraging and expanding the money supply with it. When hopeful or in the context of booming business cycles, financiers create credit that fuels price rises, incites consumer demand and secures employment, boosting even more economic growth. But the expansion of leverage sows the seeds of the financial bust (Minsky 1986). When the fear of over-leverage (and consequent debt defaults) takes over, there is a 'flight to quality' (conversion to higher order money) which contracts the money supply. Gloomy about the economy or in the context of recession, bankers

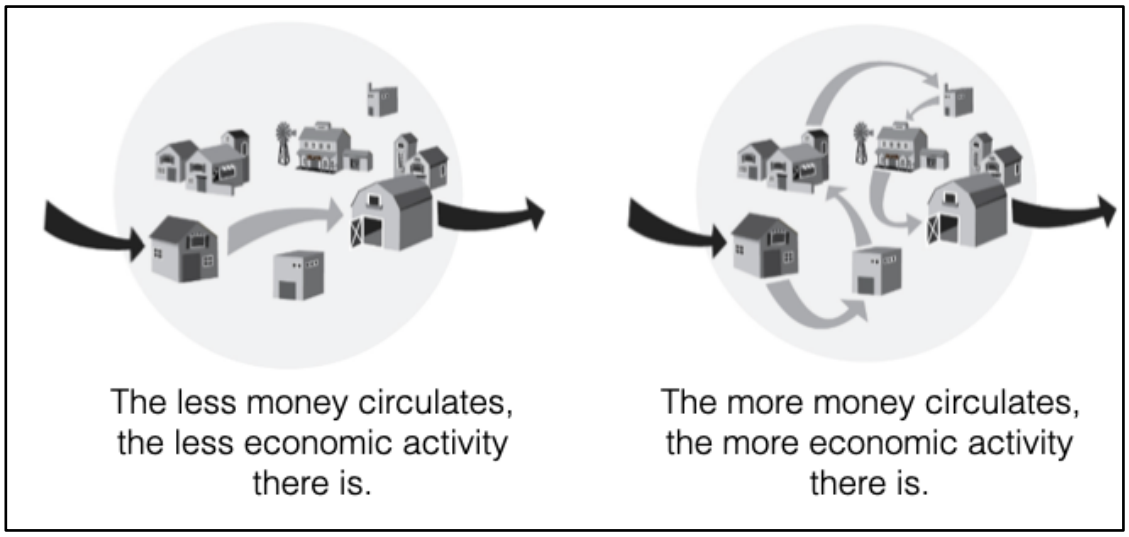
and financial actors reduce credit, thus worsening the downward spiral of decreasing prices, tapering consumer demand and raising unemployment.

Leveraging and lending when confident and tightening when fearful, the spirits, sentiments, and profit calculations of financial actors seal the fate of the real economy (made of people of flesh and bones) into a pro-cyclical behaviour that intensifies booms and busts. As the saying goes, ‘a banker is a fellow who lends you his umbrella when the sun is shining and insists upon its return as soon as it starts to rain’. The supply of commercial bank money contracts in a recession, making the recession worse, and expands in an economic boom, fueling greater leverage and liquidity. It is these dramatic shifts by the financial sector that make hierarchical monetary systems inherently unstable. It is for this reason that central banks have the mandate, but often struggle, to stabilise business cycles (in particular of the fragile financial sector), with counter-cyclical policies.

2. Prone to leakages

A characteristic of today’s money is that its desirability is dependent on its convertibility between layers and on its movement across circuits. National monies are often forced to adopt a one size fits all ‘free market’ approach, which ties them to ‘free capital mobility’ or convertibility – domestically and internationally. Such principles may also apply to free trade in products and free movement of labor. While such freedom may lead to more efficient allocations of money, people, and resources in a static sense, they also imply greater inequality and instability for communities that are on the losing side. For example, money and labor tends to move from locations with lower rates of return, and low value added industry or opportunity in the periphery (rural areas and the global south), to centers with higher rates of return and advanced, high value added industry and services (urban financial centers and the global north) (Sacks 2002; Ward & Lewis 2002; Palley 2011). The periphery struggles to keep the very money and resources it needs to build capacity and opportunity for an inclusive and sustainable economy.

Most communities try to compete for these ‘hot money flows’, lowering taxes to attract investors and turning to export-led growth in competition with the global centers. But there is a fallacy of composition that all communities can become winners; instead, there is a ‘race to the bottom’. While it is important that a community can “export” enough to pay for its “imports” (within a nation or between nations), the adoption of mantras like ‘open borders’ and ‘easy capital convertibility’ usually supports the center rather than the periphery and can miss the point of adopting a more democratic and demand-led growth from within the peripheral communities (Palley 2011). A simple image visualizes the problem cogently:



Source: Social Trade Organisation (STRO)

3. *Competing functions of money*

By design, today's national money fulfills *competing functions*. First, it serves as a 'unit of account,' a common measure of value to facilitate comparison of value across commodities and aid the clearing and settlement of positions. Under bilateral barter, two people might agree that one good is worth twice as much as another good. For multilateral barter to be possible, one of the goods has to perform the unit of account function. Far better to use an abstract measure - like inches, centimeters or dollars - to serve as a counting measure. Lacking a common unit of measurement, parties will find it extremely difficult to compare economic values.[4]

Tightly tied to the first is money's second function as a means of final payment or 'medium of exchange'. This function frees traders from immediate reciprocity of a good for another good (barter) which requires a difficult 'double coincidence of wants'. Money allows the exchange of a good now, for a 'promise' that can be redeemed for a good provided by someone else at a later time.

The third function of most national monies brings the compatibility and peaceful fluidity of the first two functions to a halt.[5] As a 'store of value,' money is given a price, an interest rate that

[4] Indeed, this is one of several arguments used to debunk the myth of barter as the origin of money. See Graeber 2011.

[5] The choice of "peaceful" to characterise the fluidity of credit-debt money is a direct reference to David Graeber's historical analysis of money arrangements. In his book *Debt: The first 5,000 years*, he argues that "credit systems tend to dominate in periods of relative social peace, or across networks of trust (whether created by states or, in most periods, transnational institutions like merchant guilds or communities of faith); in periods characterized by widespread war and plunder, they tend to be replaced by precious metal" (Graeber 2011:213).

prompts users to hoard it and be less willing to spend it for goods or services. Saving money is a leakage into the monetary circuit, reducing its availability to circulate in the real economy and leaving those who cannot save with less income. In other words, the rational behavior of an individual or household to save money for a rainy day, if generalized across the community, translates into the entrenchment of inequality and decreased general resiliency (Keynes 1936). The store of value function thus worsens money's capacity to act as a medium of exchange.

4. Undemocratic money

Most of our national money, we saw, is produced by for-profit financial firms, which provide an elastic yet pro-cyclical and erratic supply of money. This system, where banks can freely create new lower order money at little cost, readily empowers some and excludes others from access to fresh money.

Based on a deep understanding of the political economy of the monetary circuit, Kalecki's insight is startling: "workers spend what they get and capitalists get what they spend" (in Robinson 1966:341). Aggregate bank lending in a closed circuit equates to an equal rise in bank deposits. The limited power of workers and stagnating wages means that all growth in such deposits leads to higher profits to firms and their bankers, but not to higher wages for the working class. Steady consumption growth yet declining real wages explains why household debt rose in the lead up to the 2008 financial crisis.

There is no reason why the production of money must be limited to banks and non-bank financial companies; why money should go to the highest bidder (justifying interest); and why firms' profits are growing while wages are stagnating. These outcomes reflect the power relations in the system between those that produce money and earn interests and profits versus those that earn wages.

5. Treating money as a thing

The goldsmith story highlights the extent to which money is treated as a commodity, an asset with intrinsic value that serves to back the next lower order of money. This fractional reserve banking approach requires that a lower order money is convertible (possible to sell) *at par*, 1:1, with some higher order money. Treated as a thing that can be converted/sold, financial actors package lower layers of money and resell it for its leveraging capacity. But, as we saw above, it is in the hoarding and leveraging individual behaviours that such an understanding of money provokes that we find the instability of our current monetary system.

And yet, money is no mere commodity that individuals can save and financial actors can leverage and resell. At least not per se. That individual economic agents can relate to money as if it was a commodity hinges on the set of rules, design features, and arrangement of actors into which money has been institutionalised. The infrastructural capacities of money originate not in some intrinsic monetary value but, rather, on the way relations among economic actors have been engineered throughout the process of creating, distributing, moving and withdrawing money (Desan 2014).

Designing money that overcomes the problems of today's national monies requires us to break free from our contemporary monetary illusions. Seeing beyond the money-thing, into the institution that money is, jolts the fish out of the water. If money is a man-made institution, it can surely be remade (Lietaer et al. 2012). This time, from the grassroots; this time, from a different understanding of money. Welcome to the world of local complementary currencies.[6]

Reconceptualising money as a commons

Moving from an understanding of money as an asset that some have and others don't, to an understanding of money as a commons to serve the many is possibly the most consequential lesson the fish drew. Money ceases to be seen as a thing that is privately owned and that ought to have intrinsic value. Instead, as has long been known by economists, bankers and policy makers (Kaufman 2020), money starts to be understood as fabricated, a record of account with no limit, a tool we use to incentivize action, an institution for the coordination of the economy (Dillard 1980; Ülgen 2013); a socio-technical arrangement to coordinate our economic life together. The economic crisis that ensued after the financial collapse of 2008 is evidence that, while the financial elite had mismanaged the production of money, it was the many who were suffering the consequences. The trillions of dollars issued by central banks and spent by federal governments the world over following Covid-19 manifests that money is a collective good. These epochal events attest that money had been institutionalised as an asset for financiers to buy, leverage, and resell, but that really it is an infrastructural system enabling the everyday flow of economic life. Ultimately, it is the tension between individual gain and collective good that has been made visible. Referring to natural resources, this tension has been dubbed "the tragedy of the commons" (Hardin 1968). The fish now saw that money, too, was a commons.

Elinor Ostrom won the Nobel Prize in Economics in 2009 for her work on the commons. She defined a "common-pool resource" – Ostrom's preferred term – as "a natural or man-made resource system that is sufficiently large as to make it costly (but not impossible) to exclude potential beneficiaries from obtaining benefits from its use" (Ostrom, 1991:30). A key distinction underlies that definition, that between resource system and resource units. A resource system is "what *generates* a flow of resource units or benefits over time" (Hess & Ostrom 2003:121, emphasis added); resource units are "what individuals *appropriate* or use from the resource systems" (Ostrom 1991:30, emphasis added). Fisheries, grazing fields and forests are classic examples of resource systems. Individuals do not appropriate the resource system – the river; they however appropriate the resource units – the fishes – flowing through the system. While the resource system is accessible to the many, while the many benefit from a healthy river, it is

[6] While this chapter focuses on the remaking of the monetary system from the bottom up, several movements are calling for redesigning the governance of today's monetary institutions from the top. Modern Monetary Theory (MMT), Sovereign Money (or 100% money) and Positive Money are the most salient of these movements. On MMT, see Wray 2012, Kelton 2020. On 100% money, see Benes and Kumhof 2011. On Positive Money, see Jackson & Dyson, 2012. Others have called for the urgent need to reform not so much national monetary institutions as the international monetary system. In this line, see Davidson 2007; Zou 2009; Greenwald and Stiglitz 2010; Ussher 2016.

the individual that benefits from the unit he has fished. The distinction makes apparent that it is in the interest of the collective to maintain the health of the system, but that it is in the self-interest of the individual to catch yet another fish. Hardin (1968) saw “the tragedy of the commons” in the individual incentive to appropriate resource units well beyond the resource system’s capacity to regenerate itself; that is, well beyond what we today would call the resource’s “tipping point.” The tragedy of the commons, he argued, resulted in over-fishing, overgrazing, and over-logging.

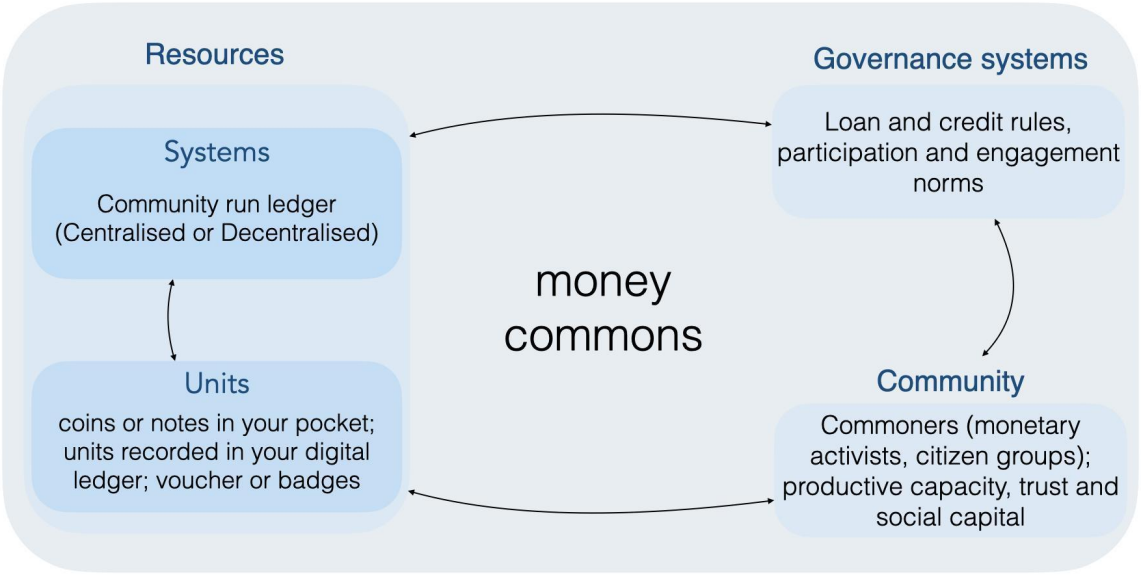
Seeing money as a commons translates into distinguishing the monetary system that generates the flow of monetary units from the monetary units that individuals appropriate and accumulate (Barinaga 2020). In this perspective, units consist of the coins and bills in your pocket, along with the digits recorded in your bank account. The monetary system, in turn, consists of the socio-technical arrangements underpinning the accounting process through which money is created. Today’s monetary socio-technical arrangement includes private commercial banks as well as central banks, money market dealers as well as financial technologies, regulations as well as dominant ideas about money. Understanding money as a commons renders recurrent financial crises as a tragedy of the money commons, where mis-management of monetary units culminates in the system’s breakdown. It obviates that, at the root of today’s economic inequality, there is a mismatch between the collective interest for a monetary system that serves us all, and the accumulating interest of individual financiers and rentiers positioned at the center of the system.

Hardin, and mainstream economics, traditionally gave two solutions to the tragedy of the commons, both related to the ownership regime of the resource. The first solution gives ownership to the State who, through government regulations, ensures the quality and capacity of the resource. The second solution is through the market, and gives ownership to private individual economic agents in whose interests it is to keep the quality and capacity of the resource system. In a similar fashion, suggestions for addressing the troubles of our monetary system have followed either a laissez-faire market logic or the logic of an interventionist state. The first defend the creation of money by many competing private commercial banks and advocate for markets that, they argue, would lead to the self-regulation of banks and financial actors and ‘reliable’ money (see Hayek 1990; Gladstein 2021). The latter favor stronger government intervention in money matters, both through re-regulation of financial actors and through a Central Bank that more closely controls the money supply (see, for instance, the proposals by Benes & Kumhof 2011; Jackson & Dyson 2012).

Ostrom’s Nobel prize was granted for how she challenged such dominant solutions to the tragedy of the commons. She reasoned not from theory, but from empirical fieldwork. In Latin America, South East Asia, Africa and Southern Europe she found a third alternative to managing common resources, and doing so more sustainably than either states or markets most often do. She found that **communities managing their commons successfully had developed social norms and institutions that could adapt to the seasonal variations and circumstantial changes of the natural resource.** Rather than being guided by individual self-interest as Hardin and other economists had assumed, Ostrom brought to light that a

commoner's individual behaviour was not that of a rational egoist, but rather that of a conditional cooperator (Ostrom 2000). In her analysis she stressed the importance of institutions and social relations in organizing collective action for the interest of the many.

Under Ostrom's perspective, what Hardin described in 1968 was not a commons. He was describing a scenario in which there were no boundaries to the grazing land, no rules for governing it, and no community of users. He was focused on describing a resource open to "free-riders," with no institutional structure for its management; an open-access regime, a "free-for-all in which everything is free for the taking" (Bollier 2020:5). Instead, according to Ostrom, a commons has a community of users that sets boundaries, defines rules of use, monitors resource usage, enforces sanctions for overuse, and follows social norms. A commons includes a community that benefits from the resource and is willing to act as its steward. That is, a commons is not a resource in itself. It is a resource, plus a community of commoners, plus the governance rules and norms the community implements to manage the resource system (Ostrom 2009, De Angelis 2017). All three – resource, community and governance institutions – form an integrated whole; they go together and do not make sense as isolated parts.



Source: Adapted from Ostrom (2009)

It is in this line of thought that monetary activists, citizen groups and community organizers are starting to remake the communal relations and governance rules of the money commons. Reasoning along Elinor Ostrom's lines, these practitioners and activists set out to create their own monetary systems and put them at the service and management of communities. Following her advocacy for direct participatory governance, locally adapted rules, and social and environmental justice, they went beyond reconceptualising money as a commons and onto

embedding the creation and governance of the new monies in the communities that use them. Indeed, understanding money as a commons affects the way communities remake money and manage the money commons.

Remaking money: Design features for a money commons

Money as a commons sheds light on the fact that there is more than one way to design our monetary architecture – ways beyond the prerogative of bankers and incumbent financial actors. From Spain to the US in the Global North, from Eastern Africa to Latin America in the Global South, citizen groups, activists, and community organisers are reclaiming the power to create money by designing, organising and implementing local complementary currencies (Lietaer 2001, Kennedy et al. 2012). Money-making empowerment notwithstanding, the question is how to align the interests of those producing money with the interests of those using it, along with a vision of an equal, inclusive, and environmentally sustainable future. Designing a money commons is not simply about introducing an alternative currency. The new currency must relate to the entire ecosystem – the *resource system* we need to manage, the *community* of users it is to serve, and the *governance* rules that steer the allocation of *resource units* and the coordination of the community.

Such a redesign of money requires us to challenge not only our thinking of money but, even more importantly, its internal architecture. For, if money is designed upon the same features underpinning today's official money, we risk reproducing the same mistakes. Our chance to build monetary systems that advance inclusive and sustainable futures resides in the new producers and users of money overcoming dominant patterns of thought and practice, acting not only as if they were already free but truly freeing themselves from today's monetary dogma. In the conviction that we need not only to subvert our patterns of thought but also to quickly build a solid alternative, we will focus the remainder of the chapter on the design traits of those complementary monies truly freeing themselves from conventional thought and practice.

1. Complementary: Overcoming the conflict between money functions

Typically, the three functions of money – as a unit of account, as a means of exchange, and as a store of value – are fulfilled by a single national currency. Yet, we saw above, the latter two functions foster contradictory individual behaviours, resulting in dynamics that entrench inequality and reduce overall resilience. There is however no need to force all three functions onto one single currency. We can have a multiplicity of currencies.

Grassroots and community currency practitioners argue for the separation of functions into special purpose currencies. Their suggestion is to have the national currency serve as the unit of reference and store of value, and the complementary or community currency to work as a means of payment (Greco 2009; Kennedy et al. 2012; Lietaer 2001), the functions of 'store of value' and of 'means of exchange' never competing for the use of any particular currency. Functional *complementarity* of multiple currencies, it is suggested, can make the system as a

whole more robust and resilient, potentially contributing to the overall performance of the national currency (Amato & Fantacci 2012, Vallet 2016).

2. Interest-free: Eliminating the possibility of rent-seeking

Interest paid on money holdings encourages savers not to part from their money, or to part only at a price higher than the interest they receive on their holdings – a behaviour that constrains access to money to commoners or investors. Interest, that is, hampers the circulation of money thus reducing its capacity to act as a medium of exchange.

To prevent local complementary currencies from acting as a store of value and inhibit commoners from hoarding the currency, grassroots communities are creating money free of interest. Even for those communities funding trade through debt creation, the commitment to repay the monetary units recorded on a debtor's account is for repayment of the principal alone. No interest ticking each month; no promise to pay back an amount that is larger than what one received; debts designed to be re-payable. Such a system makes money accessible, its supply directly tied to the original purpose of the complementary currency – satisfying community needs – rather than to the speculative and hoarding behaviours that interest encourages.

3. Non-convertible to a national currency: Disabling commodification

The possibility to guarantee conversion of the local complementary currency into the conventional national currency is a design feature of heated debate. Proponents argue the feature makes the currency attractive to a larger number of users who want a guaranteed value in their national currency and is thus key to scaling up these complementary monies (e.g. Berkshares). Opponents argue that convertibility – fixed or floating – is both practically problematic and conceptually traps us into a commodity understanding of money, thus reproducing some of the problems of today's national monies.

Among the practical challenges of convertibility, the most salient are constraints to the supply of the local currency and the difficulty to manage exchange rates. First, the currency supply. Currencies that are 100% backed and redeemable at a fixed exchange rate are scarce by design because the supply of national currency limits the supply of the local currency. Even if the local currency is only fractionally backed, there is the possibility of a 'bank run' which would make the currency disappear. Second, the exchange rates. Most cryptocurrencies adopt a flexible exchange rate or market approach, which opens up for speculation on market value appreciation. While this may promote adoption, at least when prices are rising, conversion at variable exchange rates makes the local currency vulnerable to price volatility and 'currency runs'. Such currencies end up downplaying the usefulness of money, diluting their commons-based values.

Conceptually, convertibility amounts to selling the local complementary currency for the national currency, thus commodifying the complementary currency and promptly restoring its function as a store of value. Given the possibility to trade the local currency for one that serves a wider regional area and is used for general purposes, users have a larger incentive to accumulate the

local currency for exchange to the national one (as observed in some of the Kenyan community currencies; see Kiaka et al. under review). Encouraging hoarding and speculation, convertibility takes the complementary currencies out of local circulation, limiting the currency's ability to easily flow within the community. Convertibility also opens a door for capital to leak out of the community, depleting the supply of local currency and further worsening the currency's capacity to function as a means of payment. And yet, as we saw, these complementary monies aim to work as means of payment. It is for this reason that many community currencies refrain from conversion to national money.

4. Clear boundaries: Demarcating exchange circuits

A focus on facilitating the circulation of money with a view to make it flow rapidly among the commoners demands for money constrained locally. Not for the sake of regionalism or autarky. But, rather, for the same reasons as for precluding conversion and for separating the functions of money. Money with a jurisdiction as large as the national it is intended to complement would leak out of weaker local communities towards economic hubs and financial centers, thus hampering local access to money, inhibiting local economic activity, and maintaining long supply chains (Ward & Lewis 2002). Further, serving a similar territory and a comparable general purpose would make the alternative and national currencies compete as means of exchange – a Hayekian market of currencies (Hayek 1990) where the stronger currency is bound to end up substituting the weaker ones. With substitution, the functions of money collapse, once again, into a single currency, leading us back to a currency that can be hoarded out of circulation.

For a real chance to advance a sustainable and inclusive future, complementary currencies need to be properly demarcated, either territorially or functionally, or both (see Blanc, 2011). Most community currencies are regionally delimited. Others are circulated nation-wide yet limited to a particular purpose. Such is the case of the Fureai Kippu in Japan, which focused on rewarding caring for the elder, and could be used by the commoners for future elderly care (Hayashi 2012). Another example is the WIR, which circulates only among small and medium-sized businesses in Switzerland (not other countries, not among large companies, and not in financial markets). Clearly delineated currency jurisdictions hamper the leakage of currency and powers its ability to perform as a means of exchange for the commoners.

5. Democratic: Bringing issuance closer to the users

As already discussed, money creation today is carried by a variety of banking and financial actors in a hierarchy, each layer building on and expanding from the previous. At the pyramid's apex lies the Central Bank (creating cash and reserves), followed by private commercial banks and the bank deposits they produce. The lower layers are constituted by various credit instruments issued by private third-party non-bank financial institutions. Crushed by the pyramid, and without any possibility to issue any official form of money themselves, are the commoners. In pyramidal monetary architectures where money is supposed to trickle from the top down, workers, citizens and households at the bottom are excluded from the possibility to create and govern money.

But issuance and governance of a currency can be brought closer to the commoners in at least two ways. The first design makes local authorities and municipalities the issuers of a local complementary currency. The second turns money users into currency issuers.

Among the first, we find local authorities issuing local monies or voucher systems aiming for some form of local economic development. Some of these municipal monies are backed by national legal money, the aim usually being to temporarily confine the circulation of money in the local economy, activating local markets and increasing the spending multiplier effect (i.e. more income and jobs). This is the case of the Mumbuca currency in Maricá prefecture (Brazil), the Youth Basic Income in Gyeonggi-do province (Korea), the Sol-Violett in Toulouse (France), or the Grama in Santa Coloma de Gramanet (Spain). Other local municipal monies derive their value instead from acceptance in payment of certain municipal services or fees. These are designed to encourage particular desirable behaviours. For example, the E-portemonnee rewards eco-friendly behaviours in nine Belgian municipalities in exchange to access to leisure and cultural centres; the municipal coworking Sinergics in Barcelona (Spain) facilitates the exchange of office space for community work; the public policy in Curitiba (Brazil) exchanges correctly separated waste in recycling centres for public transport tickets; or the Torekes in Ghent (Belgium) exchanges gardening plots for civic engagement.

A second way to democratize money creation turns commoners into issuers of the currency. Mutual credit currency systems rely on the logic of clearing to redress the current power imbalance between money users and money issuers. In those systems, buyers are allowed (within agreed limits) to pay for goods even when their balances equal zero or less. If the buyer has a positive balance (such as David in day 3 in the image), then that buyer will use his balance to make an exchange with a seller. However, if the buyer's balance is negative or zero, buyers can issue money (within a limit set by the commoners) to pay for the goods (as Mamen in days 1 and 2). A central book-keeping system records a negative entry on the buyer's balance and an equal positive entry on the seller's balance – negative balances thus signalling the buyer's commitment to contribute to the community as much as s/he took (bought) from it. Balances are cleared out as buyers with positive balance pay for goods from sellers with negative balances. The clearing logic enables users to issue money as they need it, overcoming scarcity, and automatically adapting the money supply to the community's trading needs. Indeed, operating as a counter-cyclical force, mutual credit currencies such as the Sardex in Sardinia (Italy) and the WIR in Switzerland have proven to help small and medium-sized businesses in particular during economic recessions (see Stodder and Lietaer 2016; Lucarelli and Gobbi 2016).

Day 0	Previous amount	Change	Current amount
Teresa	0	0	0
Mamen	0	0	0
David	0	0	0
Total	0	0	0

Mamen pays David 150c for her monthly room rental

Day 1	Previous amount	Change	Current amount
Teresa	0	0	0
Mamen	0	-150	-150
David	0	+150	+150
Total	0	0	**0**

Teresa helps Mamen for two hours to prepare a plot of farming land. Mamen pays her 25c/h.

Day 2	Previous amount	Change	Current amount
Teresa	0	+50	+50
Mamen	-150	- 50	-200
David	+150	0	+150
Total	0	0	**0**

David pays Teresa 80c to paint a room in his house

Day 3	Previous amount	Change	Current amount
Teresa	+50	+ 80	+ 130
Mamen	-200	0	-200
David	+150	- 80	+ 70
Total	0	0	**0**

Source: own elaboration

While mutual credit systems reach deeper in its democratic creation of money, both municipal currencies and mutual credit currencies bring money issuance closer to the commoners. This enables the continuous adaptation of these local monetary systems to the changing circumstances and needs of its ultimate users. Proximity to the place where money is created also enables commoners to increase their knowledge of how money works and how it is used for the service of the community.

In combination, the design features that municipalities and the grassroots are putting forward are slowly suggesting a commons-based multi-currency monetary system; monetary plurality at local, regional, national and international levels (Gómez 2018); a landscape of local currencies each adapted to the priorities, needs and resources of the communities behind them.

Rethinking and remaking money for an inclusive and resilient future

“We cannot solve our problems with the same thinking we used when we created them”. Attributed to Albert Einstein in answer to the prevention of future world wars, this quote points to where to start if our aim is systemic change. Not in the tweaking of regulations. Not in gradual adaptation. But in radically recasting the patterns of thought that guide our relation to the ‘thing’ organising what we want to change. If we want to change how the economy works – or, if you prefer, if we want to change how we produce and consume –, then we need first to change the way we conceive and relate to money.

It is here, in our conception of money, that the work of remaking money for a sustainable future needs to begin. It is possible for communities to create their own special purpose money, and to design it radically differently from most national monies. The most decisive step in this direction is for community architects to abandon an understanding of money as commodity. Money as commodity infers scarcity and a zero-sum distribution where some have it and others don't. Scarcity leads to competition and then to an incentive of leverage and reselling; money accumulated to make more money, diverting it from its social role of organizing the production and distribution of wealth in a manner desirable by its participants. The deficiencies of today's conventional national monies – from the possibility to leverage and expand money to the possibility of its indefinite accumulation – are rooted in our incapacity to tell money from commodity.

Ultimately, the five monetary design features identified among local complementary currencies highlighted above recast our conception of money from a commodity and towards a social organizing tool for the commons. They understand money as a relation of trust and mutual responsibility among community members, money as a social infrastructure for the coordination of communal contributions and appropriations (Slater & Jenkin 2016; Bollier & Conaty 2015). Credit money created not with an end to be sold for other forms of money or financial assets – as it is the case with today's national currencies – but with an end to build a productive community. Money acting as a giant spreadsheet for the recording and settlement of individual contributions to and appropriations from the community.

Herein, we believe, resides the most radical proposition of community currencies. With many such projects failing to last (Gomez and Dini, 2016; Alves and Santos 2018), their promise, so far, lies not in building a stable monetary system that can become an alternative to the current one. Rather, their promise lies in teaching the general public that a different money is possible; in reminding the co-responsibility we all share in building healthy real local economies; in helping to develop communal socio-economic practices. In other words, their potential lies in how these local complementary currency initiatives inspire us to move away from a pattern of thought that sees money as a thing, towards one that puts relations and the commons center stage.

References

Alves, F.M. and Santos, R. F. 2018. A literature review 2010-2016' *International Journal of Community Currency Research*, 22 (Summer): 4-15.

Amato, M. & Fantacci, L. 2012. *The End of Finance*. Polity Press.

Arnsperger, C., Bendell, J. & Slater, M. 2021. Monetary Adaptation to Planetary Emergency: Addressing the Monetary Growth Imperative. Institute for Leadership and Sustainability (IFLAS) Occasional Papers, Volume 8. University of Cumbria.

Azzellini, D. 2018. Labour as a Commons: The Example of Worker- Recuperated Companies. *Critical Sociology,* 44(4-5):763-776.

Barinaga, E. 2020. A route to commons-based democratic monies? Embedding the governance of money in traditional communal institutions. *Frontiers in Blockchain*, *3*, 50.

Benes, J., & Kumhof, M. 2011. Risky bank lending and optimal capital adequacy regulation. *IMF Working Papers*, 1-27.

Bollier, D. 2020. Commoning as a transformative social paradigm. In *The New Systems Reader*, pp. 348-361. Routledge.

Bollier, D. & Conaty. P. 2015. *Democratic Money and Capital for the Commons: Strategies for Transforming Neoliberal Finance Through Commons-Based Alternatives*.

Blanc, J. 2011. Classifying “CCs”: Community, complementary and local currencies’ types and generations. *International Journal of Community Currency Research*.

Cheney, G., Santa Cruz, I., Peredo, A.M. & Nazareno, E. 2014. Worker cooperatives as an organizational alternative: Challenges, achievements and promise in business governance and ownership. *Organization,* 21(5):591-603.

Chertkovskaya, E. & Paulsson, A. 2021. Countering corporate violence: Degrowth, ecosocialism and organising beyond the destructive forces of capitalism. *Organization*, 28(3) 405-425

Davidson P. 2007. Reforming the World’s Money. In *John Maynard Keynes. Great Thinkers in Economics Series*. Palgrave Macmillan.

De Angelis, M. 2017. *Omnia sunt communia: On the commons and the transformation to postcapitalism*. Zed Books.

Desan, C. 2014. *Making money: coin, currency, and the coming of capitalism*. Oxford University Press, USA.

Desan, C. 2020. The Key to Value:The Debate over Commensurability in Neoclassical and Credit Approaches to Money. *Law and Contemporary Problems*, 83(2), 1-22.

Dillard, D. 1980. A monetary theory of production: Keynes and the institutionalists. *Journal of Economic Issues*, *14*(2), 255-273.

Dyson, B., Hodgson, G., & Lerven, F. V. 2016. *Sovereign Money*. An introduction.

Gabor, D. and Vestergaard, J. 2016. Towards a Theory of Shadow Money. *Institute for New Economic Thinking, INET Working Paper*.

Gladstein, A. 2021. Financial Freedom and Privacy in the Post-Cash World. *Cato Journal*, 41(2).

Gomez, G. M. & Dini, P. 2016. Making sense of a crankcase: monetary diversity in Argentina (1999–2003). *Cambridge Journal of Economics*, *40*(5):1421-1437.

Gómez, G. 2018. *Monetary Plurality in Local, Regional and Global Economies.* Routledge.

Greenwald, Bruce & Stiglitz, Joseph E. 2010. Towards A New Global Reserve System. *Journal of Globalization and Development*, 1(2):1-24.

Graeber, D. 2011. Debt: The first five thousand years. *New York: Melville House*.

Greco, T. 2009. *The end of money and the future of civilization*. Chelsea Green Publishing.

Hardin, G. 1968. The Tragedy ofthe Commons. *Science*, 162:1243-1248.

Hayashi, M. 2012. Japan's Fureai Kippu time-banking in elderly care: origins, development, challenges and impact. *International Journal of Community Currency Research*, *16*(A)), 30-44.

Hess, C. & Ostrom, E. 2003. Ideas, Artifacts, and Facilities: Information as a Common-Pool Resource. *Law and Contemporary Problems*, 66: 111-146

Hayek, F.A. 1990. *Denationalisation of money: an analysis of the theory and practice of concurrent currencies*. 3rd edn. Institute of Economic Affairs, London

Ingham, G. 2004. *The Nature of Money*.

Jackson, T. 2009. *Prosperity Without Growth*. Earthscan, London.

Jackson, A. & Dyson, B. 2012. *Modernising Money: Why our monetary system is broken and how it can be fixed.* Positive Money.

Kaufman, F. 2020. *The Money Plot: A History of Currency's Power to Enchant, Control and Manipulate*. NY: Other Press..

Kelton, S. 2020. *The Deficit Myth: Modern Monetary Theory and the Birth of the People's Economy.* New York. PublicAffairs.

Keynes, J. M. 1936. *The general theory of employment, interest and money.* New York: Harcourt, Brace.

Kiaka, R., Barinaga, E., & Oloko, M. Under review. Gaming the system: How communities strategize around currencies, convertibility and cash transfers in Kenya.

Korhonen, J., Honkasalo, A. & Seppälä, J. 2018. Circular Economy: The Concept and its Limitations. *Ecological Economics,* 143:37-46.

Kennedy, M. 1995. *Interest and inflation free money: Creating an exchange medium that works for everybody and protects the earth*. Stranger Journalism.

Kennedy, M., Lietaer, B., Rogers, J. 2012. *People money: the promise of regional currencies.* Triarchy Press.

Lietaer, B., Arnsperger, c., Goerner, S. & Brunnhuber, S. 2012. *Money and Sustainability: The Missing Link.* Report from the Cub of Rome.

Lietaer, B. 2001. *The future of money.* Century.

Lucarelli, S. & Gobbi, L. 2016. Local clearing unions as stabilizers of local economic systems: a stock flow consistent perspective. *Cambridge Journal of Economics*, *40*(5):1397-1420.

Martin, F. 2014. *Money: The unauthorized biography*. New York: Alfred A. Knopf.

McLeay, M., Radia, & Thomas, R. 2014. Money creation in the modern economy. *Bank of England Quarterly Bulletin*.

Mehrling, P. 2013. The Inherent Hierarchy of Money. In Taylor, L. Rezai, A. & Michl, T. (eds.). *Social Fairness and Economics: Economic Essays in the Spirit of Duncan Foley*, pp. 394-404. Routledge.

Minsky, H. (1986) *Stabilizing an Unstable Economy*. McGraw-Hill Professional, New York.

Ostrom, E. 1991. Rational choice theory and institutional analysis: Toward complementarity.

Ostrom, E. 2000. Collective Action and the Evolution of Social Norms. *The Journal of Economic Perspectives*, 14(3):137-158.

Ostrom, E. 2009. A General Framework for Analyzing Sustainability of Social-Ecological Systems. *Science,* 325(5939):419-422.

Palley, T.I. 2011. The contradictions of export-led growth. Public Policy Brief, No. 119. *Levy Economics Institute*, Bard College, NY

Pettifor, A. 2017. *The Production of Money: How to break the power of bankers.* Verso.

Reichel, A., De Schoenmakere, M. & Gillabel, J. 2016. Circular economy in Europe: Developing the knowledge base. *European Environment Agency Report* 2/2016

Robinson, R.I. 1966. What should we teach in a money and banking course? *The Journal of Finance*, 21:403-410.

Ryan-Collins, J., Greenham, T., Werner, R., & Jackson, A. 2014. *Where Does Money Come From?: A Guide to the UK Monetary and Banking System*. New Economics Foundation.

Sacks, J. 2002. *The Money Trail: Measuring your impact on the local economy using LM3*. New Economics Foundation.

Schumacher, E.F. 1973/2010. *Small Is Beautiful: Economics as if people mattered.* Harper Perennial.

Slater, M & Jenkin, T. 2016. The credit Commons: A money for the solidarity economy, Published at www.creditcommons.net

Souleles, D. 2019. Another Workplace is Possible: Learning to own and changing subjectivities in American employee owned companies. *Critique of Anthropology,* 40(1) 28-48

Stodder, J. & Lietaer, B. 2016. The Macro-Stability of Swiss WIR-Bank Credits: Balance, Velocity, and Leverage. *Comparative Economic Studies*, 58:570–605.

Tobin, J. 1972. Inflation and Unemployment. *American Economic Review*, 62:1-18.

Ülgen, F. 2013. Coordination in economy. An essay on money. In F. Ülgen (Ed.), *New Contributions to Monetary Analysis: The foundations of an alternative economic paradigm*, pp. 172-187. Routledge.

Ussher, L. 2016. International Monetary Policy with Commodity Buffer Stocks. *European Journal of Economics and Economic Policies: Intervention*, 13(1):10-25.

Ward, B. & Lewis, J. 2002. *Plugging the Leaks: Making the most of every pound that enters your local economy*. New Economics Foundation.

Vallet, G. 2016. A local money to stabilize capitalism: the underestimated case of the WIR. *Economy and Society*, 45(3-4):479-504.

Wray, L. R. 2012. Modern money theory: A primer on macroeconomics for sovereign monetary systems. Palgrave Macmillan

Zou, X. 2009. *Reform the international monetary system*. BIS Review 41