

FROM THE GOLD STANDARD TO THE PRICE-INDEX STANDARD: A MARXIAN ANALYSIS OF CONTEMPORARY MONETARY ARRANGEMENTS

Bruno Höfig (UNICAMP)¹

Iderley Colombini (UFRJ)²

Leonardo Paes Müller (UFABC)³

Abstract

The paper investigates the characteristics of the monetary standard that prevails in contemporary capitalism from the perspective of Marx's conceptual framework. It argues that Marx's monetary theory of value not only is compatible with credit money, but also reveals the inner logic that prompts the development of a hierarchy of credit-money instruments as the capitalist mode of production evolves. However, this hierarchy may be structured in different manners, as it may not or may be anchored on a money-commodity (as in the gold standard). The paper shows that, in the current configuration of the capitalist monetary system, there still remains a subtle relationship between commodity money and the hierarchy of credit-money instruments – a relationship which is now structured on the basis of a consumer price index.

Key words: Marx, credit money, monetary standard

Resumo

O artigo analisa as características do padrão monetário que prevalece no capitalismo contemporâneo com base no arcabouço conceitual de Marx. Argumenta-se que a teoria monetária do valor de Marx não só é compatível com o dinheiro de crédito, mas também revela a lógica interna que leva ao desenvolvimento de uma hierarquia de instrumentos de dinheiro de crédito à medida que o modo de produção capitalista evolui. No entanto, essa hierarquia pode ser estruturada de diferentes maneiras, podendo ou não estar ancorada em um dinheiro-mercadoria (como no padrão-ouro). O artigo mostra que, na configuração atual do sistema monetário capitalista, ainda persiste uma relação sutil entre o dinheiro-mercadoria e a hierarquia dos instrumentos de dinheiro-crédito – uma relação que agora é estruturada com base na cesta de mercadorias que compõe o índice de preços ao consumidor, e não mais em uma única mercadoria, como era o caso no padrão ouro.

Palavras-chave: Marx, dinheiro de crédito, padrão monetário

¹ E-mail: bhofig@gmail.com; orcid: <https://orcid.org/0000-0002-5937-1522>.

² E-mail: iderley.colombini@ie.ufrj.br; orcid: <https://orcid.org/0000-0001-6501-5842>

³ E-mail: lapmuller@gmail.com; orcid: <https://orcid.org/0000-0001-8934-8000>.

Heterodox economists have often criticized orthodox theories of banking and finance for overlooking the active role banks play in determining the supply of money. As noted by critics of the mainstream (Moore 1988; Wray 1990) and even by central bankers themselves (Jakab and Kumhof 2015; McLeay et al. 2014), banks create deposits *ex nihilo* by making loans. Since deposits constitute the largest share of instruments mediating purchases and payments among non-bank private agents,⁴ one cannot fully account for the process of money creation without taking stock of the deposit-creating activities of banking institutions. Orthodox theories of banking and finance fail to grasp the special role of banks in the process of money *creation* because they usually see banks exclusively as intermediaries in money *circulation*. Indeed, the financial intermediation theory of banking, which has been embraced by most orthodox economists of the present and the past (for a critical review, see Jakab and Kumhof 2015), regards banks as institutions whose role is to intermediate the circulation of loanable funds, i.e. lend out savings (e.g. in the form of gold) from agents that are willing to postpone consumption to those who intend to invest or consume in the present.

Interestingly, however, the criticism outlined above also seems to characterize the monetary ideas of one of the most radical *critics* of conventional economic thinking, i.e., Karl Marx. As is well known, Marx regarded that, within capitalist economies, money must ultimately be a commodity. Yet, Marx was also aware that claims on ultimate money that are redeemable at par and on demand can and usually do perform monetary functions, and that these forms of ‘*credit money*’ (Marx 2015, 503) tend to displace the money-commodity from the realm of circulation as capitalism evolves. Indeed, as will be demonstrated in this paper, Marx’s conceptual framework is particularly well-suited to single out precisely *why* banks are able to issue credit money.

However, the fact that Marx’s conceptual framework can accommodate bank money does not ensure that his views on money are compatible with *contemporary* monetary arrangements. In Marx’s view (2015, chap. 5), the reason why private liabilities issued by banks can perform monetary functions is that they promise redeemability at par and on demand against monetary instruments issued by the state (or, in Marx’s time, a central bank which mediated payments between the state and private agents, i.e. the Bank of England). Yet, for Marx, this arrangement could only work because the state-issued liabilities were themselves ultimately redeemable against

⁴ In the UK, as of December 2013, ‘bank deposits made up ... 97% of the amount [of broad money] in circulation’ (McLeay, Radia, and Thomas 2014, 15). For data on the US, see Stella et al. (2021).

the money-commodity. Marx's view that monetary instruments must ultimately be anchored on a money-commodity arises from his understanding of the very nature of capitalism. In societies where the capitalist mode of production prevails, multidimensional goods and services acquire a peculiar property: that of being one-dimensional (thus commensurable) values (Marx 1990, chap. 1). For Marx, multi-dimensional goods and services can only be transformed into one-dimensional values by being constantly equated to a third item: a general equivalent. Marx is adamant that the general equivalent can only perform the role that is required from it in this process if it is itself a product of labor (Marx 1983); hence, ultimate money must *necessarily* be a product of labor.

Yet, since Nixon closed the gold window in 1971, no monetary instrument issued by the state in an advanced capitalist economy has been redeemable against gold or any other specific commodity. In view of this fact, even sympathetic scholars have come to believe that Marx's conceptual framework is incompatible with contemporary monetary arrangements (Bellofiore and Riva 2015). Others, in turn, stated that Marx's contention that the general equivalent *needs* to be a product of labor is inconsistent with his own conceptual framework (Heinrich 2014).

This paper does not engage with such debate directly. Instead, it disputes the very premise on which the latter is based. More concretely, the paper contends that the instruments in the chain of monetary instruments in contemporary capitalist economies are just as redeemable against products of human labor as they were in the classic gold standard and the Bretton Wood System (BWS). Within both the classic gold standard and the BWS, the bank liabilities which mediate payments between non-bank agents offered convertibility at par and on demand against central bank liabilities, while the latter promised convertibility at par and on demand against a *specific commodity*, i.e., gold. In contemporary monetary arrangements, bank money continues to offer redeemability at par and on demand against central bank money; the latter, in turn, promises convertibility against a *basket of commodities*, i.e., the commodities that form the price index in terms of which central banks fix their inflation targets. Now as before, the transformation of multidimensional use values into one-dimensional values continues to rely on the social positioning of some product of labor as general equivalent; the difference is that the role of general equivalent is now occupied by a vector of commodities, rather than a single commodity. In other words, in both arrangements, *the role of general equivalent continues to be performed by products of labor*. Relying on Marx's conceptual framework, the paper scrutinizes the passage from the *gold* to the *price-index standard*, highlighting the similarities and differences between them and

the practical implications of the rise of a monetary system in which the role of general equivalent is performed by a basket of commodities, rather than a single one,

1. Marx's monetary theory of value

The first thing to notice regarding Marx's approach to money is that, in direct opposition to both the classical and the neoclassical traditions, Marx considered his theory of money to be an integral part of his theory of value. Contrary to classical economists, Marx maintained that value is not a material property of goods and services: '[c]onsidered in itself, in isolation', a product 'is not a value' (Marx 1983b, 22); 'as values', goods and services 'are something absolutely different from their "properties" as "things"' (Marx 2008b, 127). On the other hand, contrary to the neoclassical school (which, it must be reminded, was unknown to Marx himself), Marx did not regard value as a subjective phenomenon; rather, he conceptualized value as an objective *social form*, a social characteristic which things obtain under certain social conditions. A thing's 'existence as value [*Wertsein*] does not arise from nature, but rather from society' (Marx, 1976, 91): 'value', says Marx, is 'only the representation in things ... of a relation between people, a social relation, the relation of people to their reciprocal productive activities' (Marx 2008a, 145).

To be sure, not all societies have transformed multidimensional goods and services into one-dimensional values. Rather, only societies where goods and services are generally produced for market exchange carry out this transformation on a consistent basis⁵; and these, in turn, are precisely the 'societies in which the capitalist mode of production prevails' (Marx 1990, 125). The reason only such societies can transform use values into values is that, according to Marx, the substance of value is abstract labor, and it is only through the equalization of different use values in exchange that the reduction of different concrete labors to equal abstract labor can take place. As Marx puts it in the French edition of *Capital*: 'only exchange produces this reduction, by bringing the products of the most diverse kinds of labor into relation with each other on an equal footing' (Marx 1969, 70).⁶ Now, as pointed out by Marx, only societies where labor power has become a commodity owned by the worker systematically produce goods and services for

⁵ '[V]alue' "implies" in fact "exchanges": '[o]utside of their relationship to each other [as carried out by exchange]', goods and services 'possess no value-objectivity [*Wertgegenständlichkeit*]' (Marx 2008b, 127).

⁶ Note that it is not a particular act of exchange, but rather the exchange system through which the many commodities in an economy circulate that reduces the manifold concrete labours to abstract general labour: 'abstract universal social labour [...] is brought about by the universal alienation of individual labour' (Marx 1989, 296–97).

exchange; it follows that only such societies – i.e., *capitalist* societies – are able to systematically reduce concrete labors to abstract labor, and thus also to transform use values into values.

It should be pointed out, however, that exchange as such cannot carry out the social process from which abstract labor results; rather, the process of real abstraction Marx has in mind can only take place through *monetary* exchange. In order to promote the reduction of concrete labors into abstract general labor, the exchange relation must be able, at one and the same time, to directly equalize the labors contained in the two exchanged commodities and indirectly perform the social and universal equalization of the labors contained in all the members of the world of commodities. This, however, can only be done if one of the commodities involved in the dyadic relation of private exchange acquires social validity as ‘the immediate existence of value [*Wertdasein*]’, that is, if the ‘*concrete*, useful labour contained in the use-value’ of a particular, privately owned commodity is socially posited as ‘its own opposite’, i.e. as ‘the mere form of realization of *abstract* human labour’ (Marx, 1976, 21–22).

This, according to Marx, is precisely what happens to monetary objects when they acquire the role of *general equivalent*. Insofar as a monetary object performs this role, all ordinary commodities relate to it ‘as its *qualitatively equal*, as *value-thing* [*Wertding*]’. By universally relating to the general equivalent as their qualitatively equal, commodities posit the latter as the ‘autonomous [*selbständige*]’, immediate ‘figure of value [*Wertgestalt*]’, i.e., ‘as the sole figure of value or unique adequate [mode of] existence [*Dasein*] of exchange value’ (Marx 1990, 240, 237, 227, translation modified). In doing so, they relate to money as the ‘direct incarnation of all human labour’ (Marx 1990, 187) or ‘immediate materialization [*Materiatur*] of abstract human labour’, thus positing the concrete labor contained in the monetary object ‘as the immediate form of realization [*Verwirklichungsform*] of abstract human labour’, i.e., the ‘*mode of objectification* [*Vergegenständlichungsweise*] of human labour in general’ (Marx, 1976, 20–21, translation modified). As Marx puts it: the money-commodity’s ‘natural form’ is socially posited as ‘the form assumed in common by the values of all commodities’, so that ‘the physical form’ of the money-commodity comes to ‘count [gilt] as the visible incarnation, the social chrysalis state, of all human labour’. As a result, ‘the private labour which produces’ the money-commodity ‘acquires ... a general social form, the form of equality with all other kinds of labour’ (ibidem).

In short, by relating⁷ to a monetary object as their general equivalent, commodities equalize the concrete labors contained in them to the labor contained in the monetary object. In doing so, they give the concrete labor contained in the monetary object the character of abstract human labor. This, in turn, *reflexively* reduces the diverse concrete labors contained in each regular commodity to abstract human labor, thus giving the useful things produced by labor the character of *values*.

One can now understand why Marx considered that goods and services can only acquire the character of values by taking part in a system of *monetary* exchange. It is now also clear why he considered that the general equivalent should be embodied in a product of human labor: were this not the case, then the process of real abstraction through which the substance of value (abstract labor) is constituted could not be carried out, which then would preclude the transformation of use values into values. Yet, Marx's reasoning has raised two important criticisms. First, it has been argued that his insistence on the need of a money-commodity leads both Marx and his followers to conceptualize money as 'a 'neutral' component of an economic system in which the 'real' values can be analysed with the arbitrary addition of a numeraire' (Ingham 2018, 838). This, in turn, precludes a proper understanding of the key role of bank-created credit money in the dynamics of actual capitalist economies.

Marxian scholars have opposed such criticism by pointing out that the fact ultimate money (i.e., the general equivalent) needs to be a product of labor does not imply that credit money is incompatible with capitalism, nor that credit money cannot play an important role in the dynamics of the capitalist mode of production (e.g. Brunhoff 1973). Rather, it merely means that, due to the structural characteristics of the capitalist mode of production, the network of credit instruments employed as money must be ultimately anchored on a stock of gold – i.e., the commodity that functions as general equivalent (Ganssmann 1998).

This, however, raises yet another problem. Since the end of the BWS the network of credit instruments that perform monetary functions in existing capitalist economies *is not ultimately anchored on gold*. This historical development, it has been argued (Bellofiore 1998; Heinrich 2014), has made Marx's theory – at least in the manner it was presented by Marx himself – incompatible with contemporary monetary arrangements. Yet, as pointed out by Marxian scholars,

⁷ Note that, although ordinary commodities only come into *direct* contact with the money-commodity in exchange, they do not relate to money exclusively in this sphere. As corporate balance sheets make clear, the social process by means of which concrete labors are reduced to abstract labor starts in the production line, where labor products are already ideally equated to money. See Saad-Filho (2002, chap. 5).

the monetary theory of value which Marx attempted to develop – his own personal views notwithstanding – is not dependent on money being a commodity (Foley 1982; Bellofiore 1998; Reuten 2005; Araujo and Palludeto 2022). According to Bellofiore (1989, 9), money is ‘an institutional representation of abstract labour, i.e. it is essentially a symbol – though sometimes a use value can be its support’. Hence, the social positioning of a particular commodity as general equivalent represented merely a contingent arrangement on the basis of which the process of real abstraction could take place before the maturing of the capitalist mode of production, and by no means an unsurmountable need of the capitalist system. Accordingly, several works (Heinrich 2014; Reuten 2005) have sought to build a Marxian theory of pure credit money showing that the transformation of use values into values does not require the general equivalent to be a product of labor. In their view, despite Marx’s personal views on the need for a money-commodity, his conceptual structure is not ultimately incompatible with contemporary monetary arrangements.

The following sections contribute to these debates in two distinct manners. On the one hand, they demonstrate that credit money is intrinsic to capitalism, and single out the *reasons* why this is so. As shown below, the rise of credit money increases the rate of profit of both individual capitalists and capital as a whole; this explains why, over time, bank-issued and other credit instruments tend to increasingly function as money, *regardless of whether ultimate money is or is not a commodity*. On the other hand, the paper disputes the view that the network of private instruments which function as money in contemporary capitalism is not ultimately anchored on products of labor. To be clear, the paper does *not* dispute the view advanced by the recent Marxian scholarship that that the transformation of use values into values can take place even when ultimate money is not a commodity; it does, however, question the notion that the general equivalent in contemporary developed capitalist economies is not a product of labor.

2. From commodity-money to credit money

2.1. From gold to credit money

As shown in the previous section, Marx believed that, in a functional capitalist society, the role of general equivalent must be performed by a product of human labor (e.g. gold). The fact that the general equivalent must be a product of labor, however, does not entail that only products of labor can perform monetary functions. In *Capital* vol. 1 (1990, 223–25), for instance, Marx points out that ‘the circulation of money itself’ tends to split ‘the nominal content of [monetary objects] away

from their real content’, dividing ‘their metallic existence from their functional existence’ and creating ‘the possibility of replacing metallic money with tokens made of some other material’. Hence, Marx believed that commodity-money need not mediate exchange ‘in its own body’; rather, it can do so ‘through a representative’ (Marx 1990, 227).

The kind of ‘representative’ Marx has in mind in the passage above is paper money issued by the state – which, in the UK during the gold standard, were redeemable at par and on the demand by the Bank of England. We shall discuss the role of state money below. Yet, it is important to point out that state money is by no means the only kind of gold-substitutes private agents use to make payments. As noted by Marx (1990, chap. 3), with the development of capitalism, commercial credit becomes increasingly important in mediating commodity exchange: over the development of capitalist exchange relations, commodities are increasingly exchanged neither for the money-commodity nor for state-money, but rather for bills of exchange issued by private agents. Whereas privately issued bills serve as means of purchase, the money-commodity (or its representative, state notes) only ‘actually steps into circulation’ when ‘payment falls due’ – i.e., not anymore as a means of exchange, but as ‘means of payment’ (Marx 1990, 234). As this happens, both the money-commodity and the tokens issued by the state are increasingly displaced as mediators of exchange by IOUs issued by private agents.

By allowing enterprises to economize on the use of the money-commodity, the emergence of a payment system based on the issuance of bills of exchange raises the average rate of profit in the economy, boosting the process of capitalist expanded reproduction. But that’s not all. As pointed out by Marx (2015, 503), the widespread circulation of bills of exchange ‘form[s] the basis of credit money proper, [i.e.] the *circulation of banknotes*’; the latter, in turn, allows for a further reduction in the economy’s use of gold, lowering the circulation costs of the capitalist economy and raising the average rate of profit to yet another level.

To understand this point, let us compare the functioning of a stylized capitalist economy where gold functions as means of exchange with another in which exchange is mediated by instruments issued by banks.⁸ Consider an economy with two sectors: sector 1 produces consumption goods and sector 2 produces means of production (Figure 1). The enterprises belonging to both sectors

⁸ Our depiction abstracts from notes issued by the state, to make the relationship between privately issued IOUs and the money commodity clearer. It also assumes there is no fix capital and that workers are paid in the beginning of the period abstracts from the role of capitalists as consumers, as this makes our exposition simpler (without affecting its substance).

(E1 and E2) start with means of production worth 80 units of gold (row 1). They then hire workers (W1 and W2) paying 100 units of gold and put together the previously owned means of production and the newly acquired labor power to produce goods worth 200 units of gold (in row 2). W1 and W2 use the 100 units of gold to purchase consumption goods from E1. E1 then pay 100 units of gold to acquire means of production (which it plans on using in the next period) from E2 (row 3), and the latter “purchases” the remaining means of production from itself (row 4).⁹

FIGURE 1

Enterprise I		Enterprise II		Workers I		Workers II	
ASSETS	LIABILITIES	ASSETS	LIABILITIES	ASSETS	LIABILITIES	ASSETS	LIABILITIES
Gold 100		Gold 100					
Means of production 80	Equity 180	Means of production 80	Equity 180				
Gold 100		Gold 100		Gold 100	Equity 100	Gold 100	Equity 100
Means of production 80		Means of production 80					
Saleable goods 200	Equity 200	Saleable goods 200	Equity 200				
Gold 200				Gold 100	Equity 100	Gold 100	Equity 100
Saleable goods 200	Equity 200						
Gold 100		Gold 100					
Means of production 100	Equity 200	Saleable goods 200					
		Means of production 100	Equity 200				
Gold 100		Gold 100					
Means of production 100	Equity 200	Means of production 100	Equity 200				

* Average rate of profit = 7,15%

Let us see what changes in this stylized economy when, instead of swapping IOUs among themselves, non-bank agents may swap IOUs directly with the bank, and deposits promising redemption against the money-commodity at par and on demand are used as the actual means of purchase in the transactions between W1, W2, E1 and E2. Consider the following case (Figure 2):

- E1 and E2 start with means of production worth 80 units of gold;
- E1 and E2 borrow each from the bank deposits redeemable against 100 units gold. Such deposits are created by the bank *ex nihilo*;
- E1 and E2 hire W1 and W2 paying 100 in deposits each, and produce goods that are worth 200 units of gold;
- W1 and W2 purchase all the consumption goods produced by E1, which now owns deposits worth 200 units of gold;
- E1 purchases means of production worth 100, and E2 “purchases” the same amount of means of production from itself;
- E1 and E2 repay their loans to the bank.

⁹ The rate of profit is defined as $\pi = \frac{m}{c+v}$, where m stands for surplus value, v for variable and c for constant capital.

FIGURE 2

Bank		Enterprise I		Enterprise II		Workers I		Workers II	
ASSETS	LIABILITIES	ASSETS	LIABILITIES	ASSETS	LIABILITIES	ASSETS	LIABILITIES	ASSETS	LIABILITIES
Gold 5	Equity 5	Means of production 80	Equity 80	Means of production 80	Equity 80	0	0	0	0 (1)
Loan to E1 100	Deposits W1 100	Means of production 80	Loan 100	Means of production 80	Loan 100	Deposits 100	Equity 100	Deposits 100	Equity 100 (2)
Loan to E2 100	Deposits W2 100	Saleable goods 200	Equity 100	Saleable goods 200	Equity 100				
Gold 5	Equity 5								
Loan to E1 100	Deposits E1 200	Saleable goods 200	Loan 100			Deposits 100	Equity 100	Deposits 100	Equity 100 (3)
Loan to E2 100	Deposits E2 100	Deposits 200	Equity 100						
Gold 5	Equity 5								
Loan to E1 100	Deposits E1 100	Means of production 100	Loan 100	Means of production 100	Loan 100				
Loan to E2 100	Deposits E2 100	Deposits 100	Equity 100	Saleable goods 200					(4)
Gold 5	Equity 5			Deposits 100	Equity 110				
Loan to E1 100	Deposits E1 100	Means of production 100	Loan 100	Means of production 100	Loan 100				
Loan to E2 100	Deposits E2 100	Deposits 100	Equity 100	Deposits 100	Equity 100				(5)
Gold 5	Equity 5								

* Average rate of profit = 40/365 = 10,95%

Note that, in Figure 2, the amount of gold reserves necessary for the expanded reproduction of the system is much lower than in Figure 1, thus raising the rate of profit of individual enterprises and capital as a whole. Given that the bank’s liabilities are more widely accepted as means of purchase in this stylized economy, any party who eventually reduces its expenditures and ends up with a surplus of bank deposits may decide *not to redeem the later against gold*, thus displacing (even if temporarily) the money commodity from the roles of means of payment and hoarding.

Hence, the development of, first, commercial credit, and second, credit-money proper, displaces gold from the realm of circulation, giving rise to a hierarchy of monetary instruments. Within the latter, gold still features as the measure of value, and standardized amounts of gold (denominated here as *gold units*)¹⁰ function as price standard,¹¹ whereas *claims on gold* issued by the bank serve as means of purchase (see Marx 1990, 233–34) and payment, and can even function as means of hoarding (if savers choose to retain their unspent income in the form of claims on gold, rather than converting them into gold itself).

The stages of development presented above fit Marx’s conceptual framework to a remarkable degree. According to Marx, the ‘reciprocal advances’ by non-bank agents ‘form the real basis of credit’, and ‘their instrument of circulation, the bill of exchange, forms the basis of credit money proper’ – which in Marx’s writings takes the form of ‘*banknotes*’ (Marx 2015, 503), and here that of bank *deposits*. This, indeed, is what we saw above, where the development of commercial credit prompted the rise of credit money issued by the bank.

¹⁰ The gold unit may be equivalent, for instance, to 1/35 of an ounce of gold – which, in the BWS, would make the gold unit equivalent to one dollar.

¹¹ For Marx (1990, chap. 3), gold tends to retain the role of measure of values, whereas the claims on gold issued by the central bank tend to set the price standard. In this paper, however, we abstract from central bank liabilities.

In Marx's view, what prompts bank liabilities to progressively displace not only gold, but also claims on gold issued by non-banks from the realm of circulation is the fact that banks are a form of money-dealing capital (MDC), i.e. 'a particular part of the total capital' which 'separates off' and concentrates the '*technical operation[s]* of monetary payment and receipt' and of 'drawn[ing] up and balanc[ing]' (Marx 2015, 422) the accounts of non-bank agents. Insofar as they take in and pay out money on behalf of capitalists and workers and settle their claims on and from one another, MDCs are in a privileged position not only to evaluate credit, but also to substitute claims on gold for actual gold, and thus also to manage the circulation of money in the economy. Indeed, by the time we get to Figure 2, *all the payments in the economy take place within the bank's balance sheet, which thus becomes the social site where the process of money circulation takes place.*

According to Marx, the reason why non-banks are willing to submit this kind of control to money-dealers is that, by concentrating the technical operations related to the processes of purchase and payment, MDC allows for a reduction of the 'section of capital [that] must always be present ... as a reserve of means of purchase and payment' (Marx 2015, 426).

[T]he reserve fund of means of purchase and payment, if managed on behalf of the capitalist class as a whole, does not need to be as great as if each capitalist had to administer his fund separately [...] Money-dealing mediates the settlement of accounts, in so far as money functions as means of payment, and by the mechanism it creates for these settlements it reduces the quantity of money these require (Marx 2015, 426–27).

By reducing the necessary amount of gold reserves, the bank's management of money circulation also leads to an increase in the rate of profit for E1 and E2.¹² And, crucially, the greatest possible decrease in the economy's reserve fund was obtained when the bank not only 'mediate[d] the settlement of accounts', but also *issued* the instruments by means of which non-banks settled their accounts among themselves.

To sum up, the search for profits is the engine behind the creation of credit money: by issuing claims on ultimate money that are redeemable at par and on demand, banks (may) increase the rate of profit of non-bank capitalist enterprises while also profiting from this operation. This is not to say that the emergence of credit money comes without costs. The fact that banks are structurally

¹² It can be demonstrated (see XXXXXX) that the emergence of credit money issued by banks raises the rates of profits of E1 and E2 *even in a more realistic setting in which enterprises pay interest on their loans* (which is not the case in Figure 2). Due to space considerations, this demonstration will not be pursued in this article.

unable to redeem all their liabilities entails that, while increasing the economy's rate of profit, bank-money issuance also raises its instability, particularly when the issuance of credit money coalesces with the capitalist system's inner tendency to generate sequential phases of rising and falling rates of profit. And this creates a tension: to raise the rate of profit, banks must reduce their reserves of gold; if, however, they go too far in this direction, banks can also destabilize the economy, jeopardizing the reproduction of the capitals whose rate of profit its activities are supposed to increase.

2.3. Credit money and the growing complexity of the chain of monetary instruments

To understand the tension outlined above, let us now assume there are two banks in the economy: Bank 1 (B1) and Bank 2 (B2). Suppose E1 and W1 have accounts at B1, whereas E2 and W2 have accounts at B2;¹³ and that gold reserves are evenly split between the banks. The process of expanded reproduction in this economy is similar to the one depicted in Figure 2: non-banks make the same payments, and the rate of profit is unchanged. But there is one important difference: the introduction of a new claim from and on banks, i.e., a "loan" from B1 to B2 which emerges due to the asynchronous character of the payments in the economy. Since the payments from E1 and E2 do not cancel out simultaneously, the flow of payments can only run smoothly because B1 accepts to "convert" deposits from B2 into its own deposits in exchange for claims on the gold reserves held by B2. This illustrates an important principle: if there are several banks in the economy, then the system's ability to economize on the money-commodity depends on individual banks' willingness to expand their balance sheets by issuing claims on one another and deferring the settlement of such claims when they exceed gold reserves. Through interbank credit, banks can partially overcome the tension outlined above: instead of holding more gold, they can hold claims on one another and defer settlement until the latter cancel out. If there exists a functional interbank lending market, then the deposit liabilities of individual banks become fungible; this reduces the probability that non-bank agents will convert their claims into gold, since they can now make payments by merely transferring deposits.

Note, however, that such arrangement does not fully solve the structural inability of banks to redeem their liabilities, but merely *displaces* the problem to a higher level in the monetary hierarchy. If B1 were not willing to defer the settlement of B2's liabilities, deposit fungibility

¹³ Due to space considerations, the balance sheets of W1 and W2 were excluded.

would disappear, B2 would be prey to a bank run and its deposits would lose the character of gold-substitutes. Since banks often advance credit to one other, the run could easily spread to other banks, bringing down the monetary system and the process of expanded reproduction of which the latter is an integral part.

Yet, there is still another way to deal with the structural inability of banks to redeem their liabilities: the establishment of a higher level in the hierarchical network of monetary instruments and the displacement of the tension upwards in the hierarchy. Suppose that, instead of making payments directly to one another, the banks deal with a clearinghouse (C) which issues deposits that are redeemable against gold at par and on demand. Suppose further that the banks' liabilities are convertible not into gold, but rather into the instruments issued by C. Figure 3 depicts the process of expanded reproduction of such an economy:

FIGURE 3

Clearing house		Bank 1		Bank 2		Enterprise I		Enterprise II	
ASSETS	LIABILITIES	ASSETS	LIABILITIES	ASSETS	LIABILITIES	ASSETS	LIABILITIES	ASSETS	LIABILITIES
Gold 5	Deposits B1 2.5 Deposits B2 2.5	Deposits C 2.5	Equity 2.5	Deposits C 2.5	Equity 2.5	Means of production 80	Equity 80	Means of production 80	Equity 80
Gold 5	Deposits B1 2.5 Deposits B2 2.5	Loan to E1 100 Deposits C 2.5	Deposits W1 100 Equity 2.5	Loan to E2 100 Deposits C 2.5	Deposits W2 100 Equity 2.5	Means of production 80 Saleable goods 200	Loan 100 Equity 100	Means of production 80 Saleable goods 200	Loan 100 Equity 100
Gold 5 Loan to B2 97.5	Deposits B1 102.5 Deposits B2 2.5	Loan to E1 100 Deposits C 102.5	Deposits W1 100 Deposits E1 200 Equity 2.5	Loan to E2 100 Deposits C 2.5	Deposits W2 100 Loan from C 97.5 Equity 2.5	Saleable goods 200 Deposits 200	Loan 100 Equity 100		
Gold 5 Loan to B2 100	Deposits B1 2.5 Deposits B2 2.5	Loan to E1 100 Deposits C 2.5	Deposits E1 100 Equity 2.5	Loan to E2 100 Deposits C 2.5	Loan from B1 97.5 Deposits E2 100 Equity 2.5	Means of production 100 Deposits 100	Loan 100 Equity 100	Means of production 100 Saleable goods 200 Deposits 100	Loan 100 Equity 110
Loan to E1 100 Gold 2.5	Deposits E1 100 Equity 2.5	Loan to E1 100 Deposits C 2.5	Deposits E1 100 Equity 2.5	Loan to E2 100 Deposits C 2.5	Deposits E2 100 Equity 2.5	Means of production 100 Deposits 100	Loan 100 Equity 100	Means of production 100 Deposits 100	Loan 100 Equity 100

* Rate of profit (total social capital) = $40/365 = 10.95\%$

The introduction of a clearinghouse which settles the transactions between B1 and B2 has a fortunate consequence: it increases the ratio of gold to claims on gold both within individual balance sheets and in the economy as a whole. Whereas in the case with two banks and no clearinghouse such ratio reaches the level of 2.5/200 for B1 and 5/300 for the economy (line 3), in Figure 3 the coverage ratio never goes below 5/102.5, both for C and for the economy as a whole (since C liabilities are now the only direct claims on gold in the economy). Were the economy depicted in Figure 3 to operate with a coverage ratio that is equal to the one found in the economy with two banks and no clearinghouse, then C would be able to lower the reserves in its vaults to 1.7 gold units, thus raising the economy's rate of profit to 11.05%.

Historically, clearinghouses such as the one depicted above have usually emerged spontaneously from the interaction of private banks in expanding capitalist economies (which is not to say that there were no clearinghouses in pre-capitalist settings). Yet, as it becomes clear that

the money-creating activities of banks generate financial instability, the function of central clearinghouse tends to increasingly be monopolized by (public or semi-public) central banks, e.g. the Fed or the Bank of England (see Ugolini 2017). Regardless of the historical specificities, however, the fact remains that, as banks develop their abilities to create instruments by means of which non-banks settle accounts among themselves, there tends to emerge both an interbank market and a central clearinghouse which is able to absorb the tensions that periodically arise in interbank relations – and, in so doing, expand the capitalist economy's capacity to economize on specie, raising the rate of profit to yet another level.

Hence, the two ways of dealing with the tensions arising from the existence of multiple banks are not mutually exclusive. Rather, they reinforce one another: the introduction of a central clearinghouse that is willing to back bank liabilities by issuing claims on ultimate money tends to increase the banks' disposition to extend interbank credit. Accordingly, the introduction of C allows the economy to reduce the gold reserves even further without causing the ratio of reserves to claims on gold to fall. Indeed, the extent to which the introduction of a clearinghouse allows the system to economize on reserves is much larger than shown in the example above, in which there are only two banks. In a more realistic setting, there would exist several banks, which would mediate the payments of a much larger number of workers and enterprises. Suppose there are three banks (B1, B2 and B3) and that B1's clients make payments worth 100 gold units to the clients of B2, whereas B2's clients make payments worth 100 gold units to the clients of B3, and the latter's clients make payments worth 100 gold units to the clients of B1. In the absence of C, the amount of interbank credit (and therefore the size of the banking system's liabilities) would increase to 300. In the presence of C, however, the inflows and outflows of payment orders from and to each individual bank immediately cancel out, and the payments can be processed without any increase in the liabilities of B1, B2 and B3. Note, finally, that the hierarchy of monetary instruments, which in the previous example expanded upwards as the interaction of commercial banks give rise to a (hierarchically superior) clearinghouse, can also expand downwards, with the introduction of other banks that settle their mutual claims through the balance sheets of B1 and B2. In this manner, B1 and B2 are transformed into correspondent banks, functioning as local clearinghouses that play a similar role towards banks in the lower levels of the monetary hierarchy as C plays in relation to themselves. This allows the economy to operate with even fewer gold reserves relative to the amount of bank deposits, prompting a further rise in the rate of profit.

As has become clear by now, the main method by which banks satisfy the demand for cheaper means of exchange and payment is by issuing instruments that promise convertibility at par and on demand against other instruments situated at the higher tiers of a *layered and hierarchically structured network of monetary instruments*. The introduction of new layers into the monetary hierarchy allows agents to make ever more payments with a (relatively) shrinking reserve of gold, thus raising the average rate of profit. To be sure, this also increases the risks of inflationary bouts and financial crises, which is precisely why the state often looks for ways of reshaping this hierarchical structure. It is important to emphasize, however, that the impetus to create such hierarchy responds to the *inner logic* of the capitalist economy, which is always pushing for the introduction of new ways of reducing costs and raising the rate of profit.¹⁴

3. The demise of the gold standard and the rise of the price-index standard

Marx's conceptual framework allows us to understand why, as capitalism evolves, the instruments by means of which private agents settle their accounts tend to become increasingly decoupled from the money-commodity: once enterprises come to depend on monetary market exchange for their survival, there arises a pressing need to reduce circulation costs, which creates a continuous demand for mechanisms allowing agents to economize on the use of ultimate money (which, in Marx's view, must necessarily be a product of labor). Marx's system hence allows for a rich understanding of the development of capitalist monetary systems before the end of the BWS, when gold was still formally positioned at the pinnacle of the (international) hierarchy of monetary instruments, despite the increasing decoupling between the former and the latter even though the latter surpassed to a great extent the amount of gold (Bordo and McCauley 2017). But does it retain its explanatory power after 1971, when US central bank liabilities ceased to be convertible into gold and the (tenuous) link between gold and other monetary instruments was terminally cut?

To answer this question, let us turn back to Marx's considerations on the relationship between value and money. Value, according to Marx, is a social property goods and services acquire when the *concrete* labors which produced are them reduced to *abstract* labor. The transformation of

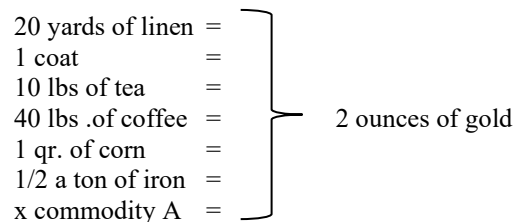
¹⁴ That this underlying trend shapes the long-term history of capitalist monetary systems can be demonstrated by means of a detailed historical analysis of the monetary evolution in the two hegemonic powers that have arisen over the history of capitalism, i.e. the United Kingdom and the United States, as well as of the international monetary orders which arose around the monetary systems of these two countries. Due to space consideration, such analysis will not be pursued in this article. But see (XXXXX).

concrete labors into abstract labor, in turn, requires that the labors contained in ordinary goods and services be equated to the labor contained in a money-commodity, which thereby functions socially as the incarnation of labor as such. This, however, can only be achieved indirectly, through the equalization of each individual good and service in the economy to the money-commodity, which thereby is socially positioned as a general equivalent.

The innumerable equations of which the general form of value is composed equate the labour realized in the [money-commodity] with the labour contained in every other commodity in turn, and they thus convert [the concrete labor that produces the money-commodity] into the general form of appearance of undifferentiated human labour. In this manner the labour objectified in the values of commodities is not just presented negatively, as labour in which abstraction is made from all the concrete forms and useful properties of actual work. Its own positive nature is explicitly brought out, namely the fact that it is the reduction of all kinds of actual labour to their common character of being human labour in general, of being the expenditure of human labour-power. (Marx 1990, 159–60)

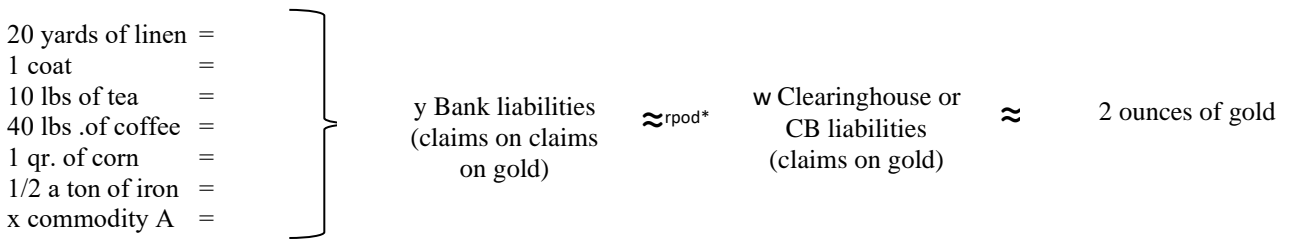
Marx’s reasoning is graphically expressed in Figure 4, which represents the fully developed value-form – or, as Marx also puts it, the money-form.

FIGURE 4



As depicted in Figure 4, multidimensional use values can only acquire a one-dimensional value-form by relating *as equals* to the money-commodity – a role which, both in Marx’s framework and in the actual capitalist world, was usually performed by gold. We have seen, however, that in actual capitalist economies ordinary goods and services rarely if ever relate directly to gold; rather, they are usually exchanged for *claims* on gold – or, better yet, for claims on claims on gold. In other words, the money-form depicted in Figure 4 evolves with the capitalist mode of production: in a fully developed capitalist economy, the relationship between ordinary goods and services and the money-commodity is usually mediated by a series of intermediate monetary instruments, as depicted in Figure 5.

FIGURE 5



* Redeemable at par on demand

Compared to Figure 4, Figure 5 presents a much fairer representation of how the US (and the world's) monetary system functioned by the time Nixon closed the gold window. If anything, the relationship between gold and ordinary commodities expressed in Figure 5 is still too poorly mediated: in 1971, capitalist enterprises and wealthy individuals already had access not only to US bank deposits (claims on claims on gold), but also to claims on US bank deposits (i.e., claims on claims on claims on gold) which also performed monetary functions, such as mutual fund shares, repurchase agreements and Eurodollar deposits.¹⁵ Hence, by the time the gold window was closed, the connection between ordinary commodities and the money-commodity had become extremely tenuous: on the one hand, most payments in the US and elsewhere were already executed through the transfer of second- or even third degree claims on gold (i.e., bank deposits; see Stella et al. 2021); on the other, the size of the deposits owned by non-bank private agents had already far surpassed the amount of gold they represented a claim on (Bordo and McCauley 2017).

What changed, then, when Nixon closed the gold window? The closing of the gold window meant that US CB liabilities ceased to represent claims on gold. This transformed the very nature of bank deposits: whereas they earlier represented a second-degree claim on gold, they were now claims on instruments (i.e. central bank liabilities) which, as stated, were no longer redeemable against *any specific commodity*.¹⁶ As seen above, such transformation led even sympathetic scholars to the conclusion that Marx's monetary theory was incompatible with contemporary monetary arrangements: in their view, the fact that US CB liabilities were no longer redeemable

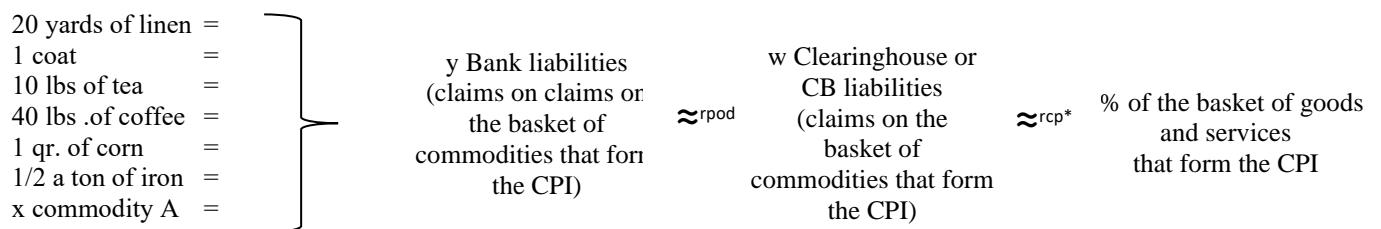
¹⁵ Note that, in the BWS, Fed liabilities only partially represented claims on gold, since such instruments could be exchanged for actual gold exclusively by foreign central banks (indeed, private agents in the US were forbidden from hoarding gold coins or bullion between 1933 and 1974).

¹⁶ One could argue that, for US citizens, Fed liabilities still represent claims on tax obligations: whoever owns taxes to the US Treasury can redeem such obligations by handing in Fed liabilities. Yet, since foreign CBs (which often have accounts at the Fed) do not pay US taxes, this reasoning does not apply to them.

against products of human labor made the existing monetary system incompatible with Marx’s views on money. What such interpretations often neglect, however, is that the monetary system that emerged since the 1990s is quite different from the one that arose from the closing of the gold window. After 1971, as Fed liabilities became irredeemable and other currencies started to float against the dollar, inflation crept and CBs took the blame, which led policymakers to search for new monetary anchors. Adopting a monetarist stance, they first attempted to target monetary aggregates; but this soon proved problematic, and this path was abandoned already in the first half of the 1980s (Hetzel 2020). By the end of the decade, central banks in advanced capitalist economies began to converge on a new strategic framework. In 1989, the central bank of New Zealand adopted a novel monetary policy regime, which became known as inflation-targeting regime. The BoE and the Bank of Canada (among others) followed suit. Finally, the Fed, which is rightly regarded as the world's central bank (Murau and Klooster 2022), explicitly adopted an inflation-targeting regime in 2012 – although, it must be remembered, an implicit inflation-targeting had already been in place in the US for years (Hetzel 2020).

Now, once CBs adopt an inflation-targeting monetary regime, their liabilities cease to promise convertibility against nothing. *Within this policy framework, CBs effectively promise that their liabilities will be convertible into a specific basket of goods and services at a specific rate for a specific period of time.* Suppose, for instance, that a unit of the instruments issued by the CB can purchase, at the present, a certain basket of goods and services, which forms what is called a consumer price index (CPI). Suppose also that the CB has compromised itself to achieve an inflation target of 2%, calculated on the basis of the CPI. In such a setting, what the CB is effectively doing is promise that, in one year, its liabilities will be convertible into roughly 98% of the basket of goods contained in the CPI. In other words, the described monetary arrangement operates on the basis of a *price-index standard* which can be described as follows:

FIGURE 6



* Redeemable at a changing parity

Figures 6 and 5 are strikingly similar: in both, every good and service in the economy is convertible at certain rates into liabilities of private banks, and the latter are redeemable at par and on demand against the liabilities of the CB. The difference is that, whereas in the gold standard the CB promises that its liabilities will be convertible on demand into gold at a *fixed rate*, within the price-index standard, the CB promises that its liabilities will be convertible into a given basket of goods and services (the CPI) at a *changing rate* – a rate which, however, changes at a *fixed pace*.

Hence, the gold and the price-index standards share a key property: in both, the liabilities of the CB are backed by products of human labor. Put differently, within the price-index standard, the goods and services that form the index perform – *collectively* – a role that is similar to the one performed by gold within the gold-standard, i.e., that of functioning as general equivalent. Paraphrasing Marx, one could argue that, within the price-index standard, the innumerable equations of which the general form of value is composed equate the labor realized in the items that compose the index with the labor contained in every ordinary commodity; in this manner, the vector of concrete labors that produce the items contained in the index is transformed into the general form of appearance of undifferentiated human labor, just like gold in the gold standard. By relating, through the mediation of private banks and CB liabilities, to the basket of goods and services that form the price index as their equivalents, each individual commodity equalizes the concrete labor contained in it to the labors contained in that basket; in doing so, they give the concrete labors contained in the index – *considered collectively as a unitary entity, i.e., as a vector* – the character of abstract human labor; this, in turn, *reflexively* reduces the diverse concrete labors contained in each ordinary commodity to abstract human labor, thus giving the useful things produced by labor the character of *values*.

4. On the functionalities and dysfunctionalities of the price-index standard

The previous section demonstrated that the price-index standard operates in a manner that is often quite similar to the gold standard. This, in turn, suggests that the explanatory power of Marx's framework has not come to an end with the closing of the gold window. Indeed, the case could be made that the price-index performs the function of general equivalent more adequately than gold – entailing that, from the perspective of Marx's conceptual framework, the price-index standard fits even better with the structural determinations of the capitalist mode of production than the late

gold standard. As seen above, the main function of the general equivalent is to provide an immediate, socially valid representation of social labor. Crucially, the basket of goods and services that constitute the price index provides for a far superior representation of social labor than gold; and this, in turn, means that the former can perform the role of general equivalent more adequately than the latter.

Let us see why. The facts that the productivity of the gold-producing labor tends to increase much more slowly than other kinds of labor, and that gold prices depends to a large extent by land *rent* (and thus deviate to a high degree of the labor time that is necessary to produce gold) entail that gold can only offer a rather distorted representation of social labor. Such inability of gold to adequately represent social labor makes the gold standard rather dysfunctional, at least when compared to the price-index standard; for it entails that *any monetary standard in which gold functions as the general equivalent is structurally deflationary*. As capitalism evolves and labor productivity rises, the values of most commodities fall; but, because neither the value of gold, nor its price (which contains a large share of land rent) fall in the same proportion, the relative value and the relative price of gold rise over time. Now, within the gold standard, monetary instruments such as bank deposits and CB liabilities are redeemable against gold at a fix rate. It follows that, over time, the rate of convertibility of ordinary commodities into monetary instruments tends to fall. Put differently, *deflation is structurally baked into the gold standard*.

The same, of course, is not true of the price-index standard: because the vector of commodities contained in the CPI provides a more accurate representation of current social labor, the price-index standard is structurally neither deflationary, nor inflationary. This makes the price-index standard far more functional from the perspective of capital's expanded reproduction. After all, accumulation presupposes investment; and the latter, as has been known for a long time (Fisher 1933), is usually inhibited by deflationary tendencies which raise the real value of debt contracts over time. Moreover, and crucially, the deflationary tendency intrinsic to the gold standard entails that, unless nominal wages are reduced, the value of labor power tends to rise over time. This prevents capitalists from adopting more indirect ways of reducing the value of labor power, which in turn may lead to increased tensions between capital and labor over time. In this sense, it can be argued that the emergence of the price-index standard turns class struggle more easily manageable by capitalists, making the new monetary order much more functional than the late gold standard for the long-term reproduction of capitalist economies.

The fact that the price index standard is not necessarily deflationary is not the only property which makes it comparatively more adequate for the structural determinations of the capitalist mode of production. Another functional property of the price-index standard is that it allows the monetary authority to engage with financial markets in ways that were unthinkable in the gold standard. Contrary to many of the goods and services that constitute the price index, gold is usually traded in financial markets. This means that gold prices tend to be directly affected by changes in the price level of financial assets: if, for instance, all other assets in the market rise, investors will sooner or later rebalance their portfolios, pressuring gold prices upwards. The rise in the price of gold, in turn, puts pressure on the rate of convertibility between gold and the monetary instruments issued by the CB; to prevent parity from breaking up, the CB is then forced to raise the rate of interest – which, again, tends to have deflationary effects, as the prices of ordinary commodities in terms of bank deposits and CB notes decreases. It follows that, within the gold standard, the monetary authority will often refrain from rescuing financial markets in times of distress: were the CB willing to provide any sort of implicit guarantee of asset prices, then the latter would tend to rise, as investments in financial assets become less risky; and this, in turn, would ultimately have damaging deflationary effects over the economy.

The same is not true of the price-index standard. Within this regime, the effects of generalized changes in financial asset prices over the rate of convertibility between CB liabilities and the general equivalent are much more mediated than in the gold standard. Suppose that asset prices rise; how will this affect the price index? In such instances, the index may also rise, so long as asset inflation leads to more consumption; for that to happen, however, asset ownership must be somewhat well distributed – after all, high net worth individuals do not change their consumption habits as they become wealthier. Put differently, so long as ownership is concentrated enough, asset inflation will not put any kind of pressure on the parity between CB liabilities and the price index. This means that, within the price-index standard, monetary authorities may enjoy much higher degrees of freedom in their engagement with financial markets, being able to rescue the latter when crises occur – which is precisely what the Fed has been doing at least since the Asian Financial Crisis. This, in turn, allows central banks (to some extent) to avoid some of the worst consequences of financial crises, such as the depressionary tendencies that tend to arise from stock market crashes and periods of asset deflation. It also creates the conditions for the political

cooptation of large swaths of the middle classes in rich countries where the savings of these social groups have been invested in financial assets, such as the US and the UK (Adkins et al. 2020).

Finally, the fact that the price index is a more adequate representation of social labor than gold allows the price-index standard to express the difference between price-level and relative prices much more clearly than was possible in the gold standard. Insofar as bank deposits and CB notes remain convertible into gold at a fix rate, any change in the relative price of gold will translate itself directly into changes in price level. The same, of course, is not true for the price index-standard: here, the role of general equivalent is performed not by a single commodity, but by a basket of commodities; hence, changes in the prices of some of these commodities will not necessarily disturb the price level, so long as the prices of other commodities in the basket change in the opposite direction. In other words, once the general equivalent is embodied in a basket of commodities, instead of a single commodity (as in the gold standard), the money-form acquires a much more developed capacity to accommodate changes in relative prices without translating them directly into moves in the price level – which, in turn, enhances the economy’s capacity to withstand supply and demand shocks in some key sectors without disturbing the price mechanism.

To sum up, within this new monetary standard, not only do the concrete labors contained in the commodities that compose the price index perform similar functions to the ones performed by gold-mining labor in the gold standard, but they do so in a manner that can be more functional to the process of capital’s expanded reproduction.

This is not to say that the price-index standard has no shortcomings. For, first, the emergence of this standard reduces the number of tools the monetary authority can employ to enforce the announced rate of conversion between its liabilities and the general equivalent. In both the gold and the price-index standards, the CB attempts to sustain parity by manipulating the base rate of interest. Now, within the gold standard, the CB supplements the use of the rate of interest by building up a stock of gold that can be mobilized whenever the parity between its liabilities and the money-commodity is jeopardized (Eichengreen 2008). To be sure, such reserves tend to be outstandingly low as compared to the amount of bank deposits and CB liabilities in the economy; they do, however, provide an additional layer of protection to the parity which the CB has promised to sustain. Such additional layer of protection tends to disappear once the price-index standard arises; for, contrary to gold, the monetary authority is not able to stock all the goods and services

which form the price index.¹⁷ In other words, the passage from the gold to the of the price-index standard implies the loss of a line of defense against movements in the rate of exchange between monetary instruments issued and the general equivalent – which, in turn, may make it harder for the CB to sustain the parity between the former and the latter.

Second, and most importantly, the emergence of the price-index standard changes the ability of the capitalist mode of sociability to sustain the appearance that capitalist economic relations are a natural *datum*, and therefore cannot be transformed by conscious human action. As revealed by Marx, the social positioning of gold – a natural element – as the immediate incarnation of value serves to reinforce the ‘fetishism attached to the world of commodities’ (Marx 1990, 176), naturalizing the category of value and obscuring the fact that the economic relations from which this category arises are historically and socially determined. In the opposite direction, the social positioning of a price-index as general equivalent reveals the contradictions of this fetishized appearance, bringing to the fore previously hidden historical and social dimensions of the institution of money.

The constitution of a price-index standard requires, first and foremost, that a price-index be constructed. Historically, the index that has most often played the role of general equivalent is the CPI. Now, the construction of a CPI requires, on the one hand, that one defines *what* are the items whose consumption will henceforth be regarded as necessary for a decent life; and, on the other hand, that one defines the basic *quality* such items must have at any given moment in history. Are cell phones, cars and shelters basic consumption items – and, if so, what kind of cell phone, car, or shelter should an average person be able to consume? One need only pose such questions to bring to the surface a series of normative questions that inevitably historicize both the economic and the power relations on which the current mode of production rests – thus destabilizing the fetishistic notion that capitalism expresses a natural form of organization of human material reproduction.

In short, within the price-index standard, no single item can function as the immediate manifestation of value; moreover, the delimitation of the set of goods that collectively function as general equivalent has evidently not merely a natural, but also a *conventional* dimension, as it involves an array of normative issues related to what, in each historical juncture, should be

¹⁷ Note, however, that other state agencies can and often do stock some of these commodities in an attempt to stabilize their prices – e.g., oil in the US.

regarded as a basic consumption basket. This suggests that, within the price-index standard, the capitalist form of wealth is not naturalized in the same way as within the gold standard.

5. Conclusion

The paper demonstrated how both credit money and the constitution of a hierarchy of monetary instruments arise from the inner logic of the capitalist mode of production – a mode of production which forces agents to search for ever new ways of economizing on the use of cash. In doing so, it demonstrated that the existence of a money-commodity is consistent with the complex structures of discounting and rediscounting in contemporary economies, and thus also that the development of a credit money system is compatible with Marx's theoretical framework – even though, in Marx's view, ultimate money must necessarily be a commodity.

The paper also delved into recent developments of the monetary system, showing how the current monetary system – in which monetary instruments promise parity against a price index – sustains a subtle relationship between commodity money and credit money. Within this price-index standard, the goods and services that form the index perform – *collectively* – a role that is similar to the one performed by gold within the gold-standard, i.e., that of functioning as general equivalent. Paraphrasing Marx, one could argue that the innumerable equations of which the general form of value is composed equate the labor realized in the items that compose the index with the labor contained in every ordinary commodity. In both the gold and the price-index standard, the relationship between ordinary commodities and the item(s) that function(s) as general equivalent is not immediate, but rather mediated by instruments issued by private banks (i.e., money dealing capitals) and the central bank. Most importantly, in both, the equalization of the labors contained in ordinary commodities to the labor(s) contained in the item(s) that function(s) as general equivalent constitutes a necessary moment in the process of transformation of use values into values – and thus also in the reproduction of the capitalist mode of production.

Indeed, the case could be made that the price-index performs the function of general equivalent more adequately than gold – entailing that, from the perspective of Marx's conceptual framework, the price-index standard fits even better with the structural determinations of the capitalist mode of production than the late gold standard. As discussed above, any monetary standard in which gold functions as the general equivalent tends to be *deflationary*. The same, of course, is not true of the price-index standard: because the vector of commodities contained in the CPI provides a

more accurate representation of current social labor, the price-index standard is neither necessarily deflationary, nor necessarily inflationary. This, among other things, allows capital to more easily manage the distributive conflicts that are intrinsic to the capitalist mode of production, making the price-index standard far more functional from the perspective of capital's expanded reproduction.

References

- Adkins, Lisa, Melinda Cooper, and Martijn Konings. 2020. *The Asset Economy*. 1st edition. Medford: Polity.
- Bellofiore, Riccardo. 1989. "A Monetary Labor Theory of Value." *Review of Radical Political Economics* 21 (1–2): 1–25. <https://doi.org/10.1177/048661348902100103>.
- . 1998. "Marx's Theory of Money and Credit Revisited: A Comment on the Chapters by Suzanne de Brunhoff and Ferdinando Meacci." In *Marxian Economics: A Reappraisal: Essays on Volume III of Capital*, edited by Riccardo Bellofiore, 205–15. London: Palgrave Macmillan UK. https://doi.org/10.1007/978-1-349-26118-5_4.
- Bordo, Michael, and Robert N. McCauley. 2017. "Triffin: Dilemma or Myth?" *BIS Working Papers*, December. <https://www.bis.org/publ/work684.htm>.
- Brunhoff, Suzanne De. 1973. *Marx on Money*. New York: Urizen Books.
- Desan, Christine. 2014. *Making Money: Coin, Currency, and the Coming of Capitalism*. Reprint edition. OUP Oxford.
- Eichengreen, Barry. 2008. *Globalizing Capital: A History of the International Monetary System, Second Edition*. Second edition. Princeton, NJ: Princeton University Press.
- Fisher, Irving. 1933. "The Debt-Deflation Theory of Great Depressions." *Econometrica* 1 (4): 337–57. <https://doi.org/10.2307/1907327>.
- Foley, Duncan K. 1982. "The Value of Money the Value of Labor Power and the Marxian Transformation Problem." *Review of Radical Political Economics* 14 (2): 37–47. <https://doi.org/10.1177/048661348201400204>.
- Ganssmann, Heiner. 1998. "The Emergence of Credit Money." In *Marxian Economics: A Reappraisal: Essays on Volume III of Capital*, edited by Riccardo Bellofiore, 145–56. London: Palgrave Macmillan UK. https://doi.org/10.1007/978-1-349-26118-5_9.
- Heinrich, Michael. 2014. *Die Wissenschaft vom Wert: Die Marxsche Kritik der politischen Ökonomie zwischen wissenschaftlicher Revolution und klassischer Tradition*. 5. Auflage. Münster: Westfälisches Dampfboot.
- Hetzel, Robert L. 2020. "The Evolution of US Monetary Policy." In *Handbook of the History of Money and Currency*, edited by Stefano Battilossi, Youssef Cassis, and Kazuhiko Yago, 1–40. Singapore: Springer. https://doi.org/10.1007/978-981-10-0622-7_32-1.
- Ingham, Geoffrey. 2018. "A Critique of Lawson's 'Social Positioning and the Nature of Money.'" *Cambridge Journal of Economics* 42 (3): 837–50. <https://doi.org/10.1093/cje/bex070>.
- Jakab, Zoltan, and Michael Kumhof. 2015. "Banks Are Not Intermediaries of Loanable Funds – And Why This Matters." SSRN Scholarly Paper ID 2612050. Rochester, NY: Social Science Research Network. <https://papers.ssrn.com/abstract=2612050>.
- Marx, Karl. 1969. *Le Capital*. Paris: Garrier-Flammarion,.
- Marx, Karl. 1976. "The Commodity. Chapter One, Volume One, of the First Edition of Capital." In *Value: Studies By Karl Marx*, edited and translated by A Dragstedt. London: New Park Publications.

- Marx, Karl. 1983a. *Das Kapital: Kritik Der Politischen Ökonomie. Erster Band, Hamburg 1872*. Edited by Willi Bang, Joachim Conrad, Friedrich Engels, Edgar Klapperstück, and Eike Kopf. De Gruyter Akademie Forschung.
- . 1983b. *Gesamtausgabe (MEGA), BAND 5, Marx: Das Kapital. Kritik der politischen Ökonomie. Erster Band, Hamburg 1867*. Edited by Eike Kopf, Willi Bang, Joachim Conrad, and Edgar Klapperstück. De Gruyter.
- . 1989. “A Contribution to the Critique of Political Economy.” In *Karl Marx, Frederick Engels: Collected Works: 29, 258–420*. Moscow: International Publishers Co Inc., U.S.
- . 1990. *Capital: Critique of Political Economy v. 1*. Translated by Ben Fowkes. London ; New York, N.Y.: Penguin Classics.
- . 2008a. *MEW Bd.26/2, Theorien Über Den Mehrwert*. Berlin: Dietz Verlag.
- . 2008b. *MEW Bd.26/3, Theorien über den Mehrwert*. Berlin: Dietz Verlag.
- . 2015. *Marx’s Economic Manuscript of 1864-1865*. Leiden ; Boston: Brill Academic Pub.
- McCauley, Robert N., Patrick McGuire, and Philip Wooldridge. 2021. “Seven Decades of International Banking.” *BIS Quarterly Review September 2021*, September, 61–75.
- McLeay, Michael, Amar Radia, and Ryland Thomas. 2014. “Money Creation in the Modern Economy.” SSRN Scholarly Paper ID 2416234. Rochester, NY: Social Science Research Network. <https://papers.ssrn.com/abstract=2416234>.
- Moore, Basil J. 1988. *Horizontalists and Verticalists: The Macroeconomics of Credit Money*. Cambridge England ; New York: Cambridge University Press.
- Murau, Steffen, and Jens van ’t Klooster. 2022. “Rethinking Monetary Sovereignty: The Global Credit Money System and the State.” *Perspectives on Politics*, August, 1–18. <https://doi.org/10.1017/S153759272200127X>.
- Reuten, G. 2005. “Money as Constituent of Value.” In *Marx’s Theory of Money: Modern Appraisals*, edited by Fred Moseley. New York: Palgrave Schol, Print UK.
- Saad-Filho, Alfredo. 2002. *The Value of Marx: Political Economy for Contemporary Capitalism*. London: Routledge.
- Stella, Peter, Manmohan Singh, and Apoorv Bhargava. 2021. “Some Alternative Monetary Facts.” IMF. 2021. <https://www.imf.org/en/Publications/WP/Issues/2021/01/08/Some-Alternative-Monetary-Facts-49975>.
- Ugolini, Stefano. 2017. *The Evolution of Central Banking: Theory and History*. 1st ed. 2017 edition. London: Palgrave Macmillan.
- Wood, Ellen Meiksins. 2016. *The Origin of Capitalism: A Longer View*. Revised edition. Verso.
- Wray, L. Randall. 1990. *Money and Credit in Capitalist Economies: The Endogenous Money Approach*. Aldershot, Hants, England ; Brookfield, Vt., USA: Edward Elgar Pub.