Credit money, fiat money, and currency pyramids: reflections on the financial crisis and sovereign debt

Bob Jessop

One issue in the debate over the origins and dynamics of the North Atlantic Financial Crisis and its contagion effects in a vulnerable, unbalanced global economy is the recently expanded role of finance in the form of financialization. While this is sometimes discussed in terms of a conflict between the 'real economy' and the financial economy (e.g., Main Street versus Wall Street, Industry versus the City), this opposition is misleading if it implies that the real economy in capitalist formations somehow operates without monetary and financial intermediation. This is, of course, impossible (Keynes 1936). The nature of the opposition, if it exists, must be located elsewhere. One approach is in terms of the *economic and political sociology of different fractions of capital*, their social bases, material and ideal interests, and their relation to political society and the state. This approach is explicit in Geoff Ingham's study of the City of London and industrial capital in Britain (1984). Another approach addresses the *changing articulation of the forms, functions, and hierarchies of money* and how they operate in the world market behind the backs of economic agents, potentially disturbing and disrupting the best laid plans of different fractions. This is implicit in Geoff Ingham's work on the nature of money as a social relation and its role in integrating the circuits of capital within and beyond national economies (2004, 2011). An interesting question here is whether these approaches can be synthesized and what concepts are needed to produce such a synthesis. Against the grain of Ingham's analyses in both respects, I argue that a return to Marx's critique of political economy can be much more useful than he believes (e.g., Ingham 2004: 61-63; 2011: 1, 28, 52). I also show how the Marxian model needs to be updated to give due weight to recent shifts in the forms and functions of money, especially the role of interest-bearing capital and related forms of fictitious capital in integrating the world market and thereby generalizing and intensifying the contradictions of the capital relation. Conversely, in a substantive concession to Ingham's preferred approach (Ingham 2011: 7-35), I argue that Max Weber has much to contribute through his identification of different forms of political capitalism.

Weber on Modes of Orientation to Profit-Making

Let me start from Max Weber's distinction among modes of profit-orientation. Pace Ingham (2011: 24-34), Weber's analysis of capitalism is not largely confined to the conditions for the maximum formal rationality of capitalist accounting. He distinguished six modes of orientation to profit-making (Weber 2009; cf. Swedberg 1998). They are traditional commercial capitalism, based on traditional types of trade or money deals; three modes of political capitalism, based respectively on predatory political profits, profit on the market from force and domination, and profit from unusual deals with political authority; and two modes of modern rational capitalism. The first of these latter two modes involves rational calculation of opportunities for profit on the market from trade in free markets and the rational organization of capitalist production; and the second involves capitalist speculation and finance.

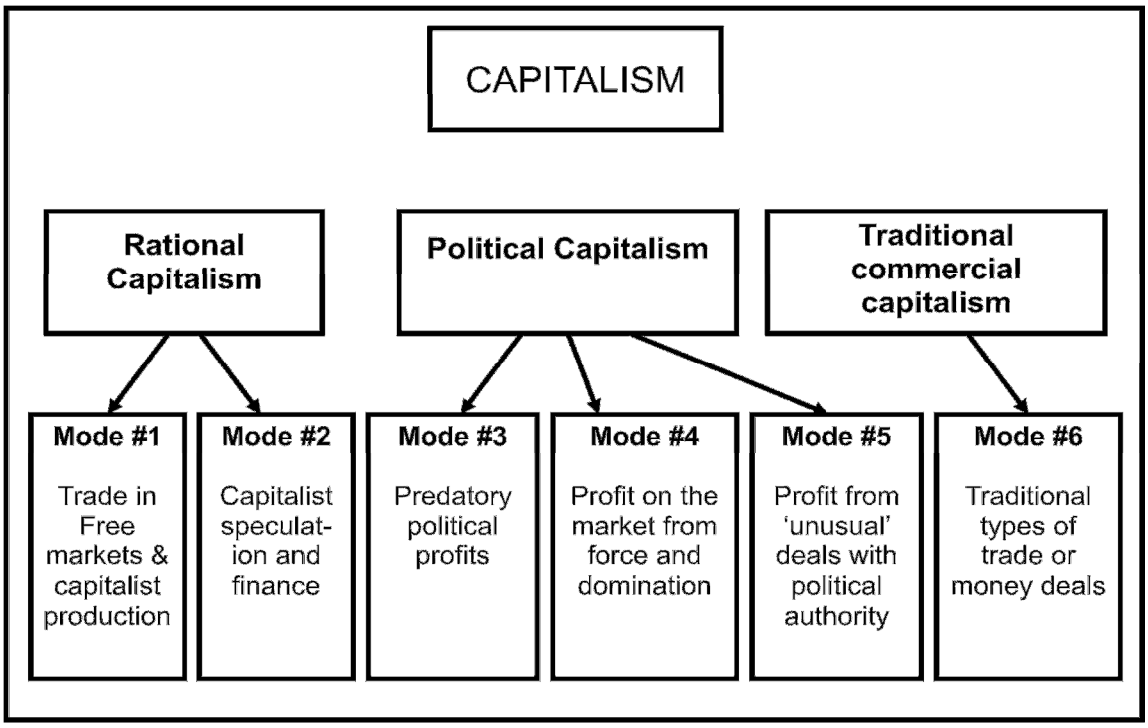

Figure 1: Main Types of Capitalism and the Principal Modes of Capitalist Orientation to Profit-Making (based on Weber §31, Chapter 2, *Economy and Society*)

Not all modes display the virtues of bourgeois capitalism noted by its proponents but they must still be included in an analysis of differential accumulation, i.e., the drive by individual capitals to grow by securing above-average returns on their investment

(Nitzan 2001). These modes are ideal-types and, inter alia, can serve to identify different fractions of capital in ways that go beyond the conventional Marxist analysis of the circuits of capital (which is oriented mainly to profit on the market from trade in free markets and the rational organization of production and only secondarily, if at all, to financial speculation and the forms of political capitalism). One can also invoke Weber's brief references to political capitalism and financial speculation to explain the background and dynamics of the North Atlantic Financial Crisis introduced in the name of deregulation via 'unusual deals with political authority' (cf. Jessop 2013a; see also Ingham 2011: 235-237).

Starting from the diversity of profit-orientations indicates the importance of a broader historical account of the nature, genesis, and evolution of money – one that does not confine it to the character of the money commodity (if any) or to money's role in free trade in markets and the rational organization of capitalist production. Ingham has made a major contribution here through the best sociological survey of the debate on money as a social relation, drawing especially on Keynes and Knapp. Given his concern with the overall moneyness of money, however, he pays less attention to the specific features of money in the capitalist mode of production (hereafter CMP). This claim may seem surprising given his historical sociology of divided capitalism in Britain, his monograph on capitalism, and his discussion of capitalist money. I aim to show that (a) Ingham has a blind spot towards Marxism in general and Marxist analyses of money and credit in particular; (b) chartalism fails to capture the specificity of the state's role in relation to money and credit relations in capitalism (e.g., Ingham 2011: 66); and (c) he tends to ignore the nature of capital as property as well as the nature of fictitious capital. I argue that the transformation of money into capital poses different kinds of question from those raised by the historical nature of money and that, to explain the current crisis, this issue must be addressed.

A useful bridge to this analysis is Stephanie Bell's comparison of the Marxian theory of money with the chartalist theory:

> In the former, the state is introduced at the stage of transition from commodity money system to non-commodity money system, i.e. the state authority as the substitute for the original foundation of money's acceptability;

in the latter on the contrary the state constitutes the origin and foundation of money from the outset. Why this is problematic is that Chartalists' theory of state and money is *ahistorical* theory attempting to explain any forms of society where there is money. Therefore the state is conceptualized as a neutral agent existing autonomous[ly] from the economic sector to which it merely imposes tax liabilities from without (Bell 2001: 155).

Marx on Money and Capital

For Marx, the history of money mattered only in so far as it illuminated the historical specificity of the forms and functions of money as a contradictory ensemble in the CMP. He began with money as a medium of exchange (the counterpart to commodities in a C-M-C transaction) and then added further functions (see Table 1).

Table 1. Marx on the Functions of Money

Function	Definition (Marx)	Possible Crisis Forms (BJ)
MMC	Means of circulation (exchange)	Liquidity crisis
MMV	Extrinsic measure of value (price) vs imaginary measure (numéraire)	Unstable price system
MH	Store of value (hoard, then capital)	Devalorization of general wealth
MMP	Means of (deferred) payment, 'money proper', money as money	Insolvency, wider credit crisis (Minsky moment)
MMI	Interest-bearing capital lent to industrial and commercial capitalists	Insolvency of borrowers
WM	Money as *world* money, i.e., means of international payment	Gold shortage or over-supply of top currency

Source: own compilation Expand definitions

In this regard money is a representation of value (and/or debt) and can also function as capital, either as the most general expression of capital in the abstract and/or as a money commodity (or fictitious commodity) tradable against other commodities

(including other national monies in currency markets). We should note here, against Ingham (2011: 18), that, when writing about value, Marx did *not* operate with an embodied labour theory of value but a value theory of labour-power, i.e., an interest in what occurs when labour power is treated *as if* it were a commodity (Elson 1979; Pepperell 2010; Postone 1993). Likewise, while Marx initially assumed that money was a commodity (i.e., there was a money commodity), this assumption was relaxed as he explored its other forms and functions (Ingham overlooks this, e.g., 2011: 268).

In particular, for Marx, when money is transformed into capital, it mediates the most fundamental social relationship of capitalism: that between capital and wage labour. Money as capital expresses capitalists' domination of the process of production and their power to organize and control labour-power. The emergence of money as capital reflects (1) the transformation of a simple exchange economy into a capitalist monetary economy; and (2) a reorientation of the aim of social production from substantive provisioning based on householding and/or authoritative redistribution to accumulation of money in the form of capital (cf. Weber 2009; Polanyi 1957; Ingham 2011). This lays the foundation for the modern system of financial markets and institutions (Marx *C1*: 156-76, 579-712). Theoretically, this highlights the need for analytical categories specific to the circulation of money as capital and the forms that can be assumed by capital (see Table 2). It also points to the development of fictitious capital and its status as property (capital as property) rather than functioning capital that is employed in production or circulation (Ingham's distinction between money, capital, and finance does not capture this, e.g., 2011: 148).

This leads Marx to emphasize the *duality of money* as a real commodity and fictitious commodity and *its dual foundation* in the social relations of commodity production and in various social relations of trust. First, as endogenous commodity money, money is said to emerge spontaneously from the internal logic of commodity circulation and, in this context, it has value because it is a commodity produced through living labour with its value set by the socially necessary labour time involved in producing it (cf. Stemmet 1996). Second, however, as credit or fiat money, it does not *contain value* (and, a fortiori, one cannot meaningfully discuss the socially necessary labour time involved in producing different amounts of these two forms of money). Nonetheless these forms do *represent/reflect value* (understood as claims

on the wealth of society in so far as this takes the form of an immense accumulation of commodities) (Marx C1). In this context, Marx recognizes the dual character of money in the CMP (or what Weber termed rational capitalism), i.e., the public-private character of its forms and functions as long as they are defined and guaranteed by the state (Krätke 2005; cf. Ingham 2011: 72-74). As Park notes:

> … the state role acquires a fundamentally different meaning in the non-commodity money system compared to that in the commodity money system; in the former the state authority replaces the value space as the foundation of money's acceptability (Park 2010: 8)

Table 2: Categories for the Analysis of Capital

Capital as functioning capital	Productive capital (constant and variable) plus capital of circulation (commodity and money capital) Merchant's capital (commodity-dealing capital and money-dealing capital) has necessary functions	Division of *labour* plus division of *property* among productive capitalists Commercial credit reduces demand for capital Bank credit concentrates spare funds and savings of all classes in hands of money-dealing capitalists
Capital as property	Interest-bearing capital (titles of ownership, financial assets) Becomes fictitious capital when priced in terms of capitalized income streams	MMI (or IBC) is employed neither in production or circulation - useless from viewpoint of capital, value is set by capitalization of revenues relative to interest rates
Fictitious capital (narrowly defined)	Money lent as MMC directly or via banks to state (e.g., to finance wars, public expenditure, state activities)	Basis for exchange of money against ownership titles – can be multiplied many times over (leverage)

Source: Own compilation, based on Marx

Crucial here is the state's making of public money acceptable because it can be used to pay taxes (this chartalist theme is anticipated in Marx's analysis of the state's fisco-financial aspects, Krätke 1985; cf. Ingham 2011: 76). Yet its role in detaching money from a metallic base is 'fundamentally constrained and limited by the inherent requirement for maintaining the quantity [and circulation] of [non-commodity] money

at a level that corresponds to the dynamics of capital accumulation' (Park 2010). Where the state ensures this, value-less paper or electronic money can circulate.
In short, the dual nature of money poses the question of the respective roles of money as a real commodity and fictitious commodity in performing the functions of money as money and as capital. Marx analyses metallic and non-metallic money as complementary counterparts, 'united through the inherent contradiction between the need of capital to expand indefinitely and the need for money to be universalizable exchange value, i.e. bound to real value production and its realization in trade' (Krul 2010: 5). For example, Marx shows that the basic form of M…M' means that accumulation would be constrained where the supply of bullion did not keep pace with the actual (let alone potential) production of commodities. Thus credit and fiat monies tend to develop, with private banks playing a key role in the former (central banks emerge later) and the state doing so for fiat money. Note that Marx does not fully equate credit money and fiat money any more than he equates the functions of money as MMC, MMV, or MMH – on the contrary, his analysis depends on their distinctiveness and hence the scope for contradictions, dilemmas, and crises to develop on this basis (cf. Krul 2010: 15; see also Amato and Fantacci 2011: 38-42).

These forms of money (and, by extension, fictive capital, such as loan-bearing capital but also, currently, derivatives of various kinds) are *fictitious* commodities that have no intrinsic value. Nonetheless they do have a price, based on capitalizing discounted future earnings, and this has real effects. Interest-bearing capital is the most fetish-like form of money because interest makes it appear that capital, not labour-power, creates surplus value, rather than interest being taken from the value created in production. Class conflict is obliterated because the rate of profit now forms an antithesis not with wage labour but with the rate of interest (Marx 1991: ch 23). As Carchedi (2011) notes:

> the basic object of … transactions [in loan-bearing capital] is a *representation of debt* rather than of value. It engages in transformations from a representation of value (e.g., money) into a representation of debt (bonds, derivatives, etc), from a representation of debt into a different form of representation of debt (from mortgages into mortgage-backed securities), or

> from a representation of debt into a representation of value (the sale of a mortgage). These representations of debt are called by Marx *fictitious* capital.

Further, as Meacci notes:

> while merchant's capital belongs to the category of capital as *function* fictitious capital, along with interest-bearing capital, belongs to the category of capital as *property*. From the point of view of reproduction, therefore, fictitious capital is not only, along with interest-bearing capital, *useless*. It is also, unlike interest-bearing capital, *dangerous* (Meacci 1998: 6).

The danger arises because the expansion of fictitious capital is not constrained by the size of the process of reproduction which is determined in turn by the amount of productive capital (and merchant's capital) existing in the economy at given time. Fictitious capital can escape the limits of production in the short- to medium-term when there is acceptance of the fractional reserve banking system, the expansion of shadow banking, increasing reliance on leverage unrelated to the real movement of value, and an absence of prudential state controls. But the real movement of capital will sooner or later re-impose itself (see below).

Although the credit system and fiat money enable capital to break through the limits imposed by commodity money on expanding production, this limit re-emerges at the level of the world market. For, there is no world state or legal authority to set a price *numéraire* as a unit of account or commensuration and to authorize fiat money in order to provide the foundation of acceptability of non-commodity money (Krul 2010; Park 2010). This is already implicit in Marx's discussion of world money (gold or bullion) and his comments on the flight to gold when other forms of money – including fiat money backed by even the previously most creditworthy state – lose credibility (cf. Ingham 2011: 252). Assuming the non-substitutability of bullion or a gold standard as the basis of universal exchange value in the world market, the argument so far can be depicted in terms of a hierarchy of money forms (Table 3). A key point here is that both the base and the summit of the hierarchy comprise a physical commodity – the commodity money in the first instance, bullion in the final instance. Furthermore, while other forms of money had to develop so that the limits

to capitalist expansion set by commodity money could be broken, this limit can re-emerge at the level of the world market in times of global crisis.

Table 3. The Hierarchy of Money Forms			
Form	**Content**	**Validation**	**Crisis**
Commodity	Physical commodity	Embodied value	
Bill of Exchange	Note, tally	Convertibility	Private debt
Bank Credit (private)	IOU, convertible or not	Convertible into commodity and/or guaranteed by state	Banking crisis
Central Bank Credit	Lender of last resort	Convertible into gold at Central Bank, guaranteed by state	Solvency crisis
State Money	Fiat money	Taxation, coercion, credibility or sheer extractive power	Sovereign debt crisis
World Money	Bullion	Bullion, dollar standard, etc	Deflation or exported inflation

Source: own compilation, based in part on Marx_ BANCOR

But it may be that this logic does not hold if some monetary functions in the world market can be secured without a world state. We can pursue this issue through the notion of a currency pyramid. Michel Aglietta posed the problem in terms of the tension between the inherent plurality (*pluralité*) of national currencies and the functional necessity of the uniqueness (*unicité*) of world money. Because the full range of money functions could not be secured through bullion and, absent a world state that could lend credibility to a true world money, a partial, provisional, and unstable solution could be to adopt as world money the currency of the hegemonic or dominant state, to the extent that one exists (Aglietta 1987). This may be viable in in situations where the hegemonic currency is convertible with gold (e.g., the Bretton Woods gold-dollar standard) but is vulnerable to Triffin's dilemma. This is the problem faced by reserve currency issues in pursuing domestic monetary policy goals and meeting other countries' demand for reserve currency (Triffiin 1961).

Parallel reasoning led Susan Strange to a more nuanced account of the currency pyramid in which the circulation of national currencies and their potential as world money had different social bases. Specifically, she defined this pyramid in terms of the relative importance of market forces and state power in shaping the role of currencies in national, regional, or world markets (Strange 1971a, 1971b; and Table 4). However, while Strange suggested that market forces selected the top currency, we should also note how the relevant state sustains this currency through its state capacities, including the resort to hard and soft power abroad as well as domestic measures to maintain national economic competitiveness and/or that of its overseas investments (see Gowan 1999 on the Wall Street-Washington-Dollar Nexus).

Table 4. The Currency Pyramid

Form	Features	Crisis-Tendencies
Top Currency	Issued in and/or sanctioned by the state that enjoys world economic leadership , i.e., the dominant state in the world market	If national currency is also international reserve currency, possible tensions between short-term domestic and long-term international objectives
Master Currency	Circulates mostly in geo-political blocs, e.g., thanks to political dominance of issuing state	Loss of hegemony or domination in bloc (decline of GBP and FFR blocs in 1960s-70s; rise of yen bloc in 1980s)
Negotiated or political currency	Tied to international regimes with emphasis on mutual benefits rather than coercion	Euro suffers from emerging latent incompossibility of EU economies and inherent design flaws of EMU
Passive or neutral currency	Circulates domestically, minor role in international regimes	Limited appeal, leading to adoption of other currencies (e.g. dollarization)

Source: Form and features from Strange 1971b, crisis-tendencies original

The hierarchy of money forms facilitates the displacement and deferral of contradictions in the capital relation in general and in money forms and functions in particular. We see this in central banks' role as lender of last resort in national contexts (e.g., Ingham 2011: 42) and in the role of the USD as the pre-eminent form of 'world money' in the international context, where the acceptability of the USD integrates the world market in times of global crisis (Ivanova 2012).

There is one final step in the analysis before I turn to the monetary and financial crisis: to discuss derivatives. Just as there are inherent constraints on the state's ability to create fiat money before monetary crises emerge, so there are limits to banks' ability to create credit before monetary and credit crises arise. This can be seen in the development of securitization and, especially, the rise of derivatives and their massive expansion. For, as Marx anticipated (not only in his remarks on the world market but also in his remarks on fictitious capital and the contradiction between capital as value in motion and capital as property), this generalizes and intensifies competition in relation to means of production, money capital, specific capitals as units of competition, and social capital. Derivatives are the most generalized form of this capacity and, indeed, have a growing role in the commensuration of all investment opportunities in the world market (Bryan and Rafferty 2006). Derivatives have a key role in the tendential completion of the world market through their role in transforming future income streams (profit, dividend, or interest) into a tradable asset like a stock or a bond. Referring to the arguments of Marx and Engels in *The German Ideology* (1979) on the early limits to world market integration we could say that derivatives as forms of financial innovation integrated production on a world scale. For they tend to:

- overcome the frictions of national boundaries,
- open national economies to foreign competition,
- help to overcome the clumsiness of production,
- enhance the role of finance in promoting competition

Derivatives take the fetish-like character of fictitious capital to another level because they have even less relation than interest-bearing to the movement of real values:

> what we are dealing with here is the attempt to create something called abstract risk that can be measured and sold. This is what derivative markets do, they buy and sell risk exposures. … The assumption built into it is something inherent in the value abstraction – the idea that all these risks are commensurable and equitable. This is what exploded, as it had to, because it carries all the inherent contradictions of the value form – the contradictions between the concrete actual processes of social organisation of life activities within capitalism and the value form (McNally 2011: 115).

The calculation of value at risk (VAR) assumes that risk can be quantified and compared and that the future will behave like the past. This provides a single value metric for every single risk in the global economy and establishes the basis for hedging and financial speculation (see Table 5).

Table 5. Money and Derivatives

Function	Definition (Marx)	Derivatives
MMC	Means of circulation (exchange)	**??**
MMV	Extrinsic measure of value (price) vs imaginary unit of measure (numéraire)	Commensuration (no standard of value)
MMH	Store of value (hoard, then capital)	Hedging against depreciation, commodity speculation
MMP	Means of (deferred) payment, 'money proper', money as money	Securitization, credit swaps, etc
MMI	Money as interest-bearing capital Money as independent value, i.e., concentrated form of total capital	Securitization of capital as property, interest rate swaps, arbitrage
WM	Money as *world* money, i.e., means of international payment	Currency arbitrage based on plurality of currencies

Derivatives reinforce the separation between the general movement of capital based on valorization and the fluctuation of money prices and profit and, in this way, facilitate financialization and the rise of finance-dominated accumulation. It is through

the expansion of risk management [and, following Haldane (2012), the opportunities created thereby for financial speculation and risk-taking] that the some of the contradictions of the value form re-emerge. This reflects the paradoxical role of derivatives in crisis-transmission, risk management, and crisis-management in the sense that, as many have recently observed, the micro-level security offered through securitization creates macro-level insecurity (e.g., Amato and Fantacci 2011).

The disembedding of financial capital and the extension of neo-liberalism tend to make financialization the primary basis of differential accumulation and to produce finance-dominated accumulation regime in which 'profit making occurs increasingly through financial channels rather than through trade and commodity production' (Krippner 2002; see also Jessop 2013b). The logic of financialization (wherever it occurs) transforms the role of finance from its conventional, if always crisis-prone, intermediary function in the circuit of capital to a more dominant role oriented to rent extraction through financial arbitrage and innovation. This weakens the primacy of production in the overall logic of capital accumulation and eventually runs up against the limits of a parasitic, rather than intermediary, role. It thereby increases the scope for the credit system to intensify cyclical perturbations and crises, triggering 'violent eruptions', especially when financial speculation predominates over the concerns of the real owners of capital (MECW 37: 438-9).

This discussion of the hierarchy of money forms, the parallel notion of currency pyramids, and the massive development of derivatives reinforces the argument, which is common to Marx and Ingham, among others, that money (like capital and the state, with which money is closely connected) is a *social relation*. This point holds not only in general terms but also for specific institutional mediations such as the hierarchy of banks, issues of monetary, budgetary, and fiscal policy, state forms and hierarchies (e.g., master currencies), and so on.

Monetary and Financial Crisis

To the extent that the functions of money are rooted in commodity money, it is fluctuations in real movements in value creation and in realized profits at different stages in the circuit of industrial and commercial capital that produce monetary crises. Relative and/or absolute over-accumulation are the key endogenous factors

of crisis in this context. Matters change when commodity money is marginalized relative to the expansion of credit and fiat monies. Here there is more scope for money itself to be an element of crisis as the expansion of credit and fiat monies can become uncoupled from the real movement of value (cf. Ingham 2011: 114). [GKI refers to Marx and Keynes together on qn of effective demand]. Indeed, in some cases fluctuations in profits of enterprise that trigger industrial and commercial crises may lead industrial and commercial capital to engage in financial speculation in the search for profit. More generally:

> 'a monetary crisis … may appear independently of the rest, and only affects industry and commerce by its backwash. The pivot of these crises is to be found in money capital, and their immediate sphere of impact is therefore banking, the stock exchange and finance' (*Capital 1,* 236, n.50).

Because the direct feedback mechanism between productive capital and changes in fictitious capital is broken as financialization and derivative markets expand, price movements begin to reflect movements in the circuit of fictitious capital more than changes in the underlying production system (cf. Perelman 1977). In these conditions, '[a]ll connection with the actual expansion process of capital is thus completely lost, and the conception of capital as something with automatic self-expansion properties is thereby strengthened' (Marx *C3*: 466; cf. 828). While confidence in the money-form is retained, the credit system tends to create asset bubbles and to fuel self-feeding speculation. This in turn can divert capital from productive investment into short-term speculation oriented towards fluctuations in the prices of fictitious capital rather than movements in the real (but always-already monetary) economy – with increasing volatility and, for those able to exploit volatility, opportunities for super-profits based on hedging, shorting, front-running, etc.

Different degrees of liquidity, flexibility, and fungibility mean that capitals vary in their ability to respond to such pressures and competition. International finance capital controls the most liquid, abstract, and generalized resource and has become the most integrated fraction of capital. This is reflected in the systemic power and importance of financial markets, financial motives, financial institutions, and financial elites in the operation of the economy and its governing institutions, nationally and

internationally (Epstein 2005: 3). This does not mean that finance (let alone the economy more generally) can escape its overall dependence on the continued valorization of productive capital and the activities of other functional systems or, of course, escape from crisis-tendencies rooted in the contradictions and dilemmas of capital accumulation. Attempts to escape particular constraints and particular attempts at control can occur through finance's own internal operations in time (discounting, insurance, risk management, futures, derivatives, hedge funds, etc.) or space (capital flight, relocation, outsourcing abroad, claims to extra-territoriality, etc.). But the constraints of valorization sooner or later reassert themselves. This can be seen in the current liquidity, credit, and financial crises and their repercussions in the wider economy as crises serve once more to forcibly re-impose the unity of the circuits of capital at the expense of hyper-extended credit markets.

> … financial crisis occurs when the expansion of pure credit, functioning as fictitious capital, exceeds in a certain critical mass the real production of new value. Some exogenous or endogenous shock then causes a sudden reverse in the trend, a demand for liquidity becomes paramount, the fictitious capital evaporates, and a severe crisis occurs. Fiat money plays a similar role in that … when the expansion of fiat money exceeds in a critical mass the real production and realization of value, this threatens the credibility of the state and the value of its money, and the result is severe inflation. Repressing this inflation then requires a contractionary approach, as would have occurred automatically under a gold standard system – the difference with the gold standard of course still being the ability to expand during boom times and the much greater freedom for states to choose and adapt policies to combat the threat of inflation and loss of credibility, even up to accepting certain high levels of inflation as a semi-permanent 'feature' (Krul 2010).

This indicates the need for a monetary theory of the role of money in the capitalist mode of production that recognizes the complexity of money, credit, and debt in capitalism at different stages in its development and at different points in the circulation of capital as functioning capital and as property (Marx *Capital 2 and 3;* and *Theories of Surplus Value,* chapter 17).

This is reflected in recent debates over which function of money needs to predominate at the moment: MMC (quantitative easing) to facilitate economic recovery or MMV (but without gold as a reference point) to discipline capitals and government (McNally 2011: 116). The state's role is clearly critical here since it is involved both in preserving the function of MMC and in imposing austerity policies to preserve MMV. Absent a world state, we see contagion and domino effects as states seek to preserve the functions of money in their territories (national and/or regional) at the expense of others rather than through coordinated international action.

The role of the currency pyramid is crucial here because it re-introduces the world market as the horizon of capital accumulation, highlights the role of the state, and indicates how integration of the world market might generalize contradictions in asymmetrical ways. This is seen in three significant tendencies: (1) the flight to safety during crises into the top currency – even if its issuer is one of the sources of the crisis itself; (2) the capacity to engage in financial Keynesianism through the political manipulation of asset bubbles with global dimensions and repercussions – seen most recently in the effects of US quantitative easing; and (3) the capacity of the issuer of the top currency not only to benefit from seigniorage but also to impose the costs of adjustment onto the issuers of other currencies. The latter is reflected in the well-known statement that 'the dollar may be our currency, but it is your problem'

Specifically, if crisis-tendencies are intensified and generalized through the money form, then crisis-tendencies in the top currency will have more significant effects than crisis-tendencies in a master currency (e.g., sterling in the period of the sterling bloc), let alone a negotiated or political currency (such as the Euro). Nonetheless, even if the Euro has not become a top currency, the ecological significance of crises in the Eurozone considered in productive terms (e.g., continuing recession or transition to epic recession) may have effects other than through currency transmission.

Concluding Remarks

To be written

In his comments on the financial crisis, Geoff Ingham writes:

> The provision of money (liquidity) and a credit–debt payments network is the system's essential foundation that makes possible the continuous production and consumption of goods and services. It is these basic but manifestly delicate elements of the capitalist system that were seriously ruptured in what became known as the 'credit crunch'. Consequently, the so-called 'real' economy of production and consumption was seriously impaired and ultimately retarded. … As the complex financial assets became illiquid, almost all banks became potential defaulters. In self-protection, the banks hoarded reserves and were unwilling to risk advances. Starved of credit and burdened with these 'toxic' assets, the financial system was unable to discharge its vital functions. This evaporation of liquidity meant the imminent collapse of the global finance, which, in turn, threatened the entire edifice of capitalism. After some hesitancy, states created and distributed massive amounts of new money which eventually resolved the immediate acute phase of the crisis and removed the prospect of a third 'great' depression. … it is essential not to lose sight of the fact that the normal operation of the capitalist banking and financial system is based on the expansion of credit-money and the development of new ways of making profits from purely speculative financial transactions. … securitization exacerbated the banking system's fragility that had been brought about by the secular trend in falling capital and liquidity ratios. … Over recent decades, states in conjunction with their central banks have provided vastly increasing levels of liquidity insurance (as 'lender of last resort'), deposit insurance and capital insurance (Allesandri and Haldane 2009). In addition, by shoring up the financial system with the recent quantitative easing and the purchase of illiquid ('toxic') financial assets, states have also assumed the role of 'market maker of last resort'. In other words, private global financial markets are underpinned by public money. That is to say, the cost of the rescues in the current crisis may be seen as the extreme expression of the revised terms of the private–public implicit contract – that is, between finance-capital and the state. Vast profits from increased risk taking are privatized and the losses and insurance costs are socialized. (Ingham 2011: 229, 230-1, 232, 234, 252).

In this regard, he offers an account fully consistent with Marx's analysis of the forms and functions of money as this has been presented above.

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