

2018, WEA On Line Conference

The 2008 Economic Crisis Ten Years On

in Retrospect, Context and Prospect

Discussion Forum: from October 15th to November 30th, 2018

**The Monetary Theory Of Production And The Modern Money Theory
A Critical Assessment**

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Abstract

The monetary theory of production and the modern money theory represent the two main heterodox approaches to the endogenous money view. In both cases, it is emphasised that the banking sector can create money *ex-nihilo*, i.e. without a previous collection of savings. In both cases, money is not conceived as neutral and, contrary to the mainstream view, inflation does not arise from excess money supply. The basic difference between these two approaches lies in the treatment of the central bank and the role of the Government. While in the first case, money creation can be generated via transactions inside the banking sector (which implies that money supply on the part of the central bank and public spending are not necessary to produce credit money), in the second case, credit money is generated by public spending on the condition that the central bank and the Government act as a consolidated sector. This paper aims at providing a critical assessment of these approaches, emphasising some controversial issues that are present in both.

Keywords: endogenous money, monetary theory of production, modern money theory,

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1 - Introduction

The monetary theory of production and the modern money theory represent the two main heterodox approaches to the endogenous money view. In both cases, it is emphasised that the banking sector can create money *ex-nihilo*, i.e. without a previous collection of savings. In both cases, money is not conceived as neutral and, contrary to the mainstream view, inflation does not arise from excess money supply. The basic difference between these two approaches lies in the treatment of the central bank and the role of the Government. While in the first case, money creation can be generated via transactions inside the banking sector (which implies that money supply on the part of the central bank and public spending are not necessary to produce credit money), in the second case, credit money is generated by public spending on the condition that the central bank and the Government act as a consolidated sector. This paper aims at providing a critical assessment of these approaches, emphasising some controversial issues that are present in both.

The monetary theory of production (MTP) describes the economic process as a circular sequence of monetary flows. The MTP comes out of a methodological approach based on a continuist reading of Keynes's major works, in particular of the *Treatise on Money* (TM) and the *General Theory* (GT) (see e.g. Fontana, 2003, Seccareccia, 2003)¹. The MTP general schema involves three macro-agents: banks, firms and workers. The banking system creates money *ex nihilo* (in accordance with the idea that loans make deposits); firms buy inputs and produce commodities; workers supply labour power. The circular process of the monetary economy starts with bargaining in the money market between banks and firms. Banks supply firms with initial finance; firms need money in order to buy labour power and to start production. Firms use bank finance to purchase labour power, paying workers the previously negotiated money wages. After the production process has taken place, firms fix the price level, so that real wages are known ex-post. If workers' propensity to consume is less than one, firms can recuperate the unspent money by selling securities in the financial market. However, the financial market can begin operation only after banks have produced money. It could be shown that the assumption that firms set prices under the mark-up rule leads to the same results as when – as in the case considered by some circuitists – firms autonomously decide to divide the social product between consumer goods and investment goods. This is because investment goods are conceived as the share of social product that the firms take as their own. In this sense, a high level of production of investment goods is equivalent to a high rate of profit. The MTP emphasises that income distribution is primarily determined by firms' decisions that are reflected in the value of the mark-up. This means that within the MTP approach income distribution among banks, firms and workers depends on the relative market and social power of the agents. Note that according to this theory the distribution of power is structurally unequal since banks and firms control monetary variables (see; Bellofiore, Forges Davanzati and Realfonzo 2000; Rossi, 2001). The monetary circuit closes with the repayment of the initial finance to banks, i.e. the 'destruction' of the money originally created. Various points of convergence link MTP scholars: *a*) money is a pure symbol (a bank liability) and money supply is endogenous and demand-driven; *b*) the unitary money wage is assumed to be exogenous, depending on the relative bargaining power of firms and workers; *c*) the level of employment depends on firms' decisions about how much and what to produce, and these in turn depend on firms' expectations about aggregate demand and profits (the capitalist economy does not assure full employment); *d*) the consumer sovereignty principle is not in operation; *e*) income distribution is not based on the marginalist distribution rules but on power relationships; *f*) state intervention, mainly through fiscal policy, is required in order to increase aggregate demand and employment, both in the short and in the long run (see Graziani, 1990 and 2003; Fontana and Realfonzo, 2005; Parguez 1975; Poulon 1982; Deleplace and Nell, 1996). It is worth noting that – in this schema – *the interest rate is a "tax on profits"*. Moreover,

¹ MTP scholars read the TM as the theory of reproduction of the capitalistic economy in equilibrium, where money is used as a means of payment; while they regard the GT as the explanation of economic crises, generated by lack of aggregate demand and where the role of money is reversed to become a store of value.

inflation is not a monetary phenomenon, it is not caused by an excess of money supply, but it mainly depends on distribution conflicts. In this schema, since firms can only recoup the total amount of the initial finance (in the best case of unitary propensity to consume on the part of workers), there is the problem of how they can make sufficient revenue not only to pay interest, but also to make a profit.

2 – The monetary theory of production and the paradox of profits

The lack of realization of a monetary surplus can be seen as a theoretical problem if one rejects the conviction – supported, among others, by Graziani (2003) – that a “normal” level of indebtedness on the part of firms toward the banking system is a key feature of contemporary capitalist economies, or that firms reimburse their debt in kind, since profits are obtained in real terms (see Bellofiore and Realfonzo, 1997). It is worth noting that the paradox of profits is not something which pertains to the logical structure of the MTP and, hence, it should not be conceived as a puzzle of pure logic. On the contrary, it focuses on a key problem of the capitalist system, namely the problem of the realization of a monetary surplus (see Bellofiore, Forges Davanzati and Realfonzo, 2000). One can argue that – depending on historical and social conditions – capitalism solves the problem in different ways, and these ways – not being a mere ‘outside factor’ used as an *ad hoc* assumption in Circuitist models – are, as a matter of fact, social devices serving for the reproduction of the system. Accordingly, the MTP approach provides an ‘open’ model, where the closure of the circuit depends on ‘outside factors’ which are historically, institutionally and socially determined, as well as empirically/factually significant. It should be added that – by its very nature - the problem of the realization of a monetary surplus is a macroeconomic problem². Schematically, two solutions are in order, which refer to an ‘endogenous’ solution and to some different ‘exogenous’ solutions. In what follows, they will be discussed separately.

a) *The realization of a monetary surplus without external influx of money.* Messori and Zazzaro (2004) show that monetary profits can be generated by the bankruptcy of the less efficient firms, and Zazzaro (in Rochon and Rossi, eds., 2003) emphasises that this solution leads to abandoning “any concept of subjective and/or objective *equilibrium* ... in favour of a systemic concept of *order*”. Zezza (2004) argues that – since in the MTP theoretical framework banks aim at obtaining interest payments in order to pay for their costs of production (namely, their employees’ wages) plus profits to distribute to bank owners, firms’ money profits ultimately derive from undistributed profits obtained by the banking sector as well as from wages of workers in the banking sector. Rochon (2005, p.125) finds that monetary profits may be made in cases where the bank is divided between short term and long term contracts. Chapman and Keen (2006) show that aggregate money profits can arise in a dynamic context where a continuous time function is considered in overlapping circuits. Febrero (2008) maintains that firms as a whole can obtain money profits – within one single circuit - by means of long-term debt with the banking system. Others introduce variants of the standard structure using multi-sectorial models (see Parguez, 1980, Seccareccia, 2003), including profits in the same wage bill (see Rossi, 2002) or additional demands expressed by the State and/or by the external sector or by the banks themselves (see De Vroy, 1988, Renaud, 2000). These are endogenous solutions, insofar as they do not require an external influx of money in order to allow (some) firms to obtain money profits (see Dupont and Reus, 1989; Parguez, 2004). Moreover, if the external sector is taken into consideration, the increase in net exports entails an increase in domestic profits (see De Vroy, 1988, Renaud, 2000).

b) *The case for positive aggregate money profits in a liberal and in a Keynesian regime.* Two basic sources of profits are considered in a liberal regime within the theoretical framework of the circuit approach, namely financialisation and private indebtedness. By inserting Veblenian elements into

² Smithin (2009, p.127), among others, maintains that the ‘paradox of profits’ has exactly the meaning of the Marxian sequence *M-C-M'*, “fundamental to the operation of a profit-making capitalist economy”.

the basic schema of the MTP, Forges Davanzati and Realfonzo (2009) provide a theoretical model where the economy is regarded as being formed by two sectors: one producing wage goods, the other producing luxury goods. Financial rents have a double nature. They are both a cost for firms, in the form of the interest bill, and an item of demand (for luxury goods). Consumption on the part of the “leisure class” increases the demand, and thus profits, of firms operating in the sector producing luxury goods. Palley (in Hein *et al*, 2008) maintains that financialization allows firms to obtain profits by means of transactions in the financial markets, according to a mode of regulation based on the imperative of “profits without investments” (see also Hein in Hein *et al*, 2008). Bellofiore and Halevi (2008) refer to a ‘privatised Keynesism’ in order to describe the pre-crisis mode of reproduction, based on the massive increase in household debt, and Forges Davanzati and Pacella (2009a), expanding this argument, show that emulative behaviours – connected with a decrease of wages - play a crucial role in generating increasing worker indebtedness. In both cases, by increasing total demand, the flux of credit which goes from banks to workers allows firms as a whole to obtain extra-profits in money terms. In a Keynesian regime, where deficit spending policies are in operation, a ‘crowding in effect’ results, i.e., as Parguez (2007, p.8) has recently argued, expansionary fiscal policy can be regarded as an “anchor” for profit expectations. He stresses that expansionary fiscal policy allows employment to increase thanks the additional flow of money that the State produces. In short, the higher the deficit spending, the higher the employment in the public sector and, since firms’ expectations of profits grow, the higher the additional employment in the private sector. Following this line of thought, Parguez (2007) remarks that the reproduction of the capitalist system – as represented in the MTP – can be guaranteed above all by expansionary fiscal policies³. Forges Davanzati and Pacella (2009b) consider the case where the Government sets a minimum wage, showing that a rise in wages via external intervention and particularly by means of a minimum wage law, induces firms to accumulate more capital and that this has a positive effect on the level of employment, thus going counter to the mainstream view that labour market deregulation generates positive outcomes. They also point out that the ‘high-wage effect’ can solve the paradox of profits in the MTP owing to bankruptcies of firms facing credit rationing.

3 – The formation of profits in a pure capitalist economy

The solution provided here is based on the fact that the basic schema of the MTP sets out to describe the working of a credit economy starting solely with credit creation, in the absence of initial (monetary or real) endowments. Note that this does not only pertain to the lack of realism of the basic schema, but also to its internal consistency, for the following main reason.

As Graziani emphasises, banks finance capitalists, not workers⁴. Quite evidently, this presupposes that – at the beginning of the monetary circuit – some individuals are capitalists in the sense that they are owners of the means of production. It follows that a given stock of capital (or monetary wealth) must exist in order to justify Graziani’s assumption on bank behaviour. Accordingly, *the monetary circuit can start only if past variables are taken into account*.

The assumption of the existence of a given stock of monetary and real resources finds its rationale also in the following consideration. The MTP is based on the fundamental postulate that banks and

³ See also Bliet and Parguez (2006; 2007) who also focus – within an MTP schema - on the role of consumer spending in increasing total demand and money profits. Nell (2002) points out that a basic if neglected step in monetary theory is to show that a given amount of money will enable all transactions to take place in money, in contexts where the money advanced equals the current costs. He proposes to solve the problem by considering the interdependences existing between different sectors and the different sequences of transaction among sectors, also by considering that financing involves a sequential process, within a Kaleckian theoretical framework (see also Renaud, 2000).

⁴ “Credit [...] is not granted to anyone presumably able to repay his debt, but only to selected agents, usually being productive firms [...]. A similar assumption clearly echoes the Marxian distinction between a class of property owners and a class of propertyless workers” (Graziani, 2003, pp.20-21).

firms are *different* agents, which cannot be integrated into a single sector. This means that at the beginning of the circuit banks and firms exist as distinct agents and that, in dynamic terms, this distinction must also hold. Excluding the case of inherited wealth this implies that:

a) in the event firms are not in the position to reimburse their *monetary* debt to banks, and they sell investment goods to banks, banks would inevitably tend to become proprietors of firms (see Keen, 2009). Therefore, the fundamental postulate of the MTP would be violated;

b) in the event some agents do not hold (real and/or money) capital at the beginning of the circuit, it is the banking system which selects capitalists. This presupposes that, at time t_0 , no firms exist, but only a number of agents who want to *become* entrepreneurs, which, in turn, presupposes that, at the beginning of the circuit, the distinction between banks and firms does not exist. Also in this case, the fundamental postulate of the MTP would be violated⁵.

These remarks ultimately derive from the fact that Graziani's schema is intended to provide a *pure theory* of money circulation at the maximum rate of abstraction. But, in so doing, his schema does not consider that the MTP cannot *logically* describe a state of business democracy. While banks can finance agents who do not hold collaterals (and this may be a case in some institutional contexts), Graziani's model must include a set of assumptions which modifies it in a radical way. In particular, one must consider that at the beginning of the monetary circuit, agents are heterogeneous as regards to their capacity to propose banks a profitable investment project. Note that this assumption involves the necessity to impose microfoundations to the model of the MTP, which are excluded by Graziani himself and also by most Circuitists scholars (cf. Forges Davanzati and Realfonzo, 2009). Note that it also violated the postulate that individual preferences do not matter. In fact, in the absence of a capitalist class at the beginning of the circuit, one must assume that some agents want to become entrepreneurs (presumably for their higher propensity to risk) and some agents want to become wage-earners. Moreover, this solution cannot be conceived as a Schumpeterian variant of the MTP, insofar as to Schumpeter the banking sector finance innovations, while – by definition – there cannot be innovations in a context where the production process starts without a past (or, which is the same, all new production is innovative – which is quite evidently nonsensical). A further argument is to be considered. Apart from Graziani's view, it can be admitted that banks finance only on the basis of the expected returns of investments, independently of real collateral, allowing full social mobility. In this case, some individuals *become* capitalists because banks finance them. However, even though this can happen in the real world, this assumption may pose theoretical problems if inserted in the MTP approach. In fact, in this framework, in order to start the production process, firms need not only initial finance but also capital goods, and it is unclear where they come from in a context where firms *as a whole* are financed only on the grounds of the expected profitability of their investment project, particularly if one admits that the production of capital goods involves time. Second, as regards the realism of the assumption that *the whole* production is financed via bank creation of money, one should consider that this is a very special case, and there is no logical constraint internal to the MTP to exclude self-financing (see, in particular, Seccareccia, 2003, p.177).

4 – The modern money theory

The modern money theory (MMT) describes the functioning of a pure credit economy, assuming that the State can finance public spending via monetization on the part of the Central Bank and that taxation is not needed in order to finance it (cf. Wray, 1998). It is stressed that expansionary fiscal policies can guarantee full employment in a condition where the State acts as an employer of last

⁵ Note that it also violated the postulate that individual preferences do not matter. In fact, in the absence of a capitalist class at the beginning of the circuit, one must assume that some agents want to become entrepreneurs (presumably for their higher propensity to risk) and some agents want to become wage-earners.

resort (ELR). Proponents of the MMT also maintain that this intervention does not generate inflationary pressures.

The aim of this note is to address some controversial issues of this approach, expanding the criticisms put forward, among others, by Thomas I. Palley.

The exposition is organized as follows. Section 2 deals with some unsettled questions of the basic model of the MMT. Section 3 proposes an extended version, where the dynamics of private investment, labour productivity and private consumption are explicitly considered. Section 4 concludes. Two aspects will not be approached here: (i) the analysis of the cost of the ERL program and (ii) its political feasibility (cf. Kriesler and Halevi, 2001). Moreover, we maintain that the MMT deserves the merit to introduce the endogenous money view and the positive effects of expansionary fiscal policy in a cultural and political climate dominated by the conviction that fiscal consolidation and 'structural reforms' are the most effective strategies to produce growth.

4.1 – The basic model

The basic model of the MMT, as elaborated in particular by Wray (1998), is based on a chartalist approach to money and can be regarded as a variant of the so-called monetary circuit approach (Graziani, 2003). It describes the functioning of a pure credit economy which starts with an increase of public spending entirely financed via monetization on the part of the central bank. The central bank and the Government are assumed to be a consolidated sector. Public spending aims at increasing the level of employment, in a context where the State acts as employer of last resort (ELR). All workers who cannot find a job in the private sector are hired in the public sector with a decent wage. Proponents of the MMT stress that the implementation of the ERL program produces full employment and price stability. Unemployment is primarily seen as a social cost, involving self-destructive behaviours, lack of self-esteem and so on.

To the best of our knowledge, the MMT has never been formalized in a mathematical model. Palley (2013) criticises this approach on this ground, and proposed his own formalization, which was neither approved nor disapproved by MMTers. Palley mainly focuses on the existence of a Phillip curve, so that the ELR program cannot guarantee, at the same time, full employment and price stability. He stresses that the MMT proposed an 'oversimplification' of the functioning of contemporary macroeconomic dynamics. He also observes that much of the debate rests in the blogosphere, impeding the standard way economists communicate among themselves.

We propose a very simple formalization of the MMT and the ELR programme. The variables considered are listed below:

G is public spending

H is high-power money issued by the central bank

U is the number of workers involuntarily unemployed and willing to work at the wage set in the public sector.

w_{ELR} is the wage paid in the public sector, assumed as a given.

$LELR$ is the level of employment in the public sector.

Lp is the level of employment in the private sector and L^* is full employment.

The rationale at the basis of the ELR proposal is to find the amount of G which maximises the level of employment. Therefore:

$$G/U = (w_{ELR})LELR$$

$$G = H$$

$$LELR + Lp = L^*$$

That's all. The obvious result is that the lower the Lp , the higher the G , which allows full employment and hence a proportionately higher H .

5 – Some controversial issues

This section is devoted to highlighting some controversial issues of the MMT schema and some of its potentialities pertaining to the impact of increasing public spending on the production structure.

1. It is unclear why an increase of the unitary wage produces neither a reduction of the profit margin nor inflationary pressure. While the first effect is typically seen in the Marxist literature, the second is explicitly considered in the MC approach. Accepting a sort of ‘neutrality’ of wages pushes, proponents of the MMT accept *de facto* the view that wage increases benefit both workers and capitalists. It is what Thomas I. Palley calls an “on-off” model: i.e. either unemployment or inflation. One should also consider that in a model where past variables are not considered, inflation is an irrelevant question. The current price level cannot be compared with the past price level.

2. MMTers ignore the Institutional setting. This is particularly relevant when considering that they maintain that a State with ‘monetary sovereignty’ cannot be constrained in its budget. In so doing, they consider the model valid for the study of the US economy as well as of, say, the Ethiopian economy. The problem with this vision is that not all currencies are accepted in international trade and, more generally, that the acceptance of a single currency reflects the political power of that State. More generally, the MMT seems to ignore the Institutional setting, conflict and power relationship.

3. If the schema is without a past, the production process starts with an injection of money by the State. This implies that the State is the employer of *first* resort, on the grounds that nothing existed before (namely, a private sector did not exist).

4. It is unclear why some proponents of the ELR program maintain that this program aims at employing young highly educated people and, at the same time, they propose to set a minimum wage in the ELR sector which is lower than that prevailing in the private sector. As a norm, specialized workers are paid more than low-skilled workers.

5. As observed by many critics, no countries in the world admit the possibility that the central bank acquires all the state bonds. Hence, Wray’s view that this is a general assumption becomes highly questionable.

6. Labour supply is assumed to depend on taxation. This presupposes that taxes are levied on the unemployed and their reservation wage is equal to zero. This “taxes drive money” argument appears a normative argument, which seems to hold only on the Neoclassical assumption that labour is only a source of disutility, and that, as a result, only appropriate incentives can push people to work. Furthermore, this assumption suggests that fiscal policy should aim at increasing inequalities, which is the opposite of the main PostKeynesian policy suggestion.

7. While proponents of MMT define themselves PostKeynesians, aggregate demand is not the standard Keynesian aggregate demand, but derives from a sequence of logical steps which start with an increase in public spending, involving increasing $LELR$ and C . Hence, $(wELR)LELRL_{t=f(Gt-1)}$, $f' > 0$ and $G=M$, so that private consumption and public expenditure are not independent variables.

6 – Conclusions

This note dealt with some controversial issues of the monetary theory of production (MTP) and of the modern money theory (MMT). These theories are the foundation of heterodox monetary theory, where money is endogenous and inflation does not depend on excess money supply.

They aim at describing the functioning of a pure credit economy starting from money creation on the part of the banking sector. While in the MTP money creation can occur in the absence of a central bank and the Government, in the MMT credit supply is generated via public spending which is assumed to be completely monetized by the central bank. There are several conceptual problems with these approaches. In particular, the MTP fails to explain how firms as a whole can reimburse

their debt to banks and obtain positive aggregate money profits. The MMT fails to distinguish different Institutional settings (namely, countries where monetization is not possible by law), provides an oversimplified view of the financing of public spending and a questionable approach to the role of taxation. In both cases, it is assumed that the economy considered does not have a history.

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