



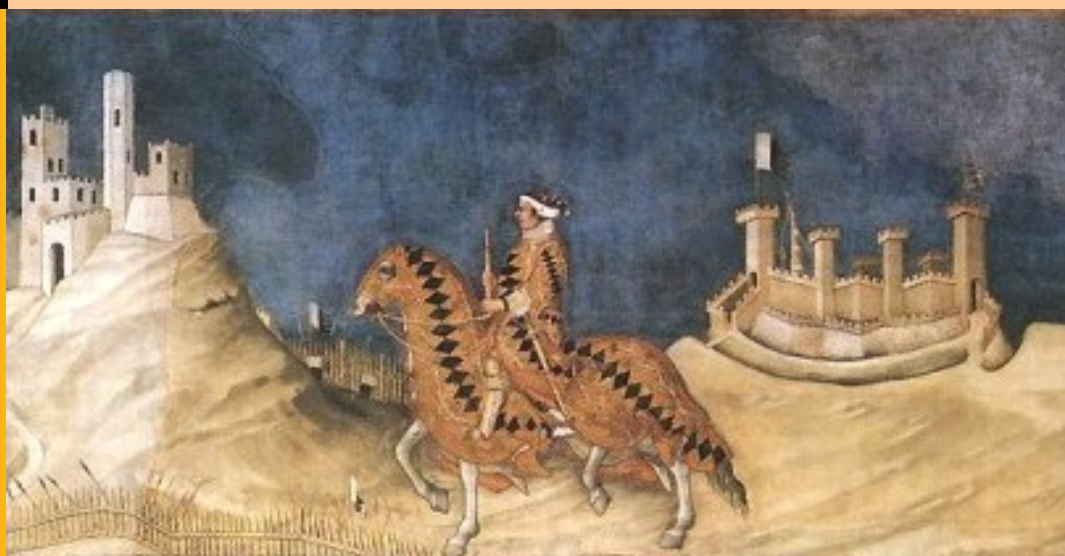
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The modern revival of the Classical surplus approach:
implications for the analysis of growth and crises

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Abstract - The paper reviews the main elements of Modern Classical Theory in view of the analysis of contemporary societies and in particular: the recovery of the Classical and Marxist “surplus approach” as a solid foundation for the analysis of social conflict; a demand-led theory of the level and growth of output based on the rejection of Say’s Law and the recovery of the notion of “external markets” put forward by Rosa Luxembourg and Kalecki, as the framework for the investigation of growth and crises in different historical phases of capitalism; the dismantling of the analytical core of Marginalism and of its laissez-faire policy prescriptions; and finally, the rejection of methodological individualism and of subjectivism in economic analysis and the preservation of the analytical methods of the Classical economists and Marx. In this regard, the paper underlines some differences with other heterodox schools, but also convergence with endogenous money theory and with systemic views of technical change.

Keywords: Classical economists, Sraffa, Kalecki, Keynes, Surplus approach, heterodox economics

Jel Codes: B12, B24, B51, E11

Introduction*

Sraffian economics has recovered the surplus approach to the theory of value and distribution developed by the Classical economists and Marx and later obscured by the emergence of marginalist economics in the second half of the 19th century. It has also laid the foundations for a robust capital-theoretic critique of the marginalist theory of distribution. By virtue of this twofold contribution, Modern Classical Theory (*MCT*), also known as Classical-Keynesian approach, is well suited to absorb and reinforce the more revolutionary insights of Keynes's legacy and to spur economic research in alternative and critical directions. The paper suggests some implications for modern macroeconomics and the interpretation of the global and European crises. Given that the capital-theory controversy is illustrated by Fabio Petri's chapter in this volume (pp.?), I will extend my own contribution considering some other heterodox approaches in the light of *MCT*. The chapter intends to stimulate interest in *MCT* especially in young scholars interested in heterodox economics.

As said, *MCT* has two constituents:

A) Recovery of the Classical "surplus" theory of distribution. This approach entails a conflict (non-harmonic) theory of distribution and identifies the roots of the crises in income distribution inequalities and in the consequent problems of lack of aggregate demand.

B) Criticism of neoclassical capital theory. This undermines the micro-foundations of modern macroeconomics (*pars destruens*) and saves the most revolutionary of Keynes' *General Theory* propositions (*pars construens*).

MCT tends to stick to the traditional method in economics of long-period equilibria (better defined as long-period positions) of the Classical economists and Marx (and of the early marginalists). This is one of the least understood aspects of *MCT*, often seen as an element of conservatism. As shown also by Petri, the opposite is true, and the necessity to dispel this frequent misunderstanding motivates the critical consideration given to some heterodox approaches in the final part of the paper.

We begin from point A.

1. Pills of the surplus approach

Central to the Classical theory is the concept of social surplus encapsulated by the equation:

$$S = P - N \quad (1)$$

* This version July 2017

where S is that part of the physical net social product P (net of the reproduction of the means of production) which is left once workers' "necessities" (or wage goods), N , are paid.

The social surplus can be defined as the part of the social product that remains once society has put aside what is necessary to reproduce the social output at least at the same level, and that can thus safely used to any other purpose.

The simplest example is that of an agricultural society. In this case, we may assume that P and N have the same physical composition, say corn. Using equation 1 we can easily calculate S .

1.1. Social surplus and civilizations

In *Guns, Germs, and Steel: The Fates of Human Societies* (1997), the American multi-disciplinary biologist Jared Diamond argued that about 10,000 years ago, some material conditions occurred in certain regions of the world that permitted the emergence of modern civilisation.¹ By this, we mean that humans overcame the nomad status of hunter-gatherers living for the day, and organised themselves in a residential society endowed with a political organisation and a social stratification – say, working-class, aristocracy, soldiers, priests, artists and so on. Those material circumstances mainly refer to the possibility, that for geographical reasons materialised only in specific regions, of growing a basket of “domesticable” vegetables and animals that permitted a per-capita output in the agricultural sector rich enough, in quantity and quality (nutritional value), to permit the survival and reproduction of the peasant-class, leaving a surplus to maintain the other social classes.

In other words, in spite of the enormous variety of vegetable and animal species, only few are easily and conveniently cultivable or tamed; moreover, these “domesticable” species were originally present only in few regions, where they made the transition from the human stage of hunters-gatherers to agriculture advantageous. The existence of a social surplus also allows the expansion of the economy when part of the surplus is invested, e.g. used as seeds to extend cultivated land in which to employ, for instance, the slaves captured after a successful war.

Equation (1) encapsulates this reasoning. In the early stages of civilisation, therefore, the emergence of a social surplus allowed humans to detach a segment of the population from the daily need of collecting the means of subsistence, so that this section could dedicate itself to political organisation, knowledge, war or just idleness. Unfortunately, this did not happen in a democratic way, and we can thus realize that the surplus approach is associated with a conflict view of social relations, in particular between the social classes that control the social surplus and those who produce it (see Svizzero and Tisdell 2016 for an anthropological review of the issue).

¹ Diamond refers mainly to Mesopotamia and China. Analogous conditions materialised only later and to a lesser degree in Latin America.

It is interesting to note that Diamond does not quote any economist in his book. This suggests two things. First, he likely found “modern” neoclassical theory useless to study the emergence of civilisation. Secondly, he did not realise that various generations of economists up until Ricardo anticipated his reasoning. A number of mercantilists, and most clearly Petty (Aspromourgos 1996) alluded to equation (1) when interpreting the origin of the wealth and power of a nation. Had Diamond been exposed to Classical Political Economy, he would have recognised the ancestors of his theory in Turgot (and Smith), who advanced a surplus-based “stage theory” of growth (Meek 1971; 1976). The French Physiocrat François Quesnay (1694-1774) proposed a sophisticated model that showed the circulation of the surplus among the various sectors of the economy. The later most sophisticated classical economists such as Adam Smith, David Ricardo and their notable critic, namely Karl Marx, adopted the scheme to interpret modern capitalism.²

1.2. The surplus in a more advanced society and the rate of profits.

The existence of a physical surplus is very visible in agriculture, but what about the manufacturing and service sectors? Before getting into this very complicated question, let us consider an intermediate situation and assume, as Ricardo did in its *Essays on Profits* (1815), the existence of both an agriculture and a manufacturing sector, with the important proviso that wages in both sectors, and the (circulating) capital stock C_a in agriculture, still consist of agricultural commodities (corn) only.³ In this case, we may still use equation (1) to calculate the agricultural surplus and the rate of profit in this sector as:

$$r_a = \frac{P_a - (N_a + C_a)}{N_a + C_a} \quad (2)$$

Where P_a is the gross agriculture product and N_a and C_a are, respectively, the necessities and circulating capital (where “circulating” means used-up in a single utilisation, e.g. seeds), both part of the capital stock anticipated by the agrarian capitalists. Suppose now $C_a = 0$ for simplicity (so capital consist of anticipated wages only). We can write N_a as wL_a , that is the wage rate (remember, defined in physical terms) times the number of workers in agriculture (L_a). Equation (2) becomes:

$$r = \frac{P_a - N_a}{N_a} = \frac{P_a - wL_a}{wL_a} = \frac{P_a}{wL_a} - 1 \quad (3)$$

² In a lively debate in *The New York Review of Books* (June and August 2012), Diamond criticised the influential study by Acemoglu and Robinson (2011) for the role it attributes to the ‘right institutions’ in setting the correct incentives to individual entrepreneurship and growth. According to Diamond, developmental institutions are the *outcome* of the geographical circumstances that permitted the emergence of a surplus, not the other way round. According to Meek (1976), Turgot and Smith held a similar view.

³ We also assume that fertile land is overabundant, and hence a free good, so that we can neglect rent.

Given P_a , that depends on the stage of capital accumulation, and given the productive techniques in use, we can easily calculate L_a . Equation (3) will thus define a downward sloping relation between w and r that we call wage-profit curve. The reader can easily verify that when $w = 0$, then $r = \infty$, and that when $r = 0$, then $w = P_a/L_a$. The last shows the case of a product democratically distributed among the peasants (that can trade part of it with manufacture products). Any other solution to the social conflict over distribution is possible along the curve - although we may presume that wages cannot fall below a subsistence level.

We must now answer two questions:

- (a) How is the profit rate in the manufacturing sector determined?
- (b) How is actual income distribution determined - that is, which circumstances affect the point of the line in which the economy actually ends up?

An answer to (a) is easy. Competition will lead capitalists to move their investment from less to most profitable employments (this may be a slow process, but it sets a tendency). So, given that the profit rate in agriculture is regulated by equation (2), if the profit rate in manufacturing is higher, say $r_m > r_a$, then capitalists will tend to disinvest in agriculture and move their investment to manufacturing. This will imply a larger supply of manufacturing goods and a falling profit rate in that sector until $r_m = r_a$.⁴ We leave the reader to work out the case $r_a < r_m$. Note also that, if a coalition of workers of both sectors obtains a higher real wage, the profit rate will fall in agriculture and, therefore, in manufacturing too.

Before examining the case in which N and C_a also include manufacturing products, let us first consider the determinants of real wages according to the Classical economists.

(b) Summing up the various theories (see Stirati 1994), according to the Classical economists real wages depend on the relative bargaining strength of workers and capitalists. This relative power depends in turn on the level of unemployment, which is lower when capital accumulation is faster and vice versa. The amount of “necessities”, however, cannot be below the amount necessary to workers to survive, i.e. to maintain a certain level of physical efficiency and to reproduce themselves. Indeed, the necessities must also cover the expenses to raise the next generation of workers (to complete the assimilation of workers to machinery, necessities must perhaps also include the costs of scrapping older workers, that is pensions). Moreover, whenever a wage rise is persistent, consumption of new and better quality goods becomes a new habit (a second nature).

⁴ We are assuming that r_a remains constant in spite of the change in the scale of the agricultural sector.

This is what Classical economists meant by subsistence wage, the historically determined wage rate that would assure a socially acceptable decent life for workers and their families. A long rise in subsistence wages took place, for instance, during the full employment ‘golden age’ years (the *trente glorieuses*, roughly spanning over the 1950-1979 period). Symmetrically, prolonged depressions or economic decline may slowly erode the social perception of what is a decorous wage: the current case of Greece is only the iceberg top of a process that is currently eroding the subsistence-wage standard in all industrialised countries.

1.3. The measurement problems

We have so far measured P_a and N_a (and C_a) in the agricultural sector as two homogeneous magnitudes of known physical quantities, so that S_a could be determined as well in physical terms and the rate of profits r_a calculated as a “material ratio”. Let us now assume that wages (and C_a) consist of both agricultural and manufacturing goods, say corn and cloth. In this case, although we can measure, for instance, the physical wage basket per unit of labour (per unit of time, say per week), say 10 kilos of corn and 10 metres of cloth, we cannot assign a unique exchange value to it since we must know prices in advance. For instance, if the price of corn is €1 per kilo, and that of cloth €2 per meter, the weekly wage-rate will be €30. If the number of labourers is 1 million, we can easily calculate N that will be €30 million (per week). Assuming also that the given quantities of P and C are composed of corn and cloth, we may calculate their value and finally the profit rate. There is a problem, however: we are reasoning in circle. To know the price of goods we must first know the profit rate;⁵ but, as just seen, we cannot calculate it if we do not know prices first – since they are necessary to measure P , N and C in *value*. The reader will recognise that this measurement problem is similar to the one that the Marginalist school encounters when measuring capital in value (see Petri, this volume, pp.?).

Both Ricardo and Marx understood this problem (much less intellectual rigour we find in modern marginalists). In the *Principles* (1821) and the *Capital* (1867), respectively, they found a solution by measuring the value of each commodity (and of their aggregations P , N , C and S) in the labour time needed, directly and indirectly, to produce it. Suppose a spade is produced with one unit of steel produced one period earlier, which is then transformed in a spade by one week of current labour (direct labour). Suppose also that the unit of steel is produced by half a week of unassisted labour (‘indirect’ labour in the production of the spade). In total, the labour-content or labour-value of the spade is $0.5 + 1 = 1.5$ weeks of labour. If we put the value of the weekly wage as equal to 1,

⁵ As clearly shown by Adam Smith, to know natural or long-period prices, we must know the natural profit and wage rates.

the price of a spade will be 1.5. If we take another commodity, say a smartphone, produced with three weeks of unassisted direct labour, its price will be 3. If our magnitudes, N , C and P consist of spades and smartphones, we can now easily measure them in value (labour content) and calculate the profit rate.

There is another problem, however. The capitalist that produces the spade anticipates the salary to the worker who produces steel one period earlier. On this anticipated capital, she wants it to yield a profit rate (r) - otherwise, she would have preferred to invest it in some safe asset earning a positive interest rate. This means that if we put again the value of the weekly wage as equal to 1 the price of the spade is $0.5(1 + r) + 1$. Unfortunately, we do not know r , and we are again in a vicious circle. The labour theory of value would be valid only under the very restrictive assumption that all commodities are produced with the same technique, that is with the same proportion of direct and indirect labour.⁶ For instance, if the smartphone was produced with one week of indirect labour and two of direct labour, its price would be $1(1 + r) + 2$. It can be seen that the relative price of the two commodities is equivalent to their relative pure labour-content (the price of the smartphone is the double of that of the spade, and so is their respective labour-content). We can thus easily calculate r : if P consists of one spade and one smartphone, and N of one smartphone, then $r = P - N / N = 3 - 2 / 2 = 0.5$ or 50%.

Fortunately, Sraffa's contribution shows the validity of the surplus approach under more general assumptions, but this entails the abandonment of the labour theory of value (Garegnani 1984).

This has led radical economists to endless debates.⁷ Garegnani maintains that the labour theory of value was functional to measuring the magnitudes of equation (2) until the emergence of a more robust solution. No doubt, both Garegnani and Sraffa disdained a mystical interpretation of the labour theory of value. They would have perhaps shared Abba Lerner's assimilation of the labour

⁶ In Marx's parlance, the organic composition of capital must be the same in all industries.

⁷ See Mongiovi (2002) for a clear critical introduction to the debate (cf. also Petri 2015). One victim of the abandonment of the labour theory of value is Marx's *Law of the tendency of the rate of profit to fall*. This tendency is due to the progressive substitution of machinery (that incorporates past or "dead" labour) to living labour. Since living labour is the only source of surplus value, any rise of real wages that would stimulate the substitution of dead with living labour would thus negatively affect the profit rate and depress the stimulus to accumulate. The analysis of the choice of techniques recalled by Petri (this volume, pp.??), would however suggest that in general the introduction of a new technique is never accompanied, in free competition, by a fall of the profit rate, given the real wage. Moreover, if the innovation concerns the wage-good sector, the profit rate will increase for a given real wage.

theory of value to the marginalist's conception of saving:⁸ 'This blessed word and symbol exuded thick fog of mystical mischief in much the way that the concept of "value" has in Marxian economics. There, "value" is conceived of as a fluid (aptly called "sweat" by Champernowne ...) which is absorbed into the product from the laborers who worked at it, in proportion to the number of hours of labor applied' (1974, p. 38). Sraffa was very keen that in capitalistic production, labour is on an equal footing with packhorses (with subsistence wages assimilated to hay). Therefore, there is nothing special that labour transmits to the value of commodities (on Sraffa's rejection of the subjective elements contained both in the marginal notions of utility and disutility, and in the labour theory of value, see Garegnani, 2005; Kurz, 2012; Fratini 2016). After all, this is faithful to Marx's idea that in capitalism labour is a commodity, produced, operated, maintained, scrapped and reproduced as any other input.

It makes little sense here to discuss Sraffa's solution to the problems left open by Ricardo and Marx. It will be enough to say that Sraffa autonomously completed a solution to which Marx was very close (Garegnani 1984; 2005 and Petri, this volume, pp.?).

To conclude this section, I want to remark that distribution theory shapes the way we think of society. *MCT* suggests that we cannot begin social analysis from the single individual. In this regard Marx forgave the Classical economists for their "robinsonades", a term Marx that used to describe methodological individualism, the naïve idea that society can be interpreted by analysing the representative individual.⁹ A class structure is clearly discernible in the surplus approach shared by the Classical economists, despite their liberal ideology - that no doubt Marx considered as a positive step in the liberation of humankind from religious and feudal social ties. Social classes are indeed implicitly present also in neoclassical economics, for instance when they analyse labour and wages. In open contrast with the historical experience, however, labour is seen as a collection of individuals, while its organized representatives, e.g. trade unions, are seen as violations to a deeper, natural competitive order. Symmetrically, "capital" is seen as an ethereal, mystical "factor of production" resulting from individual thriftiness and cooperating with labour, and not as a social relation of production based on the private property of the means of production.

2. Macroeconomic implications: capital accumulation, money and crisis

⁸ Those who have fully understood Keynes know that something called "saving" is not a 'fluid' that has an existence independent of investment that originated them.

⁹ "There is no such thing as society", as Margaret Thatcher famously said.

Notoriously Keynes (1936, p. 32) looked at Marx with some contempt and did not clearly distinguished Ricardian economics and Marginalism. The two constituents of *MCT* permit to put things straight. On the one hand, the recovery of the surplus approach firmly anchors the Keynesian demand-side determination of output to a consistent distribution theory; on the other, the capital critique clears Keynes of its marginalist legacy.

2.1. The surplus approach and the criticism of Say's law.

Past generations of students of economics were taught “Say's Law”, named after the French economist Jean-Baptiste Say that formulated it in the early nineteenth century. The “Law” claimed that capitalism does *not* suffer of problems of aggregate demand (AD). In its original formulation, Say's Law conveyed the idea that production generates income that in turn is spent in its entirety. Saving would not be an obstacle to the closure of the income-expenditure circuit, since decisions to save were identified with decisions to invest. Note, however, that Say's Law does not by itself demonstrate that the economy tends to full employment (but only that it does not suffer from problems of AD). Ricardo believed in Say's Law, but Marx was much more skeptical about it.

Referring to equation (1), we may think of social output as composed of necessities (N) that are demanded by workers, and investment goods and luxuries (both contained in S) that are purchased by “capitalists”. Suppose then that S is so large that capitalists (and the ancillary social classes) do not demand and consume all of it. Part of the output is unsold and this generates a problem of AD. One solution would be, of course, to increase N , but each capitalist would like to see the *other* capitalists pay higher wages while paying the lowest wages possible to its own employees, as Marx pointed out. Another solution is that capitalists decide to invest systematically the whole surplus they do not consume themselves. Productive capacity would constantly increase, but as long as capitalists continue to invest all what they save (and the availability of labour or land does not create problems), the problems with AD are overcome. Science fiction? No, this is the solution envisaged by Tugan-Baranowski, a Russian economist of the beginning of last century. Michal Kalecki - a great Polish economist with a Marxist background who, in the early 1930s, reached autonomously the same result later published by Keynes - appreciated Tugan's idea that the satisfaction of human needs is not the purpose of capitalism: production of means of production through of means of production would be fine as long as this leads to the absorption of the social surplus (Kalecki 1967). The problem, as Kalecki sees it, is that a systematic investment of all saving would require some economic planning, but “Now capitalists do many things as a class but they certainly do not invest as a class” (ibid, p. 152), he explained in one of his most famous aphorism. Following Rosa Luxemburg, Kalecki envisaged in the “external markets” the solution: endogenous

money creation (see below) would finance public spending, autonomous consumption and demand from foreign markets that will absorb the part of the social surplus that capitalists do not consume themselves.¹⁰

The surplus approach leads us to reject Say's Law, as Marx promptly recognised. Yet, marginalist economists later proposed a complex demonstration of the validity of the Law, that included also the claim that free market capitalism tends to full employment, deeply based on their capital theory. It is therefore necessary to show why this demonstration is wrong. This has been elegantly shown by Petri in this volume (pp.?), thus, in the next section I will limit myself to recall the devastating consequences of the capital critique for modern macroeconomics.

2.1.The role of the capital theory critique

In a marginalist general equilibrium perspective there are two fundamental markets to look at: the labour and the capital market, respectively. In both markets, the existence of downward sloped factors' demand curves guarantees that both the labour and the capital supply are fully employed.

To appreciate the importance of this proposition, let us look at the labour market first. All the claims from many governments and international organisations (e.g. EU, OECD, IMF, etc.) that labour market flexibility is the key to full employment are based on the simple idea that free competition allows unemployed workers (often called outsiders) to exercise a pressure on employed workers (insiders) to accept lower wages. The existence of a decreasing labour demand curve assures that at lower wages, both the insiders and the outsiders will find a job. So, the main causes of unemployment are the laws that protect the insiders and their shop stewards.

The importance of the capital market will be appreciated once we realise that the demand curve for investment is derived from the demand curve for capital: they are indeed the same curve, the former in terms of flows and the latter in terms of stock. If you assume that all capital is circulating capital - that is destroyed in one production period-, then the two curves would even coincide.¹¹ Given the saving supply (drawn in connection to full employment income), a demand function for investment negatively elastic to the interest rate assures that all saving supplied at the equilibrium interest rate is absorbed. Say's law is demonstrated even if each capitalist does not invest all her saving, as

¹⁰ "Internal markets" are those created out of the income flow generated by production decisions.

¹¹ Analogously, Marginalists regard the capital stock as a fund of savings (a fund of foregone consumption) and gross saving as the flow that maintains and beefs up the stock. In the capital market, we draw the demand and supply of capital in stock terms; in the saving-investment market the demand and supply of capital in flow terms. The shapes of the functions are, however, similar Cf. Petri, this volume, pp. ?).

naively assumed in the original formulation of Say's Law. There is a market in which saving supply and investment demand, each calculated assuming that output is at full employment, meet at an equilibrium (or natural) interest rate.

It is unfortunate that Keynes accepted the neoclassical investment demand function in the *General Theory*, which exposed him to be reduced to a particular case of market failure. To show the existence of non-full employment equilibria he had to rely on the obstacles that the monetary authority can meet in driving the interest rate to its full employment equilibrium level: the liquidity trap. This case has gained renewed attention after Larry Summers (2013) revived the concept of Secular Stagnation. The idea is that various causes have lowered the propensity to invest and raised the propensity to save - including slower population growth and ageing, declining technical change and increasing inequality. As a result, saving and investment functions, both drawn assuming that output is at full employment, would meet only at negative real interest rate. Paul Krugman (2014b) particularly stressed the difficulty for monetary authorities to achieve negative long-term real interest rates once the nominal interest rate has reached the so-called zero-lower-bound and inflation is persistently low if not negative.

The results of the capital theory controversy allow us to say that the mainstream view of these two widely discussed policy issues, labour market flexibility and the Secular Stagnation, are wrong. The fact that both labour and capital demand curves do not behave as Marginalist would like (see figures X and X in Petri, this volume, pp. ?), lead us to conclude that:

- Labour market flexibility and lower real wages do not increase employment and, by rendering income distribution more unequal, they weaken AD;
- Since investment does not depend on the interest rate, even negative real interest rates do not boost them, and different investment theory and policies are necessary. We may for instance suspect that investment is induced by expected AD, the time-honoured accelerator theory, while the interest rate influences autonomous consumption and residential investment.¹²

¹² Krugman (2014a) confessed the “dirty little secrets” that “monetary policy... normally works through housing, with little direct impact on business investment”. More consistently, one should acknowledge then that Secular Stagnation “stem from sustained inadequacy of domestic demand resulting from worsening functional distribution of income (in particular the declining wage share of national income in many countries). The attempts to address this shortfall essentially through monetary and credit expansion does not induce firms to invest in productive activities, but rather encourages more investment in financial assets [or construction bubbles], thereby adding to the further concentration of wealth, [financial instability] and continued stagnation of incomes of most people in the society” (Chandrasekhar and Ghosh, 2015, p. 3, my additions).

It should be appreciated that these results affect all modern macroeconomics, including the concept of a natural unemployment rate (Stirati 2016), Solow's growth model (Cesaratto 1999) and international trade models (Steedman 1979). One primary implication is also the critique of the neoclassical duality between a real and a monetary sector, the idea that expansionary monetary policy is not effective unless there is "monetary illusion". In this view, central banks (CB) must be independent, and pursue price stability in order to maintain the economy at the natural unemployment rate (or Nairu). The implications of this criticism for the European monetary constitution are devastating (Cesaratto 2017b). We shall return on the issue of money in section 2.4.

Let us just note here that in the Classical-Keynesian approach, independent CBs are the watchdogs of income distribution. In the German model, for instance, the Bundesbank was the *Convitato di pietra* in the wage bargaining between trade unions and industrialists (you guess siding with whom) (Cesaratto and Stirati 2011, pp. 73-74). There is no reason to argue that at the "natural unemployment rate" there is no involuntary unemployment. This rate is just the rate at which inflation is constant (i.e. non accelerating). The fact that a fall in unemployment is associated with higher inflation does not depend on the necessity to cheat workers (as long as they suffer from monetary illusion), as in the monetarist textbook tale. It originates instead in the fact that a higher employment rate- a lower industrial reserve army, in Marx's terminology - entails a stronger bargaining power of workers. In this view, monetary policy - particularly if associated with fiscal policy - is effective, but the fall in the industrial reserve army leads to higher real-wage claims and inflation.¹³

2.2.The Sraffian supermultiplier

We noted above that capitalism needs "external markets" to function. This is so because capitalists do not spend all their profits. In current economic jargon, "external markets" are defined "autonomous/non-capacity creating components" of AD. According to many exponents of the MCT, the autonomous components of AD – autonomous consumption (A), government spending (G), exports (E) and in the short-run (when its capacity-creating role is neglected) investment (I) – are the determinants of the degree of capacity utilisation in the short-run, and of the growth rate of

¹³ The condition of zero (or constant) inflation at the natural rate on unemployment consents to mainstream economists to determine the natural interest rate, which would be otherwise unknown. There is nothing "natural" in these rates, they are just those that corresponds to an unemployment rate (or industrial reserve army) large enough to keep inflation at bay. An alternative solution to reconcile full employment and price stability is in some social compromise in which the working class barter wage moderation with full employment and substantial lower income inequality.

the economy in the long-run (cf. Bortis 1997; Freitas & Serrano 2015; Cesaratto 2015).

Specifically, they refer to two equations:

a) the first is the traditional determination of output in the short-run through the Keynesian multiplier. The autonomous components regulate AD (Y_D), given the marginal propensity to consume c , the average tax rate t and the marginal propensity to import m :

$$Y_D = \frac{1}{1 - c(1 - t) + m} (\bar{A} + \bar{I} + \bar{G} + \bar{E}) \quad (4)$$

Keynes's belief was that in capitalist economies AD is not on average sufficient to fully utilise productive capacity, so that the level of output X and the degree of capacity utilisation adjust to the level of Y_D , that is $X = Y_d$.

b) In the long period, however, capacity tends to adjust to expected effective demand (ED),¹⁴ and not the other way round as in neoclassical theory. In particular, capitalists will not invest blindly, but on the basis of expected ED. This is expressed through an induced investment function based on the *accelerator*:

$$I = v_n g^e Y_D \quad (5)$$

in which $g^e Y_D$ represents the expected growth of ED and v_n is the capital-output coefficient, that is, the desired quantity of capital per unit of output (we also assume that all capital is fixed and there is no depreciation). Using the same textbook procedure utilised to obtain equation (4) and taking equation (5) into account, we thus obtain an equation similar to equation [4] in which the fraction is named *supermultiplier* (SM), after Hicks (1950):

$$Y = \frac{1}{1 - c(1 - t) - v_n g^z + m} (\bar{A} + \bar{G} + \bar{E}) = \frac{1}{1 - c(1 - t) - v_n g^z + m} Z \quad (6)$$

where Z and g^z are the level and rate of growth of the autonomous/non capacity-creating components of AD, respectively, and investment is an induced and not an autonomous component of AD, as it must be in a long-run growth model. In writing the equation we assumed $g^z = g^e$. It can be shown that within reasonable assumptions the actual and expected rates of growth tend to adjust to the growth rate of autonomous demand Z (Freitas and Serrano 2015). We may say that the Sraffian SM is a modern reformulation of Luxembourg-Kalecki external markets.¹⁵

¹⁴ This is defined as the amount of AD forthcoming at normal or long-period prices.

¹⁵ Some Sraffians prefer not to formalise the role of autonomous demand through the SM . Garegnani (2015 [1962]) is, however, a common antecedent of all sorts of Sraffian views (see Cesaratto and Mongiovi 2015).

2.3. Policy implications of the Sraffian supermultiplier

The *SM* suggests the idea that it is final demand (external markets) that sustains output and investment (via accelerator), and that saving is generated by fuller exploitation of existing capacity (in the short run) and by creation of new capacity (in the long run).

An example of the role of autonomous consumption financed by consumers' credit in driving a prolonged phase of economic growth is the recent American "Great Moderation" era, which goes from mid-1980 until the financial crisis of 2007. In this period, increasing inequality in income distribution was compensated by expansive monetary policy that promoted consumers' debt and a residential investment bubble (Barba and Pivetti 2009). An example of export-led/mercantilist growth is Germany. Since the 1950s, and more markedly after the introduction of the euro, Germany's economic policy has been characterised by the compression of wages and domestic demand in order to find a vent-for-surplus in external markets (Cesaratto and Stirati 2011), as Adam Smith would have called it. Finally, government spending sustained growth during the full-employment golden-age years.

In a market economy, *private* 'external markets' (autonomous consumption and foreign markets) may only temporarily solve the realisation problem. These markets are normally financed by purchasing power creation by the banking sector (e.g. consumption credit and foreign loans), and we see here an important field of convergence with the heterodox literature on 'endogenous money' (see next section). Purchasing power creation feeds the external markets that absorb the capitalists' surplus that returns in the capitalists' hands as profits. Ultimately, therefore, capitalists become creditors of those 'markets' (that is of households and foreign countries). Debt-driven growth is a major source of instability of capitalism, as both the U.S. and Eurozone crises have shown. We see here some convergence with the Minskian tradition of the financial instability of capitalism. Government spending is a more solid solution, either if sustained by progressive taxation or by government debt in fully monetary-sovereign countries (Wray 1998).¹⁶

2.4. Endogenous money and the neoclassical duality

It is characteristic of autonomous expenditure of not being financed out of income revenues, e.g. out of wages as in the case of workers' induced consumption; it must therefore be financed by credit creation. This leads us to the theory of endogenous money. In short, conventional textbooks (e.g. Mankiw 2015) still try to convince us that banks lend savings (this was labelled by D.H. Robertson "loanable fund theory"). This is not so, however, as an increasing number of economists working at

¹⁶ In this regard, the balanced budget theorem assures that government spending is expansionary even if fully compensated by a corresponding taxation.

respected CBs (e.g. McLeay et al. 2014) are acknowledging.¹⁷ When banks receive a request for a loan from a trusty customer (households or firms), they will never refuse it and will consequently open a deposit in her favour. In other words, banks create money (bank deposits) on request. This capacity to lend does not depend on having received savings a few minutes before, or even on having enough reserves to back the newly created deposit. Reserves are indeed created on request of the commercial bank by the CB. The idea of textbook *deposit multiplier* that says that the amount of deposits the banking system can create depends on the *exogenous* liquidity supply by the CB is deadly wrong. The CB, given the demand for credit that the market advances at the prevailing interest rates, endogenously creates reserves. Are CBs then only passive creators of reserves? Not at all. They fix the (short period) interest rate at which they provide reserves. This rate influences the longer period interest rates in the economy and, therefore, autonomous spending, for instance the demand for mortgages. What endogenous money theory contends is that at the interest rate of her choice, the CB provides all the reserves requested by the market.

In neoclassical theory, the interest rate targeted by the CB is the “natural” one at which full capacity saving¹⁸ is absorbed by investment, in order to assure a natural unemployment rate and price stability. After the capital theory controversy, the existence of a natural interest rate is indefensible. In a Classical-Keynesian view, the CB will fix the interest rate following political choices. As seen above, for instance, during the so-called “great moderation” decade that preceded the recent financial crisis, lax monetary policy both in the U.S. and in the eurozone accommodated debt-driven growth, while in other historical junctures CBs have used restrictive policies to tame the social conflict. Accordingly, in the Classical-Keynesian approach, there is not duality between monetary and real sectors, and sustainable growth relies on the cooperation between monetary and fiscal policies. Inflation, a manifestation of social conflict, should be tamed by social compromise.

3. Modern Classical Theory and other heterodox approaches

In this final section, we shall discuss the relation of *MCT* with some other major heterodox schools. Saltwater (neo-Keynesian) and freshwater (Monetarist) mainstream macroeconomists notoriously dissent on policy issues, but they are unanimous in the belief in standard economic theory. Heterodox economists, on the opposite, generally converge on policy issues, but often dissent on

¹⁷ This shows that endogenous money is not sufficient to criticize conventional theory: the endogeneity of money is a fact rather than a theory (Jakab and Kumhof, 2015, p. 4).

¹⁸ Full capacity saving is the amount of saving offered when output and capacity are adjusted to the natural unemployment rate.

basic theory. At the cost of severe simplifications, I single out and briefly consider here five heterodox schools, Post-Keynesian, neo-Schumpeterian, neo-Kaleckian, Circuitists and Modern Monetary Theory (MMT). There are a few others of course, like institutionalists, which I shall not discuss.¹⁹ It should also be considered that boundaries between the schools are often blurred. Moreover, for reasons of space my comments will be rather trenchant and in need of further discussion.

3.1. The uncertain Post-Keynesians

Post-Keynesianism (PK) broadly refers to a school of mainly Anglo-Saxon economists, inspired by Joan Robinson and Paul Davidson, identified by the strong emphasis on “uncertainty” as the main characteristic of capitalism. “Animal spirits” and “expectations” are related, favourite expressions. There is little doubt that ancestor of this approach and terminology is Keynes’ *General Theory* (1936). By “fundamental uncertainty”, PK authors mean that decision takers find even difficult to assign a probability to the possible outcomes of their choices. Individuals will hold, therefore, expectations that are the opposite of the rational expectations of mainstream economics, based on a reasonable knowledge of how the economy works. Decisions are instead taken based on animal spirits, “a spontaneous urge to action rather than inaction”, as Keynes (ibid, p. 161) defined them. Instability of investment – and therefore of capitalism - is consequently explained along these lines.

An important discussion on this subject, unfortunately only available in Italian, took place in 1976 between Garegnani and Joan Robinson (Garegnani 1979, pp. 120-143). In short, Garegnani argued that Joan Robinson limited her criticism of Marginalism to the obstacles that, allegedly, uncertainty and expectations (or those due to the lack of “malleability” of capital) place to the adjustment of the economy to full employment equilibrium, neglecting the more substantial criticism of the very existence of that equilibrium, forthcoming from the capital theory critique. In this regard, Garegnani denounces the support that this Post-Keynesian position can inadvertently lend to the modern neo-Walrasian approach which, as explained by Petri (this volume pp. ?), abandons the method of long-period positions (see above p. X) to avoid the problems of capital theory. Although other PK economists are more ready to acknowledge the importance of the capital theory critique, they still attribute primary importance to uncertainty and expectations to explain unemployment and the instability of capitalism.

In this respect, I like to quote the Cambridge economist Dennis Robertson who, in his earliest heterodox writings on trade cycles, worked close to Keynes. Despite this closeness, he was strongly

¹⁹ A review of heterodox schools is proposed, among others, in Chapter 1 of Lavoie (2014).

critical of theories that attributed the cycle to the ebb and flow of optimism and pessimism, rejecting any subjective explanation of trade cycles based on the “state of confidence” and arguing that:

“Granted that [the entrepreneurs’] states of mind are immediately responsible for industrial dislocation, it does not follow that they are spontaneously generated; it seems only natural, in absence of proof, to give him the benefit of the doubt, and assume that they are at least induced, however irrationally, by external facts. Hence this objection also to the search for such facts fall to the ground” (Robertson 1915, p. 9).

Robertson, like Sraffa, did not like subjectivism in economics, suggesting that we must find the objective facts that guide the formation of expectations. Smith’s “discovery” of the invisible hand, that is of the role of long-period prices in guiding economic decisions, marked, after all, the birth of modern economics. What distances heterodox from conventional economics is not so much the denial of this role of the price mechanism, but rather whether this guide leads to full employment in the absence of a public *visible* hand. The study of the policy context that affects autonomous demand and, via the accelerator, investment is, for instance, a good direction for objective investigation at the macro level of both the visible and invisible hands. Robertson (1915) found the main tangible explanation of trade cycles in technical progress, and this leads us to the second school considered here, the Schumpeterian/evolutionary school.

3.2.Schumpeter versus Smith

As known, Schumpeter (1911, 1939) attributed business cycles to swarms of innovations, following major technological breakthroughs. Central in his theory is the figure of the innovative entrepreneur who transforms a technical invention into a commercial innovation. Schumpeter did not break with neoclassical theory that, however, he identified with states of rest of the economy disturbed, exactly, by innovations. He was firmly critical of Smith and Keynes.

Smith proposed in fact a very different theory of technical change. In his view, innovation depends on the division of labour, i.e. the specialisation of functions, which in turn depends on the size of the market. The reference to market size places technical change in a macroeconomic context, because innovations brought about by production on a larger scale would not be profitable in a stagnating market, while increasing market size triggers “the competition of producers”:

"The increase of demand ... encourages production, and thereby increases the competition of the producers, who, in order to undersell one another, have recourse to new division of labour and new improvements of art, which might never otherwise have been thought of' (1776, p. 748).

According to Schumpeter, Smith and the Classical economists looked at economic change as an automatic process that excluded the innovative role of the entrepreneur. For instance, he wrote:

"With A. Smith [division of labour] is practically the only factor in economic progress Technological progress, 'invention of all those machines' - and even investments - is induced by it and is, in fact, just an incident of it. ... Division of labour itself is attributed to an inborn propensity to truck and its development to the gradual expansion of markets ... It thus appears and grows as an entirely impersonal force, and since it is the great motor of progress, this progress too is depersonalised" (Schumpeter, 1954, pp. 187-88).

A "creative response" is juxtaposed to the "adaptive" one envisaged by the Classical economists and "[a]ccordingly, a study of creative response in business becomes coterminous with a study of entrepreneurship" (1947a, p. 222). As Schumpeter repeatedly stated: "entrepreneurship ... is essentially a phenomenon that comes under the wider aspect of leadership", although he also recognised that, especially in modern times, "the entrepreneurial function need not to be embodied in a physical person and in particular in a single physical person" (1949, p. 261), a step in a Smithian direction.

According to the Classical economists, on the contrary, individual and organizational capacities are seen as social developments. For instance, Smith famously regarded individual ingenuity not "so much the cause, as the effect of the division of labour" (1776, p. 28), and outcome of the cooperation of the "variety of talents", so that "dissimilar genius are of use to one another" and "every man may purchase whatever part of the product of other men's talents he has occasion for" (ibid, p.30). The role of class structure is recalled by Marx: "It is not because he is a leader of industry that a man is a capitalist; on the contrary, he is a leader of industry because he is a capitalist" (Marx, 1867, p. 314). We meet again here the contrast between, on the one hand, subjective factors and methodological individualism, and on the other hand the investigation of the social nature of economic evolution and technical change.²⁰

Schumpeter's downplay of the Keynesian criticism of Say's Law (e.g. 1936) provides additional arguments for a critical evaluation of his approach. The emphasis that Schumpeter put on "entrepreneurship", or on the innovating firm, as the primary cause and main unit of analysis of economic growth finds another blow in the existence of limits to growth on the demand side. The only bound to entrepreneurship envisaged by Schumpeter is on the financial credit side, again a supply side factor. As a result, in Schumpeter, not less than in Marginalism, growth is seen as a

²⁰ The great historian of technical progress Nathan Rosenberg was openly sympathetic with the Smithian tradition and critical of Schumpeter (e.g. Rosenberg 1976, p. 292 fn. 19).

supply side phenomenon, and demand does not play much of a role. This view has been picked up by major neo-evolutionary scholars of technical change like Nelson and Winter (1982, p. 220), who construct their models assuming that the Say's Law is always verified.

To be sure, other modern Schumpeterians are more sceptical of Say's Law (e.g. Dosi et al. 2010), point to an integration of the demand and the supply side of technical change (Dosi 1982), and assign centrality to the State in the generation of new technologies (Mazzucato 2013). I would argue that rather than in a subjective Schumpeterian tradition, scholars like Mazzucato move within an objectivist underground economic tradition that originates from Mercantilism, and through Friedrich List and the German historical school arrives at the modern concepts of the entrepreneurial State and of national systems of innovations. This "Other Canon", as some Baltic scholars have named it, I regard as part of the Classical-Keynesian tradition (Cesaratto 2013).

3.3. The not-so-Kaleckian neo-Kaleckians

At odds with some Schumpeterians, most non-orthodox economists share the centrality of what Nicholas Kaldor called the 'Keynesian Hypothesis'—the idea that investment is, in both the long and the short run, independent of the savings that would be forthcoming from the normal utilisation of productive capacity. Keynes showed that, within the limits of the existing capacity utilisation, it is investment that determines savings rather than the other way around. As seen in section 2.1, the outcomes of the capital theory controversy have reinforced this conclusion (Garegnani, 1978–79). How to extend the Keynesian Hypothesis to the long run is, however, controversial.

During the 1960s and 1970s, the so-called *Cambridge Equation*, proposed by Kaldor, Joan Robinson and Luigi Pasinetti, was hegemonic. In short, the idea was that capitalists decide the rate of accumulation; since a higher investment rate implies a higher saving rate, and given that profits are the main source of saving, a faster accumulation rate must be associated to a higher profit rate. This entails that, when capitalists decide the rate of growth, they also determine income distribution. Suppose that productive capacity is fully utilised and that, inspired by a wave of optimism, capitalists desire to grow faster. Armed by the purchasing power creation by banks (endogenous money) in support of their demand of additional investment goods, capitalists are able to induce a diversion of production from wage-goods to capital-goods. Given nominal wages, the price of consumption goods (whose production has fallen) rise, and real wages fall. As a result the normal profit rate will be higher. Since profits are the main source of saving, the higher profit rate let the economy to grow at the faster rate along a new equilibrium path, with saving matching the larger share of investment on income.

Both Sraffian and so-called *neo-Kaleckian* (NK) authors objected that the association of higher growth rates with a change of income distribution in favour of profits is not particularly robust. If anything, real wages tend to rise during periods of faster accumulation because tighter labour markets lead to an increase in workers' bargaining power. Wages would instead tend to fall during downswings when the 'industrial reserve army' increases. Moreover, both NK (notably Rowthorn, 1981) and Sraffian authors (notably Garegnani, 1992) have criticised the Cambridge equation approach on the ground that capitalism can accommodate an upsurge in the rate of capital accumulation by utilising productive capacity more fully, above the normal degree of capacity utilisation, without the necessity of changes in income distribution.²¹

As seen in section 2.2, many Sraffian authors (and recently even some NK) see in the autonomous components of aggregate demand – or Luxemburg-Kalecki's external markets - the ultimate determinant of investment decisions. Unfortunately, traditional NK models do not consider these components. Following the seminal paper by Marglin and Bhaduri (1990), these models typically envisage two growth regimes, *wage-led* and *profit-led*.

- (i) *Wage-led growth* identifies a cooperative form of capitalism. In this regime, a rise of real wages leads to a higher demand for consumption goods, to an above-normal degree of capacity utilisation *and* to a high *actual* profit rate (the intuition behind this, is that an above-normal degree of capacity utilisation implies that capitalists are extracting more profits from the installed capacity than expected; in other words, the actual or *realised* profit rate is higher than the expected or *normal* profit rate). This regime, the NKs conclude, would thus make both workers and capitalists happier. In other words, a rise of real wages by leading to an above-normal degree of capacity utilisation would also benefit capitalists by a higher actual profit rate, making cooperative capitalism possible. Crucially, NK economists assume that this regime, characterised by an above-normal degree of capacity utilisation, would be associated to a persistently higher accumulation rate because of an *endless, but never accomplished* attempt to *restore*, through higher investment, a normal degree of utilization.
- (ii) *Profit-led growth* entails that investments are quite sensitive to the profit-share; a rise in the wage-share, for instance, is supposed/argued to lead to an "investment strike" and to a lower accumulation rate.²²

²¹ The idea is that firms normally desire some spare capacity to meet peaks of demand in order not to let customers unsatisfied.

²² An analogous conclusion is drawn by the believers in Marx's Law of the tendency of the *rate of profit* to *fall* (see above fn. 8). These views clash with the idea that inequality is the basic cause of

On *wage-led growth*, *MCT* would object that wages are by definition an *induced* component of income and cannot therefore be the *primum movens* of growth, a role that the *SM* approach more consistently assigns to the autonomous component of AD (Cesaratto 2015). Indeed, the *SM* model shows that a larger wage-share has, *ceteris paribus*, a *level* but not a *growth* effect on income. Looking at equation (6), a larger wage-share would rise the marginal propensity to consume with, *ceteris paribus*, a positive level effect on income. However, it would not affect the income rate of growth that would remain anchored to the growth rate of autonomous demand. Secondly, the *NK* explanation of wage-led growth is based on the peculiar association of growth *without* normal capacity utilization and an endless attempt to regain the normal degree of utilization (Vianello 1989, Cesaratto 2015).

As to *profit-led growth*, *MCT* tends to share the idea that gross investment is determined by expected effective demand. Variations of the normal rate of profit, as such, have no mechanical influence on gross investment. For instance, an *increase* in the normal rate of profit would have a *negative* effect on investment if associated with lower workers' consumption. Likewise, a lower *normal* rate might leave gross investment unaffected, as long as single capitalists fear the loss of market shares to competitors if they do not invest (Cesaratto 2015, pp. 167-169).

The controversy has relevance for the interpretation of the *golden age* of capitalism, the full employment period between 1950 and 1979. Garegnani rejects the *NK* interpretation of the golden age as a wage-led regime in which the interests of capitalists and workers were aligned (Cavaliere, Garegnani & Lucii, 2004). In Garegnani's view, the profit rate relevant for capitalists is not the *ex post*, realised one, but the *ex-ante*, normal one, i.e. the rate they expect to earn on newly installed equipment. A rise in the real wage rate, given the techniques in use, must lead to a fall in the *normal* profit rate. It is possible that in certain historical circumstances – as it happened in the golden age after the Soviet Union challenge –, capitalists acquiesce to such a fall without resorting to economic policies aimed at widening the industrial reserve army; but in these circumstances we should talk of a *compromise* between clashing interests rather than of *coincidence* of interests.

We must finally note that current attempts by *NK* authors to explain the recent experiences of household debt-driven growth or mercantilist export-led regimes clash with the difficulty to insert autonomous demand within their model (Pariboni 2015) that, also in this regard, underperforms compared to the *SM* ability to absorb the Kaleckian insights about “external markets”. Not surprisingly, *NK* economists are now interestingly looking at the *SM* model which, as kindly put by

the lack of aggregate demand in capitalism (see above point A, p. 1) and that there is, at least in principle, a political space for reconciling higher wages and economic growth.

Lavoie, “has been unfairly neglected by heterodox authors... over the last 20 years” (Lavoie 2016, p. 1).

3.4. Circuitists and MMT

Monetary Circuit Theory (*CT*) stresses the role of endogenous money creation by banks in financing capitalists’ production decisions (e.g. Graziani 1990). In this regard, Schumpeter’s preoccupation with the financial side of innovations is seen as a forerunner of the approach. According to the *CT*, credit mainly consists of anticipations of money wages. These are later either spent in consumption goods, or saved. The emphasis of the approach is on the power of capitalists and banks of deciding ‘unilaterally’ production levels. This is suggestive, but deceiving.

Firms (and banks that finance them) decide production levels looking at expected aggregate demand, not in a vacuum. In the *CT*, however, *AD* is reduced to wage spending only. While no explanation of production decisions is provided, it is also not clear how capitalists and banks can realise expected profits (who buys the surplus?). Circuitists, like Graziani, respond that firms are integrated, as if in the economy only one big firm existed, so the only fictional capitalist trades with herself. However, in this way Keynesian and Kaleckian theories of effective demand are lost and, indeed, although circuitists express support to these theories, there is no clear, analytical integration between them and the *CT*. Indeed, endogenous money creation is mainly seen as functional to supply-side production decisions, and not to sustain autonomous demand (an attempt to integrate some insight from *CT* in the *SM* approach is made by Cesaratto 2017a).

MMT has one central proposition, that the State spends before taxing or issuing debt. It cannot but be so in a Keynesian world in which it is State spending that, inter alia, determines the level of income and, therefore, tax revenues and saving (used to buy public debt bonds). *MCT* welcomes this view (Cesaratto 2016), although a number of dividing policy issues still remains, particularly about the degree of freedom that full monetary sovereignty leaves to peripheral countries to overcome the balance of payments constraint.

Conclusions

The widely-recognised rigour of its main exponents, the mutual consistency of its various elements (conflict-based value and distribution, demand-led accumulation theory, refusal of subjective approaches), its inclusiveness of historical and institutional explanations, assign to *MCT* a central role in heterodox economics. The capital theory critique has been the only challenge to the mainstream that has been taken seriously by orthodox economists (Kurz 2013), and this created the

necessary space for the birth of heterodox economics (Lavoie 2011). I do not believe that, however, *MCT* is self-sufficient in the challenge to the mainstream. Its analytical core should, however, serve as a catalysts for heterodox research both in methodology - keeping the critical economists along the robust tracks indicated by the great Classical economists and Marx -, and in analysis, with its robust and consistent theories of distribution and accumulation and openness to serious historical and institutional work.

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