

**Marx, Keynes, and Monetary Analysis: Towards a Social  
Theory of Value**

by

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### **Abstract**

This paper reconsiders the role played by the idea of the monetary circuit in both Marx and Keynes, as well as some aspects of Marx's labour theory of value. It argues for a labour theory of *production* combined with a *social* theory of value.

### **1. Introduction**

Chapter 6 of Joseph Schumpeter's posthumously published *History of Economic Analysis* (Schumpeter 1954, 276-334) was intriguingly entitled 'Value and Money'. Moreover, the subtitle of the first section of that chapter was 'Real Analysis and Monetary Analysis'. The latter has turned out to be a very important distinction in macroeconomics.

Schumpeter describes *real analysis* as being conducted solely in terms of quantities or volume indices of inputs and outputs, as well as the subjective attitudes of human beings towards these commodities. As the name implies, it proceeds by taking for granted that all economic knowledge can be acquired simply by studying these relationships among and between goods and services. Money is thought of as secondary, and the economy operates essentially along the lines of barter exchange. There are various well-worn slogans and catch-phrases expressing this view, such as 'money is neutral' or 'money is a veil', *etc.* On the contrary, according to Schumpeter (1954, 277-8), in a *monetary analysis* money and monetary variables are of primary importance, and are 'introduced on the very ground floor of the analytical structure'. Monetary analysis abandons the idea that all of the essential features of economic life can be represented ultimately as barter. According to the Cambridge University economic sociologist Geoffrey

Ingham, it takes into account a separate and ‘relatively autonomous’ monetary sphere (Ingham 2004, 61).

Writing in the mid-twentieth century, the most obvious choice for Schumpeter as the main exemplar of monetary analysis was Keynes, in his trilogy *A Tract on Monetary Reform* (Keynes 1923), *A Treatise on Money* (Keynes 1930) and the *General Theory of Employment Interest and Money* (Keynes 1936). In the first three chapters of the *Treatise*, in particular, Keynes (1930, 3-43) put forward an alternative ontology of money which was very different from the usual emphasis on real exchange. On the other hand, Schumpeter did not mention the author of *Das Kapital* in the context of monetary analysis. Indeed it has seemed inescapable, not only to Schumpeter but to most other commentators also, that Marx’s underlying conception of money, which he held in common with both his classical predecessors and his later neoclassical opponents, was that of a commodity theory of money. For example, on this topic Ingham (2004, 61) has also written as follows:

Like Adam Smith, Marx held that ‘[g]old confronts other commodities only because it previously confronted them as a commodity ...’. Forms of credit are derivative: bank notes and bills of exchange are money in so far as they directly *represent* both precious metals and/or commodities in exchange ... (original emphasis) .. Marx’s *analytical* position is similar to that of classical economics (original emphasis) ... [... it .. implies that money can be analytically ‘bracketed’ ...]<sup>1</sup> ... Emphasis ... on the labour theory of value prevented Marx from recognizing the ... relative autonomy of the production of abstract value ... [via] ... credit-money...

And moreover Keynes himself also seemed to think that Marx should be counted along with Ricardo (Keynes’s *bete noir* on the subject on money), as an arch exponent of real analysis. Keynes was explicit about what he was trying to achieve in a letter to George Bernard Shaw (Keynes 1935, 40), written on New Year’s Day 1935 as the *General Theory* was in press:

... to understand my state of mind ... you have to know that I believe myself to be writing a book on economic theory which will largely revolutionise - not, I suppose, at once but in the course of the next ten years - the way the world thinks about economic problems. When my new theory has

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<sup>1</sup> The line of text placed in square brackets here is an interpolation from a later point in the same passage.

been duly assimilated and mixed with politics and feelings and passions, I can't predict what the final upshot will be in its effects on action and affairs. But here will be a great change, and, in particular, *the Ricardian foundations of Marxism will be knocked away* ... I can't expect you, or anyone else, to believe this at the present stage. But for myself I don't merely hope what I say – in my own mind I'm quite sure (emphasis added).

All of this is surely correct from the analytical point of view. Nonetheless, looking again at the same issue, but this time from the standpoint of the history of economic thought there is an obvious anomaly in the narrative. This is that Marx did, in fact, make at least one very important contribution to monetary theory *via* his notion of the 'monetary circuit'. And indeed this was acknowledged by Keynes (1933) himself, at one point in spite of what he said on the subject of Marx and Ricardo. It has gone on to play a major role in the heterodox monetary theory of the late twentieth and early twenty-first centuries (Parguez 1996; Parguez & Secarreccia 2000; Graziani 2003). Also in a relatively recent work on *Money and Totality* Fred Moseley (2016), as reviewed by myself (Smithin 2018b), has revisited the question of Marx and money. He makes the claim that 'the circuit of money capital is the general logical framework of Marx's theory of surplus-value' (Mosely 2016, 12).

In my own view, as I have explained on several previous occasions (Smithin 2009, 2018a, 2022a), there is no doubt that Schumpeter's distinction between real analysis and monetary analysis was a crucially important one. Also, that Keynes's approach in the 1930s was something new and quite different to Marxism. Further I would argue that this statement continues to hold true regardless of whether, or not Keynes himself eventually succeeded in persuading the rest of the economics profession of the validity of his theory is somehow, The idea that is fashionable today, seemingly on both the right and left of the political spectrum, that Keynes is somehow obsolete, or has been refuted or discredited in some way, does not hold up - in my opinion - in any disinterested scholarly *fora* outside of 'op-eds', social media and the like.

On the other hand, though, from what has already been said so far it is clear that this

statement is going to require considerable unpacking. The purpose of this paper is therefore to pursue some of these issues in more detail. The main conclusion is that the monetary circuit is indeed a crucially important idea but that it does not ‘work’ if the underlying conception of money is that of a commodity.

In what follows, section 2 first discusses Marx’s original notion of the monetary circuit and Keynes’s own commentary on this idea. Section 3 then looks at Marx’s theory of surplus value using a notation originally employed long ago by the American Marxist economist Sweezy (1942). Section 4 goes on to compare both of these ideas (the monetary circuit and the theory of surplus value) to the analytical categories that were introduced in the monetary macroeconomics founded by Keynes in the 1930s, and which then became standard in the textbooks of the second half of the twentieth century. Section 5 will go on to explore the related ideas of, firstly, a labour theory of *production* (as opposed to a Marxian labour theory of value) and, secondly, a *social* theory of value. The former suggests, with Marx (and also, it should not be forgotten, with Keynes himself and some later members of the Post Keynesian school),<sup>2</sup> that human effort and ingenuity are ultimately the mainspring of production. However, as to what constitutes value *per se*, the latter is the idea that in a monetary economy ‘value’ is actually determined by conflict between the various social groups over the (real) money shares in national income.<sup>3</sup> Money itself is a ‘social relation’ (Ingham 1996). Section 6 offers some conclusions.

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<sup>2</sup> In an interesting paper on ‘setting the record straight’ which was about the history of Post Keynesian economics, Professor Paul Davidson (2003-04, 262-67), an acknowledged leader of that school, and the co-founder of the *Journal of Post Keynesian Economics*, has tried to identify which groups of scholars under that ‘broad tent’ which he feels remain closest to Keynes’s fundamental ideas in this respect, and those which do not.

<sup>3</sup> A rather serious problem in trying to sort out the various arguments that can be made in this field is that of the multiple meanings of the term ‘real’ that can be applied in both economics and philosophy. In making the distinction between monetary analysis and real analysis for example the motive, as already stated, is to contrast the so-called real economy of physical goods and useful services with the monetary/financial sector. Also, however, there is the notion of real used in the specific passage of the text, which would be a sum of money ‘deflated’ by a price index  $\$/P$ . The idea in this case is to give some indication of the actual purchasing power of money. In making this type of comparison, by the way, I do not think that we should be too concerned by quibbles over which is the best index

## 2. The Monetary Circuit

Marx's original formulation of the monetary circuit is found in Vol. II of *Das Kapital* (Marx 1885, 109), and may be written schematically as follows

$$(1) \quad M \rightarrow C \dots C' \rightarrow M',$$

The entrepreneurs start the production process with a sum of 'money capital',  $M$ , on hand. With this they then acquire some other commodities,  $C$ . Next they engage in production, illustrated by the sequence of dots (...) in equation (1). They then use the initial  $C$  to make more (*i.e.*, more valuable) commodities  $C'$ . The term  $(C' - C)$  thus corresponds to the real value-added in the economy. Next, the entrepreneurs sell the enhanced commodities,  $C'$ , for more money  $M'$ . In Moseley's interpretation in the above-mentioned book the monetary circuit is therefore what capitalism, the production of surplus value, is all about.

Meanwhile Keynes (1933, 81), writing in 1933 as he was preparing his own major work for publication, had this to say about Marx's monetary circuit:

The distinction between a co-operative economy and an entrepreneur economy bears some relation to a pregnant observation by Marx – though the subsequent use to which he put it was highly illogical. He pointed out that the nature of production in the actual world is not, as economists seem often to suppose, a case of  $C \rightarrow M \rightarrow C' \dots$  of exchanging a commodity (or effort) to obtain another commodity (or effort). That may be the standpoint of the private consumer. But it is not the attitude of business, which is a case of  $M \rightarrow C \rightarrow M' \dots$  parting with money for a commodity (or effort) in order obtain more money.

It is clear Keynes is by no means endorsing Marx or Marxism. He says that the use to which Marx himself put this otherwise useful idea is 'illogical'. Nonetheless, it is evident that Keynes thought that  $M \rightarrow C \rightarrow M'$  is a crucially important insight.

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number to use in such a situation (assuming the appropriate level of technical competence used in compiling the various alternatives). The choice of index number, whatever it is, itself has a significant performative role. Finally, and perhaps most importantly from the point of view of intellectual history, there is the idea that money, though immaterial in the modern world, is nonetheless a real social relation. It is not nugatory. It has deontic power, and causal effects in the world of the 'brute facts' (Anscombe 1958), of production and consumption.

As already mentioned, the difference  $C' \text{ minus } C$  (that is, in the full version originally set out by Marx in Vol. III, rather than in Keynes's truncated form, which is from Vol. 1), in effect represents what the modern economist calls the *real value-added* in the economy. Meanwhile  $M' \text{ minus } M$  is the total of aggregate money profit. There are several important questions that can be asked about the relationships between these magnitudes. Most notably, how it is even *possible* for  $M'$  to be greater than  $M$ , and hence for monetary profits to exist? For example, this obviously cannot happen at the aggregate level if the money supply is fixed. And yet this is often precisely the assumption made in the macroeconomics textbooks! The answer to this 'puzzle' (Smithin 2016) can only be credit creation, and thereby money creation, by the banking system. Marx himself did not seem to answer, or even ask, this important question, and as already mentioned was hampered from doing so because of the assumption that money is itself a commodity. This is precisely where the idea of the circuit as presented by Marx does present logical difficulties as Keynes said. As we will see below, if  $C$  is a commodity *and*  $M$  is a commodity, then what is the ontological difference between them?

### 3. The Theory of Surplus Value

We now turn to a more detailed discussion of Marx's value theory, and following Moseley its significance for the so-called transformation problem. As is well-known, Marx used the term value in a quite specific sense. He put forward a version of the labour theory of value whereby the value of any commodity is given by the amount of 'socially necessary labour time' that went into its production. Using a notation similar to that which appears in Sweezy (*e.g.*, 1942, 63-71) recall that in Marx the expression for total value is given by a formula such as:

$$(2) \quad V = s + c + v,$$

where upper-case  $V$  stands for total value, lower-case  $s$  stands for ‘surplus value’, lower-case  $c$  for ‘constant capital’ and lower-case  $v$  for ‘variable capital’. The idea of the entry for constant capital is that this is supposed to account for the amounts of physical capital equipment and raw materials that are used up in the production process. These are measured as the ‘stored-up labour time’ that originally went into their production. It is therefore the value of the combined total outlay on depreciation *plus* raw materials. Variable capital, meanwhile, is ‘the value of the outlay on wages and salaries’ (Sweezy 1942, 63). A main argument in Marxian political economy is that the value of the variable capital needed to physically sustain the workforce will be less than the total value created during the working day. In an eight-hour day, for example, the time necessary to produce the equivalent in goods and services of the wage bill may be only five hours. What is produced in the remaining three hours is the surplus value. This is the term  $s$  in equation (2), and accrues to the employer as profit.

In many ways equation (2) is just an accounting identity. It is similar (*e.g.*) to the modern concept of GDP, or to the income statement of an individual firm. (Indeed, this is one of its strengths as compared to the somewhat sophisticated ‘marginal’ analysis long favoured by professional economists.) In a straightforward manner it simply adds the wage bill,  $v$ , depreciation  $c$ , and the profit or surplus,  $s$ . It is true that from the perspective of the pre-Marxian classical economists, who were typically focused mainly on the impact of agriculture on the economy there would have been one obvious omission. No allowance is made for ground rent. But Marx was well aware of this and made the explicit assumption that ground rent is zero (Sweezy 1942, 67).

There is another omission, however, this time from the standpoint of a modern monetary economist, which is more serious on general theoretical grounds. The problem is that in the



formula  $s + c + v$  no account seems to be taken of interest on money as anything separate from, or different to, the profit or surplus. In effect, as is also noted by Moseley (Moseley 2016, 389), Marx's analysis is based on the assumption that the original split between labour income and the total of non-labour income is pre-determined - by the macroeconomic labour theory of value set out in *Das Kapital* vol. I. Later on, in vol. III, there then has to be a further discussion of the distribution of the (now given) total of non-labour income between the two 'capitalist' categories of interest and profit. What is therefore posited is that *ex-post* there must be some kind of intra-mural dispute between the two types of capitalist which takes place *after* the broader class struggle over the distribution of the total surplus. There is a very large disadvantage to this procedure because it rules out any useful discussion of a three-way split, such as one later finds in Keynes (1923, 1936). This would be the much more realistic idea of a conflict between each of the two capitalists grouping, rentiers or the 'investing class' and entrepreneurs ('business'), *simultaneously* with the 'earner', *i.e.* the workers (Keynes 1923, 5-30; Ingham 1984).

In any event, in Marx the overall rate of profit, lower-case  $p$  (including interest) is given simply by the ratio of surplus value to total capital:

$$(3) \quad p = s/(c + v)$$

Note that equation (3) defines profit as a percentage of the total value of capital that is actually used up in the production process, rather than as a percentage of the total value of capital employed. The latter is probably the more usual definition, but Marx can get around this with no real loss of generality by assuming that all capital turns over exactly once during the production period (Sweezy 1942, 67-8). In other words, and presumably for the purposes of exposition only, the depreciation rate is assumed to be 100%.

The point at which Marx does get into difficulties, however, is not so much in defining the average mark-up for the economy as a whole, nor in working out a rate of profit for each individual enterprise or industrial group. It is, rather, in the simultaneous insistence that the process of competition must equalize the rate of profit across all industrial sectors. Marx is actually taking seriously the abstract notion of perfect competition that was a feature of both classical and neoclassical economics (and has lived on to the present day in the textbooks), regardless of its empirical or conceptual weaknesses. In the standard interpretation of the Marxian scheme, this is precisely what causes confusion between values as defined in terms of their labour inputs and the prices observed in the actual economy - thus giving rise to the transformation problem. The argument is that the ratio of constant capital to total capital, *i.e.*,  $c/(c + v)$ , a ratio that Marx calls the ‘organic composition of capital’, is bound to differ between various industries depending on their individual technical requirements. If the rate of profit is ever to be equalized across those same industries, the prices charged by each of them must therefore differ from their supposed values.

In my own work, for example in Smithin (2012, 2018a, 2022), I have argued that these abstract ideas around perfect competition (such as one finds actually in *both* Marx and Keynes) are not particularly useful in describing actually existing economies. In philosophical terms these sorts of ideas perpetuate the ancient metaphysical error of placing ‘essence’ before ‘existence’ (Gilson 1939, 195-215). In terms of the history of economic thought, they ignore the second theoretical revolution that took place at Cambridge university in the 1930, parallel with the ‘Keynesian revolution’. This was, namely, the ‘imperfect competition revolution’ associated in particular with the work of Joan Robinson (1933). The point is the straightforward one that in a world of generic imperfect competition the transformation problem would be made redundant

(Smithin 2012, 311). There would be an individual version of equation (3) down to the level of each enterprise, defining the rate of profit in that particular enterprise. Also there will be aggregate versions for each industry, and for the economy as a whole, which sum up all the individual equations. The result would be conceptually similar to Kalecki's notion of the 'degree of monopoly' (Kalecki 1971, 45). From these aggregative equations it would still be possible to make meaningful macroeconomic statements about changes in the overall profit mark-up and (from the point of view of political economy as such, rather than abstract economic theory) nothing important would be lost in terms of the vision of capitalism that can be achieved.

However, returning now to the argument of Moseley's book, although the author would presumably accept the logic of the above analysis, I gather that he would not be satisfied with it. He argues that Marx's account can also be (and *should* be) defended at the level of pure theory. This means in the context of a model which is assumed to be in long-run competitive equilibrium (Moseley 2016, 28). It must be supposed that there exists a long-run adjustment mechanism sufficient to eventually achieve uniform rates of profit across all industries.<sup>4</sup> In taking this view Moseley must therefore come up with an alternative suggestion to avoid the transformation problem, As will be discussed in the next section, that solution is to adopt an entirely aggregative and sequential approach.

#### **4. Real GDP, Labour Input, and Macroeconomic Value Added**

The alternative argument is that the transformation problem can also be eliminated, or perhaps more correctly may be argued never to have existed at all, even while retaining Marx's underlying basic assumptions of profit equalization and perfect competition. This approach is

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<sup>4</sup> Note, however, that this same assumption of a long-run or 'very long-run' adjustment mechanism very much reduces the significance of the transformation problem from the point of view of an empirical theory of profit, or of income distribution in general.

based on the sequential determination, first of aggregate surplus value, and only later its distribution between the different industries. The sole domain of Marx's argument in Vol. I is taken to be the determination of *aggregate* surplus value. Vol. III is then supposed to show how the total surplus is distributed among the different industries such that they all have the same rate of profit. In this aggregative and sequential approach the transformation problem disappears.

To pursue the argument further using the notation already introduced above first note that the expression for surplus value,  $s = V - s - c$ , could also be usefully be written as:

$$(4) \quad s = C' - C$$

Evidently, the term  $C$  (the original  $C$ ) can be thought of as just the cost of production. That is:

$$(5) \quad C = c + v.$$

In short, the cost of production is nothing other than the sum of constant capital *plus* variable capital. The for the purposes of the analysis of aggregate surplus value in Marx's Vol. I the two cost components can be taken to be pre-determined

In previous work, for example in Smithin (2016, 2018a, 2022a), I have suggested that we can also use the symbol,  $Y$ , by analogy to the modern concept of real GDP, to represent the value of *new* production, with the understanding that this specifically refers to newly-created value in Marx's precise sense. Therefore, we could also write:

$$(5) \quad C' = c + Y$$

As already stressed, the key assumption in Marx's labour theory is that value-added is proportional to labour input. If we use the symbol  $N$  to stand for labour input and  $A$  to stand for the proportionality factor this becomes:

$$(6) \quad Y = AN.$$

What is achieved by this is to bring our notation here in touch with that employed in (say) the

later Post Keynesian literature, such as that found (*e.g.*) in Davidson (2011), Davidson and Smolensky (1964) and Weintraub (1958, 1961). In the Post Keynesian tradition the symbol  $N$  is often used to stand for employment (a usage which goes back to Keynes himself) and  $A$  therefore stands for the average product of labour. Combining the two sets of notation equation (5) can therefore be re-written as:

$$(7) \quad C' = c + AN,$$

Moseley also makes the point that several commentators have introduced the notion of the so-called ‘value-price’ in Marx. This is described as the ‘price form of the appearance of value’ (Moseley 2016, 29-30). This means that it is denominated, for example, in ‘shillings’ which was a monetary denomination in use in Britain at the time Marx that was writing and living in London. Recall, however, that in this world a shilling itself is also meant to be a commodity as opposed to a signifier of value in the abstract (Moseley 2016, 29). The ontological status of the distinction between having between value and value price is therefore unclear. In the notation of equations (2), (3), and (4), both value price and value would presumably both have to be given by the formula  $s + c + v$ . That is they *both* consist of the value of constant capital,  $c$ , a magnitude transferred as is to the value of output, *plus* the new value,  $s + v$ , created by the application of labour power during the production process.

So, just what is supposed to be the difference between value and value price? It is hard to say, and the reason for this has to do with the basic problem of trying to parse the phrase ‘the price form of the appearance of value’ in terms of a money of account that is also supposed to be a commodity. In my view the difficulty is symptomatic of the problems which inevitably arise in economic theory, including Marxism, whenever there is a commodity theory of money. The key passage from Moseley’s book which bears on this question is as follows (Moseley 2016, 31-2):

With regard to the proportionality factor ... Marx assumed throughout that money is a

commodity (*e.g.* gold). In this case ... (it) ... is assumed to be determined by the quantity of gold produced per hour of abstract labour. The value of gold is directly and immediately money value, a quantity of money value equal to its own physical amount. An hour of abstract labour in all other industries is assumed to produce the *same quantity of money value* (original emphasis) as one hour of abstract labour in the gold industry. The difference between gold labour and all other labour is that one hour of abstract labour in the gold industry produces actual money value directly as labour itself whereas one hour of abstract labour in all the other industries produces the same amount of money value in the form of the new-value component of the value prices of commodities, which still has to be converted into actual money through sale.

The implications of this must therefore surely be that from the ontological point of view, as this term is used (*e.g.*) in Lawson (2003), Ingham (2004), Smithin (2022), Zelmanovitz (2016) and other sources, there is not really all that much difference in Marx's analysis between  $M$  and  $M'$  and  $C$  and  $C'$ . We can indifferently use  $C' = c + AN$ , or  $M' = c + AN$ , to stand for either concept. Given, then, that there is little or no analytical distinction that can be made between  $(C' - C)$  and  $(M' - M)$ , one of them would appear to become redundant. As already noted the situation would be entirely different if only  $M$  and  $M'$  were conceived of as simply sums of means of payment (of debt) denominated in the socially determined abstract unit of account - not as aggregates of commodities. In that case they would indeed be ontologically quite distinct from  $C$  and  $C'$ . In my view this is a key issue, indeed the crucially important issue, in monetary theory.

Important as these considerations are for the interpretation of the concept of monetary analysis actually they do not really affect the question of the transformation problem itself. Nor do they affect the validity of Moseley's solution to it. The transformation problem in and of itself therefore turns out to be something of a side-show from the point of view of the main concerns of this paper.

Nonetheless, for completeness and to finish off this train of thought, we can observe that in the notation of equations (4) through (7) above the final explanation of the aggregate surplus value as determined in Marx's Vol. I (Moseley 2016, 32) may be written as:

$$(8) \quad s = AN - v$$

Next, at the second stage of the sequential process (which is not discussed in Marx until Vol. III), total surplus value is then distributed among the different sectors (Moseley 2016, 389) according to the formula:

$$(9) \quad PP_i = (c_i + v_i)(1 + p).$$

Here  $PP$  stands for the ‘price of production’,  $i$  is the index for the ‘ $i$ th’ industry or sector, and  $c$  and  $v$  stand for constant and variable capital as before. Lower-case  $p$  is again the aggregate rate of profit. Thus, if we are prepared to use the sequential approach, or at least to interpret Marx as having used the sequential approach, there is seen to be no transformation problem. It simply disappears. This is so even if monetary questions *per se* have played no role in arriving at the eventual solution.

## 5. A Labour Theory of *Production* and a *Social* Theory of Value

To return now to the topic of monetary analysis *per se*, the objective of this penultimate section of the paper is to put forward an alternative synthetic theory of profit to summarize and integrate the basic arguments made above. However, this theory will need to be ‘more general’, in three separate senses, than has been the discussion thus far.<sup>5</sup> Firstly, there is no reason why it should rest on the classical and neoclassical premise of diminishing marginal productivity or, which is a slightly different point, on any marginal principle at all. Secondly, as in Keynes (1936), it should indeed allow for the presence of demand constraints that limit both the output of each individual

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<sup>5</sup> Keynes obviously must have thought of naming his book the *General Theory* (of money) by analogy to Einstein’s ‘General theory of relativity’. In the years since very many authors, on a wide variety of different topics, have followed his lead. Later on, in a further twist, some writers began to use the locution ‘more general’ to further distinguish their own work, and this is the origin of the phrase in the text. A notable example was the book by the economist Edward Chamberlin, another scholar involved in the imperfect competition revolution of the mid-twentieth century, who contributed a book of essays called *Towards a More General Theory of Value* (Chamberlin 1957).

firm, and also aggregate output. Thirdly, there should be three basic categories in the functional distribution of income, wages, profit, and interest, rather than just capital and labour.

A synthetic theory of profit can be derived from the following two equations (Smithin 2018a, 115), namely:

$$(10) \quad PY = \Pi + (1 + i)W_{-1}N_{-1} + (1 + i)P_{-1}U_{-1} \quad (\text{nominal revenue})$$

$$(11) \quad Y = AN_{-1} \quad (\text{production takes time})$$

Here  $Y$  stands for the real output produced in the last period and sold in the current period, and upper case  $P$  represents the price level. Therefore,  $PY$  stands for nominal revenue in the case of an individual firm, or for nominal GDP in aggregate. For theoretical consistency in the aggregative version the symbols should be taken as referring to flows of funds rather than the imputed values provided by the statisticians. Recall that the GDP numbers reported in the national accounts are not actually ‘stock-flow consistent’ (Godley and Lavoie 2007, Palley 2015, Wray 2012). Although, the GDP numbers are ‘all there is’ for empirical work, in practice, the theoretical development will need to be much more precise.

With this qualification, the money value of variable capital can be identified with the nominal wage bill  $W_{-1}N_{-1}$  (in this case the lagged nominal wage bill) where  $W$  is the nominal wage rate and  $N$  is level of employment. The term  $U$  meanwhile is meant to be a concept similar to Keynes’s (1936, 66-73) ‘user cost’ (whence the symbolism is derived) or, alternatively, to Marx’s constant capital. It represents the starting money value of the amounts of raw materials and physical capital equipment used-up in the production process. The nominal interest charge levied on both variable capital and constant capital is taken to be  $i$ , which means that the interest rate that will eventually be paid on the loans taken out in the previous is assumed to be that prevailing in the current period. In other words, when the terms of the loans are agreed the



arrangement is that the interest rate is ‘variable’, that the rate which apply is that prevailing when the interest payment actually change hands.<sup>6</sup> Finally, following tradition, the Greek upper-case symbol,  $\Pi$ , stands for the net profit (surplus value in Marx). Evidently, equation (10) does have a mathematical structure somewhat similar to the Marxian value equations discussed above. However, it is expressed in money terms only.

Equation (11) allows for the basic fact that production takes time *via* the device of a one-period production lag, which is the simplest possible. This device is then able to explain the need both for the interest charge itself and, also, the necessity for entrepreneurs to form expectations of future sales at the time of production. Although this kind of specification only explicitly shows the relation between output and labour inputs, it does *not* ignore the constant capital component. As we have seen, this is already carefully accounted for in the definition of profit. In effect the contributions of the various machines, technical knowledge, raw materials, and so forth, are simply rolled up in the term  $A$ . What emerges is perhaps best described as a ‘virtual labour theory of *production*’ (Smithin 2012, 225, emphasis added) rather than a labour theory of value. In fact, it is a rival, or antidote, to the familiar ‘ $AK$ ’ model from the neoclassical growth theory of the late twentieth century (Jones 1998, 148-50; Rebelo 1991), where  $K$  was supposed to stand for the total capital stock of the economy somehow defined. The alternative specification,  $Y = AN$ , accepts without reservation Keynes’s (1936, 41) original view that it is best to restrict attention to ‘quantities of money-value and quantities of employment’<sup>7</sup> rather than

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<sup>6</sup> This is just a matter of convenience of exposition in this particular paper. It would be equally to specify the lagged interest rate,  $i_{-1}$ , which would be the rate prevailing when the loan is first taken out. I have often used that specification in previous work, for example in Smithin (2022a) most recently.

<sup>7</sup> In my view Keynes (1936, 245-47) was wrong in suggesting that this sort of analysis needs to be confined to the Marshallian short-period. For Keynes this was a necessity because he had assumed a marginalist specification of the production function  $Y = F(N)$  with  $F'(N) < 0$ .

to attempt the quixotic task of trying to attaching a concrete meaning to the vague, and ultimately undefinable, notion of a capital stock.

Next, introduce two more rather more precise definitions:

$$(12) \quad s' = \Pi/[W_{-1}N_{-1}(1+i)],$$

$$(13) \quad k' = P_{-1}U_{-1}/W_{-1}N_{-1}.$$

The first of these is similar to the so-called ‘rate of surplus value’ in Marx, but with the addition of the explicit interest charge on the variable capital. The second relates to Marx’s notion of the organic composition of capital, or the more familiar capital-labour ratio from neoclassical economics. Therefore, equation (10) can be re-written as:

$$(14) \quad PY = (1 + s' + k')(1 + i)W_{-1}N_{-1}.$$

Finally, let the symbol  $k$  (which is different from  $k'$ ) stand for the gross entrepreneurial mark-up, such that  $k = k' + s'$ . The newly-defined mark-up factor,  $k$ , thus includes an allowance both for depreciation on physical capital and for the rate of surplus value. It is a gross mark-up in that sense, but note also that it is ‘net’ of the nominal interest charge. Equation (14) therefore can be re-written to become:

$$(15) \quad PY = (1 + k)(1 + i)W_{-1}N_{-1}.$$

This expresses money value as a multiple of the original investment in variable capital (also measured in money terms). The multiplying factor covers the three main elements in the accounting scheme, that is, the interest charge, depreciation on fixed capital, and net profit.

We can now employ the mathematical technique of taking natural logarithms of each of the variables, employing the widely-used approximation that e.g.,  $\ln(1 + x) = x$ . This implies that  $\ln(1 + k)$  and  $\ln(1 + i)$  may be represented simply by  $k$  and  $i$  respectively. This gives:

$$(16) \quad \ln P = k + i + \ln W_{-1} - \ln A.$$

Next, subtract  $\ln P_{-1}$  (the natural logarithm of the lagged price level) from both sides of the equation and re-arrange. The result is:

$$(17) \quad k = \ln A - [i - (\ln P - \ln P_{-1})] - (\ln W_{-1} - \ln P_{-1}),$$

where the term in square brackets,  $[i - (\ln P - \ln P_{-1})]$ , is the lagged nominal interest rate *minus* the observed inflation rate. Also, let the lower-case symbol,  $w$ , stand for the natural logarithm of the real wage rate, such that  $w_{-1} = \ln W_{-1} - \ln P_{-1}$ , and lower-case  $a$  for the natural logarithm of labour productivity,  $a = \ln A$ . Then from (17) the basic theory of profit, in discrete time allowing for the one-period production lag, can be more simply written as:

$$(18) \quad k = a - r - w_{-1}.$$

This is an adding-up theory expressed in terms of logarithms or percentages. It states that the gross mark-up is equal to the natural logarithm of labour productivity *minus* the inflation-adjusted real interest rate, and *minus* the natural logarithm of the lagged average real wage rate. From a behavioural perspective we may take it that the expected  $k$ , as seen from the beginning of the production period, is what is relevant for actual economic decision-making, both at the level of the individual firm and in aggregate *via* summation. In equilibrium, actual and expected  $k$  will coincide. But, whether in equilibrium and out of it, there always exists a subjective value of  $k$ , at both the firm and aggregate levels (Kalecki 1943, 47-8).

To be clear, however,  $k$  is not an expected profit *rate*. The latter concept is difficult to define, and is hardly a meaningful concept at the aggregate level. There would be a closer analogy to the previously mentioned Marxian concept of the rate of surplus value, albeit in this case with an explicit allowance for depreciation. It remains possible for each firm to define for themselves either an expected (or eventually an *ex-post*) accounting rate of return in the course of individual business decision-making and presumably each of them will be doing so. In

specifying an aggregative behavioural model, however, the  $k$  term itself seems to be by far the more useful concept, and is what might be the most appropriate concept for use as an incentive variable in an aggregate investment function.<sup>8</sup>

In equilibrium, the theory of income distribution becomes simply:

$$(19) \quad k = a - r - w.$$

Therefore, when expressed in terms of logarithms or percentages, the natural logarithm of labour productivity resolves into three components, not just two. These are profit, real interest, and the real wage rate.

What is the significance of all this? We have already identified what I like to call a ‘labour theory of production’ in the shape of equation (11) above. And this orientation was, in fact, common both to Keynes and Marx as well as to certain members of the later Post Keynesian school.<sup>9</sup> Now, we can also see that equation (19) goes on to specify a theory of income distribution in (real) money terms. This is what constitutes a ‘social theory of value’, it seems to me, in the sense in which Geoffrey Ingham has used this term. The relevant quote from Ingham (2004, 202) reads as follows:

... in place of the labour theory of value and economic orthodoxy’s ‘real’ theory, I have tentatively disinterred the social theory of value I detect in Weber’s sociology. It’s development is the next most pressing task.<sup>10</sup>

Therefore, as suggested in the introduction, by combining the idea of the monetary circuit (see Graziani 1990), the monetary theory of production (see Graziani 2003), and ideas about social ontology (Lawson 2003; Searle 2010; Smithin 2009, 47-52) we arrive not at a labour theory of value as in Marx, but a labour theory of production and, eventually, the desired social

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<sup>8</sup> In practice, there is a strong case for using the realized value of  $k$  as a regressor in any empirical work that one might undertake. See, for example, Collis (2018) and later Smithin (2023).

<sup>9</sup> It is appropriate at this point to refer once again to footnote 2 above.

<sup>10</sup> Ingham also makes reference to a contribution by the present author, namely Smithin (2003).

theory of value. This sort of theory is not affected at all (at least in my view) by the current societal obsession with technological progress, computers, robots, the oxymoronic ‘artificial intelligence’, and so on and so forth. It seems to me to be self-evident that ultimately behind all these things is nothing more, and can be nothing more, than human effort and ingenuity. In terms of the technical analysis they are all rolled up in the ‘ $A$ ’ term in  $Y = AN$ . There does remain something which does somewhat resemble a ‘return to capital’, that is,  $k$ . This ‘ $k$ ’, however, is really much more like a return to entrepreneurship itself (another form of human effort and ingenuity), than anything else. The machines and raw materials, and so on, certainly play an instrumental role. In the end, though, the reward is not really down to the machines, as such, in and of themselves (it is quite possible, I think, to agree with Marx here). Nor does it actually have to do with the Marx’s ‘ownership of the means of production’. At the end of the day, in a specifically *monetary* economy everything boils down to access to the most important social institution of all, namely money or credit.

## 6. Conclusion

Typically, in sources such as introductory texts in philosophy, philosophical dictionaries, and the like the main antimony in philosophy is taken to be that between idealism and materialism. This turns out to be highly relevant to the difficult questions of social ontology and the ontology of money that we have been discussing here.

There is something of this in Marx, of course, even though the Marxian conception of *historical* materialism was more nuanced than that of say the typical scientific determinist. Marx is often said to have turned Hegel (the archetypal idealist) ‘on his head’.<sup>11</sup> But, as I think has now

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<sup>11</sup> The actual quote from Marx (1873, 09) put things the other way round. What he says of Hegel’s dialectic is that: ‘(w)ith him it is standing on its head. It must be turned right side up again, if you would discover the rational kernel within the mystical shell’.

been demonstrated in the argument of this paper, the suggested opposition of idealism *versus* materialism does not work. Both idealism and materialism fail. Ultimately they both entail rejecting the fundamental axioms of existence, consciousness, and identity - in one way or another (Smithin 2022, 63-65).

I and co-authors (Smithin 2022b; Grunberg & Smithin 2023; Marchenko & Smithin 2023) have argued that a viable alternative is metaphysical realism (see also Gilson 1952, 1986, 1990; Rasmussen & Den Uyl 2020; Searle 1995, 1998, 2010). And the example of money and credit, and monetary analysis in general, provides a case in point. There are beings which exist, namely social facts and social institutions including money, which are immaterial but are nonetheless real and binding on those who participate in them. They have deontic power, and can and do have causal effects in the material world. The ontologies of the natural world, the world of the ‘brute facts’, according to Anscombe (1958), and of the social world are different but they are nevertheless part of the same overall ‘universe’ and inevitably interact.

The brute facts are both epistemologically and ontologically objective, whereas the social facts are ontologically subjective, dependent on such things as collective intentionality and the performance of ‘speech acts’, *etc.* (Searle, 1995, 1998, 2010).<sup>12</sup> Nonetheless they are also *epistemologically* objective, which is the important point. They have deontic power and therefore observable effects on the material world itself - which can then be studied, understood, and explained within the sphere of the appropriate set of the ‘special sciences’ that is, the social sciences (Smithin 2018a, 13-15).

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<sup>12</sup> As for collective intentionality Searle (1995, 23-26) stresses that this is not a group mind, a ‘Hegelian world spirit’, collective consciousness, or anything of the kind. ‘We intentionality’, as Searle understands it, is quite consistent with methodological individualism, *etc.*

What therefore emerges is a labour theory of production on the side, so to speak, of the brute facts, and a social theory of value, which takes full account of the social facts, including money, on the other.

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