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INCOME DISTRIBUTION AND THE RATE OF PROFIT IN MARX AND THE CLASSICS: A COMPARATIVE STUDY

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Abstract

This paper argues that the concern to determine the rate of profit, attributed by the modern surplus approach to the classics, was not the main focus in most classical authors before Ricardo and certainly did not have a central place in Marx's analysis. According to Marx, a uniform rate of profit was only one way to determine the distribution of surplus value among the owners of capital, while the distribution of income among capitalists and workers was strictly determined by the rate of surplus value.
Marx did not use his own version of the labour theory of value to determine the rate of profit and production prices, but to analyse the dynamics of economic aggregates and bring to light the inner social nature of production and distribution processes. In this context, Marx's rate of profit was only an aggregate measure of the maximum potential growth rate.

JEL classification: B140, B240, B510, C670

Key Words: surplus approach, classical economists, rate of profit, rate of interest, prices of production.

1. Introduction

In some schematisations and popular presentations of the modern *surplus approach*, the rate of profit – rather than surplus value and profit in themselves – is often considered one of the two main distributive variables in contemporary economic systems, alongside the wage. This is often summarised by highlighting the *inverse wage-profit relation* – which is actually the inverse relationship between the *rate of profit* and the *surplus wage* that arises from solving Sraffa's price equations – as the main distributive relationship in this kind of approach (Blecker and Setterfield, 2019; Tsoulfidis and Tsaliki, 2019).

As we know, given an economic system with n goods, Sraffa's price system contains n equations in $(n + 2)$ unknowns – i.e. the n prices, the rate of profit and the wage. Thus, there are two more unknowns than equations which means that two of the unknowns have to be exogenously determined to solve the system.

Usually, an arbitrary good is chosen as numeraire, setting its price equal to 1. In this way, the number of relative prices and unknowns is reduced respectively to $(n – 1)$ and $(n + 1)$. However, to solve the system, we have to fix another unknown and are left with a choice between the wage and the rate of profit (Pasinetti, 1977).

From a formal viewpoint, this choice is apparently unremarkable. However, Garegnani, who was one of Sraffa's most distinguished pupils, pointed out that "characteristic premises" of the *earlier surplus approach* are that "the real wage and the social product are given when determining the rate of profit and relative prices" (Garegnani, 1984). Thus, if the wage were determined by means of workers' subsistence, in accordance with the view of most "classical economists", then the rate of profit would be univocally determined by the system of price equations simultaneously with all relative prices.

Nevertheless, since today most economists who adopt the modern surplus approach and Sraffa's price equations believe that the wage also includes a part of surplus, its exogenous determination is more challenging. Thus, according to Pasinetti, "the inclination" of most economists "is to reverse the Classical approach" and seek a relation outside this equation system which may determine the rate of profit (Pasinetti, 1974, p. 74). Sraffa himself, according to Pasinetti (1977), "gives a clear indication that he thinks in these terms" and "confines himself to considering alternative solutions to [the] system […] for all possible given values of the rate of profit" (Pasinetti, 1977, p. 74).

Sraffa first pointed out that wages "besides the ever-present element of subsistence", "may include a share of the surplus product" (Sraffa, 1960, p. 9). Moreover, he argued that, even though the wage could be taken as given, it "does not acquire a definite meaning until the prices of commodities are determined" (Sraffa, 1960, p. 33). Conversely, "the rate of profits, as a ratio, has a significance which is independent of any prices, and can well be 'given' before the prices are fixed. It is accordingly susceptible of being determined from outside the system of production, in particular by the level of the money rates of interest. In the following sections the rate of profits will therefore be treated as the independent variable" (Sraffa, 1960, p. 33).

However, as Garegnani pointed out, this suggestion by Sraffa went beyond the "core" that Garegnani had outlined in the work of the "classical economists" (Garegnami, 1984, p. 320). This led Garegnani to consider "how far the suggested

change in the independent distributive variable is compatible with the surplus approach to value and distribution" of the "classical economists" (Garegnani, 1984, p. 320).

Nonetheless, when dealing with Marx's prices of production, Garegnani pointed out that it is misleading to treat "as integral parts of a single method for determining the rate of profit and relative prices, what can be developed as two equivalent but distinct methods for this determination" (Garegnani, 1984, p. 292). He distinguished these two distinct methods as the "Price-equations method" – coinciding with Sraffa's system of price equations – and the "Surplus-equation method" – whose solutions, in turn, were closely connected to the use of Sraffa's "Integrated wage-goods sector" and "Standard system" (Garegnani, 1984, p. 292). Thus, Garegnani, in the end, emphasised how Sraffa's approach was perfectly consistent with the "core" of the "classical economists" he identified and his system of price equations is only an alternative way of presenting the *earlier surplus approach*.

However, the view that it is the rate of profit that is the exogenous variable – which simultaneously determines not only the relative prices but even the surplus wage – opened up both post-Keynesian theories of income distribution – in which the equilibrium rate of profit is determined by the natural rate of growth divided by the capitalists' propensity to save (Pasinetti, 1961) – and post-Keynesian perspectives on a possible regulation of income distribution by monetary authorities which control the rate of interest (Panico, 1988; Pivetti, 1991).

In any case, whether considered an exogenous variable or not, the rate of profit plays a key role in the theories of *value and distribution* of the *modern surplus approach* which explicitly refers to the "classical economists" and Marx. Therefore, it seems justified to wonder what role, if any, the rate of profit played in the theories of *value and distribution* developed by these economists.

Consequently, in Section 2, we analyse the role played by the rate of profit in the Physiocrats, Smith and Ricardo, who – according to Marx himself – characterised "political economy in its classical period" (Marx, 1861-1863b, p. 30).

In Section 3, we also support the view that a uniform rate of profit did not play any major role in Marx's analysis. In fact, according to Marx, a uniform rate of profit was only one way to determine the distribution of surplus value among the owners of capital in proportion to the capital invested. On the contrary, the distribution of income between capitalists and workers was strictly determined by the rate of surplus value.

2. The role played by the rate of profit in the "classical political economy"

According to Marx, the focus of political economy before himself was "the investigation of the origins of surplus value" (Marx, [1861-1863] 1988, p. 28). However, for the Mercantilists, the portion of surplus value constituted by profit was mainly explained in the sphere of exchange as being due to the ability to sell commodities above their value (Marx, [1861-1863] 1988, p. 348). Back in 1767, James Steuart limited all profits of individual capitalists to "profit upon alienation", which arises from the price of the commodities being greater than their real value, or from the commodities being sold above their value (Marx, [1861-1863] 1988, p. 351).

The Physiocrats were the ones who first "transferred the inquiry into the origin of surplus value from the sphere of circulation into the sphere of direct production, and thereby laid the foundation for the analysis of capitalist production" (Marx, [1861-1863]

1988, p. 348). They, according to Marx, were "the fathers of modern political economy" because they were able to "distinguish capital from money and conceive it in its general form as exchange value made independent, preserving itself in and augmented by production" (Marx, [1857-1861] 1986, p. 253).

The Physiocrats also first emphasised the essential circularity of the production process (Blaug, 1985), even though Quesnay considered the annual aggregate product and "necessary consumption" in kind, and therefore the social surplus was also treated in physical terms, as a *surplus product* (Garegnani, 1984).

Moreover, rent was conceived as the only form of surplus. Profit on capital in the proper sense was not taken into account by them. It was only seen as a kind of higher wages paid by the landowners which the capitalists consumed as revenue (Marx, [1861-1863] 1988, p. 355). According to Marx, therefore, the Physiocrats had a "correct grasp of surplus value" that was just "within the limits of agricultural labour" (Marx, [1861-1863] 1988, p. 356).

This approach, of course, neither defined nor explained a percentage ratio between the surplus appropriated by capitalists and the capital invested, even though many Physiocrats were empirically aware that profits were usually in proportion to the magnitude of capital advanced.

Turgot, in particular, even though he considered rent a general form of *surplus value*, regarded "capitals" as "accumulated movable values", and consequently dealt with the rate of profit as the opportunity cost of spending money as capital rather than on the purchase of land – i.e. as the average proportion of the rent to the price of land. Interest on money was also seen by him as only a part of the surplus value earned by landowners that went to the money capitalists based on the same principle (Marx, [1861-1863] 1988, p. 356).

Interest and profit, therefore, were seen as pure forms of redistribution to capitalists of parts of the surplus value produced by the forces of nature – which was rightfully due to landowners in the form of rent – determined in proportion to the invested capital according to "the rate of rent" itself – i.e. the proportion of rent to the price of land.

Conversely, later economists – beginning with Adam Smith – considered industrial profit to be the form in which surplus value is originally appropriated by capital owners. Hence they considered it as the original general form of surplus value, considering interest and rent as mere parts of it, which are distributed by the industrial capitalists to "various classes, who are co-owners of surplus value" (Marx, [1861-1863] 1988, p. 356).

As a matter of fact, however, the main focus of Smith's analysis – as made clear in the introduction to the *Wealth of Nations* – was what today is called *economic development* – i.e. the long-term forces governing the growth of nations' income (Blaug, 1985). Of all these forces, Smith particularly stressed the advantages of the division of labour – understood both as the specialisation of tasks within an industrial enterprise and as the separation of several multi-product enterprises through a process of horizontal or vertical disintegration, followed by the concentration of the production of individual products – pointing out how that division of labour is limited by the extent of the market.

In this context, income distribution was not one of his major focuses. Cannan, for example, pointed out that "Adam Smith's theory of distribution, instead of being made one of the main subjects of the Book, is inserted in the middle of the chapter on prices

as a mere appendage or corollary of his doctrine of prices" (Cannan, 1917, p. 146). Smith, in fact, talking about the price of commodities, says that:

> "As the price or exchangeable value of every particular commodity, taken separately, resolves itself into some one or other or all of those three parts [the wages of their labour, the profits of their stock, or the rent of their land (*Editor's note*)]; so that of all the commodities which compose the whole annual produce of the labour of every country, taken complexly, must resolve itself into the same three parts, and be parcelled out among different inhabitants of the country either as the wages of their labour, the profits of their stock, or the rent of their land; the whole of what is annually either collected or produced by the labour of every society, or, what comes to the same thing, the whole price of it, is in this manner originally distributed among some of its different members. Wages, profit, and rent are the three original sources of all revenue, as well as of all exchangeable value." (Smith, [1776] 1976, p. 69).

Dobb, in turn, argued that no "more extensive disquisition upon the subject of distribution" can be found in Smith's work (Dobb, 1973, p. 50). What can be found are merely "two related propositions concerning the tendency of two of these components (wages and profits) towards uniformity as between different employments and industries, and the determination of the general level of each by conditions of supply and demand for labour and for capital respectively. The "circumstances which naturally determine" the rate of wages and the rate of profits, as well as their differences "in the different employments of labour and stock", form the subject-matter of the ensuing chapters (VIII, IX and X), followed by a separate treatment of the Rent of Land" (Dobb, 1973, p. 50).

Analysis of the main sources of income - i.e. rent, profit and wages - and the determination of prices were integral parts of Smith's wide-ranging investigation into the causes of the *Wealth of Nations*. Yet Smith analysed them separately and sometimes in a merely empirical manner, without considering their theoretical systematic consistence.

Distribution, by definition, is the action of sharing a certain quantity among a certain number of recipients. In economics, therefore, it usually refers to the distribution of a given value of the social product among the different social classes or among the different participants in the production process. Indeed, there is no evidence in Smith's work that these sources of income were considered shares of a single independently determined magnitude.

On the contrary, Smith, in some parts of his work, shows a clear "adding-up" process in determining the total value of social product (Sraffa, 1951, p. XXXV) which is seen as the summation of the "ordinary or average rate both of wages and profit" and the "average rate of rent" regulated in turn "by the general circumstances of the society" and "by the natural or improved fertility of the land" (Smith, [1776] 1976, p. 72).

From this viewpoint, therefore, Smith does not seem "to grasp" the distribution of income in a modern sense at all.

In some parts of his work, Smith seems aware that profits and rent are deductions from the annual product for which no corresponding contributions have been made. However, it is neither clear how their recipients can impose charges on industry nor what determines their amount and proportion (Douglas, 1927).

Undoubtedly some pages of the *Wealth of Nations* suggested their visions of exploitation to the English socialists and Marx himself more than those written by

Ricardo (Douglas, 1927). However, this does not change the fact that Smith did not have a consistent, comprehensive view on these issues.

In his *adding up* approach to price determination, for example, Adam Smith regarded the wage as a determinant of the value of commodities. According to this view, wage rises cause commodity values to rise. The important conclusion that wage increases do not increase the value of commodities, but only reduce the capitalists' profit only belongs to Ricardo (Ternovsky, 1988).

However, Smith explicitly stated that, even though profit is made on the sale of commodities, it does not derive from the sale itself or from selling the commodities above their value. In other words, Smith explicitly recognised that normal profit is not "profit upon alienation" and is based on unpaid labour. He explicitly pointed out that "the value, which the workmen add to the materials, therefore, resolves itself in this case into two parts, of which the one pays their wages, the other the profits of their employer upon the whole stock of materials and wages which he advanced" (Smith, [1776] 1976, p. 66).

Thus, according to Marx, in this passage Smith made "what is in substance an analysis of surplus value" but did not present it "explicitly in the form of a definite category, distinct from its special forms", identifying it "with the further developed form of profit" (Marx, [1861-1863] 1988, p. 395). Yet, according to Marx again, this last error "persists with Ricardo and all his disciples" (Marx, [1861-1863] 1988, p. 395).

While many economists before him had already affirmed that whoever employed capital in mercantile activities generally received a revenue that was solely proportioned to the initial value of the capital employed, Smith first recognised that similar net rewards were also earned on capital employed in other economic activities, such as agriculture and manufacture (Meek, 1954). Therefore, he noted as a matter of fact that the amount of profit generally depended on the amount of capital advanced and that capital of equal size produced an equal amount of profit on average, in all spheres of production. This showed him empirically that an *average rate of profit* tended to prevail in the real economy.

However, he did not identify any law to determine this average profit rate. The contradiction of this empirical evidence with his view that profit consists purely of the unpaid surplus labour – due to the fact that in different branches of production advanced capital is not proportional to the number of workers – did not cause him any doubts since he allowed many other theories to coexist alongside his main theory and could invoke one or another at will (Marx, [1861-1863] 1989, p. 258).

Talking about the *natural and market price of commodities*, in Chapter VII of Book I, Smith says that:

> "When the price of any commodity is neither more nor less than what is sufficient to pay the rent of the land, the wages of the labour, and the profits of the stock employed in raising, preparing, and bringing it to market, according to their natural rates, the commodity is then sold for what may be called its natural price" (Smith, [1776] 1976, p. 72).

In this passage, it is clear that when Smith speaks of the "natural rates" of the three main forms of income, he means, in common English parlance, simply the amounts of money that are normally paid to their recipients. As we know, in British everyday language, the "wage rate" is usually intended to be the amount paid to a worker per unit of time or per unit of output (Collins English Dictionary). Thus, in Smith, the "profit rate" is simply the amount of profit, expressed as a percentage of the initially invested capital, that must be achieved for a venture to be sound.

The only theoretical conclusion he drew from the empirical evidence of an average proportionality between profit and anticipated capital was a clear denial of the explanation of profit as wages for the "labour of superintendence" since not only is there no reason to assume that this labour of superintendence should increase to the same extent as the scale of production, but the value of anticipated capital can also only increase due to the cost of raw materials, without a corresponding increase in the scale of production (Marx, [1861-1863] 1989, p. 258).

Smith, while admitting the difficulty of assessing the exact value of the average rate of profit, argues that some indication will be given by the rate of interest and that the rate of profit will be determined by the level of stock in relation to the business to be transacted together with the prevailing wage rate (Smith [1776] 1976, p. 105). There is also a concern about the dynamics of profits over time, the conclusion being that profits, like wages, would tend to fall as the number of capitals increases due to competition.

However, according to Marx, when dealing with "the natural rate or the natural price of profit", Smith fell prey to "meaningless common places and tautologies" (Marx, [1861-1863] 1988, pp. 401–402). On the one hand, he seems to believe that it is the value of the commodity which regulates wages, profit and rent and on the other, he deals with the natural price of commodities by adding together the natural prices of wages, profit and rent. According to Marx, therefore, "it is one of Ricardo's chief merits that he put an end to this confusion" (Marx, [1861-1863] 1988, p. 402).

Ricardo, in fact, played a fundamental role in the interpretation of surplus as it appears today in the *modern surplus approach* (Brewer, 2008).

Firstly, he explicitly pointed out that "in different stages of society, the proportions of the whole produce of the earth which will be allotted to each of these classes, under the names of rent, profit, and wages, will be essentially different" and that "to determine the laws which regulate this distribution, is the principal problem in Political Economy" (Ricardo, [1821] 1951, p. 5). Ricardo, therefore, started from Smith but first explicitly focused on the *distribution* of income between wages, profits, and rent.

Secondly, he was the first to understand that the problem of determining distribution was closely connected with the problem of determining exchange values. From this viewpoint, therefore, he first outlined the connection between *value and distribution* in modern terms.

Therefore, compared with his predecessors, Ricardo was "an original thinker" who first tried to formulate a consistent theory of *value and distribution* "within the framework of analysis handed down from the Physiocrats and Adam Smith" and was "himself conscious of his 'peculiar' opinions and doctrines" (Bharadwaj, 1989).

Ricardo, for example, explicitly pointed out that he opposed Smith's theory that accumulation, without any regard for the different degrees of durability of capital, raised the prices of commodities (Bharadwaj, 1989, p.123). He maintained that it is due to two causes alone that exchange values vary: the quantity of labour required and the durability of capital (Bharadwaj, 1989, p.123). However, he also sustained that "the former is never superseded by the latter, but is only modified by it" (Ricardo, [1818] 1951, p. 377). Thus the influence that variations in wages have on relative prices cannot be independent of the quantity of labour required in their production. Indeed, Ricardo first grasped that a change in wage would have no influence on relative prices if the proportion of the means of production to labour was uniform for all commodities (Bharadwaj, 1989, p.123).

Furthermore, Ricardo first reflected on the relationship between the determination of the value of commodities and the phenomenon whereby capitals of equal size produce equal profits (Marx, 1861-1863b, p. 258). In fact, according to him, free movement of capitals and competition among them keeps non-agricultural profits in the same proportion of the invested capital as returns on marginal land. This means uniformity of the rate of profit across the different economic branches – i.e. profit in proportion to the size of the capitals employed in the various spheres of production (Brewer, 2008). Unfortunately, however, Ricardo discovered that this was not in fact consistent with his determination of exchange values by means of labour time.

His focus on the profit rate, therefore, emerged from his attempt to solve the problem of consistence between his theory of value, which was to be used to explain distribution, and what he believed should be the obvious result of competition between capitals. Nevertheless, the rate of profit does not played any role in determining distribution.

Indeed, as we know, according to Ricardo, rent is autonomously determined by diminishing returns to investment on pieces of land of varied qualities. Wages, in turn, are autonomously determined by workers' necessities. Profit, in the end, is no more than the difference between returns on marginal land – which yields no rent – and costs (including wages). Thus, profit is the surplus over given wages on marginal land. Rent and profits, in turn, absorb the surplus for the whole economy (Brewer, 2008).

It is not by chance, therefore, that most mainstream economists usually hold that the most significant achievements of Ricardo were the theory of rent, based on the principle of diminishing returns, and the notion of a subsistence "equilibrium" wage (Bharadwaj, 1989).

Therefore, according to Bharadwaj (1989), it was Sraffa who first emphasised the theory of profits "as the central and continuing concern of Ricardo" and stated that he arrived at his value theory exactly in the course of "his attempts to provide a consistent explanation of the rate of profits and of a definite relation between the share of wages in net product and the rate of profits" (Bharadwaj, 1989, p. 117). Sraffa first pointed out that, in the *Principles*, "with the adoption of a general theory of value, it became possible for Ricardo to demonstrate the determination of the rate of profit in society as a whole instead of through the microcosm of one special branch of production" (Sraffa, 1951). It was no accident that this new interpretation of Ricardo by Sraffa was labelled by Bharadwaj (1989) as "Sraffa's Ricardo" and opened up a long lasting debate between the *Neo-Ricardians* and some mainstream historians of economic thought such as Samuel Hollander and Mark Blaug.

However, to give profit as a percentage return on investment implies that costs and returns have to be calculated in terms of prices. Therefore, either prices can be calculated without reference to the profit rate – as Ricardo sought to do by means of a labour theory of exchange values – or prices and the rate of profit have to be simultaneously determined – as Sraffa's system does (Brewer, 2008). That is exactly why Sraffa was described by Blaug "as Ricardo in modern dress" (Blaug, 1985, p. XIII).

3. The role played by the rate of profit in Marx

Marx's reflection undoubtedly starts from Ricardo's analysis – which was explicitly considered by him as the "most complete and final expression" of *English classical political economy* (Marx, [1857-1861] 1986, p. 6), but his theory presented itself as *a critique of classical political economy* and was intended to be the starting point of a new school of thought (McLellan, 1973; Scarano, 2021).

Marx, in fact, pointed out that Ricardo himself failed to make a distinction between surplus value and profit and only seemed to be aware of this problem "as a result of the different influence which the variation of wages can exercise on capitals of different organic composition" (Marx, [1861-1863] 1989, p. 275). According to Marx:

> "Nowhere does Ricardo consider surplus value separately and independently from its particular forms – profit (interest) and rent. His observations on the organic composition of capital, which is of such decisive importance, are therefore confined to those differences in the organic composition which he took over from Adam Smith (actually from the Physiocrats), namely, those arising from the process of circulation (fixed and circulating capital). Nowhere does he touch on or perceive the differences in the organic composition within the actual process of production. Hence his confusion of value with cost price, his wrong theory of rent, his erroneous laws relating to the causes of the rise and fall in the rate of profit, etc.
>
> Profit and surplus value are only identical when the capital advanced is identical with the capital laid out directly in wages" (Marx, [1861-1863] 1989, p. 9).

Moreover:

> "In his observations on profit and wages, Ricardo also abstracts from the constant part of capital, which is not laid out in wages. He treats the matter as though the entire capital were laid out directly in wages. To this extent, therefore, he considers surplus value and not profit, hence it is possible to speak of his theory of surplus value. On the other hand, however, he thinks that he is dealing with profit as such, and in fact views which are based on the assumption of profit and not of surplus value, constantly creep in. Where he correctly sets forth the laws of surplus value, he distorts them by immediately expressing them as laws of profit. On the other hand, he seeks to present the laws of profit directly, without the intermediate links, as laws of surplus value.
>
> When we speak of his theory of surplus value, we are, therefore, speaking of his theory of profit, in so far as he confuses the latter with surplus value, i.e. in so far as he only considers profit in relation to variable capital, the part of capital laid out in wages" (Marx, [1861-1863] 1989, p. 10).

Consequently, according to Marx, Ricardo was not aware that in different production branches the same volume of capital contains different proportions of *constant* and *variable* capital, precisely because he only dealt with the different forms of capital that arise out of the process of the circulation of capital – i.e. *fixed* and *circulating* capital " (Marx, [1861-1863] 1989, p. 202).

It is also true that the *Neo-Ricardians* highlight the fact that Marx, with his critique of Ricardo, pointed to a fundamental difference between his own theory and Ricardo's and the major elements in his criticism analysed by Steedman (1977) are the same as those that the Marxists saw as a real watershed between Marx's thought and the previous "bourgeois" political economy (De Vivo, 1982).

However, the Neo-Ricardians end up linking all of Marx's major criticisms of Ricardo to his formulation of the *transformation problem* and his critique of Ricardo's

analysis of the *determination of prices* and *the rate of profit* in which Marx made some progress toward a logically coherent formulation of a surplus theory of the rate of profit (De Vivo, 1982).

Unfortunately, according to the Neo-Ricardians, Marx's major problem was that the labour theory of value, understood as meaning that real exchange-values between commodities are proportional to the ratio between the quantities of labour incorporated in them, contradicts the possibility of having production prices that guarantee a uniform rate of profit among commodities characterised by different organic composition, as indeed is required by competition laws. Marx was aware of this problem and attempted to resolve it by means of his "transformation" process. However, he failed in this task, eventually demonstrating inconsistency between values and prices.

In a nutshell, the Neo-Ricardians only see their main theoretical problem in Marx's analysis and come to the conclusion that he did not solve it in the right way. Sraffa, instead, found a logically consistent way to compute production prices, with no connection with social abstract labour incorporated in commodities, which equally highlights the distributive conflict between labour and capital.

This whole line of reasoning is, of course, based on the premise that Marx's research programme objectives were the same as those pursued by "Sraffa's Ricardo". According to Steedman (1991), in fact, "Marx saw the rate of profit as being a key factor in the movement of capitalistic economy". Thus, the theory of the rate of profit would be "central to his political economy", but unfortunately he attempted to construct it by means of labour values, with no internal consistency. Moreover, successive coherent theories of the rate of profit, developed by Dmitriev, Borkiewicz and Sraffa, showed that many of Marx's statements were invalid (Steedman, 1991; Garegnani, 2018).

However, the problem of the rate of profit had no such priority for Marx. He analysed this subject only in the context of his critical analysis of Ricardo, but the determination of the rate of profit was no crux in his own analysis.

In particular, in Volume I of *Capital*, the only one Marx himself edited for publication, the term "rate of profit" appears only eight times, in some of his comments regarding other economists[1]. Thus, in Volume I of *Capital*, to which Marx dedicated the most attention throughout his lifetime, this concept seems to play no role at all in developing his analysis.

Marx, however, devoted the whole of Chapter 2 of his draft version of Volume III of *Capital* to the rate of profit.

According to Bortkiewicz – a faithful follower of Ricardo – Marx "just liked Mephisto's role. If he had, from the outset, characterized his law of value as only hypothetically effective, then all the charm of novelty and paradox would be gone"[2] (Bortkiewicz, 1906). However, it is rather odd that Marx simply saved the best for last!

Indeed, Ernest Mandel – a famous orthodox Marxist – whilst commenting on Joan Robinson's preface to the second edition of her *An Essay on Marxian Economics* (1966), noted that she did not understand that Volumes I and III of Capital "are at different levels of abstraction, deal with different questions, and make different

[1] This term appears on page 327, in a comment on Carey, on page 652, in a quotation by Mill, five times on page 660 when commenting on some of Ricardo's statements, and on page 678, in the analysis of the classical economists' theories of wage (Marx, 1990).

[2] Our translation from the original German text: "Er gefiel sich eben in der Rollen des Mephisto. Hätte er sein Wertgesetz von vornherein als nur hypothetisch wirksam charakterisiert, dan wären aller Reiz des Neuen, des Paradoxen dahin"

assumptions" (Mandel, 1990). According to Mandel, in Volume I "Marx examines the relations between Capital and Labour in general" and consequently abstracts from the problem of redistribution of surplus value among competing capitalists – i.e. the problem of a single, uniform rate of profit – in order to focus on the laws of capitalist commodity production and circulation in their "purest" forms and to reveal the origin of surplus value in the aggregate process of production. In Volume III, on the other hand, Marx examines the effects of capitalist competition on the redistribution of surplus-value among capitalists (Mandel, 1990).

Rosdolsky's reconstruction of the *making of Capital*, in turn, supports Mandel's opinion (Rosdolsky, 1977).

Originally, in his 1861-1863 manuscripts, Marx was not very interested in dealing in detail with the possibility of deriving prices of production from labour values because he considered the former to be a mere "accident" related to the transitory state of production techniques. He changed his mind only in the course of his critique of Rodbertus's rent theory, developed in his *Theories of Surplus Value*. In this analytical context, he came to the conclusion that an explanation of the rent in general could only take place in the context of an explanation of the "difference between value and price of production" (Ternovsky, 1988).

However, in Marx's transformation procedure, contrary to Sraffa's system, the rate of profit plays no role in determining the distribution of a physical social product – which Marx measured in terms of incorporated labour – between capitalists and workers, because this distribution was only determined by subsistence wages, governed by competition among workers in the labour market, and he takes absolutely no account of systematic surplus wages.

According to his 1861-63 manuscript, *average profit* can only be the result of the distribution of the total surplus value among the individual capitals in each individual branch of production according to the difference in the magnitude of the capitals rather than in the proportion in which they directly represent the production of this total profit (Marx [1861-1863] 1991, p.101). *Average rate of profit*, therefore, is only brought about by the competition of capitals among themselves (Marx [1861-1863] 1991, p.100). The only distributive role this average rate of profit plays is in distributing *surplus value* among capitalists.

According to Marx, however, the competition of individual capitals with each other causes the intrinsic laws of capitalist production to appear on the surface in a distorted form. However, the "vulgar political economy" tends to describe capitalist relations in the form in which they appear in competition, and "to state the phenomenon in its most superficial form counts for it as knowing the laws of the phenomenon" (Marx, [1861-1863] 1991, p.102).

Thus, Volume III is really the "close of Marx's system" – as Bohm-Bawerk sensed yet had no clear understanding – in which Marx meant to show "the manufacturer" and "the Vulgar Economist" how the real essence of the economy, discovered and analysed by means of abstract forms in Volumes I and II, was connected to "the immediate form of appearance of relations reflected in their brains" (Marx, [1867] 1987).

In Volume III profit and the rate of profit are systematically dealt with for the first time as "visible surface" forms of the invisible essence – i.e. surplus value and the rate of surplus value – discovered by means of logical investigation in Volume I. The rate of profit, therefore, is not the final key concept achieved by means of reasoning in terms of values – as Steadman and Garegnani maintained – but the "historical starting point" of

analysis which can only be understood in its real social essence by means of analysis in term of values – i.e. in terms of abstract social labour incorporated in commodities. This empirical starting point of the logical analysis, of course, consistently with dialectical exposition, is dealt with in Capital only at the end of the reasonings, summarising the previously identified abstract forms.

In response to a letter by Engels (1867), who underlined some possible objections by "the manufacturer" and "vulgar economist" to his analysis in Volume I of Capital, Marx (1867) wrote:

> "Regarding the objection that you mentioned the philistines and vulgar economists will infallibly raise […] it amounts, in scientific terms, to the following question: How is the value of the commodity transformed into its price of production, in which
>
> 1. the whole of the labour appears paid for in the form of wages;
>
> 2. the surplus-labour, however, or the surplus-value, assumes the form of an addition to the price, and goes by the name of interest, profit, etc., over and above the cost-price (= price of the constant part of capital + wages).
>
> Answering this question presupposes:
>
> I. That the transformation of, for example, the value of a day's labour-power into wages or the price of a day's labour has been explained. This is done in Chapter V of this volume.
>
> II. That the transformation of surplus-value into profit, and of profit into average profit, etc., has been explained. This presupposes that the process of the circulation of capital has been previously explained, since the turnover of capital, etc., plays a part here.
>
> This matter cannot therefore be treated prior to the 3rd book […]. Here it will be shown how the philistines' and vulgar economists' manner of conceiving things arises, namely, because the only thing that is ever reflected in their minds is the immediate form of appearance of relations, and not their inner connection. Incidentally, if the latter were the case, we would surely have no need of science at all .
>
> Now if I wished to refute all such objections in advance, I should spoil the whole dialectical method of exposition. On the contrary, the good thing about this method is that it is constantly setting traps for those fellows which will provoke them into an untimely display of their idiocy" (Marx, 1867).

The final part of this letter, of course, may even justify Bortkiewicz's feeling that Marx liked to play a Mephistophelian role. However, it shows once again how much his method of "ascending from the abstract to the concrete" influenced the inner articulation of his outline.

In Marx's work, moreover, there is no evidence that the rate of profit is a subjective incentive for accumulation of capital (Scarano, 2018). According to Marx, the average rate of profit plays a major role only in capitalist competition, stimulating movements of capital from one productive branch to another. The average rate of profit, therefore, can influence the composition of investment in term of use values and is the objective upper limit to the rate of accumulation, but these functions do not need to pass through the producers' minds.

4. Conclusion

To sum up, a truly homogeneous approach to dealing with the rate of profit and distribution is very difficult to find in the works of the economists that Marx identified as being "classical" and of Marx himself. Furthermore, the only "classical economist"

truly in line with the *modern surplus approach* seems to be Ricardo – or rather, "Sraffa's Ricardo", according to the formula devised by Bharadwaj (1989).

This observation, of course, is not at odds with Garegnani's view that Sraffa's work brought "again to light the approach to distribution and value which was that of the English classical economists up to Ricardo and which had been subsequently 'submerged and forgotten'[3] " (Garegnani, 2018).

Garegnani, in fact, emphasised Sraffa's revival of an approach to value and distribution "founded on the notion of the surplus of which the community can dispose out of its production beyond what is physically necessary for reproduction, i.e. the replacement of the means of production and the subsistence of workers" (Garegnani, 2018). This approach, which Garegnani (1984) labelled the "Surplus-equation method", was based on the insight that, given the social product, if it is to be steadily repeated year after year, a part of it, including the subsistence of workers, must be put back into production. The part of the annual product that remains after this deduction constitutes the "surplus". This therefore is no more than the share of the social product allocated to the social classes other than the workers which is determined by subtracting the "necessary consumption" – comprising the replacement of the means of production and the subsistence of workers – from the social product, which in turn is totally determined when the technical conditions of production and the number of workers used are known.

As we saw, this approach is only partly traceable in some Physiocrats, although limited to agricultural produce, and not traceable at all in Smith. However, it was certainly Ricardo's approach. If Ricardo, according to Marx, is seen as the "most complete and final expression" of *English classical political economy*, Garegnani's statements have their own justification as a "severe simplification" aimed at showing how this final approach developed consistently "within the framework of analysis handed down from the Physiocrats and Adam Smith" (Bharadwaj, 1989).

Aspromourgos, in his review of *The Elgar Companion of Classical Economics*, argued that "classical economics"– as a historical reconstruction of what different authors had in common – is a concept that, by nature, must be invented (Aspromourgos, 1999). From this viewpoint, when paraphrasing the title of a famous book by Hobsbawm and Ranger (1992) on the "invention of tradition" in British universities, we could say that Sraffa and his pupils actually invented the "classical economists" – attributing to them their own interpretation of Ricardo – as well as that their approach should more correctly be called "neo-Ricardian" (Brewer, 2008).

Quite different, however, is the case with what Garegnani himself called the "Price-equations method", which was developed by Sraffa in an entirely original way to solve what he considered to be Ricardo's main unsolved problem. This method, in fact, although considered by Garegnani to be equivalent to the "Surplus-equation method", finds no precedent in the work of "classical economists" and has only formal analogies with Marx's determination of the prices of production[4]. But, above all, it was developed

[3] Indeed, what Sraffa explicitly recognised as a "standpoint" typical of "the old classical economists from Adam Smith to Ricardo" and successively "submerged and forgotten since the advent of the 'marginal' method" was merely an investigation of prices and distribution that "is concerned exclusively with such properties of an economic system as do not depend on changes in the scale of production or in the proportions of 'factors' " (Sraffa, 1960).

[4] Marx did not deal with prices of production and the rate of profit as key concepts for his analysis of capitalist economies, as claimed by Steedman (1977). Nor, indeed, was Ricardo's problem a theoretical priority for him. His "transformation" of values into prices of production was simply a corollary that

in direct opposition to the theory of value and distribution that the post-Keynesians ascribed to "marginalists", labelling it the "marginal productivity theory of distribution"[5] (Blaug, 1985, p. XIII). This is exactly why Sraffa was "Ricardo in modern dress".

However, the main criticism of marginalist general economic equilibrium by the representatives of the *modern surplus approach* actually focuses on the notion of capital as a factor of production that can be measured independently of price determination and the resulting inverse relationship between the interest rate and the "quantity of capital" per worker – which is fundamental to the marginalist explanation of income distribution. In this context, the representatives of the *modern surplus approach* oppose the marginalist theory of value and distribution "which explained distribution and relative prices through the 'equilibrium' of the two 'opposing sets of forces', the demand and supply of factors of production" (Garegnani, 1984). However, they accept the view of a simultaneous determination of the distribution of income and relative prices when one of the two main distributive variables – either the wage or the rate of profit – is determined exogenously.

By doing so, the process of competition among capitals that tends to equalise the rate of profit, which is traceable in classical political economy and Marx, is modelled in mathematical forms that are comparable to the neoclassical general equilibrium analysis, although one of the two fundamental determinants of distribution is considered exogenous and the composition of social product is dealt with as given (Foley, 2001).

However, as Foley (2001) pointed out, this methodology cannot be traced in any way to the Physiocrats, Smith, Ricardo and Marx, and this also largely explains the scant role played by the concept of the rate of profit in the work of these authors shown in the previous sections.

Garegnani (2007) opposed Foley's remark on the basis of the equivalence between the "Surplus-equation method", actually utilised by Ricardo, and the "Price-equation method". However, this equivalence only applies to solving Ricardo's problem according to Sraffa. It remains to be seen how useful it can be in actualising the whole rich and varied content of classical political economy, and, above all, how suitable it is for re-proposing Marx's critique of the capitalist mode of production in modern terms.

Moreover, since Marx's work was originally intended as a critique of classical political economy, the doubt remains as to whether "Marx in modern dress" should start from a critique of the modern surplus approach.

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aimed to close the circle from the determined abstractions he discovered by means of his dialectical analysis to surface forms of appearance, showing that a uniform rate of profit was consistent with his theory of labour value (Scarano, 2021).

[5] The "marginalist" economists, in fact, shifted their stated focus from *value and distribution* to "the human behaviour as a relationship between ends and scarce means which have alternative uses". (Robbins, 1945, p.16). Therefore, they only allowed their actual distribution theory to emerge as a pure corollary of their determination of equilibrium prices.

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