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The Classical Theory of Wages and its Interpretations: A Critique of the Canonical Classical Model

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This paper aims to clarify the broad social and historical factors that determine income distribution according to Smith and Ricardo and show that the so-called "Canonical Classical Model" fails to interpret the Classical theory of wages both with regard to logic and on the basis of textual analysis. After reconstructing the circumstances determining the subsistence and surplus wage rates according to Smith and Ricardo, the paper critically analyses the idea that they determine the price of labour by means of the wage fund theory in the short run and *functional* relationships between the wage rate and the growth rates of capital and population in the long run.

Keywords: Classical theory of wages; Subsistence and surplus wages; Natural and market prices of labour; Canonical classical model; Principle of population

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INTRODUCTION

Samuelson's (1978, p. 1415) dictum that "[w]ithin every classical economist there is to be discerned a modern economist trying to be born" has been the workhorse of a variety of models (Casarosa, 1978 and 1985; Hicks and Hollander, 1979; Hollander, 1987; Levi, 1976) whose common feature has been to ascribe to Smith and Ricardo a mechanical or "semi-natural" determination of wages on the basis of a sort of labour demand and supply curves. These models - usually classified as "equilibrium" or "disequilibrium" versions of the Canonical Classical Model depending on whether they refer to a "dynamic equilibrium wage rate" that makes the rate of capital accumulation and the growth rate of population equal or not - have been criticised for emphasising the role that the subsistence wage plays in the Classical economists (Pasinetti, 1982; Peach, 1990; Stigler, 1990; Rosselli, 2005), as well as the broad social and historical factors

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that determine income distribution according to Smith and Ricardo (Bharadwaj, 1987; Garegnani, 2007b; Roncaglia, 1985; Stirati, 1994).

The aim of this paper is to further clarify these factors and criticise the Canonical Classical Model by showing that it fails to interpret the classical theory of wages both with regard to logic and on the basis of textual analysis. Section 1 reconstructs the circumstances determining the subsistence and surplus wage rates according to Smith and Ricardo. Section 2 points out some differences in their definitions of the natural and market wage rates. Finally, Sections 3 and 4 discuss the idea that Smith and Ricardo determine the wage rate using the wage fund theory and *functional* relationships between the wage rate and the growth rates of capital and population.

SUBSISTENCE WAGE AND SURPLUS WAGE

When analysing the bargaining process between "those two parties [the masters and the workers] whose interests are by no means the same" (Smith, 1776, I, VIII, p. 74), Classical economists underline four elements that influence the relative strength of the parties involved.

The first is that workers find themselves at a natural disadvantage in wage bargaining. This stems from the immediate need for workers to find a job in order to survive, the existence of laws against combinations of labourers, the tacit (if not explicit) agreement among masters not to raise wages, and their greater ease to combine.[1] It is magnified by the presence of labour unemployment.

The second element is that, despite the disadvantage that workers find themselves in wage bargaining, a subsistence wage exists in any period and country below which "ordinary wages" cannot fall for any considerable time. This minimum wage must cover the expenses for the maintenance and reproduction of the labourers (Smith, 1776, I, VIII, p. 76),[2] including those goods and services which the habits of a country — which operate as a second nature (cf. Torrens, 1815, p. 63) — make necessary in this respect. These commodities are something without which "a creditable day-labourer would be ashamed to appear in public" (Smith, 1776, V, II, p. 399)[3] according to "the conditions under which, and consequently (…) the habits and degree of comforts in which" he "has been formed" (Marx, 1961-1963, I, p. 171). Therefore, the subsistence wage is determined by the past social and economic situation of a country and sets the minimum price of labour at which wage bargaining will start.

Third, as also implicit in the view that the subsistence wage is historically determined, Classical economists admit that there are "certain circumstances (…) which sometimes give the labourers an advantage, and enable them to raise their wages considerably above [the subsistence wage]" even for a long period of time (Smith, 1776, I, VIII, pp. 77 and 82; Ricardo, 1951-73, I: 262). The "advantage" or "disadvantage" of workers in wage bargaining is affected, according to Smith and Ricardo, by the amount of labour unemployment and underemployment,[4] as well as by social and political factors which are partly independent of the rate of unemployment and thus autonomous elements affecting workers' bargaining position. Smith refers in this regard to the anti-combination laws (Smith, 1776, I, VIII, p. 74), the difficulty of scattered workers to combine (Smith, 1776, I, X, p. 141 and IV, VIII, p. 161), and the effects on wages of political institutions (Smith, 1776, I, VIII, p. 82). He particularly stressed that in a situation in which "the number of labourers employed every year could easily supply, and even more than supply, the number wanted the following year", and "(t)he hands, on the contrary, would (…) naturally multiply beyond their employment", you will have "a constant scarcity of employment", and "the competition of the labourers and the interest of the masters would soon reduce [wages] to (…) the lowest rate which is consistent with common humanity" (Smith, 1776, I, VIII, p. 80). However, a different picture emerges in the presence of capital accumulation. When in any year employment is greater than the year before, then

> the workmen have no occasion to combine in order to raise their wages. The scarcity of hands occasions a competition among masters, who bid against one another, in order to get workmen, and thus voluntarily break through the natural combination of masters not to raise wages (Smith, 1776, I, VIII, p. 87).

Ricardo's position has often been considered more rigid than Smith's due to his reference to Malthus's principle of population, that is, to the idea that an increase in wages will be nullified by the consequent increase in population. Ricardo, however, stressed the peculiarity of labour as a commodity and maintained that, unlike the case of the other commodities, the supply of labour "cannot be incresed and diminished at pleasure" (cf. Ricardo, 1951-1973, I, p. 165).[5] More importantly, in Chapter V of his *Principles*, when dealing with the determinants of the wage rate, Ricardo pointed out that wages may remain above the subsistence level even for an indefinite period of time, due to capital accumulation (namely, the increase in the average demand for labour) overtaking the increase in the working-age population (the increase in the supply of labour). Moreover, Ricardo also outlined other elements affecting wages. He observed that despotism may depress wages (Ricardo, 1951-1973, II, p. 229), and in a letter to Malthus dated 21 October 1817 criticised the idea that combinations of labourers cannot lead to a permanent rise in the wage rate. Ricardo also stated that the anti-combination laws were "unjust and oppressive to the working class" (cf. Ricardo, 1951-1973, VIII, p. 316) and used by the masters to push wages to their minimum level (Ricardo, 1951-1973, IX, pp. 54-55, letter to Place of 9 September 1821).[6]

Finally, Classical economists stressed that the subsistence wage varies slowly over time, its change depending on broad social and demographic factors that affect workers' habits and consumption patterns, namely on those "circumstances of prosperity and decay", and those "moral causes of civilisation", which "are always gradual in their operation"(Torrens, 1834).

More precisely, according to Smith and Ricardo, the change in the level and composition of necessaries is affected by the use that workers make of surplus wage, and therefore by the elements it is composed of. They viewed "(t)he liberal reward of labour" as a "symptom" of "the wants of the society respecting population" (Ricardo, 1951-1973, I, p. 218). Therefore, if the surplus wage is used to bring up a family that is larger than that needed to simply replace the amount of workers employed, this will be one of the ways in which "the demand for men, like that for any other commodity, necessarily regulates the production of men"(Smith, 1776, I, VIII, pp. 89-90; and V, II, pp. 392-393) and hence, no significant change will occur in the subsistence wage. However, the labourer may "employ a portion of his increased wages in furnishing himself abundantly with food and necessaries" and moreover "with the remainder he may, if it please him, purchasing commodities that may contribute to his enjoyments" (Ricardo, 1951-1973, I, p. 406). In this case, the new generation of labourers "growing up in the mean time" will be "habituated to such improvement of circumstances", and therefore "the advanced price of labour" will come to be regarded "by this new race of workmen as indispensable" (cf. Barton, [1817], 1834, p. 22, n. 1).

The new basket of necessary goods will thus be influenced by the size and content of the surplus wage and the latter will be established by those processes of imitation and acquisition of more refined and nobler habits of consumption which lead to the consumption of goods and services which were absent in the basket of necessaries (since they were a prerogative of the upper classes), or were only present in small amounts (cf. Ricardo, 1951-1973, I, p. 97; Smith, 1776, I, VIII, p. 87; Cantillon, 1952, pp. 35-

36). It is a process of emulation which is apparent, for instance, in Smith's reference to the luxuries of the poor (Levrero, 2000, pp. 452-56), or in his argument that it is their admiration for their superiors that causes the latter to define fashion (Smith, 1759, p. 64).

As far as a downward change in the subsistence wage is concerned, this change was conceived of as being even slower than that envisaged for a rise in the subsistence wage, due to the fact that it was seen as a minimum level below which wages cannot fall for a long period of time. The possibility of this downward change was not denied, however. For example, considering the experience of Bengal, Smith associated its long period of economic decay with the fact that there the workers earned "the most miserably and scanty subsistence", and the unemployed or under-employed people were led to "either starve, or be driven to seek a subsistence either by begging, or by the perpetration perhaps of the great enormities" (Smith, 1776, I, VIII, p. 82). Indeed, a fall in the subsistence level may occur when, due to a prolonged situation of strong weakness of the workers in wage bargaining, the falls in the wage rate during the economic cycles become longer and deeper, or when a sizeable flow of immigrants accustomed to lower standards of living enter a country. But a fall in the wage rate below the subsistence level usually impairs social stability and the efficiency of workers (Levrero, 2011) and this explains why these falls are rare in the case of normal economic conditions. As pointed out[7] by McCulloch (1856, p. 389),

> (i)t is (....) quite visionary to suppose that security and tranquillity should ever exist in any considerable degree in countries where wages are very much depressed, and the mass of the people sunk in poverty and destitution.[8]

THE NATURAL AND MARKET WAGE RATES

So far no reference has been made to the definitions of the natural price of labour which we find in Classical economists. Before addressing the Canonical Classical Model, we must tackle this point and consider Ricardo's attempt to apply the same language to labour as the other commodities.

Looking at Smith, two elements are worth noting. First, his natural price of labour corresponds to the ordinary or average wage rate (cf. also Stirati, 1994) which may differ from the subsistence wage according to the aforementioned circumstances affecting the strength of workers in wage bargaining. Second, the adjustment of the market price of labour to its natural value does not pass through changes in population, nor does it imply a tendency to full employment. Smith's reference in Chapter VIII of the *Wealth of Nations* to the principle of population (cf. Smith, 1776, VIII, p. 89) pertains not so much to the adjusting mechanism of the market to the natural price of labour, but to the "production of man" adapting itself to the demand for labour when considering capital accumulation as a continuous process – a production, however, conceived of by Smith as being slow and not univocal due to complex social and demographic factors (see below, Section 4). Moreover, unlike the case of the other commodities, Smith does not posit for the price of labour to be equal to its natural value any condition of equality between the *overall* amount of labour supply and the demand for it. If anything, he suggests, when analysing accidental or cyclical wage rate fluctuations (Smith, 1776, I, VIII, pp. 93-96, 103-104, 128-129), that the actual level of employment must be equal to the average or normal amount of labourers demanded (and employed) at a given stage of accumulation which does not exclude the existence of unemployment.

Passing on to Ricardo, in Chapter V of his *Principles* he identifies, following Torrens (1815), the natural price of labour with the subsistence wage, specifying that it must enable "the labourers, one with another, to subsist and to perpetuate their race, without either increase or diminution". He also adds that, if the market price of labour exceeds the subsistence level due to capital accumulation, the consequent increase in population will bring the wage rate down to this level (Ricardo, 1951-1973, I, pp. 93-94). Hence here, unlike Smith, Ricardo seems to suggest that the adjustment to the natural or subsistence wage should pass through a change in population.

However, in Chapter XVI of the *Principles*, Ricardo, like Smith, refers to an "ordinary wage" that can purchase a "liberal, moderate or scanty subsistence" depending on whether the demand for labour requires "an increasing, stationary or declining population." Moreover, several times Ricardo recognises the difficulty of a strict parallelism between labour and the other commodities. Thus he wrote that the number of labourers "cannot be rapidly increased or diminished in proportion to the increase or diminution of the fund which is to employ them" (Ricardo, 1951-1973, I: 220). And when discussing the effects of taxes on raw produce, he observes that "no interval which could bear oppressively on the labourer would elapse between the rise in the price of raw produce, and the rise in the wages of the labourer" (Ricardo, 1951-1973, I, p. 166), which necessarily rules out a change in population as a means of achieving the required increase in wages. Similarly, Ricardo criticises Buchanan's and McCulloch's arguments that wages will rise after a tax due to a fall in population, stating that before any change in population "(i)t is the interest of all parties that they (the wages) should so rise" (Ricardo, 1951-1973, VIII, p. 196).[9]

This suggests that Ricardo's market wage rate coincides with that of Smith when referring to miscalculation or accidental changes in corn prices but with Smith's natural or average wage (other than subsistence) when analysing the tendency of wages over time as affected by the "proportion" of labour demand and supply. Ricardo assumes that population rapidly adjusts to the demand for labour mainly when discussing Malthus's arguments on the determinants of the rate of profit and the effects that corn laws had on it. It was indeed helpful in this case for Ricardo to refer precisely to the Malthusian principle of population operating rapidly in order to keep the wage rate constant at the subsistence level in the presence of capital accumulation (Rosselli, 1985; Stirati, 1994). It is for this reason that, even if aware of the ambiguities in his definition of the natural price of labour and close to accepting Malthus's, he eventually restated his own one writing that "I have done so that we may have one common language to apply to all cases which are similar. By natural price I do not mean the usual price, but such a price as is necessary to supply constantly a given demand" (Ricardo, 1951-1973, II, pp. 227-228).[10]

SAMUELSON'S AND CASAROSA'S MODELS

The analysis so far has led to an interpretation of the Classical theory of wages according to which in this theory a central role is played by broad social and historical factors. This interpretation is in contrast with the one advanced by Samuelson (1978) and others which has become known as the *Canonical Classical Model*.

Following Marshall's idea of a linear evolution of economic theory from Ricardo to the later neoclassical theory, in this latter interpretation, a "modern economist" struggling to be born is found in the works of Smith and Ricardo. In particular, it is argued that according to Classical economists, the natural price of labour, which is put equal to the subsistence wage, would prevail only in the far-off stationary state in which both capital and population will stop varying — thus actually losing any analytical relevance. All the attention is conversely placed on the market price of labour which is deemed to be determined by the "demand and supply" of labour, or better, by the proportion of the circulating capital (which is considered taken as given in its amount and composition) and the amount of existing labourers.[11] Moreover, it is further stated that there is a kind of demand and supply curve of labour in terms of univocal and definite relations between the rate of profit and the rate of capital accumulation on the one hand, and the rate of wages and population growth on the other, which is what will shape the tendency of the market wage rate over time. In this respect, the idea is also advanced of a "dynamic equilibrium wage rate", a price for labour which is able to equate the rate of growth of population to a given rate of capital accumulation and which thus will be greater, the greater the capital accumulation.[12]

From these premises, it is argued that, especially in Ricardo, the idea can be traced of a tendency of the "market" wage rate towards the subsistence or natural wage rate due to the presence of decreasing returns in agriculture. The switch to less fertile lands will lead to a lower rate of profit and hence a lower accumulation of capital which will progressively bring about a fall in the wage rate and of the population growth rate, until a stationary state is reached. The conclusion is thus drawn that the method of analysis of Classical economists would not be too different from that of the later neoclassical theory. Casarosa (1978, p. 46), for instance, spoke of the existence in them of general "interdependencies" among the economic variables so that the wage rate, the rate of profits, and the growth rates of capital and population are determined simultaneously on the grounds of their reciprocal interactions.

If the Canonical Classical Model takes advantage of some ambiguities in his definition of the natural price of labour, Ricardo does not share, however, the idea that the wage rate will be equal to the subsistence wage only in a stationary state. Not only did Ricardo conceive of this state as being too far to reach (cf. Ricardo, 1951-1973, I, p. 109), but on several occasions he discussed the effects on the rate of profits of capital accumulation by assuming that the wage rate is constant at the subsistence level (implicitly referring to an instantaneous adjustment of population).[13] Moreover, when discussing with Malthus his definition of the natural price of labour as seen above, Ricardo pointed out that he had tried to find "one common language to apply to all cases which are similar" (Ricardo, 1951-1973, II, p. 227), that is to both labour and the other commodities, and in this latter case, the natural price is not defined only with reference to a stationary state.[14]

However, the *Canonical Classical Model* fails to advance a consistent interpretation of the Classical wage theory especially with respect to two other aspects. The first concerns the relations that are hypothesised in the model between the wage rate and the rate of profit on one hand and, respectively, the rates of growth of population and capital on the other. The second concerns the fact that Classical economists did not deny the presence of labour unemployment — and in particular, did not share a wage fund doctrine.

To understand these two critiques more fully, we can examine the main features of the Canonical Classical Model as put forward by Casarosa (1987) and Hollander (1987). Let us suppose that corn is the only commodity produced on lands of different fertilities and that wages are anticipated to the workers. Profits on the land with lower fertility are the difference between the product of corn obtained on it and the amount of wages given to the labourers. Since

$$F'(l) = (1+r)w \qquad [1]$$

where $F'(l)$ is the product obtained by a marginal dose of labour-cum-capital, w the wage rate and r the rate of profits, for a given technique (that is, for a given margin of cultivation of corn), if w increases, r diminishes. The level of w is assumed to be determined by the relation

$$K = wL \qquad [2]$$

where K is the wage fund (which is considered as given), and L is the existing amount of labourers.

The changes over time of K and L, and thus of w, are supposed to depend on the discrepancies between, respectively, the rate of profits r and a minimum profit rate r_s, and the wage rate w and the subsistence wage w_s, that is they are determined by

$$g(k) = h(r - r_s) = h\{[(F'(l)-w)/w]- r_s\} \qquad [3]$$

and

$$g(l) = f[(w - w_s)/w_s] \qquad [4]$$

where $g(k)$ and $g(l)$ indicate the rates of growth of capital and population respectively. The rate $g(l)$ will be a maximum (and $g(k)$ equal to zero) when $r = r_s$ and thus $w = W_{max}$, while that rate will be equal to zero (and $g(k)$ at its maximum value) when $w = w_s$ and $r = R$, where R is the maximum rate of profit. Of course, when w increases, $g(l)$ rises and $g(k)$ falls.

If $w_s < F'(l)$ a wage rate that is higher than the subsistence wage exists such that $g(k) = g(l)$. This will change if there is a change in the subsistence wage or the propensity to save. Taking these parameters as given, a shift in the "equilibrium wage rate" will also stem from the fact that, due to the increase in capital and population, corn will now be produced on less fertile lands so that $F'(l)$ will fall, thus accompanied by a fall in the maximum wage rate and in the wage rate which matches the growth rates of capital and population. The curve $g(k)$ (see Figure 1) will therefore progressively move down until $g(k) = g(l) = 0$, and $w = w_s$, that is, until a stationary state is attained.

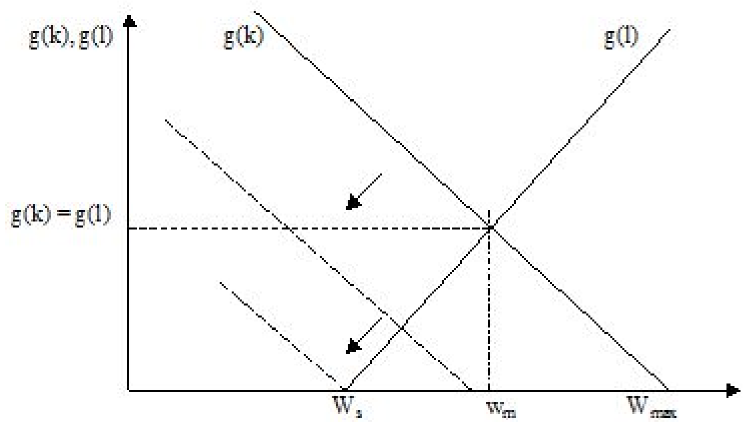

Figure 1 – Determination of wage rate in the Canonical Classical Model

However, this reconstruction of the Classical wage theory fails to capture what is found in Smith and Ricardo, either with regard to logic or textual evidence. The main points of controversy may be listed as follows:

(a) The curves drawn in the Canonical Classical Model have nothing to do with the demand and supply curves for labour that we find in the neoclassical theory since the latter are constructed on the basis of the principle of substitution taking as given the endowments of the factors of production;

(b) The secular movements of the wage rate are associated in the Classical economists with irreversible changes in the relation between it and the growth rate of population. For instance, if wages increase, the subsistence wage itself may increase and the reactivity of population to a certain level of the wage rate will vary;

(c) More generally, no univocal and definite relations between wages and population growth, and between the rate of profits and capital accumulation, can be traced in the Classical economists;

(d) As admitted by Casarosa[15], there is an inconsistency between a dynamic equilibrium and the assumption of scarcity of land of a certain quality since with capital accumulation *continuous* shifts to lands of inferior quality would occur and that equilibrium would therefore not be attained;

(e) When the growth rate of population equals that of capital, the unemployment rate stops changing but may still be present, and thus any "equilibrium" over time will not be stable if interpreted as the result of some kind of demand and supply forces such as those we have in the neoclassical theory;

(f) Even if this problem is solved by introducing a wage fund theory, this theory cannot, however, be traced in the Classical economists.

A CRITIQUE OF THE CANONICAL CLASSICAL MODEL

The two crucial issues when discussing the Canonical Classical Model are indeed points (c) and (f). As far as point (c) is concerned, before Malthus, it is true that in Cantillon, Quesnay, Steuart and Turgot we can find phrases of the kind that "every species of animals naturally multiplied in proportion to the means of their subsistence" (Smith, 1776, I, VIII, p. 89), and that they posited a positive relation between wages and population (cf., for instance, Steuart, 1805, pp. 23, 26, 34 and 117). Except for Townsend and Wallace, at that time economists were aware, however, that the laws regulating human reproduction are more complex than those concerning the animal world. Thus, not only was a higher population seen as a sign of prosperity, but the inability of the soil to support the population was denied.[16] Moreover, they also pointed out that the instinct to procreate could be overshadowed by the comforts and luxurious things of life (cf. Paley, 1785, p. 599), and that the birth rate depended also on having a job and income security. Thus, it was said that, since uncertainty regarding the future discouraged marriage, the lower the number of people employed out of the total population, the lower the population growth rate (cf. Cantillon, 1952, pp. 40-41 and 43-44).[17]

These elements are also found in Smith.[18] First, he did not think that the changes in population were rapid and reflected exactly those in capital accumulation (see, for instance, Smith, 1776, I, VIII, p. 79 with respect to the case of North America) or that population is affected mainly by wages. He pointed out that population was also influenced by the amount of employment (Smith, 1776, I, VIII, p. 82)[19] and that many factors affected birth and mortality rates. So, even if he wrote that a liberal remuneration of labour certainly enlarged the limits to the multiplication of the human species (cf. Smith, 1776, I, VIII, pp. 89-90), he still maintained that poverty, if it favours mortality, can also foster procreation, and that

> Barrenness, so frequent among women of fashion, is very rare among those of inferior station. Luxury in the fair sex, while it

> inflames perhaps the passion for enjoyment, seems always to weaken and frequently to destroy altogether, the powers of generation (Smith, 1776, I, VIII, p. 88).[20]

The same can be said of Ricardo. In his time, Malthus's *Essay on Population* certainly had a great influence. Its theses, however, were not generally accepted. Torrens, Buchanan, and Place, for instance, always emphasised the moral elements affecting population,[21] as well as the fact that access to luxury goods may lead to the formation of a "more refined" class of workers (cf. Torrens, 1815, p. IX; and Buchanan, 1817, p. 53).[22] Moreover, Barton maintained that population is influenced more by the amount of employment than by changes in the wage rate — pointing out that what deters a worker from marrying is not a low wage rate but more probably, a difficulty in finding a job, so that

> (a) rise of wages (...) does not always increase population. I question whether of itself it ever does so (cf. Barton [1817], 1834, p. 22. Cf. also *ibidem*, pp. 23-25).

As seen above, it should therefore not surprise us that Ricardo emphasised the peculiarity of labour as a commodity. On the other hand, in the *Notes on Mill's Elements of Political Economy*, Ricardo noted that the growth of population is also affected by the proportion of women intended for procreation and that this proportion can fall in a phase of prosperity when female employment increases (cf. Ricardo, 1951-1973, IX, p. 126). Moreover, he stressed that misgovernment, the insecurity of property, the level of education and legislation itself may have an influence on population (cf. Ricardo, 1951-1973, I, p. 65; and IV, p. 362). Finally, in the *Notes on Malthus*, when criticising the idea that population would invariably grow with the means of its sustenance (thus leaving unchanged the wage rate in terms of commodities) Ricardo pointed out that a better education and better habits could make "a day's labour (….) much more valuable estimated even in what are now called the necessaries of the labourer" (cf. Ricardo, 1951-1973, II, p. 115. Cf. also VIII, p. 275). Similarly, when discussing the effects on wages of taxation, he wrote that the condition of the labourers may be prosperous when capital rapidly accumulates since a doubling of the population

> may not be possible in less than 50, 100, or 200 years — or population may be so little stimulated by ample wages as to increase at a slowest rate — or it may even go in a retrograde direction" (cf. Ricardo, 1951-1973, VIII, p. 169-170).[23]

The uncertainty traced with regard to the effect of a change in the wage rate on the population also holds with regard to its effect on capital accumulation. Thus Smith (1776, I, IX, p. 104) wrote that "the demand for labour increases with the increase of stock whatever be its profits; and after these are diminished, stock may not only continue to increase, but to increase much faster than before (…)" since "(a) great stock, though with small profits, generally increases faster than a small stock with great profits".[24] Moreover, capital accumulation also depends on the propensity to consume of capitalists and they could lower their consumption in order to maintain capital accumulation unchanged in the presence of a fall in the rate of profits. Thus, according to Ricardo (1951-1973, I, p. 153), "(t)he desire which every man has to keep his station in life, and to maintain his wealth at the height which it has once attained, occasions most taxes, whether laid on capital, or on income, to be paid from income".

However, neither a mechanical prevail of decreasing returns in agriculture and falling wages as suggested in the Canonical Classical Model can be traced in Classical economists. As far as Smith is concerned, he did not only posit a positive relation between wages and the efforts of the workers.[25] When considering the effects of an extension of the market on the division of labour, he maintained that, due to the consequent increase in labour productivity, commodities will "come to be produced by so much less labour than before, that the increase of its price is more than compensated by the diminution of its quantity" — that is, as noted by Marx (1978, II, p. 226), he underlined that, in this case, profits and wages will increase together thanks to technical progress. Looking then at Ricardo, while it is true that (since his dispute with Malthus over the effects of duties on corn) he emphasised that capital accumulation would lead to a fall in the rate of profit due to decreasing returns in agriculture, thus intensifying the distributive conflict (cf. Ricardo, 1951-1973, I, pp. 41-43, 70-73, 92 and 118), he also stressed in *On Protection to Agriculture* that the introduction of machinery could change this scenario:

> (i)n the progress of society there are two opposite causes operating on the value of corn; one, the increase of population, and the necessity of cultivating, at an increased charge, land of inferior quality, which always occasion a rise in the value of corn; the other, improvement in agriculture, or discovery of new and abundant foreign markets, which always tend to lower the value. *Sometimes* one predominates, *sometimes* the other, and the value

> of corn rises or falls accordingly (Ricardo, 1951-1973, IV, p. 235, our emphasis. Cf. also 1951-1973, I, pp. 92 and 120).

Moving on to analyse point (f) concerning the wage-fund doctrine, this is tantamount to discussing whether there is, in Classical economists, a mechanism of adjustment of supply to the demand for labour (or vice-versa) through changes in its price as for the other commodities. Its ascription to Smith and Ricardo seems to be the result of an interpretation of their approach through the lenses of the neoclassical theory, or simply as an extension to Smith and Ricardo of what we find later in J.S. Mill.[26] Indeed, not only did Ricardo and Smith admit permanent labour unemployment, but Ricardo was critical of the first formulations of the wages-fund doctrine advanced by Malthus (cf. also Hollander, 1973). Thus, against Malthus's thesis that if the funds for the maintenance of labourers increase, then wages must rise since otherwise a food surplus would ensue, Ricardo answered:

> Mr. Malthus appears to me to be too much inclined to think that population is only increased by the previous provision of food (…) — that it is by first providing food, that encouragement is given to marriage, instead of considering that the general progress of population is affected by the increase of capital, the consequent demand for labour, and the rise of wages; and that the production of food is but the effect of that demand" (Ricardo, 1951-1973, I, XXXII, p. 406).[27]

On the other hand, according to Ricardo, a fund of corn and means of production which is given independently of distribution does not exist and it is therefore not true that wages can increase only if the amount of employment falls. Wages, in fact, can rise at the expense of profits and this will change the effectual demands for the commodities and hence the composition of the social product for a given stage of accumulation. As Ricardo wrote, if the gross revenue is equal to 20 millions of pounds, and the net revenue 10 millions, "(i)t does not follow from this supposition, that the labourers should receive only 10 millions for their labour; they might receive 12, 14 or 15 millions and in that case they would have 2, 4, or 5 millions of the net income"[28] (Ricardo, 1951-1973, I, 422. Cf. also IV, p. 366). Consequently, a capitalist must increase "his capital, in order to be enabled to carry on the same business" (Ricardo, 1951-1973, I, p. 117), and

> if in the division of gross produce, the labourers commanded a great proportion the demand would be for one set of commodities

> — if the masters had more than a usual share, the demand would be for another set (…). In every state of society there will be a demand for some commodities and it is these which it will be the interest of capitalists to produce”[29] (Ricardo, 1951-1973, VIII, pp. 272-273).

This explains why Ricardo criticised of Malthus’s thesis that trade unions cannot raise wages. For Ricardo, there is not a pre-determined wage fund prior to and independently of distribution, nor an “equilibrium” wage rate determined by the amount of capital divided by the amount of working-age population. Therefore, if the wage rate increases due to action by the trade unions, it actually leads to a rise in the “wages fund” and a fall in profits, not to the emergence of unemployment which, for Ricardo, may have been already present.

CONCLUSIONS

Summing up, in Classical economists, an inverse relation between wages and the amount of employment for a given stage of accumulation is not traceable on the basis of the wage-fund doctrine and neither is a reference to the neoclassical principle of substitution (see Stirati, 1994). So Ricardo, when analysing the possibility of labour unemployment after the introduction of machinery, does not refer to a subsequent fall in wages reabsorbing that unemployment — which, indeed, he excluded (Ricardo, 1951-1973, VIII, 171) and was reproached by Wicksell for omitting it. Therefore, unlike that stated by the Canonical Classical Model, Smith’s and Ricardo’s theory of distribution cannot be interpreted in terms of some kind of “demand and supply forces.” Their theory refers to broad social and historical factors affecting the strength of workers in wage bargaining, which are not seen as being frictions to those forces as in J.B. Clark (1899, p. 66) or Marshall,[30] nor necessarily in contrast with free competition and harmful from the point of view of society as a whole (Garegnani, 1990; Levrero, 2011).

Footnotes

[1]As Smith (1776, I, VIII, pp. 74-75) wrote: “The masters, being fewer in number, can combine much more easily; and the law, besides, authorises, or at least does not prohibit their combinations, while it prohibits those of the workmen (…). In all such disputes the masters can hold out much longer. A landlord, a farmer, a master manufacturer, or merchant, though they did not employ a single workman, could generally live a year or two upon the stocks they have already acquired. Many workmen could not subsist a week, few could subsist a month, and scarce any a

year without employment. In the longrun, the workman may be necessary to his master as his master to him, but the necessity is not so immediate."

[2]This minimum wage thus covers the costs to be paid for the "wear and tear" of the labourer (Smith, 1776, I, VIII, p. 90). As Ricardo specified, subsistences must also be "sufficient to prompt him [the worker] to the necessary exertions of his power" (Ricardo, 1951-1973, IX, p. 17). See, on these points, Levrero (2012, 2013 and 2018).

[3]Smith thus included in the subsistence wage not only "the commodities which are indispensably necessary for the support of life, but whatever the custom of the country renders it indecent for creditable people, even of the lowest order, to be without" (Smith, 1776, V, II, p. 399). Cf. also Cantillon (1952, XI, p. 21), Petty (1989, p. 209), Steuart (1966, pp. 270-271) and Ricardo (1951-1973, I, p. 97).

[4]As outlined by Hollander (1973, p. 245) and Schumpeter (1982, pp. 270-275), in Smith's time the existence of a reserve of labour unemployment and underemployment which might be called into employment upon an increase in demand was generally recognised. With Ricardo's analysis of Chapter XXXI of his Principles, labour unemployment was also ascribed to the introduction of machineries (cf. in this respect, also Barton, 1834, p. 18; and Marx, 1978, II, p. 598).

[5]"Labour is a commodity which cannot be increased or diminished at pleasure. If there are too few hats in the market for the demand, the price will rise, but only for a short time; for in the course of one year, by employing more capital in that trade, any reasonable addition may be made to the quantity of hats, and therefore, their market price cannot long very much exceed their natural price; but it is not so with men; you cannot increase their number in one or two years when there is an increase of capital, nor can you rapidly diminish their number when capital is in a retrograde state (…)." Cf. also Ricardo (1951-1973, I, p. 196).

[6]On the combination laws, see Place (1825). With regard to the debate on their abrogation, Ricardo stated that the "contracting parties" should look to the law "to protect them from force being employed on either side" (Ricardo, 1951-1973, VIII, p. 316). For an analysis of the factors affecting the bargaining position of workers in Classical economists and Marx, see Levrero (2013) and Stirati (1994).

[7]The same alarm is advanced by Ricardo with regard to the poor laws which he viewed as favouring an increase in population: "(u)nfortunately (…) they have been so long established, and the habits of the poor have been so formed upon their operation, that to eradicate them with safety from our political system, requires the most cautious and skilful management" (cf. Ricardo, 1951-1973, I, p. 106). See also Smith (1776, I, VIII, p. 86).

[8]Note that this statement was not strictly advanced by McCulloch with regard to the subsistence wage. He, as well as afterwards J.S. Mill, was inclined to assume that the subsistence wage easily varies in response to changes in the average market wage rate. He thus favoured the view that wages depend only on "demand and supply".

[9]This recalls Smith's statement that the circumstances of the society "oblige the employer" to raise wages, or Steuart's (1966, V, p. 694) proposition that "the imposition of a tax gives a general alarm: the effect it must have upon prices is immediately felt; and manufactures then insist upon an augmentation of their wages". Cf. also Turgot (1913-1923, II, p. 664).

[10]However, the necessary price of labour should refer — as in Torrens or Marx — to that basket of necessaries which is able (or necessary) to reproduce the amount of labour demanded and employed on average at a given stage of accumulation — namely, which assures that, if things were repeated unchanged, the employed workers consumed in the process of production or worn out by old age or disease, could be reproduced and replaced over time, whatever the workers actually did with their "fund of amortization".

[11]The assumption is made that the workers are willing to accept any wage rate in order to work and that no labour unemployment exists. This assumption could be traced in McCulloch and Malthus, but not in Smith and Ricardo. It leads to two wage theories in Classical economists, a competitive one, and a theory in which reference is made to institutional factors such as those determining the wage rate — as in the case of the interpretation of Smith's reference to the "tacit combinations" of the masters in terms of a monopsonistic determination of the wage rate (cf. Cannan, 1975, pp. 255-256; Knight, 1956, pp. 80-83; Schumpeter, 1982, pp. 269 and 665). For a critique of the idea that there is a contrast between "custom" and "competition" in Classical economists, see Levrero (2011 and 2012).

[12]Two types of models are advanced within the Canonical classical model: a disequilibrium model — where the rate of capital accumulation diverges from that of population growth until the stationary state is reached — and a model of dynamic equilibrium where the notion of a dynamic equilibrium wage rate is introduced.

[13]The centrality of the subsistence wage in Ricardo's analysis is emphasised by Pasinetti (1960, 56), who stresses the faith of Ricardo in the Malthusian principle of population (see, for instance, Ricardo, 1951-1973, I, p. 159). This is not so, however, when Ricardo analyses the determinants of wages or the effects of taxation.

[14]As Rosselli (1985, p. 248) observes, in the same discussion with Malthus, Ricardo (1951-1973, II, pp. 227-228 and VII, pp. 250-251) also seems to refute a definition of the natural price of labour similar to that of a dynamic equilibrium wage envisaged by the Canonical classical model.

[15]Cf. Casarosa (1978, p. 42; 1985, p. 53) and Hollander (1979, p. 688). Hollander tries to overcome this problem by assuming that constant returns initially prevail until a certain ratio of capital-cum-labour to land is reached. Casarosa, on the other hand, is forced to assume that the marginal product will only decrease in steps.

[16]Support was seen to be provided by a greater utilisation of existing natural resources, an increase in agricultural productivity, imports of agricultural products in

exchange for manufactured goods, and a change in political institutions (cf. Steuart, 1966, pp. 115-116; and Anderson, 1798, III, Essay First).

[17]Similar arguments were already advanced by Child (1654, p. 58), and it was also stressed that population could be changed by migration (cf. Petty, 1898, Political Arithmetic, p. 266; and Quesnay, Philosophie Rurale, in Meek, 1973, pp. 71, 89 and 96).

[18]Cf. Spengler (1973) and Hollander (1979, pp. 151 and 161, note 65).

[19]With respect to North America, Smith on the other hand observed that population is stimulated not only by high wages, but by the fact that, for the great demand for labour and the net gain from bringing up a child and selling him on the market at an age of six or seven, an abundant number of children "instead of being a burthen is a source of opulence and prosperity to the parents" (Smith, 1776, I, VIII, p. 79).

[20]Smith also stressed the moral elements affecting population: "it is the sober and industrious poor who generally bring up the most numerous families, and who principally supply the demand for useful labour" (Smith, 1776, V, II, iv, p. 401).

[21]Indeed this will then also appear in Malthus's Principles as his preventive restraints on population.

[22]Thus Buchanan observed that "(e)very increase of capital (…) tends directly to raise wages, and indirectly to ameliorate the condition of the labourers by the general improvement of society. The progress of wealth gives rise to a more refined and luxurious consumption (…) A new class of workmen gradually arises (…)". Cf. also McCulloch (1830, p. 357).

[23]Note that here Ricardo differs from Malthus also with regard to how quickly population doubles, since, according to the latter, it would require no more than 25 years (cf., for instance, Malthus, 1986, V, p. 226). On the other hand, it is precisely due to the slowness and uncertainty of a change in population after that in wages that Ricardo referred to "the interest of all the parties", and not to changes in population in order to explain the adjustment of the market price of labour to the natural one when discussing the effects of taxation on wages.

[24] Ricardo also outlines this point, although he specifies that profits may increase only for a certain time and according to the elasticity of the rate of accumulation to a fall in the rate of profits (Ricardo, 1951-1973, I, p. 123).

[25]Indeed, the maxim reported by Quesnay in his Philosophie Rurale had wide currency, namely, that a man who is unable to save anything "does only as much work as is necessary to earn him his food and that in general all men who can save are industrious, because all men are greedy for wealth" (quoted in Meek, 1978, p. 258).

[26]On the absence of the wage fund theory in Ricardo cf. Bharadwaj (1989); Meek (1967), and Stirati (1994). Caravale and Tosato (1974, p. 101) also seem to admit that it is traceable more in McCulloch and Mill than in Ricardo. It spreads after Ricardo's death, with labourers considered the "divisor" and capital the "dividend", in order to determine the wage rate.

[27]Still, "[the demand for food] is the effect of an increase of capital and population, but not the cause – it is only because the expenditure of the people takes this direction, that the market price of necessaries exceed the natural price, and the quantity of food required is produced; and it is because the number of people is increased, that wages again fall" (idem, p. 407). Cf. also the letters to Trower of 26 September 1820 and 30 October 1820 (Ricardo, 1951-1973, VIII, pp. 258, 272).

[28]Of course here net revenue is Ricardo's surplus product (namely, income does not include subsistence wages).

[29]Cf. also Ricardo (1951-1973, VII, p. 202; and IX, pp. 49-50.) On the other hand, indirect evidence of the absence in Ricardo of the wage-fund doctrine comes also from the criticism by J.S. Mill (who instead advanced that doctrine) of Ricardo's thesis that a tax on wages must lead to a rapid increase in wages taking as given the ratio between capital and population.

[30]While stressing the peculiarity of labour as a commodity (cf., for instance, Marshall, 1982, VI, IV, pp. 465-473; and VI, II, p. 440), Marshall thought that — when taking as given the supply of labour — social and historical elements could have only temporary effects on distribution (cf. idem, 1982, VI, XIII, 7, pp. 577 and 582; and VI, IV, I, p. 465).

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