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**INTERPRETATIONS OF THE CLASSICS: THE THEORY OF WAGES**

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**INTERPRETATIONS OF THE CLASSICS: THE THEORY OF WAGES**

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# INTERPRETATIONS OF THE CLASSICS: THE THEORY OF WAGES

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## 1. Introduction

The well-known enduring controversy on the interpretation of Ricardo's wage theory, and by implication on classical wage theory, has undoubtedly been fuelled by the existence of some inconsistencies in Ricardo's writings. However, as far as the factors affecting normal wages are concerned, these inconsistencies may carry less weight than is usually believed..

The present paper aims to provide a critical overview of the controversy concerning the interpretation of the theory of wages in classical economists, offering a somewhat unusual perspective. I contend that there are major similarities between the two interpretations that have been regarded as the main contenders, the so-called *New view* and *Fix wage* interpretations. Due to these similarities, the controversy has tended to neglect a decisive point for the interpretation of the theory of wages in Ricardo and other classical economists, namely, the meaning of 'demand for labour' in classical thought. I also maintain that there is a third point of view concerning the interpretation of wage theory in the classical economists, which has not been accurately understood and discussed in earlier surveys of the controversy. Unlike the others, this *Alternative interpretation*, as I shall label it for brevity, centers on the absence of a systematic decreasing relation between real wages and employment in Ricardo and other classical economists. The *Alternative interpretation* will be presented in some detail, and some questions posed by the *New view* will be assessed from the point of view of this alternative interpretation.

## 2. *New view* and *Fix wage* interpretations compared

The *New view* interpretation is generally associated with the work of Samuelson (1978), Casarosa (1978), and Hicks & Hollander (1977). It defines the natural wage as the wage just sufficient to sustain the worker and support a stationary population. Moreover, it maintains that it prevails only in the final stationary state, towards which the economy tends in the very long run as a consequence of decreasing returns.

According to the *New view*, before reaching this state, the *normal*[1] wage rate is what Ricardo calls the market price of labour, determined by 'supply and demand'. For some representatives of this view, the normal wage is that particular level of the market wage that equalizes the growth rates of population and capital, these being an increasing and a decreasing function of the wage rate, respectively. The proponents of this interpretation claim interdependence among economic variables and similarity between classical and neoclassical theories. According to Casarosa, for example, there is interdependence between 'the wage rate, the rate of profit and the rates of growth of population and capital' which are 'simultaneously determined' (Casarosa, 1982: 228).[2] This view has been regarded as inconsistent with, and indeed opposed to, Sraffa's interpretation of Ricardo. In the latter, the real wage and the quantities produced are taken as given when determining the rate of profits and relative prices. For example Peach has written: 'acceptance of the *New view* would dissolve the perception of Ricardo as a 'surplus theorist' in any meaningful sense' (Peach, 1988: 111).

The other main contender in the controversy is the *Fix wage* interpretation, mainly associated with the names of Kaldor and Pasinetti. According to this view, wages tend to be at their natural subsistence level in Ricardo owing to the response of population to a divergence between market wages and subsistence. The real wage accordingly should be taken as given at its natural level when determining relative prices and the rate of profits. This is regarded as consistent with Sraffa's interpretation of Ricardo, and with the procedure of determining relative prices and the rate of profit, taking the real wage as given (as in Pasinetti, 1974). We shall return (sect. 4 below) to the question of the consistency of *New view* and *Fix wage* interpretations with that stemming from Sraffa.

However, both *New view* and *Fix wage* interpretations are similar in one specific but very important respect: the economic forces determining wages in any *given period*, that is*, given population size and capital stock*.

In both streams of interpretation, the real wage is determined on the basis of the wage fund theory (or, in the case of Hicks & Hollander, of 'factor substitution') and a given labour supply. For example, according to Kaldor (1956), given the natural wage

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[1] The wage thus determined is the normal wage (or long period wage, according to Marshall's classification) because it is the wage determined in a given state of the economy by the data of the system, ignoring accidental and transitory factors (such as unpredictable variations in agricultural output due to climatic events) and secular changes such as those determined by capital accumulation and demographic changes.

[2] On the precise nature of the interdependence between variables, there seem to be some differences. For Samuelson, the claimed interdependence is one between distribution, relative prices and outputs, implicitly of the same nature as that found in marginalist theory (Samuelson, 1978: 1420).

and given the capital stock, which consists entirely of advanced wage goods, it is possible to determine employment as the ratio between the wage fund and the natural wage. According to Kaldor: 'The basis for this assumption [*i.e.*, taking the real wage at the natural level] is the Malthusian theory of population' (fn 1, p. 85). Thus, if, for example, the wage is higher than the natural wage, population grows and the ratio between the wage fund and population falls, until the equilibrium wage equals the natural wage. That the analysis is based on the wages fund theory, and entails full employment of labour, is made absolutely clear by this addition by Kaldor: 'the feature which the modern mind may find most difficult to swallow is not that capital accumulation should lead to a rise in population but that the reaction should be taken as something so swift as to ignore the intervening stage, *where the increase in the wages fund should raise the rate of wages rather than the numbers employed*' (Kaldor, 1956 fn 1 p. 86, italics added). In Pasinetti (1974), the current real wage is similarly determined by the ratio of the given wage fund to the population and the tendency towards the natural wage depends on the reaction of population to the difference between current and natural wage (pp. 5, 8, 10, 12)[3]. In *New view* contributions such as Casarosa (1978: 43) we find the same view. Hicks & Hollander (1977) attribute to Ricardo a decreasing demand schedule for labour based on decreasing marginal product. In the first part of his *classical canonical model*, Samuelson assumes neither a given wages fund nor substitution between labour and capital, and is led towards rather extreme conclusions (see section 5 below), only to later state that:

'Ricardo and Marx were not so naïve observers as to believe literally in fixed proportions between capital goods and labour. Their […] commentaries presuppose recognition that at certain price and profit rates, substitutions will be made […]' (Samuelson, 1978: 1423).

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[3] Equation 1.4 of Pasinetti's system and his comments on pages 5 and 12 are the keys to his interpretation of Ricardo's wage theory. In this equation, which determines the 'scale' of the economy, we have $W = xN$. In the market equilibrium, $W$ (the wages fund) and $N$ (employment and labour supply) are the given variables and $x$ (the real wage) is endogenously determined as the 'market' full employment equilibrium wage (p.12). In the natural equilibrium, $x$ has reached its natural level through population adjustment.

Thus, the two views are not really so far apart in the interpretation of what forces determine the normal wage rate, given population and capital stock. This is regarded as determined by the interaction of a decreasing demand schedule and a given labour supply (population) and is a *full employment equilibrium* wage. Accordingly, the tendency of this normal wage to coincide with the subsistence natural wage or to be very close to it simply depends on the assumptions made concerning the relationship between population growth and the difference between current wages and subsistence. The similarity of the views concerning the 'demand side' of the labour market on both sides of the controversy has placed the focus on the speed of adjustment of population as the ultimate determinant of whether wages will tend to be at their natural level in the process of accumulation.

### 3. The *Alternative interpretation*

In the literature there is a third line of interpretation of the classical theory of wages, consistent with the reading of Ricardo as a 'surplus theorist' (Garegnani,1984;1990; Stirati,1992;1994).[4] According to this interpretation, in the classical economists up to, and including, Ricardo, there was no notion of a systematic inverse relation between wages and employment.[5] The demand for labour is a given quantity, associated with the capacity existing in the system and the technologies embodied in it. There is an obvious analogy with the effectual demand for a commodity (Smith, 1976, vol. I. chap. vii, par. 7-8). In the case of commodities, the 'proportion of demand to supply' is the ratio between two given quantities: effectual demand and 'quantity brought to market.' In the case of the labour market, it is the ratio between the quantity of labour demanded by employers (employment plus vacancies in modern terms) and population of working age.[6]

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[4] Before the controversy developed, Napoleoni (1974: 65-66; 68-70) appears to have shared this view; a similar perspective, albeit with a different focus, is also found in Picchio (1992).

[5] Malthus is an exception to the classical tradition, since in the 1817 edition of his *Essay on Population* there are some passages clearly suggesting the acceptance of the wage fund theory.

[6] Interestingly, the contemporary critics of the wage fund doctrine opposed this notion of demand for labour to that proposed in wage fund theory. This shows that the notion of 'effectual demand' as a given quantity was widespread at the time, and that the wage fund theory introduced a different notion of demand for labour which was regarded as inconsistent with the usual definition of demand for a commodity and for labour. Longe writes: 'a ratio between demand and supply is only intelligible if by demand we mean the quantity

According to this reading, in the classical economists: a) we do not find a tendency towards full employment of labour, since there is no demand curve for labour inversely related to the wage; b) the proportion of employment to labouring population is one of the factors affecting the bargaining position of the parties when they establish the wage rate.

It should be emphasized that the term bargaining position is meant to refer to the ability of the parties to impose conditions of the labour contract favorable to them ('*faire la loi*' is the expression used by Turgot in this context) in processes of collective or individual bargaining, but it does not *necessarily* refer to situations in which there exist forms of monopoly or monopsony in the labour market.[7]

An example of the role of the proportion between quantity of labour demanded and supplied is the fact that Smith sees the '*constant scarcity of employment*' as a characteristic of a stationary economy, in which natural wages will therefore tend to be at the subsistence floor (1976, I.viii.24, emphasis added). Another example of this, is the fact that Smith saw above-subsistence natural wages as the consequence of a growing economy in which, as in North America, '*there is a continual complaint of the scarcity of hands*' (1976, I.viii.23, emphasis added). This arises in Ricardo's analysis also. In situations characterized by an increase in the ratio between quantity of labour demanded and labour supply, which he sees as associated with an accumulation of capital more rapid than population growth, wages will be above subsistence (see Ricardo, I: 163, 165). Such persistent improvements in real wages are quite aptly treated by Smith as an increase in the natural rate of wages, while Ricardo often treats them as a persistent deviation of the market price of labour from its natural level. In turn, the increase in wages will tend to bring about an increase in the rate of growth of population, which renders labour supply endogenous in the very long run.

Following this interpretation, the normal wage in any given period can be seen as the result of two sets of circumstances:

a) sedimented historical circumstances, such as the customary living standard of workers, which determines the subsistence floor. These also include the institutional set-up of the country: the laws regulating labour relations, the existence and strength of workers and employers organizations (Smith, 1976: I. viii. 11-12), and the political representation of group and class interests (Hume, 1752:16).

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demanded…The demand for a commodity then is not the quantity of money wherewith it is to be purchased, but the quantity of the commodity itself wanted by purchasers' (Longe, 1866: p. 34); see also Thornton, 1870, pp.49-50; 87.

[7]For example, the 'disputes' between the master and his employees referred to by Smith (1976, I.viii.12), suggest forms of collective bargaining in situations in which, however, there are no well organized 'combinations' of workers.

b) current conditions, such as economic factors affecting the bargaining position of the parties. Among the latter, classical economists gave prominence to the ratio of the quantity of labour demanded and its supply.

Current conditions will affect the normal wage level in relation to and within boundaries determined by the first set of conditions. This is evident in the case of the stationary economy described by Smith, where notwithstanding the 'constant scarcity of employment,' wages are established at subsistence, acting as a floor. However, even when conditions are favourable to the workers and employers are forced by the scarcity of hands to bid against one another (Smith, 1976: I. viii. 16-17), this leads to high wages, not to indefinitely rising wages. In rapidly growing North America, wages are said to be higher than in England, not to be continually rising, despite competition among employers and the 'continual complaint of the scarcity of hands'.

This interpretation of classical theory can claim an advantage in solving certain 'puzzles' in the interpretation of Smith and Ricardo. Smith's discussion has led interpreters to attribute three different theories of wages to him: 1) a subsistence theory in which subsistence is taken as a social datum (Schumpeter 1954: 665); 2) a monopsony theory in which wages are determined arbitrarily by a 'fiat' of employers (Knight, 1956, p. 81; Hollander, 1973: 185); and, 3) the wage fund doctrine, on the basis of which the course of wages over time is determined by the proportion between the wages fund and the population (Cannan, 1839: 235-37). These are all inconsistent with one another, and cannot be reconciled.

However, if the demand for labour in Smith is understood as a given quantity, the different themes present in his analysis can be seen as parts of a unified, consistent explanation of wages along the lines suggested above. The proportion between quantity of labour demanded and population, and the various institutional and economic factors determining the 'advantage' of the masters, will affect the relative bargaining position of the parties and together with customary subsistence of the workers, will contribute to the determination of the natural wage.

Concerning Ricardo, this interpretation explains why in the case of taxation of wages or necessaries, Ricardo thought that money wages would rise so as to leave workers' purchasing power unaltered. According to Ricardo, wages would adjust rapidly, and the adjustment would *not* require any change in population (Ricardo: I: 161, 165-66; VIII: 196). This is in contrast with the usual interpretations of Ricardo, but is perfectly consistent with a reading based on the absence of a decreasing demand function for labour. In the terms Ricardo himself uses, since the tax has not altered the

proportion between the quantity of labour demanded and its supply,[8] and since, we may add, the historical factors determining the subsistence of the workers are also unchanged, the forces determining the real wages that the workers can obtain are unaltered. In other words, the relative bargaining position of the workers is not affected, and they will be able to obtain the increase in money wages that is required to preserve their purchasing power. Similarly, the absence of an inverse relation between wages and employment explains why Ricardo admitted that the introduction of machinery and changes in the composition of demand and output might create persistent unemployment (unemployment, that is, that can only gradually diminish as a consequence of changes in population size or the pace of accumulation) (Ricardo, I, chap. XXXI).[9] Thus, according to this view of classical wage theory, the distinctive character of the latter with respect to both wage fund theory and marginalist theory rests essentially on the differences between the forces determining wages, that is, on the absence of a systematic decreasing relation between wages and employment and hence of a tendency to full employment.

The absence of a systematic decreasing relation between wages and employment level in turn imposes a non-mechanical analysis of the forces determining the wage rate. In this light it can be seen that a separate analysis of wage rate determination and the determination of relative prices in the classical economists is associated with the necessarily different level of abstraction and generality of their explanations.

**4. The problems posed by the *New view* discussed in the light of the *Alternative interpretation***

The focus of the *New view* has been on the fact that various passages in Ricardo suggest that the actual (market) wage can be persistently above subsistence in a growing economy. This, according to various contributions to the debate:

a) would deny convergence of actual wages towards the subsistence/natural wage except in the stationary state;

b) would deny the possibility of taking wages as given at their subsistence levels when determining relative prices, and would create an interdependence between the wage actually prevailing, the rate of accumulation and hence the rate of profit which can only be solved by simultaneous determination. This, as we have seen above, is considered to conflict with the possibility of describing the analytical structure of Ricardo's theory as a 'surplus approach'.

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[8] '[...] in the case of a tax on corn, there is not necessarily any excess in the supply of labour, nor any abatement of demand, and therefore there can be no reason why the labourer should sustain a real diminution of wages' (Ricardo, I: 165-66).

[9] On both points - taxation and machinery - see also Stirati, 1999: 205-06, 218-22.

Concerning problem a), two comments can be made. On one hand, the claim that the natural wage would prevail only in the stationary state does not appear well founded and contrasts with several important aspects of Ricardo's analysis. On the other hand, it is true that in Ricardo there are some contradictions which derive from a definition of the natural wage that is too restrictive for it to characterize the normal wage actually prevailing in the economy in any given period (see Stirati, 1995). Yet these problems do not have the implications claimed with respect to problem b). Even if one accepted the *New view*'s mechanical interpretation of the relationship between the wage and the rate of growth of capital and population, this, by itself, would not be in contrast with taking the normal wage as given (*i.e.,* determined by other factors) in any specified period (that is, given population size and capital stock). The relations between wage and growth rates of population and capital suggested by the *New view* concern the secular movement of the normal wage, and cannot substitute an explanation of the latter in a given period. One may recall here that in marginalist theory the secular changes of the equilibrium wage depend on the relative growth of capital and population, and the former depends on the rate of interest. However, inquiry into these relations is left to growth theory, and equilibrium wages in any given period are simply determined, irrespective of those relations, by the interaction of supply and demand schedules derived on the assumption of given capital and given population. Similarly, in classical theory, the very long run interaction between rate of profit, wages and accumulation is not in conflict with taking the normal wage as given in the determination of relative prices and the rate of profits. Nor is it in conflict with regarding such a normal rate of wages as determined by historical and institutional circumstances and the proportion of quantities demanded and supplied in the labour market.

What is really at stake is not whether there is a very long run interdependence between normal wages, growth, and the rate of profit in classical theory. What is at stake is how normal wages are determined in a given period, with given capital and population. What indeed establishes a similarity between classical theory as interpreted in the *New view* and marginalist theory is the fact that wages in every period are explained as resulting from the interplay of a 'static' decreasing demand function and labour supply. It will also be argued below that when modeling the relationship between growth rates and distributive variables the *New View* tradition must use demand functions explicitly or implicitly in order to avoid unacceptable results.

From the above, the similarity with marginalist theories concerning the forces determining wages also holds for the interpretation of classical wage theory advanced in *Fix wage* contributions. In addition, contrary to what is generally maintained, the

wage-fund interpretation of Ricardo advanced in the latter is *not* consistent with the meaning Sraffa attributed to the return to the classical approach to distribution. There is evidence that Sraffa saw the advantage of this approach as being the absence of a mechanical or 'natural' determination of distribution, a determination, that is, independent of the actions undertaken by the parties.[10] By contrast, the emergence of the wage fund doctrine brought with it precisely such a notion.

## 5. Implications for the role of competition and 'market forces'

The *Alternative interpretation* quite obviously means that demand and supply of labour, being two given quantities, cannot be conceived as determining the wage rate in the same sense in which demand and supply *curves* are usually regarded as determining it in the marginalist tradition. Yet this does not always appear to be fully grasped in the literature. To give an example, in commenting on the interpretation of Smith presented in Stirati (1998) and referring to Smith's discussion of wages in a growing economy, Peach writes: '[…]the plain sense of [Smith's] passage is that natural wages in a growth context are determined by supply and demand conditions in labour markets […]' (Peach, 1999: 455). Yet nowhere in this or other writings has Peach attempted to demonstrate that in Smith (or Ricardo) we find a decreasing demand function for labour based on wage fund notions or factor substitution. To the contrary, he has often criticized Hollander for trying to find the latter in Ricardo.[11] On the other hand, without such a function, what would the wage competitively determined 'by supply and demand conditions' be if, entirely by fluke, the quantity of labour demanded and supplied were the same? And what would happen if the quantity demanded exceeded supply? Would wages keep rising until population increased enough to meet the level of demand? And what if supply exceeded the quantity demanded? Would wages fall to zero and population rapidly die 'like flies' in order to make supply equal to demand? This is what happens in Samuelson's (1978) canonical classical model when he assumes fixed proportions between labour and capital. However, this is certainly at odds with anything we can find in the texts of classical economists). In these economists, although subsistence can be reduced to a scanty level in adverse conditions, it acts as a floor for wages. Moreover, 'subsistence' is not defined as a biological minimum but rather as a social datum. Population adjustment is therefore not conceived so mechanically.[12]

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[10] See Pivetti, 1999, for discussion of this point and quotations from Sraffa's unpublished papers.

[11] See for example Peach, 1988b

[12] For a critical discussion of Samuelson's interpretation of the Classics see Garegnani, 2007: 212-26.

As Peach stated, it is certainly true that the increased proportion between labour demanded and supplied will tend to increase competition between capitalists and increase the wage level in a growing economy. However, this increase does not immediately alter the proportion between those quantities of labour. Labour demanded and supplied are only slowly affected by capital accumulation and population changes. If one wants to remain close to what Smith wrote, it must therefore be supposed that competition operates within boundaries set by conventions and institutions. Accordingly, the increased competition between employers in a growing economy will cause a *finite* increase in the wage level, with respect to a given level (such as the subsistence consumption of the worker and his family) determined by conventions, history, institutions. In turn, the size of the increase will be affected by the change in the relative strength of the parties brought about by employment growth. It is in order to highlight this view of the effects of 'increased competition' on wage levels that the proportion between quantities of labour demanded and supplied is said to affect the 'bargaining position of the parties'.[13]

A possible source of the difficulty of fully grasping the implications of the absence of a labour demand curve in classical economists could be the belief that the functional relations between wage rate, population growth and capital accumulation found in *New view* interpretations are sufficient to determine the equilibrium level of the wage rate. If this were accurate, one could speak of a wage determined by 'market forces', meaning a wage determined by those functional relations, rather than by a conventional demand function relating the wage to the employment *level*. However, this belief would be wrong. On the basis of those functions alone, the wage rate cannot bring about equilibrium between the rates of growth of capital and population as in the *New view,* while at the same time bring about an equilibrium between the *levels* of population and employment. Indeed, *New view* contributions leave the role of bringing the level of employment to the level of labour supply to a conventional demand function.

To see this more concretely, let us illustrate the relations between the wage rate and the rates of growth of capital and population in a diagram.

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[13] On this point, see also Garegnani, 2007: 217-19.

**Figure 1: The rates of growth of population and capital as functions of the real wage - point E *not* a position of rest.**
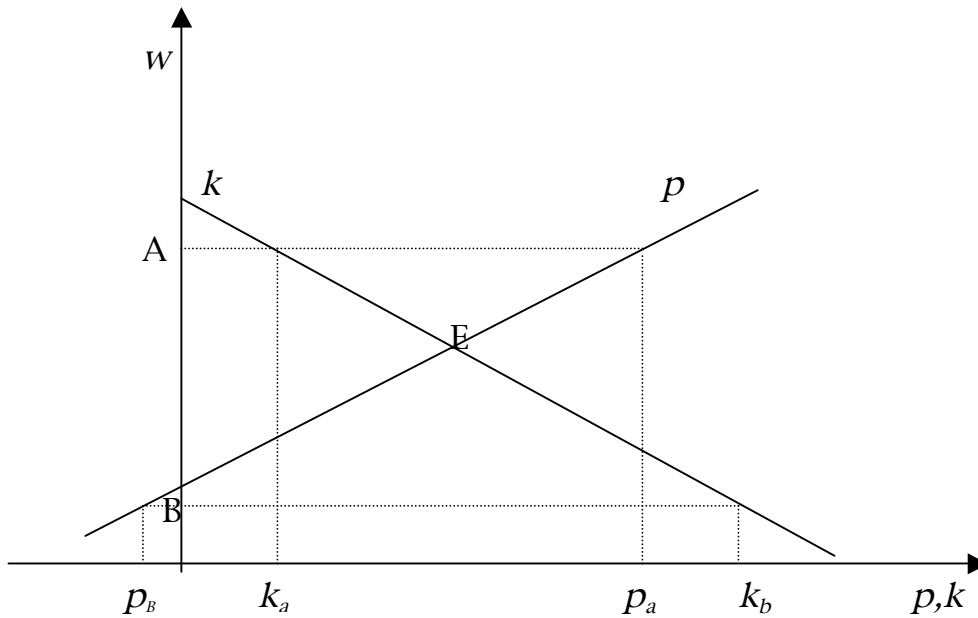


Let us suppose a real wage rate ($w$) equal to A in the graph, where the rate of growth of capital $k_a$ is less than the rate of growth of population $p_a$. Let us also make the assumption that capital and labour must be used in a 1 to 1 proportion so that $K=EM$, where $K$ is the capital stock and $EM$ the employment level.[14] Let us suppose that for $w = A$, the employment level is less than population (labour supply) $P$, so that $K<P$. If we assume unlimited competition on wages, this will lead to a fall in the wage rate $w$ which will bring the economy to point $E$ where the two functions intersect; but here we still have $K<P$, and the difference is greater than before since while $w$ was falling from $A$ to $E$, $k$ was smaller than $p$. Hence $w$ will keep falling and will continue to do so until $p$ becomes negative or at least until $k$ is so much greater than $p$ that after a limited number of periods $P$ and $K$ become equal. Suppose this happens at $w = B$. It would not be a position of rest, however, since now $k>p$, labour demanded will soon exceed population and $w$ will rise to $E$, but here the gap between levels will be even greater and $w$ will keep rising. Equilibrium between rates of growth in the figure can never be attained as a point of rest, and the wide and continuous changes in the real wage and population and capital rates of growth predicted by such a model are at odds

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[14] $K$ should be taken here to represent the number of machines, each operated by one worker, which are the only capital used in the economy.

with what the classical economists (and indeed any sensible observer of the labour market) ever believed about the trends of wages, population and capital over time.

This brings us back to the central point of this paper. The crucial question is whether a decreasing demand function for labour can be attributed to the classical economists. If not, one must necessarily think in terms of a competitive process that is bounded by conventional and institutional factors. Moreover, we must regard the ratio of quantity of labour demanded and supplied as a factor affecting normal wages through its influence on what has been called the 'bargaining position' of the parties. All this is quite independent of the interpretation of the dynamic relations between wages, population growth and capital accumulation.

The distinctive character of classical wage theory according to the *Alternative interpretation* is not in the role played by institutional factors *as opposed to* market forces, but rather in a different view of what market forces actually are, in the analytical framework of the classical economists.

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