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January 2006

Online at <https://mpra.ub.uni-muenchen.de/14050/>  
MPRA Paper No. 14050, posted 14 Mar 2009 02:17 UTC

# THE CONCEPTUAL ROOTS OF WORK EFFORT IN PRE-CLASSICAL AND CLASSICAL ECONOMIC THOUGHT \*

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January 2006

## Abstract

In modern literature, the concept of work effort is used as an additional explanation of involuntary unemployment. In particular, it is assumed that higher wages have a positive effect on work effort and this is the fundamental point of the efficiency wage models of involuntary unemployment. However, as it is often the case, the concept of the workers' effort was not new but it was an idea that can be found in the works of a number of pre-classical and classical economists. This paper discusses the conceptual roots of the idea from the late 17<sup>th</sup> until the middle of the 19<sup>th</sup> centuries. For instance, there is evidence of the connection between wages, work effort and consumption in the works of North, Hume, Steuart, Smith, Young, Crumpe, Ricardo, Senior, McCulloch, Babbage, Longfield, J.S. Mill and others. The paper also assesses the similarities and differences of their views with current approaches to work effort.

JEL Classification: B11, B12, J2

Key words: work effort, wage rate, pre-classical thought, classical thought,

\* An earlier version of the paper was presented at The Sixth Annual Conference of the Greek Historians of Economic Thought (Crete, May 2004). We thank the participants of the conference and particularly Thomas Moutos for his suggestions. The usual disclaimer applies.

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## **I. Introduction**

In the last decades of the twentieth century, there was an increase of interest in the idea of work effort. The basic theoretical point was that higher wages have a positive effect on worker's work effort. More specifically, this concept was used by many economists as an additional explanation of involuntary unemployment. It was the starting theoretical point in a variety of models such as, the efficiency wage model, the partial- gift- exchange model and the shirking model. It has also been used as an argument in the trade union utility function. However, as it is often the case, the concepts of the workers' effort, wages and consumption were not new but can be found in the works of a number of pre-classical and classical economists. There are numerous examples in the history of economic thought where an idea reappears after a long break, quite often in a new theoretical framework. Smith's wage compensating differentials, Ricardian equivalence and underconsumption theories are indicative cases. Thus, the main aim of this paper is twofold: first to discuss the conceptual roots of work effort and its various dimensions from the late 17<sup>th</sup> until the mid of 19<sup>th</sup> centuries, and second to relate such views with modern ideas and analysis. It has to be noted however, that is not the intention of the paper to examine in detail the theoretical context in which these authors conceived and developed the relationship between the wage rate, work effort and consumption (for examples of such discussions, see Brewer, 1998; Marshall, 2000; Fiaschi and Signorino, 2003;)

In this light, the first section of the paper provides an overview of the current usage of the issue of the positive effect of wage rate on work effort. It concentrates on the efficiency wage model, the shirking model, the partial- gift-exchange model and on the trade union objective function. The next section examines the presence of this idea in pre-classical economists such as North, Hume and Steuart. Section four concentrates in classical economic thought. The connection between wages and work effort can be found in the works of Smith, Young, Crumpe, Ricardo, Senior, McCulloch, Babbage, Longfield, J.S. Mill and others. Finally, a concluding section attempts to establish the similarities and differences with respect to the modern uses of work effort.

## **II. Work effort in modern analysis**

The idea that higher wages have a positive effect on work effort appeared in modern literature in the early 1970's. For instance, Leibenstein analysed work effort in terms of four components, such as "the choice of activities which compose the effort; the pace at which each activity is carried out per unit of time; the quality of each activity; the time pattern and length of activity" (1976, pp. 98, 101-2, 114-5; see also 1979, p. 130). In another work (1978, pp. 63-4), he argued that higher wage rate implies higher effort not only because of material but also of psychological well being of individuals.[1]

The idea of work effort started gaining more attention in the context of the theoretical attempts to explain involuntary unemployment. In particular, many theorists wanted to tackle the question why many firms are willing to pay non-competitive wages which might be seen as an important cause of labour market clearance failure. The efficiency wage models of involuntary unemployment had as a starting point a production function of the

following form:

$$Q = sF(e(w)N) \quad (1)$$

Where  $w$  is the real wage rate,  $N$  is the number of employees,  $s$  reflects technological shifts and  $e$  is effort per worker. Given this, firms will offer a  $w^*$  rate of wage which satisfies the condition that the elasticity of effort with respect to the wage is unity. This implies that the marginal product of labour will be different than the standard one and will be equal to  $w^*$  (the efficiency wage). The consequence of this is the existence of involuntary unemployment (for the basic papers, see Stiglitz, 1976; Solow, 1979; Yellen, 1984).

The importance of the efficiency wage hypothesis cannot be underestimated. Its extensions have been used in explaining a wide range of labour market phenomena such as: dual labour markets, real-wage rigidity, the existence of wage differentials and discrimination among workers with different observable characteristics. [2]

In relation to the above, there have been a number of models that provide some more microeconomic foundations of the efficiency wage theory and which made use of the idea of work effort. One of the most well known of these models is the shirking model. The basic tenet of this model is that the payment of wages in excess of market clearing, pushes workers to work hard in order not to lose their jobs. This implies that high wages raise workers' effort level. In other words, by raising wages, firms may make the cost of job loss larger and thus encourage good performance at work (see Krueger and Summers, 1988; Shapiro and Stiglitz, 1984). In addition, many versions of the shirking models assume that firms cannot monitor perfectly the workers' effort.

The work effort idea has also been used in connection with the concept of social

norm. More specifically, the starting point in the partial-gift-exchange-models is that each worker's effort level depends on the work norms of his/her group. Thus, a reduction of wages by a given firm may be considered unfair by the workers, leading them to supply less effort (Akerlof, 1984; Akerlof and Yellen, 1990). This can result in real wage rigidity and therefore to a non-market clearing situation.

Workers' observed effort has also been used in labour economics literature. Usually, a union worker's utility function is written as:

$$U = u(w, e) \quad (2)$$

The utility function is increasing in wages but decreasing in effort. Relation (2) is substituted in the union objective function which is maximized subject to the firm's profit function. The bargain provides a solution for union wages and effort as a function of a number of exogenous variables such as product market structure, the level of employment and union power (see for instance Layard, Nickell and Jackman, 1991 and Booth, 1995).

In general, the bulk of the literature connects high work effort level with increasing wages. It is implicitly assumed that the fundamental motive to work harder has to do with higher wages. As we shall see, many pre-classical and classical economists had the same idea including its logical consequence that higher wages are desired because they imply higher consumption level. Thus, they emphasized the positive effect of a higher material living on the work effort of individuals measured by the extension of working hours and/or by increasing effort in fixed time.

### **III. Late pre-Classical thought**

During the phase of the late mercantilism and in particular in the last decades of the 17<sup>th</sup> and in the early decades of the 18<sup>th</sup> century, one can discern some authors who argued for the idea of the "economy of high wages" (Heckscher 1931, vol. II, p. 170). The basic point of this stream of thought was that by increasing real wages, the consumption level, the natural condition and strength of the labourers would be advanced and thus their work effort would be increased too (see Furniss, 1920, pp. 179-80; Coats, 1958, pp. 37-41, 45; Perrotta, 1997).[3]

More specifically, North emphasized that through the availability of luxury goods the work effort (in terms of working time and rate of effort) of individuals is increased. As he argued: "The main spur to Trade, or rather to Industry and Ingenuity, is the exorbitant Appetites of Men, which they will take pains to gratifie, and so be disposed to work, when nothing else will incline them to it; for did Men content themselves with bare Necessaries, we should have a poor World" (1691, p. 528). Thus, "Countries which have sumptuary Laws, are generally poor; for when Men by those Laws are confin'd to narrower Expence than otherwise they would be, they are at the same time discouraged from the Industry and Ingenuity which they would have employed in obtaining wherewithal to support them, in the full latitude of Expence they desire" (Ibid., p. 529).

Some decades later, Mandeville (1724, pp. 146,154) recognized that by increasing the wage rate, the consumption of comforts and luxuries, through a bandwagon effect, would be increased. In a similar tone, Defoe arguing that the chance for betterment of one's material living inspires his work (1728, p. 122), warned that "poverty is the fountain of all manner of idleness" (Ibid., p. 123; see also Ibid., p. 127).

The philosopher Berkeley (1735-7, query 542) thought that the volume of necessary

and conveniences goods make up the wealth of a nation. Then, he argued that men by having fulfilled their material wants, voluntarily extend their work effort (rather in terms of working time) to other production activities in order to advance their living standard. As he put it: "Whether people who had provided themselves with the necessaries of life in good plenty would not soon extend their industry to new arts and new branches of commerce?" (1735-7, query 63; see also Hutchison, 1953-4, p. 61). Similarly, Hume claimed that by increasing the variety and production of non-basic goods, the rate of work effort is increased and thus does the production level. As he put it "It is a violent method, and in most cases impracticable, to oblige the labourer to toil, in order to raise from the land more than what subsists himself and family. Furnish him with manufactures and commodities, and he will do it for himself" (ed. 1970, "Of Commerce", p. 14).

Sir James Steuart, connects work effort to the satisfaction of human wants. As he writes: "A man must first exist, before he can feel want; he must want, that is, desire, before he will demand; and he must demand, before he can receive" (1767, p. 150). Under this "aspiration effect" (see Eagly, 1961) and the supposition that "there are no bounds to the consumption" of luxury goods (1767, p. 139) and the "desire of the rich" (1767, p. 310), he described the path of economic development (1767, pp. 151, 156-7, 357).[4] He also held that the increase of work effort is more evident when labourers are paid "by the piece" than when they are paid "at a regular rate". (1767, p. 169). Furthermore, he justified a higher than the subsistence wage determined in biological terms on the grounds of "an extraordinary dexterity in any art ... [and]... the difficulty of acquiring the dexterity requisite, resulting both from the time and expense of apprenticeship" (1767, pp. 274-5).[5]

Steuart emphasized the following positive effects of luxury consumption: the idle



rich consumers by spending their wealth in luxury consumption goods, would increase the demand for labour, and as a result the level of production would be augmented (Steuart 1767, p. 46; see also Karayiannis, 1988, p. 34). An increase of luxury consumption, as he recognized (1767, pp. 60-1, 244, 309) is not only the effect of pleasure but furthermore the effect of imitation and of conspicuous consumption behavior which is "formed by the taste for dissipation, and supported by habit, fashion, and a love of expense" (1767, p. 243).

However he pointed out that luxury consumption might have a negative effect if the labourers and entrepreneurs accustomed to a high living standard increase their reward and "consolidated" it into the cost of production (1767, pp. 193, 286, 357; see also Karayiannis, 1991, p. 182).[6] In such case, the country would lose its advantage in foreign trade: "in consequence of an habitually greater expense in living, which implies an augmentation of wages; this country may thereby lose all the advantages it had from the low price and superior quality of its wool" (1767, p. 239; see also *Ibid.*, p. 248). Furthermore, the statesman has as a duty to prevent such a situation (1767, pp. 250-1).

#### **IV. Classical thought**

The above views of the positive impact of the wage rate and the consumption pattern on work effort can also be found in Classical analysis.[7] More specifically, Smith was one of the leading figures who connected wages with the work effort of individuals. As he argued: "The liberal reward of labour, as it encourages the propagation, so it increases the industry of the common people. The wages of labour are the encouragement of industry, which, like every other human quality, improves in proportion to the encouragement it receives" (1776, p. 99). He also explained (1776, pp. 389,684) the

higher productivity of tenants compared with slaves along these lines. Moreover, he explained variations in the rate of wages in terms of "hardship or ingenuity" (1776, p. 48).[8]

The thesis of Hume, Steuart and Smith that the consumption of non-basic goods (mostly luxury goods) would stimulate the rate of work effort, the demand for labour and the wealth of a nation, was also followed by Arthur Young (1774, pp. 52-3). Furthermore, Benjamin Franklin followed the same path by pointing out that the existence of luxury goods is a motive for increasing work effort both in working hours and working effort. As he writes: "Is not the hope of being one day able to purchase and enjoy luxuries a great spur to labor and industry? May not luxury, therefore, produce more than it consumes, if without such a spur people would be, as they are naturally enough inclined to be, lazy and indolent?" (1784, pp. 448-9). In addition, he stressed that by increasing luxury consumption the rate of employment is also increased (Ibid., p. 450).

Samuel Crumpe also supports the idea that through the stimulation of increased consumption, the work effort of individual is increased. By distinguishing between basic and non-basic goods, he argued that the desire for consuming the second kind of goods, the level of economic growth would be advanced. As he noticed "Two causes ... exist, which principally rouse man from that indolence and inactivity, to which he is naturally prone. First, the original necessity of food and raiment; and secondly, the desire of enjoying the comforts and conveniences introduced by civilization" (1793, p. 13). By recognizing the imitation effect in consumption (Ibid., p. 20; see also pp. 25,27), he suggested "a taste for the comforts and conveniences of life" to be "universally diffused among a people", in order to enforce "the principal incentives to assiduous, industrious, and systematic labour" (Ibid., p. 14; see also p. 24). Through such an increase in work

effort (in terms of time and energy) the productivity would increase and the wealth of nation would be augmented (Ibid., pp. 41,45).

Ricardo recognized that the way to increase the work effort of individuals, or to "stimulate exertion", in the underdeveloped economies, is "to create new wants, and to implant new tastes" (1817, p. 100, ft). Senior also claimed that the desire for increase the material welfare of individuals would promote their work effort and productivity and furthermore "the endeavour to accumulate the means of future subsistence and enjoyment, is, to the mass of mankind, the general source of moral improvement" (1827, p. 12). Thus, the institution of private property (and mostly its security, Ibid., p. 14) and the wealth motive of individuals (Ibid., p. 35) not only increase material welfare but also their moral improvement.[9]

On similar grounds, McCulloch declared that "the best interests of society requires that the rate of wages should be kept at a high elevation" (1825, p. 335), as the demand of new and better goods would be increased and so the rate of work effort, production and economic growth (1825, pp. 347, 494, 498). The main motive for an increased work effort and dexterity of individuals for McCulloch (1825, pp. 492, 497) is "to improve their conditions"- an argument very common among the members of the Classical School. More specifically, Samuel Read (1829, pp. 143-4) argued that individuals gradually advance their material consumption and happiness as their productive capacity increases. As he put it:

"All men naturally desire to possess and enjoy wealth and to better their condition; in other words, all men naturally desire to possess and enjoy the necessaries, conveniences, and luxuries of life. Food, clothes, and lodging, of some sort or other, are absolutely necessary. There are first desired in

abundance, then of better quality; and, as society advances, and wealth, and knowledge, and civilization increase, the desire of improvement increases still more;”.

Whately argued (1832, p. 51) that the level and goods included in a consumption pattern is socially determined. Therefore, “an individual man is called luxurious, in comparison with other men, of the same community and in the same walk of life with himself” (1832, p. 53). Such behaviour has as a consequence the emergence of the motive for emulation by which the work effort is increased. As he claimed: “As wealth increased, the continued stimulus of emulation would make each man strive to surpass, or at least not fall below, his neighbours” (1832, p. 145). And, when emulation is “duly controlled, and directed to the best objects, though it does not of itself furnish the noblest and purest motive, it is a useful and honourable ally of virtue” (1832, p. 146).[10] Thus, “the effort of each man, with a view to his own credit, to rise, or at least not to sink, in society, causes, when it becomes general, the whole Society to rise in wealth” (1832, p. 147). Thus, Whately (see also 1832, p. 147) like Senior after him (see Karayiannis, 2001) connects the cause of consumption emulation with the effect of an increase in work effort and production (see also Drakopoulos and Karayiannis, 2004).

The argument that the possibility of increasing someone’s material situation would increase work effort in terms of energy and ingenuity, is reinforced by Babbage and in the case of technological improvements. He holds that:

“The same motive which urges a man to activity will become additionally powerful, when he finds his comforts procured with diminished labour; and in such circumstances, it is probable, that many would employ the time thus redeemed in contriving new tools for other branches of their occupations. He

who has habitually worked ten hours a day, will employ the half hour saved by the new machine in gratifying some other want; and as each new machine adds to these gratifications, new luxuries will open to his view, which continued enjoyment will as surely render necessary to his happiness" (1832, p. 335).

Moreover, Babbage, recognized a mechanism of innovative goods promotion through the extension of luxury consumption in the lower classes of society (Karayiannis, 2005). As he argued: "a taste for luxuries is propagated downwards in society, and, after a short period, the numbers who have acquired new wants become sufficient to excite the ingenuity of the manufacturer to reduce the cost of supplying them, whilst he is himself benefited by the extended scale of demand» (1832, p. 149).

Longfield advances the argument that "the wages of the labourer depend upon the expense of his maintenance and usual style of his living, instead of his expenses and his mode of living depending pretty much upon his wage" (1834, p. 203). He also believes that the "love for variety" in consumption would promote the rate of work effort and dexterity of individuals (1834, p. 44). As he states:

"I do not deny that it is for many reasons desirable that the labourer should be accustomed to think a certain degree of comfort indispensable. Such habits, such wishes on his part, if not the cause of his receiving suitable wages, are at least the effect of his prosperity, and therefore imply that his situation is much as we should all desire to be. Such wishes and habits may even lead to a continuance of his prosperity, by inducing him to make extraordinary exertions, rather than forego those comforts and decencies which he has been used to consider indispensable to his happiness" (1834, pp. 205-6).

Samuel Newman emphasized the positive effect of the possibility of betterment of

material condition as a source of work effort. As he claimed “The hope then of bettering his condition, is before the laborer. He is prompted to continued and patient effort, that he may acquire property, and have around him an abundance of the comforts and conveniences of life, and thus be held in respect by others” (1835, p. 59).

In the same tone, J.S.Mill argued that the availability of luxury goods for labourers increases their productiveness, namely the labourers "have an opportunity given them of acquiring comforts and luxuries. ...They are thus incited to increase the productiveness of their industry" (1848, p. 119). He concentrated his explanation of an increased work effort produced by an increased reward on labourer's energy and ingenuity, as he noticed that “it is a truism to assert, that labour extorted by fear of punishment is inefficient and unproductive” (1848, p. 251; see also p. 253).

The majority of Classical authors stressed that a higher wage rate and the resulting higher living standard would function as a stimulus to workers to increase their effort. By such a ‘mechanism’ productivity would be increased and a higher economic and social growth would be attained. It should be noticed however, that the meaning of the work effort in classical (and pre-classical) thought is not always entirely clear. It seems that there is no clear distinction between extending working time and work intensity.

## **V. Conclusions**

The above discussion might have provided some interesting insights concerning the concept of the work effort in the history of economic thought. First of all, one can discern a clear connection in pre-classical and classical thought between wage level and effort.

Although as was stated there are examples of a negative relationship between wages and work effort, almost all of the authors examined in this paper favour a positive link between the two. More specifically, the connection between wages and effort is made through the concept of increased consumption level which is the effect of increased wages. In this sense, it is quite similar with modern ideas regarding work effort and wages. The pre-classical writers argued that when the provision of basic goods is met, then the demand for luxury goods will increase and this raises effort (i.e North, Hume, Steuart). The basic line of this argument can also be found in many classical economists. The increasing need for non-basic goods and variety in consumption is seen as a driving force for increased work effort. (Smith, Young, Crumpe, Senior, Ricardo, Mculloch, Longfield, Newman). Smith also pointed out that the need for social distinction increases effort. In addition, Whately believes that the consumption pattern is socially determined and thus the continuous stimulus of consumption emulation also has a positive effect on work effort. One can note here the similarity of this idea with Akerlof's argument concerning the link between work norms and work effort.

It was shown that many pre-classical and classical economists saw the increased work effort as beneficial to the economy since it raises production and productivity and thus increases economic growth. This is the main reason of the pre-classical and classical arguments in favour of higher wage. However, they did not make the modern connection between work effort and equilibrium unemployment since this was considered to be impossible (The possible exception is Steuart who argued that the consolidation of the higher wages in the value of goods might decrease exports and thus increase unemployment.) As was seen, the focus of the modern analysis in using the concept of work is to provide an additional theoretical explanation for equilibrium unemployment. One

can argue that in this respect the two approaches differ. Furthermore, an important point of the modern theories is that it is not possible to observe and reward effort directly. The pre-classical and classical authors did not consider this kind of informational asymmetries. In addition, it can be argued that many of the pre-classical and classical quotations can also be viewed from a supply of labour hours perspective. However, it is clear that the “modern” idea of the connection between work effort and wages was not new but its conceptual roots can be found in the above mentioned authors.



## Notes

1. The positive effect of the wage rate on work effort had also been empirically justified on psychological grounds (see for instance, Vroom, 1964, p. 252-60).
2. (See for example Malcolmson 1981, Stiglitz 1986, Krueger and Summers 1988, McNabb and Ryan 1990. For a general survey of how the efficiency wage hypothesis can shed light to many labour market issues see Bulow and Summers (1986).
3. However, during mercantilism there were some authors who argued that there is a negative effect of the rate of wage on work effort. For example, T. Mun (1664, p. 74) claimed that “as plenty and power doe make a nation vicious and improvided, so penury and want doe make a people wise and industrious”. Such a view was shared by some authors of the 18<sup>th</sup> century such as Gee (1729, p. 38), Richardson (1744, p. 201) and others such as Manley, Child, Pollefxen, etc (see Furniss, 1920, pp. 118-125; Coats, 1958, pp. 35-6; Garrary, 1978, p. 39). The champion of this thesis was Tucker (1750, pp. 31-2) who claimed that “the men are as bad as can be described; who become vicious, more indigent and idle, in proportion to the advance of wages, and the cheapness of provisions: Great numbers of both sexes never working at all, while they have any thing to spend upon their vices”. A policy suggested by some authors (e.g. Tucker, 1750, pp. 32,36-8; Temple, 1758, pp. 55, 133-4; see also Seligman, 1899, pp. 48-51; Kennedy, 1913, pp. 116-7) for decreasing the real wage rate and increasing work effort, was by the imposition of a high tax upon necessary goods. They believed that through such a policy, the cost of production would be decreased and this would strengthen the competitive advantage of the country in foreign trade. This thesis may be epitomized by the words of Petty (1687, p. 172): “the high wages ... is another burden upon our foreign trade”.
4. Steuart, in particular emphasized (1767, pp. 163, 166-7) the role of merchants in importing luxury goods and spreading the taste for the consumption of such goods.
5. These qualitative characteristics of a productive labourer were also recognized by Cantillon (1755, pp. 19-23) who mentioned specific labourers' qualities such as “the time

lost in learning”, “the cost and risk incurred”, “ingenuity and industry” and “skill”. Similarly , Harris (1757, p. 17) emphasized training time, risk, dexterity and skill as elements which regulate “the prices of labour and services of different sorts” (Ibid., p. 17).

6. A similar analysis of the positive and negative effects of luxury consumption by labourers was also advanced by Harris (1757, pp. 366-7).

7. However, there were some voices in the period who argued that the rate of work effort might be increased when the real wage rate is diminished, mainly by the imposition of taxes on wages and/or the price of necessary goods (see e.g. Craig, 1821, pp. 45-6).

8. Similarly Turgot (1766, p. 146) had stressed that “more skilful, more energetic” labourer receives a differential wage rate.

9. Richard Whately the Archbishop of Dublin criticized those moralists who were against the endeavour of individuals to increase their wealth and to better their material conditions (1832, pp. 40-2).

10. It was a generally accepted thesis among classicists (see. e.g. Torrens, 1834, p. 26; Ramsay, 1836, pp. 125-6) that the motive of workers to better their material position might restrain their natural inclination for multiplication.

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