

A reappraisal of Marx's labour exchange theory in the light of the criticism of the neoclassical principle

著者(英)	Motohiro OKADA
journal or publication title	Konan Economic Papers
volume	48
number	2
page range	31-65
year	2007-09-15
URL	http://doi.org/10.14990/00001380

A reappraisal of Marx's labour exchange theory in the light of the criticism of the neoclassical principle

Motohiro Okada*

Abstract

This paper reevaluates Marx's labour exchange theory by contrast with the neoclassical approach. Neoclassical economists since the 'Marginal Revolution' have maintained the market determinability of working conditions. This stance is predicated on a dehumanised treatment of labour power. Placing emphasis on the human essence of the labour exchange, alternative discussions based on Marx's labour power-labour distinction lead to the denial of the neoclassical principle, and so rationalise his stress on the worker-capitalist class struggle as the prime determinant of working conditions. On the other hand, it will be explained that Marx's arguments at the core of his labour theory of value contain elements which result in causing discrepancies with his labour exchange theory. Thus, this paper urges a reconsideration of the traditional appraisal of Marx's economic thought.

1 Introduction

This paper aims to re-examine Marx's views on the labour exchange in com-

* *Address for correspondence*: Motohiro Okada, Faculty of Economics, Konan University, 8-9-1, Okamoto, Higashinada-ku, Kobe 658-8501, Japan; email okadam@konan-u.ac.jp

I wish to thank Dr David Spencer of the Leeds University Business School for his kind and profitable comments on a previous version of the paper. I am also appreciative of useful remarks from attendants at my presentation at the 71st Annual Conference of the Japan Society for the History of Economic Thought. Remaining errors are mine.

parison with neoclassical economists', and elucidate the worth and problems of the former as the cornerstone of the refutation of the latter principle.

As H. Gintis (1976) indicates, the neoclassical theory of the labour exchange, in its essence, denies the distinctiveness of the exchange, and assumes that it can be performed in the same manner as the exchange of commodities in general. Specifically, it is the neoclassical principle of the labour exchange that wages and workloads can be determined through market adjustments of firms' demand and workers' supply of labour services, on the basis of their maximisation behaviour. Under this rule, there is no room for 'extra-economic' factors to enter the determinants of working conditions.

In contrast, Marx recognises the peculiarity of the labour exchange, and emphasises that the worker-capitalist class struggle is the prime determinant of labour time and wage rates. His famous distinction between labour power and labour underlies this stand. It is labour power, Marx argues, that is exchanged on the market place, whilst the actual use of labour power or labour is only determinable depending on the capitalist-employer's domination over the worker and the worker's resistance to it in the production process. Marx stresses that the conflict does not remain individual, but unfolds socio-politically.

On the other hand, Marx's labour power-labour distinction also forms the foundation for his concept of exploitation predicated on his labour theory of value. Marx observes that surplus value, the excess of product value over the value of labour power, results from the capitalist's extraction of labour from the worker in the production process. Consequently, the issue of 'extra-economic' strife between the capitalist and the worker was often assimilated with that of exploitation by Marx and his disciples. As J. E. Roemer (1982, 1988) show, however, exploitation in the Marxian sense itself can also be demonstrated by assuming a

A reappraisal of Marx's labour exchange theory in the light of.....

Walrasian perfect market, which admits of no 'extra-economic' power exertion. This requires that the role of socio-political factors as determinants of working conditions be substantiated independently of the labour theory of exploitation. The demand bears major importance to dissidents of present-day capitalism. The globalisation of market-directed economy characterising the world trend since the end of the Cold War involves the domain of labour, and its proponents advocate market-based solutions for industrial relations by the promotion of deregulation policies. Evidently, its intellectual ground lies in the neoclassical principle of the labour exchange. Hence, the onus is on Marxists and other critics of the tide to offer a cogent rebuttal of the principle.

Enquiries into Marx's writings in this paper focus on the validity of his arguments in their relevance to the fundamental notion of the labour exchange of his own. The investigation will find that, although in his life Marx did not have a chance to know of neoclassical economic doctrines originating from the 'Marginal Revolution', his discussions, in effect, offer grounds for a powerful refutation of the neoclassical principle of the labour exchange. It will be seen, on the other hand, that Marx's arguments at the core of his labour theory of value overshadow the coherence of his thought on the labour exchange. These results suggest the need for a revision of conventional estimates of Marx's economics in its reappraisal under the present-day context.

Section 2 deals with neoclassical economists' treatment of the labour exchange by characterising it as the dehumanisation of labour power. Section 3 refers to the efficiency wage theory and radical economists' use of the concept. Section 4 reviews Marx's theory of the labour exchange, and shows that his discussions based on the labour power-labour distinction lead to a forcible counterargument to the neoclassical principle. Section 5 indicates discrepancies between Marx's

labour theory of value and his labour exchange theory. It will be argued here that Marx's notions of abstract human labour and the value of labour power strike disharmony with his basic view of the labour exchange. Section 6 concludes.

2 Neoclassical economists on the labour exchange

If Marx had had an opportunity to read neoclassical economists' writings, he would, without doubt, have categorised their substance in the genealogy of 'vulgar' economics. True, the position taken by economists like J. B. Say, N. W. Senior and C. F. Bastiat, whose works Marx mastered and savaged, of denying labour theory of value and explaining exchange value relations in terms of the supply-demand interaction was handed down to those who participated in the 'Marginal Revolution' and their successors. In addition to this, neoclassical economists introduced the marginal principle, thereby integrating production and distribution theories. Thus, wages, profits and rents are all accounted for by one and the same rule; to be specific, they are held to be determined corresponding to the marginal product of labour, capital and land. In this fashion, the 'trinity formula', Marx's naming of 'vulgar' economists' production-distribution dogma, resurges in the neoclassical school with the new device (see Marx, [1861-63] 1989, p. 502-503; [1894] 1998, pp. 801-818). Neoclassical economists further incorporated the marginal doctrine into their market theory. Here, the issues of production and distribution are supposed to be completely settled on the market place. Marx expressed 'vulgar' economists' view that land and capital goods also create value as personification of things (see Marx, [1861-63] 1989, p. 817). Now neoclassical economists' treatment of the labour exchange may be best described as dehumanisation of labour power. The following briefly exemplifies the trait.

A reappraisal of Marx's labour exchange theory in the light of.....

Among analytical innovations established by leading figures of the 'Marginal Revolution', L. Walras's general equilibrium theory occupies a prime position in its profound influence on the development of neoclassical economics. By the same token, Walras's approach to the labour exchange in the theory typifies the neoclassical notion of the matter.

It should be noted in Walras's arguments that he distinguishes between 'personal faculties (*facultés personnelles*)' and 'services of persons (*services personnelles*)', or labour (*travaux*). Walras criticises the practice to name labour, land and capital as the elementary factors of production, and writes: '*Labour* is the service of human faculties or of *persons*. We must rank labour, therefore, not with land and capital, but with *land-services* ... rendered by *land*, and with *capital-services* ... rendered by *capital goods*' (emphasis in original; Walras, [1926] 1954, p. 212, pp. 214-215). This perception can be paralleled with Marx's labour power-labour distinction. It is all the more remarkable because most neoclassical economists of Walras's age, and even afterwards, did not exhibit a like discernment.

However, whilst Marx argues that labour itself cannot be an object of market exchange, 'services of persons' as well as 'personal faculties' are assumed to be marketed and priced in Walras's general equilibrium model. The model presupposes a multiplicity of labour, and the quantity of each sort of labour explicitly appears as an unknown to be solved for in the system of equilibrium equations for all services. Walras states that the amount of labour is measurable in time/per capita terms. Further, he holds that the prices of 'personal faculties' can be estimated by discounting on those of 'services of persons', which are determined simultaneously with their quantities (*ibid.*, pp. 237-242, p. 271).

Walras treats services of capital goods and land in the same fashion as labour

services (*ibid.*, pp. 237-242). Here is brought up a problem regarding the formation of a service market. For the formation, there must be a trading unit which guarantees that all units based on it provide the same service. In this regard, no difficulty arises about capital goods and land services. The physical identity of things surely warrants the identity of the service from their use for a certain period. Hence there is unique correspondence between capital goods-land and their services, and unit bases for the services can be given by physical attributes of capital goods and land without recourse to the services themselves. The situation, however, is fundamentally different concerning the relation between 'personal faculties' and 'services of persons'. First, it is highly questionable whether there is a way to identify and classify human beings' capacities. Should there be, there is no guarantee that a certain period's use of a certain labour capacity actually provides a certain labour service. Because of the inalienability of labour capacities from human existence, their exertion cannot be free from human will and external influences on it. Accordingly, although 'services of persons' are limited by 'personal faculties', the actual performance has latitude depending on those human factors, and so no unique correspondence like between capital goods-land and their services exists between 'personal faculties' and 'services of persons'. This means that it is impossible to find valid unit bases for 'services of persons' either in 'personal faculties' possessors themselves or their working time.

As will be shown in section 4, Marx's labour power-labour distinction intrinsically concerns the polyvalence in their relation due to the human essence of the labour exchange above mentioned. In contrast, Walras is devoid of such an observation despite his like distinction. This deprivation of humanity, regardless of Walras's awareness of it, allows him to equate the characteristics of the labour exchange with those of the exchange of goods and land. Only on this supposition,

A reappraisal of Marx's labour exchange theory in the light of.....

the amount of labour could be, as Walras presumes, measured simply in the number of workers and work hours.

Walras did not incorporate marginal product concept into his general equilibrium theory. In this sense, the theory is still at the pioneer stage in the interior history of neoclassical economics. From a critical perspective on neoclassicism, however, the establishment and application of the marginal productivity theory seems secondary to its background. The theory cannot be built without the definition of input units. In addition, it is not only a theory of production, but also is integrated into the market theory. The unit definition, therefore, must be objective enough to suit market participants' common cognisance. Moreover, the definition cannot be provided by recurring to outputs; otherwise, inputs would be dependent on outputs, and this vicious circle would preclude the neoclassical production function and so the marginal product concept derived from it. Hence, in applying the marginal productivity theory to labour input, it is crucial to assume that the input is measured in tangible figures like worker population and labour time. However, this becomes possible only through the disregard for the labour power-labour relation or, to paraphrase, through the dehumanisation of labour power. At this, Walras affords a foundation for the neoclassical treatment of the labour exchange.⁽¹⁾

Unlike Walras, W. S. Jevons, who was also a champion of the 'Marginal Revolution', did not clarify the distinction between labour capacities and labour serv-

(1) G. M. Hodgson (1980, pp. 263-267) explicates a fundamental difference between the labour power-labour relation and the machine-machine service one from a standpoint similar to that of this paper. He incisively reveals the contradiction inherent in neoclassical economics that, whilst assuming the worker's 'free' will in labour contract, it has to negate the will in order to admit the appropriation of labour like that of machine's services.

ices. However, Jevons's arguments on labour are more detailed and may be the most insightful among early neoclassical economists' writings on the theme.⁽²⁾ All the more, his theory reveals blind spots in the neoclassical notion of the labour exchange.

Like Walras, and more specifically, Jevons maintains a multiplicity of labour.⁽³⁾ What differentiates Jevons from Walras is that Jevons lays emphasis not just on the heterogeneity of labour, but on the intensity of labour.

Let us endeavour to form a clear notion of what we mean by amount of labour. It is plain that duration will be one element of it; for a person labouring *uniformly* during two months must be allowed to labour twice as much as during one month. But labour may vary also in intensity. In the same time a man may walk a greater or less distance; may saw a greater or less amount of timber; may pump a greater or less quantity of water; in short, may exert more or less muscular and nervous force. Hence amount of labour will be a quantity of two dimensions, the product of intensity and time when the intensity is uniform, or the sum represented by the area of a curve when the intensity is variable (emphasis in original; Jevons [1871] 1957, p. 170).

(2) About the unique place of Jevons's labour theory, see, for example, D. A. Spencer (2004).

(3) 'I hold it to be impossible to compare *à priori* the productive powers of a navy, a carpenter, an iron-puddler, a school master, and a barrister. Accordingly, it will be found that not one of my equations represents a comparison between one man's labour and another's. The equation, if there is one at all, is between the same person in two or more different occupations' (emphasis in original; Jevons, [1871] 1957, pp. 165-167).

A reappraisal of Marx's labour exchange theory in the light of.....

Thus, Jevons recognises that labour time by itself cannot be an adequate metric of the amount of labour. Labour intensity, he observes, has two meanings, i.e., 'the reward of labour' and 'the penalty of labour' (*ibid.*, p. 170). Jevons thinks that it is the latter by which the amount of labour must be gauged, and so he concludes: 'we must ... measure labour by the amount of pain which attaches to it' (*ibid.*, p. 169).

In this manner, Jevons's utility-based approach is applied to his labour theory. Here he wisely avoids the circular argument of measuring the amount of labour by 'the reward of labour', or product. Jevons further illustrates the relation between labour time and the concomitant pain. He explains, in effect, that the marginal pain decreases at first and then increases (*ibid.*, pp. 173-174). Yet Jevons here presupposes an amount of pain accompanying certain labour time to be given, and leaves the variation out of consideration. This suggests that Jevons's notion of the variability of labour intensity is exclusively in the light of physiological waste which can be paralleled with machinery one. Hence it takes little account of the impact of the worker's intention. Accordingly, the concept is disparate from the variability of labour intensity stemming from the peculiarity of the labour exchange rooted in its human trait.

The course of neoclassical labour exchange theories since the 'Marginal Revolution' was the reinforcement of the direction to dehumanisation in Walras's and Jevons's writings. P. H. Wicksteed, who advocated the applicability of the marginal productivity-based distribution principle to all factors of production, went so far as to maintain: 'The crude division of the factors of production into land, capital and labour must ... be abandoned' (see Wicksteed, [1894] 1992, p. 83). Thus, in J. G. Hicks, G. Debreu and others' general equilibrium theories, even few labour-related words appear (see, for example, Hicks, 1946; Debreu, 1959).

The prototype neoclassical theory of the labour market is presented in today's most illustrious economics textbooks like those of P. A. Samuelson and J. E. Stiglitz. Some references are made to problems specific to labour exchanges in these writings. (Note, especially, that Stiglitz is a proponent of the efficiency wage theory discussed shortly). However, this does not lead the authors to the idea that the nature of the labour exchange is distinct from that of others. So likewise to the labour exchange, they apply the fundamental neoclassical notion of market that comprises marginal concepts, supply and demand on maximisation behaviour and their equilibration. In this fashion, the neoclassical principle arguing for the market determinability of working conditions is adhered to by the authors, and prevails extensively through their best-seller publications (see Samuelson, 1973, pp. 572-591; Stiglitz, 1997, pp. 200-208, pp. 299-304, pp. 313-315, pp. 454-470).

3 The efficiency wage theory and radical economists' use of the concept

It may be no exaggeration to state that the efficiency wage theory, which emerged in the rise of 'economics of information' in the last quarter of the twentieth century, brought a turnaround of the most importance to the history of the neoclassical labour exchange doctrine. What underlies the efficiency wage theory is the cognition of the variability of labour that can be performed from a worker's given labour time. Jevons's discussions on labour intensity was devoid of this perception, and the same is said of most neoclassical economists. On that primordial but long neglected observation, efficiency wage theorists account for the relationship between wage level and what they call effort under conditions of imperfect or asymmetrical information. The effect of wage level on workers' efficiency was also commented on by A. Marshall (see, for example, Marshall,

A reappraisal of Marx's labour exchange theory in the light of.....

[1890] 1930, p. 569). Whilst the reference was fragmentary and never induced Marshall to revisit the legitimacy of the orthodox tenet of the labour market, efficiency wage theorists rationalise underemployment equilibrium precluded by the traditional labour market doctrine (see, for example, J. L. Yellen, 1984; C. Shapiro and Stiglitz, 1984).

Importantly, efficiency wage model was adopted by radical economists represented by S. Bowles and Gintis. Since their early days, Bowles and Gintis had focused on the specificity of the labour exchange drawing on Marx's arguments (see, for example, Gintis, 1976; Bowles and Gintis, 1977; 1986; Gintis and Bowles, 1981; Bowles 1985). In particular, they had attached importance to the problem of the employer's extraction of the worker's labour following Marx's labour power-labour distinction. Bowles and Gintis's views on the issue were systematised in their contested exchange theory (see, for example, Bowles and Gintis, 1990a; 1992; 1999). Here they apply the efficiency wage model substantially. They, indeed, remark that the idea of efficiency wage theory originated in Marx's analysis of the extraction of labour from labour power (see Bowles and Gintis, 1990b, p. 314).

Bowles and Gintis's labour exchange model is summarised as follows. This model builds on the idea that labour exchange is 'contested' due to the information imperfections.⁽⁴⁾ Bowles and Gintis state: 'As Marx's discussion of the extrac-

(4) Bowles and Gintis define contested exchange in this way: '... consider agent A who engages in an exchange with agent B. We call the exchange *contested* when B's good or service possesses an attribute that is valuable to A, is costly for B to provide, and yet is not fully specified in a costlessly enforceable contract' (emphasis in original; Bowles and Gintis, 1990a, p. 167). They write on the characteristics of contested exchange as follows: 'the *de facto* terms of an exchange result in part from the sanctions, surveillance, and other enforcement activities adopted by the parties to the exchanges themselves' (emphasis in original; *ibid.*).

tion of labor from labor power makes clear, the relationship between wage labor and capital is a contested exchange because while the worker's time can be contracted for, the amount and quality of actual work done generally cannot' (Bowles and Gintis, 1990a, p. 177). Additionally, the model presupposes that the employer is on the short side of the market relatively to the worker because of restrictions as to the access to her status, and so is in a position as the wage setter. Under these conditions, the worker is assumed to determine her 'effort' level corresponding to the wage level in a way that can maximise her utility. The cost of job loss, the employer's monitoring of 'effort' and the probability of dismissal also enter as determining factors. Knowing this worker response, the employer is assumed to set a wage that brings her the maximum profit. Bowles and Gintis stress that the wage level thus determined is generally above the market clearing one, and hence it entails involuntary unemployment (see Bowles and Gintis, 1990a, pp. 178-184, pp. 195-196; 1992, pp. 334-338; 1999, pp. 19-21).

Bowles and Gintis's contested exchange theory has a pioneering significance in that it brought an analytical light on the employer's elicitation of labour out of labour power, which had been rather intuitively or empirically understood by Marxian economists. However, the labour exchange model, being equivalent to an efficiency wage one in substance, is problematic in crucial respects. Whilst the impact of the cost of job loss and work monitoring is taken into consideration, wage and 'effort' levels in the model are determined through the worker's and the employer's maximisation behaviour. In this sense, the model adheres to methodological individualism.⁽⁵⁾ Bowles and Gintis observe that agents' character

(5) About criticisms of methodological individualism in Bowles and Gintis's labour exchange theory, see, for example, D. Baker and M. Weisbrot (1994) and D. A. Spencer (2000, 2002).

A reappraisal of Marx's labour exchange theory in the light of.....

and consciousness are endogenous to the contested exchange, and, again, they emphasise the countervailing effect of workers' collusion on 'effort' extraction (see Bowles and Gintis, 1990a, pp. 185-186; 1993, p. 89). Their labour exchange model, however, contains little to necessitate those elements. Fundamentally, the working conditions are determinable once the worker's preferences are given.

A more intrinsic problem is that the employer's knowledge of the worker's 'effort' response to the wage level, or what Bowles and Gintis call the labour extraction function, is included in the assumptions of their labour exchange model (see Bowles and Gintis, 1990a, p. 179). The employer is assumed to choose the maximum profit-procuring wage level. Hence, the assumption implies the employer's quantitative perception of the worker's 'effort'. It may be said that this underlies efficiency wage models in general. Like efficiency wage theorists, however, Bowles and Gintis make no specific reference to how 'effort' can be measured and, if at all, how the employer can perceive it. Aware of the variability of labour intensity, Jevons argued that labour must be measured by the amount of pain. Yet, should the worker be able to estimate her own pain cardinally, it would be absurd to suppose that the employer can generally do the same. At most, only monotonous physical labour will permit the employer's adequate perception. However, such labour is specifiable in contract, and so precludes the 'contestedness' of labour exchange. The same holds when output is adopted as metric of 'effort'.⁽⁶⁾

(6) M. Currie and I. Steedman (1993, p. 136) remark: 'What are the *units* in terms of which care, attentiveness and initiative are to be measured? It would seem to be prudent to suppose—until the contrary has been clearly demonstrated—that at least one of the dimensions of effort is *not* cardinally measurable' (emphasis in original). Countering this judgement, Gintis (1995) claims that all dimensions of effort are in principle cardi-

One of the gravest inconsistencies in Bowles and Gintis's labour exchange model is thus to be found in that, whilst they stress that the amount and quality of actual work done cannot be contracted for, the model connotes that the worker and the employer can share a quantitative cognition of 'effort'. If the worker and the employer should be enabled to do so, in principle there would be no ruling out the formation of a market that sets 'effort' as its trading unit. In this market labour itself is bought and sold, which Marx rejected. In reality, of course, some discrepancy could arise between contracted 'effort' and 'effort' actually done. However, in so far as 'effort' is specifiable, there would be no crucial difficulty in redressing it.⁽⁷⁾ Consequently, no compelling reason remains to deny that the 'effort' market can adjust and clear somehow in a neoclassical manner, and therefore the ground for underemployment equilibrium, which Bowles and Gintis claim can be accounted for by their labour exchange model, will be lost.

The efficiency wage theory and radical economists' use of the concept, despite the innovativeness, thus fall short of propounding an authentic alternative to the neoclassical framework.

4 Marx on the labour exchange

Already in his early days, Marx argued that the worker-capitalist power relationship or their class strife is the major determinant of wages.⁽⁸⁾ Marx's view on the

nal. As Currie and Steedman (1995) note, Gintis actually does not offer any persuasive arguments in support of the contention.

(7) About the posting of labour bond as a means of the redress, see, for example, Roemer (1990, p. 244).

(8) 'Wages are determined through the antagonistic struggle between capitalist and worker' (emphasis in original; Marx, [1844] 1975, p. 235). 'The size of wages is determined at the beginning *by free* agreement between the free worker and the free capitalist. Later it turns out that the worker is compelled to allow the capitalist to determine

A reappraisal of Marx's labour exchange theory in the light of.....

labour exchange was thus opposed to neoclassical economists' from the beginning. On the other hand, Marx's mature system of economics was sketched in *Grundrisse* and consummated in *Capital* (see, for example, A. Oakley, 1979). His theory of exploitation based on the labour theory of value constitutes a nucleus of it. Marx's realisation of the distinction between labour power and labour was a vital step to the establishment of the exploitation theory.⁽⁹⁾ Likewise, Marx's discussions derived from the distinction embrace those which support his fundamental position on the labour exchange. Notably, the latter are completely independent of the exploitation theory. In *Economic Manuscript of 1861-63* Marx remarks:

Labour capacity is specifically distinguished as use value from the use values of all other commodities. Firstly, because it exists as a mere ability in the living body of the seller, the worker; and secondly (this is something that imprints on it an entirely characteristic difference from all other use values) because its use value —its actual realisation as a use value, i. e. its consumption— is labour itself, hence the substance of exchange value; because it is the creative substance of exchange value itself (Marx, [1861-63] 1988, p. 42).

The second peculiarity of labour capacity (power) indicated by Marx here concerns his exploitation theory. Yet it is the first one, namely that 'labour capacity

it, just as the capitalist is compelled to fix it as low as possible. *Freedom* of the contracting parties has been supplanted by *compulsion*' (emphasis in original; F. Engels and Marx, [1845] 1975, pp. 32-33).

(9) Marx did not make the distinction in his early days (see, for example, Marx, [1849] 1977). It was in *Grundrisse* that he first did it.

exists as a mere ability in the living body of the worker', which is focused on in the following.

In the original text of *A Contribution to the Critique of Political Economy*, Marx notes:

As use value, the labour capacity is realised only in the activity of labour itself, but in much the same way as with a bottle of wine which is bought and whose use value is realised only in the drinking of the wine. Labour itself falls as little within the simple circulation process as does the drinking. The wine as a capacity, *δυναμει*, is something drinkable, and the buying of the wine is appropriation of the drinkable. So is the buying of the labour capacity the appropriation of the ability to dispose over the labour (emphasis in original; Marx, [1858] 1987a, p. 506).

In this manner, Marx recognises that, not only about labour power but also about other commodities, a demarcation must be made between them and their use value. However, he continues:

Since the labour capacity exists in the vitality of the subject itself and manifests itself only as his own expression of life, the buying of the labour capacity, the appropriation of the title to its use naturally places the buyer and the seller in the act of its use in another relationship to each other than that in the buying of objectified labour existing as an object outside the producer (*ibid.*).

Marx thus observes that the inalienability of labour power from its possessor

A reappraisal of Marx's labour exchange theory in the light of..... renders the relation between labour power and its use value different from that between other commodities and their use value. In *Economic Manuscript of 1861-63* Marx characterises use value of labour power, or labour, as follows:

labour is ... the expression of the worker's own life, the manifestation of his own personal skill and capacity—a manifestation which depends on his will and is simultaneously an expression of his will (Marx, [1861-63] 1988, p. 93).

On the particularity of the labour exchange flowing from this human basis of labour, Marx writes in Volume I of *Capital*:

One consequence of the peculiar nature of labour power as a commodity is, that its use value does not, on the conclusion of the contract between the buyer and seller, immediately pass into the hands of the former. The alienation of labour power and its actual appropriation by the buyer, its employment as a use value, are separated by an interval of time (Marx, [1867] 1996, p. 184).

Thus, Marx suggests, as an essential of the labour exchange, the variableness of labour from the use of a certain labour power for a certain period, and so remarks that notwithstanding the capitalist's acquirement of disposition of labour power by its purchase, he 'supervises the worker, controls the functioning of labour capacity as an action belonging to him' (*Ibid.*, p. 93).

Walras's distinction between 'personal faculties' and 'services of persons' does not involve any recognition of particular characteristics of the labour exchange,

and so he assumes the same fixed correspondence between the two as material factors and their service generally have. In contrast, Marx's distinction between labour power and labour highlights their multivalent relationship grounded on the perception of the intrinsic nature of labour as a human-subjectivity-dependent action. This difference between Walras and Marx may also be the most critical point that divides neoclassical labour exchange theory and Marx's. The gist of Marx's insight into the peculiarities of the labour exchange thus far discussed is restated by writers like H. Braverman, and Bowles and Gintis (see, for example, Braverman, 1974, pp. 54-58; Gintis and Bowles, 1981, pp. 14-15).

One of the main contentions in Marx's labour power-labour distinction is that it is not labour but labour power which is traded on the market place. He criticised classical economists' terms like 'value of labour' and 'price of labour' as generated by their confusion between labour power and labour (see, for example, Marx, [1865] 1985a, pp. 127-128; [1861-63] 1988, p. 48; [1867] 1996, pp. 535-542). It should be noticed that Marx's discussions on the labour exchange also lead to a strong rebuttal of neoclassical economists' notion which takes the formation of labour service market for granted.

Very apparently neoclassical economists' concept of labour is equivalent to concrete useful labour in Marx's terminology. Like Walras and Jevons, Marx perceives that labour at this level has infinite variety.⁽¹⁰⁾ To the extent that the labour power-labour relation has polyvalence, it is impossible, unlike in material factors,

(10) '... labour positing use value is concrete and distinctive labour, comprising infinitely varying kinds of labour as regards its form and the material to which it is applied' (Marx, [1859] 1987b, p. 277). 'To all the different varieties of values in use there correspond as many different kinds of useful labour, classified according to the order, genus, species, and variety to which they belong in the social division of labour' (Marx, [1867] 1996, p. 52).

A reappraisal of Marx's labour exchange theory in the light of.....

to find an appropriate unit basis for labour service in attributes of labour power. (Needless to say, identification and classification of the attributes itself is a herculean and almost impracticable task). This implies that it is also inadequate to set labour time as the trading unit of labour service market. Workers' labour service in concrete useful form per time unit, even if the homogeneity of their labour power should be confirmed, are infinitely variable both in quality and quantity, but this is incompatible with the fundamental that, in a service market, service from all units traded there must be identical. Indeed, Marx writes: 'Labour time does not exist as a general object of exchange, independent of and separate (detached) from the natural particularities of commodities' (Marx, [1857-58] 1986, p. 105). Marx was also well aware of the variability of labour intensity (see Marx, [1865] 1985a, pp. 141-143; [1867] 1996, p. 420, pp. 519-531).

Thus, to search for a trading unit that enables the formation of labour service market, there remain no other means than having recourse to labour service itself. In *Economic Manuscript of 1861-63* Marx argues on this issue:

Originally, it is true, we were able to measure *labour capacity* with money, because it was itself already objectified labour, and the capitalist could therefore buy it; but were unable to measure *labour itself* directly, for as bare activity it escaped our standard of measurement. Now, however, in the measure to which, in the labour process, labour capacity proceeds to its real manifestation, to labour, the latter is realised, appears itself in the product as objectified labour time. At the end of a certain measure of labour time, e. g. hours, a certain quantity of labour time has been objectified in a use value, say twist, and now exists as the latter's exchange value (emphasis in

original; Marx, [1861-63] 1988, p. 83).

Like this, Marx holds that the immediate measurement of labour — therefore the measurement of labour in concrete useful form — is impracticable, and that labour only becomes measurable when it is objectified in commodities, and in their exchange values. This view diverges from the rather incoherent treatment of ‘effort’ in efficiency wage and Bowles and Gintis’s theories, where, whilst the difficulty of the concretisation of labour is emphasised, ‘effort’ is quantified, and the employer as well as the worker are assumed to be able to perceive the amount. The impracticability of the direct measurement of labour entails the impossibility of finding a trading unit of labour service market in labour service itself. Marx’s arguments thus reach the conclusion that there exist no real grounds for the formation of labour service market. Accordingly, it proves to be nothing but fictitious to presume, as neoclassical economists do, that the amount of labour and wage rate are determined on the market place.

In this manner, Marx’s discussions lead to a forceful refutation of the neoclassical principle of the labour exchange. Insofar as working conditions are not market-determinable, socio-political factors inevitably intervene in their settlement:

The maximum of profit is ... limited by the physical minimum of wages and the physical maximum of the working day. It is evident that between the two limits of this *maximum rate of profit* an immense scale of variations is possible. The fixation of its actual degree is only settled by the continuous struggle between capital and labour, the capitalist constantly tending to reduce wages to their physical minimum, and to extend the working day to its physical maximum, while the working man constantly presses in the

A reappraisal of Marx's labour exchange theory in the light of.....
opposite direction.

The matter resolves itself into a question of the respective powers of the combatants.

.... As to *the limitation of the working day* in England, as in all other countries, it has never been settled except by *legislative interference*. Without the working men's continuous pressure from without that interference would never have taken place. But at all events, the result was not to be attained by private settlement between the working men and the capitalists. This very necessity of *general political action* affords the proof that in its merely economic action capital is the stronger side (emphasis in original; Marx, [1865] 1985a, p. 146).

Thus, Marx's position viewing the worker-capitalist class strife as the prime determinant of working conditions, which the above passage typically describes, is rationalised by his arguments based on the labour power-labour distinction.

5 Problems caused by Marx's labour theory of value

As was seen in the last section, Marx thinks that labour is measurable not immediately, but only ex post and through the exchange value of its product. He also argues that labour which can be measured in the latter way is no longer labour in concrete useful form. Recognising the incommensurability among various kinds of concrete useful labour, he holds that all commodities have the only common property of being a 'congelation of homogeneous human labour, of labour power expended without regard to the mode of its expenditure'. Marx thus postulates the labour, that is, abstract human labour, as the substance of value, and so posits that the exchange values of commodities reflect the amount of abstract

human labour embodied in them (see Marx, [1867] 1996, 45-94)⁽¹¹⁾.

Beginning with E. v. Böhm-Bawerk ([1896] 1984), numerous writers have argued against Marx's labour theory of value. Likewise, not a few criticisms have been made of Marx's notion of abstract human labour, which is central to the theory (see, for example, Steedman, 1985). What is principally discussed in this paper is not the legitimacy of the notion and, therefore, of Marx's value theory as such, but discrepancies between Marx's arguments related to abstract human labour and his fundamental view on the labour exchange.

First, Marx identifies simple labour with the substance of abstract human labour. The following passage in Volume I of *Capital* exhibits it.

... the value of a commodity represents human labour in the abstract, the expenditure of human labour in general. And just as in society, a general or a banker plays a great part, but mere man, on the other hand, a very shabby part, so here with mere human labour. It is the expenditure of simple labour power, i. e., of the labour power which, on an average, apart from any special development, exists in the organism of every ordinary individual. Simple average labour, it is true, varies in character in different countries and at different times, but in a particular society it is given. Skilled labour counts only

(11) 'Productive activity, if we leave out of sight its special form, viz., the useful character of the labour, is nothing but the expenditure of human labour power. Tailoring and weaving, though qualitatively different productive activities, are each a productive expenditure of human brains, nerves, and muscles, and in this sense are human labour. They are but two different modes of expending human labour power. Of course, this labour power, which remains the same under all its modifications, must have attained a certain pitch of development before it can be expended in a multiplicity of modes. But the value of a commodity represents human labour in the abstract, the expenditure of human labour in general' (Marx, [1867] 1996, p. 54).

A reappraisal of Marx's labour exchange theory in the light of.....
as simple labour intensified, or rather, as multiplied simple labour, a given quantity of skilled being considered equal to a greater quantity of simple labour. Experience shows that this reduction is constantly being made. A commodity may be the product of the most skilled labour, but its value, by equating it to the product of simple unskilled labour, represents a definite quantity of the latter labour alone (Marx, [1867] 1996, p. 54)⁽¹²⁾.

Marx holds that simple labour becomes the general form of labour with the development of machinery in capitalist economies:

Along with the tool, the skill of the workman in handling it passes over to the machine. The capabilities of the tool are emancipated from the restraints that are inseparable from human labour power. Thereby the technical foundation on which is based the division of labour in manufacture, is swept away. Hence, in the place of the hierarchy of specialised workmen that characterises manufacture, there steps, in the automatic factory, a tendency to equalise and reduce to one and the same level every kind of work that has to be done by the minders of the machines; in the place of the artificially produced differentiations of the detail workmen, step the natural differences of age and sex (*Ibid.*, pp. 422-423).

(12) In *A Contribution to the Critique of Political Economy* Marx also says: '... the labour embodied in exchange values could be called human labour in general. This abstraction, human labour in general, exists in the form of average labour which, in a given society, the average person can perform, productive expenditure of a certain amount of human muscles, nerves, brain, etc. It is simple labour which any average individual can be trained to do and which in one way or another he has to perform' (Marx, [1859] 1987b, pp. 272-273).

Thus, Marx maintains: ‘... the application of machinery Its fundamental principle is the replacement of skilled labour by simple labour’ (Marx, [1861–63] 1988, p. 321). He also notes: ‘The greater part of the labour performed in bourgeois society is simple labour as statistical data show’ (Marx, [1859] 1987b, p. 273). The deskilling and simplification of labour by machine-using production, Marx stresses, is accompanied by workers’ subjugation to capital (see, for example, Marx, [1861–63] 1988, p. 331).

Furthermore, Marx writes on the nature of labour in capitalism:

... capitalist production is in itself indifferent to the particular use value, and distinctive features of any commodity it produces. In every sphere of production it is only concerned with producing surplus value, and appropriating a certain quantity of unpaid labour incorporated in the product of labour. And it is likewise in the nature of the wage labour subordinated by capital that it is indifferent to the specific character of its labour and must submit to being transformed in accordance with the requirements of capital and to being transferred from one sphere of production to another (Marx, [1894] 1998, p. 194).

The fact that the particular kind of labour is irrelevant corresponds to a form of society in which individuals easily pass from one kind of labour to another, the particular kind of labour being accidental to them and therefore indifferent. Labour, not only as a category but in reality, has become here a means to create wealth in general, and has ceased as a determination to be tied with the individuals in any particularity. This state of affairs is most pronounced in the most modern form of bourgeois society, the United States

A reappraisal of Marx's labour exchange theory in the light of.....

(Marx, [1857-58] 1986, p. 41).

Taking these views into account, it may be safely concluded that Marx equates abstract human labour with what he regards as typical labour in capitalism, i. e., labour that is simple, uniform and malleable to the needs of capital. K. Uno (1977, pp. 31-34) considers the commoditisation of labour power which its simplification and homogenisation caused by the development of modern mechanised industry enables to be the foundation of the labour theory of value established in the context of the production process.

Marx's concept of abstract human labour, thus, is not so much transcendental as empirical. In this light the following comment from C-S. Park (2003, pp. 163-164) is highly penetrating.

As an intrinsic element, each concrete useful labor has a specific form and aim; it is not measurable in quantity, and is distinguishable only in qualitative terms. By forming a unique use value in each product, concrete useful labor provides the foundation for commodity exchange. *Abstract labor* is the general expenditure of human labor power, the productive expenditure of brains, nerves and muscles Marx relates abstract labor to value. It is the *materialized substance of value* and is indistinguishable in quality. The quantitative dimension of value is determined by the quantity of the value-creating substance, i.e., the quantity of labor, which is measured in units of time

I note that abstract labor is measurable without regard to the commodity in which it is embodied and, in this sense, abstract labor is not "abstract" but concrete in the conventional sense. And conversely, concrete labor is not

measurable and therefore not “concrete” but abstract (emphasis in original).

True, whilst denying the measurability of concrete useful labour, Marx argues that abstract human labour as the substance of value can be measured in labour time (see, for example, Marx, [1867] 1996, pp. 48–49). Additionally he remarks: ‘The conversion of all commodities into labour time is no greater an abstraction, and is no less real, than the resolution of all organic bodies into air’ (Marx, [1859] 1987b, p. 272). Moreover, skilled and intensified labour, Marx mentions, are measurable as multiplied simple labour-time, although he does not give the adequate account (see, for example, Marx, [1859] 1987b, p. 273; [1867] 1996, pp. 524–525)⁽¹³⁾.

It was a *sine qua non* for Marx’s labour theory of value to present a factor, as the substance of value, common to all kinds of labour. Yet he did not seem to notice that his notion of abstract human labour as the answer could cause a discrepancy in his political economy. Marx negates labour service market. However, once he features abstract human labour in the manner so far seen, in principle there will be no ruling out the formation of a market with simple labour-time as its trading unit. This undermines his basic view that working conditions are determined through the worker-capitalist class conflict. In contradiction to his arguments on concrete useful labour, Marx’s conception of abstract human labour, indeed, has a potential to emasculate the respect for the human basis of the

(13) About criticisms and defences of Marx’s arguments on the reduction of skilled labour to simple labour, see, for example, Böhm-Bawerk ([1896] 1984, pp. 81–86), R. Hilferding ([1904] 1984, 140–146), P. M. Sweezy (1946, pp. 42–45), R. L. Meek (1973, pp. 168–173), Steedman (1985) and M. Ito (1987).

A reappraisal of Marx's labour exchange theory in the light of.....

labour exchange implied in his labour power-labour distinction, and to degenerate into the level of Walras and other neoclassical economists' dehumanising treatment of labour power. It seems indisputable that advances in mechanised production incessantly tend to simplify and uniform labour in the interest of capital. As Braverman (1974, pp. 139-140) suggests, however, it will be no less true that workers' resistance to the force never ends to the extent that 'they are not destroyed as human-beings'⁽¹⁴⁾. Furthermore, as E. O. Wright (1979, p. 29) points out, changes in technology, the constant occurrence of which Marx saw as normalcy in capitalism, generate new skills and so will be a deterrent to the simplification and equalisation of labour. It will be wrong to think that Marx was not conscious of those points. Yet they were not reflected in his economic theory adequately.

Another problem is caused by Marx's application of his labour theory of value to labour power. In *Value, Price and Profit*, for instance, he says:

... as with all other commodities, so with labour, its market price will, in the long run, adapt itself to its value; that, therefore, despite all the ups and downs, and do what he may, the working man will, on an average, only receive the value of his labour, which resolves into the value of his labouring power, which is determined by the value of the necessaries required for its

(14) Hence the quotation from M. A. Lebowitz (2003, pp. 77-78) below is to the point. '... he [Marx] criticized political economy because it looked at the worker only from the perspective of capital. But isn't this Marx's own position in *Capital*? The wage-labourer is considered as the mediator for capital, as the means by which capital grows. She is not, on the other hand, considered as subject; and capital is not developed as the mediator for wage labourer, as the means by which they satisfy their needs. One side of the relation of capital and wage-labourer is left undeveloped'.

maintenance and reproduction, which value of necessaries finally is regulated by the quantity of labour wanted to produce them (Marx, [1865] 1985a, p. 144).

Likewise, in Volume I of *Capital* Marx writes: ‘The value of labour power is determined, as in the case of every other commodity, by the labour time necessary for the production, and consequently also the reproduction, of this special article’ (Marx, [1867] 1996, pp. 180–181)⁽¹⁵⁾. Thus, Marx treats the value of labour power in the same way as the value of commodities in general, and holds that the wage level will, through market fluctuations, converge into the value of labour power, which is determined by the amount of labour embodied in the worker’s necessaries. In *Value, Price and Profit* Marx therefore denounces the advocacy of equal wages as ‘an *insane* wish never to be fulfilled’ by contending, ‘Upon the basis of the wages system the value of labouring power is settled like that of every other commodity; and as different kinds of labouring power have different values, or require different quantities of labour for their production, they *must* fetch different prices in the labour market’ (emphasis in original; see Marx, [1865] 1985a, p.129).

Gintis and Bowles (1981, pp. 9–13) criticise Marx for failing to distinguish commodities in general, which are produced by profit-maximising firms, and

(15) Marx adds that the control of the value of labour power differs from age to age and country to country, and ‘In contradistinction therefore to the case of other commodities, there enters into the determination of the value of labour power a historical and moral element.’ Yet he concludes: ‘Nevertheless, in a given country, at a given period, the average quantity of the means of subsistence necessary for the labourer is practically known’ (see Marx, [1867] 1996, p. 181). About counterarguments to the physical subsistence-level interpretation of Marx’s notion of wages, see, for example, W. J. Baumol (1983).

A reappraisal of Marx's labour exchange theory in the light of.....

labour power, which is produced in households. Indeed, Marx's application of his labour theory of value to labour power was to blunt the role of the worker-capitalist class struggle as the prime determinant of wage levels. As a sign of it, although in his early days Marx emphasised that wages are determined through the worker-capitalist power conflict, he blurred the point, and focused on labour time as the target of the strife after the establishment of his labour value theory and concept of the value of labour power (see note 8).⁽¹⁶⁾

It was argued in the last section that Marx's labour power-labour distinction-based discussions lead to the refutation of the neoclassical principle of the labour exchange. As its ramification, the law of indifference in the exchange is also invalidated. Consequently, it is unwarrantable that the workers who provide the same labour service or possess the same ability are paid the same wage. This rationalises wage differentials grounded on sex, race, schooling and others, which can be seen frequently in capitalist societies. Bowles and Gintis (1990a, pp. 184-186) underline the function of the discriminatory practices as a means for employers to frustrate workers' solidarity. Marx also noted that the English bourgeoisie took advantage of the antagonism between English workers and Irish undercutting migrants with racial and religious prejudices (see, for example, Marx, [1869] 1985b, p. 88). The rebuttal of the neoclassical principle of the labour exchange thus brings out the unfoundedness of its proponents' allegation that the promotion of deregulation policies will eliminate wage discrimination (see, for example, M. Friedman, 1962, 108-118). However, Marx's notion of the value of labour power, which claims the wage payment to correspond with the work ability, would result in justifying rather than negating the neoclassical

(16) About the transition of Marx's wage theory, see, for example, K. Lapidés (1998).

(17)
dogma.

Thus, Marx's labour theory of value contains inconsistencies with his fundamental view on the labour exchange. Hence, to the extent that Marx's exploitation theory is grounded on his value theory as well as on his labour power-labour distinction, it will be hard to reconcile the exploitation theory with another theoretical direction given by the distinction which opens the way for the confutation of the neoclassical principle of the labour exchange.

6 Conclusion

This paper has reviewed neoclassical economists' treatment of the labour exchange, and then reappraised Marx's arguments in comparison with it. The neoclassical principle of the labour exchange, which claims the market determinability of working conditions, is predicated on the dehumanisation of labour power, and this trait already appeared in writings of leading figures of the 'Marginal Revolution' like Walras and Jevons. Whilst the efficiency wage theory brought about an important turnaround, it fell short of breaking with the neoclassical paradigm. This was illustrated in contradictions in Bowles and Gintis's contested exchange theory, which applied efficiency wage model to Marxian issues of the employer's extraction of labour from labour power. Marx's labour power-labour distinction and discussions founded on it, by dint of the regard for the human basis of the labour exchange, lead to the refutation of the neoclassical principle. Thus, although Marx did not know neoclassical economics, his labour exchange theory embraced forceful anti-neoclassicism arguments. However, Marx's labour theory of value, especially his notion of abstract human labour and

(17) In Volume I of *Capital* Marx also remarks: 'In time wages, with few exceptions, the same wage holds for the same kind of work' (Marx, [1867] 1996, p. 554).

A reappraisal of Marx's labour exchange theory in the light of.....

the value of labour power, has conflicting points with his labour exchange theory, thereby undermining the latter's merit.

Marx's labour theory of value has been generally regarded as the nucleus of his economics, and therefore, as Hodgson (1991, p. 4) points out, both many Marxists and anti-Marxists have held that Marx's economic thought stands or falls on the theory. Hence, with the result that defects of the theory were exposed to the light of day one after another, not a few writers judged that Marx's economics has little significance (see, for example, A. Brewer, 1995). Meanwhile, N. Okishio, M. Morishima and other mathematical economists demonstrated that, contrary to Marx's belief, exploitation as a requisite for the emergence of positive profit—the so-called fundamental Marxian theorem—is provable without recourse to the labour theory of value. Yet Roemer elucidated that exploitation in the Marxian sense can be borne out even by assuming a Walrasian market, and Bowles and Gintis (1981, pp. 18-21) and others revealed that not only labour power but also commodities in general are exploited; namely, less than one unit is needed to produce one unit of each of them. Thus, it became clear that exploitation is not necessarily an outcome of extra-market strife, or a hallmark of the peculiarity of labour power.

To these findings, it can be argued from discussions in this paper as follows. As E. M. Wood (1981) stresses, Marx's economic thought was essentially unified with socio-political consideration. In particular, this stood out in his views on the labour exchange, and he maintained that the worker-capitalist class struggle is the prime determinant of working conditions. In opposition to the traditional understanding, however, it is not Marx's exploitation theory but his concrete useful labour-related arguments, also based on the labour power-labour distinction, that contribute to the substantiation of the contention. Only through this

change of perspective will be confirmed the misconception, like in S. Hollander (1981), of classifying Marx's labour exchange theory into the ordinary supply-demand analysis, and will be opened the way for the intrinsic criticism of the neo-classical paradigm and the present-day tide of neo-liberalism upheld by it. Hence, the significance of Marx's value and exploitation theories in the light of this cause must be called into question.

Bibliography

- Baker, D. and Weisbrot, M. 1994. The logic of contested exchange, *Journal of Economic Issues*, vol. 28, December, 1091-1114
- Baumol, W. J. 1983. Marx and the iron law of wages, *American Economic Review*, vol. 73, May, 303-308
- Bowles, S. 1985. The production process in a competitive economy: Walrasian, neo-Hobbesian, and Marxian models, *American Economic Review*, vol. 75, March, 16-36
- Bowles, S. and Gintis, H. 1977. The Marxian theory of value and heterogeneous labour: a critique and reformation, *Cambridge Journal of Economics*, vol. 1, June, 173-192
- Bowles, S. and Gintis, H. 1981. Structure and practice in the labor theory of value, *Review of Political Economics*, vol. 12, winter, 1-26
- Bowles, S. and Gintis, H. 1986. *Democracy and Capitalism: Property, Community, and the Contradictions of Modern Social Thought*, New York, Basic Books
- Bowles, S. and Gintis, H. 1990a. Contested exchange: new microfoundations for the political economy of capitalism, *Politics & Society*, vol. 18, June, 165-222
- Bowles, S. and Gintis, H. 1990b. Reply to our critics, *Politics & Society*, vol. 18, June, 293-315
- Bowles, S. and Gintis, H. 1992. Power and wealth in a competitive capitalist economy, *Philosophy & Public Affairs*, vol. 21, fall, 324-353
- Bowles, S. and Gintis, H. 1993. The revenge of homo economicus: contested exchange and the revival of political economy, *Journal of Economic Perspectives*, vol. 7, winter, 83-102
- Bowles, S. and Gintis, H. 1999. Power in competitive exchange, pp. 13-30 in Bowles, S., Franzini, M. and Pagano, U. (eds), *The Politics and Economics of Power*, London and New York, Routledge
- Braverman, H. 1974. *Labor and Monopoly Capital: The Degradation of Work in the Twentieth Century*, New York, Monthly Review Press

A reappraisal of Marx's labour exchange theory in the light of.....

- Brewer, A. 1995. A minor Post-Ricardian? Marx as an economist, *History of political Economy*, vol. 27, spring, 111-145
- Böhm-Bawerk, E. v. [1896] 1984. Karl Marx and the close of his system, pp. 9-118 in Sweezy, P. (ed) *Karl Marx and the Close of His System by Eugen von Böhm-Bawerk & Böhm-Bawerk's Criticism of Marx by Rudolf Hilferding*, Philadelphia, Orion Editions
- Currie, M. and Steedman, I. 1993. Taking effort seriously, *Metroeconomica*, vol. 44, June, 134-135
- Currie, M. and Steedman, I. 1995. Really taking effort seriously, *Metroeconomica*, vol. 46, June, 211-212
- Debreu, G. 1959. *Theory of Value*, New York, Wiley
- Engels, F. and Marx, K. [1845] 1975. *The Holy Family*, pp. 5-211 in *Karl Marx Frederick Engels Collected Works*, Vol. 4, Moscow, Progress Publishers
- Friedman, M. 1962. *Capitalism and Freedom*, Chicago, University of Chicago Press
- Gintis, H. 1976. The nature of labor exchange and the theory of capitalist production, *Review of Radical Political Economics*, vol. 8, summer, 36-54
- Gintis, H. 1995. Taking effort seriously: a reply to Currie and Steedman, *Metroeconomica*, vol. 46, June, 202-210
- Gintis, H. and Bowles, S. 1981. Structure and practice in the labor theory of value, *Review of Radical Political Economics*, vol. 12, winter, 1-26
- Hicks, J. R. 1946. *Value and Capital*, Oxford, Clarendon Press
- Hilferding, R. [1904] 1984. Böhm-Bawerk's criticism of Marx, pp. 119-196 in Sweezy, P. (ed) *Karl Marx and the Close of His System by Eugen von Böhm-Bawerk & Böhm-Bawerk's Criticism of Marx by Rudolf Hilferding*, Philadelphia, Orion Editions
- Hodgson, G. M. 1980. A theory of exploitation without the labour theory of value, *Science & Society*, vol. 44, 257-273.
- Hodgson, G. M. 1991. *After Marx and Sraffa: Essays in Political Economy*, London, Macmillan
- Hollander, S. 1981. Marxian economics as 'general equilibrium' theory, *History of Political Economy*, vol. 13, spring, 121-155
- Ito, M. 1987. Skilled labour in value theory, *Capital & Class*, no. 31, spring, 39-58
- Jevons, W. S. [1871] 1957. *The Theory of Political Economy*, New York, Kelley & Millman
- Lapides, K. 1998. *Marx's Wage Theory in Historical Perspective: Its Origins, Development, and Interpretation*. London, Praeger Publishers
- Lebowitz, M. A. 2003. *Beyond Capital*, New York, Palgrave Macmillan
- Marx, K. [1844] 1975. *Economic and Philosophic Manuscripts of 1844*, pp. 229-346 in *Karl Marx Frederick Engels Collected Works*, Vol. 3, New York, International Publishers
- Marx, K. [1849] 1977. *Wage Labour and Capital*, pp. 197-228 in *Karl Marx Frederick Engels Collected Works*, Vol. 9, New York, International Publishers

- Marx, K. [1857-58] 1986. *Economic Manuscripts of 1857-58*, in *Karl Marx Frederick Engels Collected Works*, Vol. 28, New York, International Publishers
- Marx, K. [1858] 1987a. The original text of the second and the beginning of the third chapter of *A Contribution to the Critique of Political Economy*, pp. 430-507 in *Karl Marx Frederick Engels Collected Works*, Vol. 29, New York, International Publishers
- Marx, K. [1859] 1987b. *A Contribution to the Critique of Political Economy*, pp. 257-417 in *Karl Marx Frederick Engels Collected Works*, Vol. 29, New York, International Publishers
- Marx, K. [1861-63] 1988. *Economic Manuscript of 1861-63*, in *Karl Marx Frederick Engels Collected Works*, Vol. 30, New York, International Publishers
- Marx, K. [1861-63] 1989. *Theories of Surplus Value*, in *Karl Marx Frederick Engels Collected Works*, Vol. 32, New York, International Publishers
- Marx, K. [1865] 1985a. *Value, Price and Profit*, pp. 101-149 in *Karl Marx Frederick Engels Collected Works*, Vol. 20, New York, International Publishers
- Marx, K. [1867] 1996. *Capital*, Volume I, in *Karl Marx Frederick Engels Collected Works*, Vol. 35, New York, International Publishers
- Marx, K. [1894] 1998. *Capital*, Volume III, in *Karl Marx Frederick Engels Collected Works*, Vol. 37, New York, International Publishers
- Marx, K. [1869] 1985b. The General Council to the Federal Council of Romance Switzerland, pp. 84-91 in *Karl Marx Frederick Engels Collected Works*, Vol. 21, New York, International Publishers
- Meek, R. L. 1973. *Studies in the Labour Theory of Value*, London, Lawrence & Wishart
- Marshall, A. [1890] 1930. *Principles of Economics*, London, Macmillan
- Oakley, A. 1979. Aspects of Marx's *Grundrisse* as intellectual foundations for a major theme of *Capital*, *History of Political Economy*, vol. 11, June, 286-302
- Park, Cheol-Soo. 2003. On replacing labor as the substance of value: early and recent arguments, *Science & Society*, vol. 67, summer, 160-172
- Roemer, J. E. 1982. *A General Theory of Exploitation and Class*, Cambridge and London, Harvard University Press
- Roemer, J. E. 1988. *Free to Lose: An Introduction to Marxist Economic Philosophy*, Cambridge, Harvard University Press
- Roemer, J. E. 1990. A thin thread: comment on Bowles' and Gintis' "contested exchange", *Politics & Society*, vol. 18, June, 243-249
- Samuelson, P. A. 1973. *Economics*, Tokyo, McGraw-Hill Kogakusha
- Shapiro, C. and Stiglitz, J. E. 1984. Equilibrium unemployment as a worker discipline device, *American Economic Review*, vol. 74, June, 433-444
- Spencer, D. A. 2000. The demise of radical political economics? An essay on the evolution of a theory of capitalist production, *Cambridge Journal of Economics*, vol. 24, September, 543-564

A reappraisal of Marx's labour exchange theory in the light of.....

- Spencer, D. A. 2002. Shirking the issue? Efficiency wages, work discipline and full employment, *Review of Political Economy*, vol. 14, July, 313-327
- Spencer, D. A. 2004. From pain cost to opportunity cost: the eclipse of the quality of work as a factor in economic theory, *History of Political Economy*, vol. 36, summer, 313-327
- Steedman, I. 1985. Heterogeneous labour, money wages, and Marx's theory, *History of Political Economy*, vol. 17, winter, 551-574
- Stiglitz, J. E. 1997. *Economics*, New York, Norton
- Sweezy, P. M. 1946. *The Theory of Capitalist Development: Principles of Marxian Political Economy*, London, Dennis Dobson
- Uno, K. 1977. *Principles of Political Economy: Theory of a Purely Capitalist Society*. Sussex, Harvester Press
- Walras, L. [1926] 1954. *Elements of Pure Economics*, London, George Allen & Unwin
- Wicksteed, P. H. [1894] 1992. *The Co-ordination of the Laws of Distribution*, Hants, Edward Elgar
- Wood, E. M. 1981. The separation of the economic and political in capitalism, *New Left Review*, no. 127, May-June, pp. 66-95
- Wright, E. O. 1979. *Class Structure and Income Determination*, New York, Academic Press
- Yellen, J. L. 1984. Efficiency wage models of unemployment, *American Economic Review*, vol. 74, May, 200-205