

RETHINKING THE NOTION OF THE NATURAL IN CLASSICAL POLITICAL ECONOMY

HOON HONG*

This paper intends to clarify and evaluate the notion of the natural which constitutes the basis for explanation and justification of a market-based society in classical political economy. This notion is primarily detected in such concepts as natural price, natural wage and differential rent. The notion of the natural which is implicated in these concepts is characterized by the following features: the role of self-interest and instincts on the level of agency, the working of processes of competition and procreation under the constraint of diminishing fertility of land, the inevitability and beneficence of social outcome of these processes. The basic contention of this paper is that the classical notion of the natural is based on what may be dubbed the universally natural and the capitalistically natural which are not easily integrable.

JEL Classification: B1, B2, B4

Keywords: natural, Smith, Ricardo, Malthus

The notion of the natural is one of the central ideas which has recurred in the history of economic thought. However, this concept precedes scientific economics. It traces back to as early as pre-Socratic era in ancient Greece, and culminates in Plato's and Aristotle's distinctions between *physis* (natural) and *nomos* (artificial) (Popper, 1966: ch. 5; Letwin, 1963: pp. 171-181; Meikle, 1995). Later, it was revived by

Received for publication: Aug. 9, 2006. Revision accepted: Oct. 13, 2006.

* Yonsei University, Department of Economics, Suh-dae-moon-ku, Shin-chon-dong, Seoul, Korea, e-mail: hoonhong@base.yonsei.ac.kr This research was financially supported by Suam Foundation.

Aquinas through his account of laws of nature and inherited by the Physiocrats (Schumpeter 1981: pp. 107-108; O'Brien, 1975: p. 28).

In classical political economy, the notion of the natural provided an explanation and a legitimation of the capitalist society, since it suggested that quasi-natural laws govern the society (Cremaschi & Mascali, 1996: p. 507). More specifically, classical political economy advocated capitalism more often as natural than as efficient. Furthermore, even neoclassical economics tends to ascribe the property of being natural to a market economy.

The centrality of the notion of the natural for classical and neoclassical economics is revealed by such concepts as: natural price and natural wage (Smith, Ricardo, Malthus); natural value (Wieser); natural rate of interest (Wicksell); natural rate of growth (Harrod); natural rate of unemployment (Phelps & Friedman).¹ This also accounts for the frequent imputation of naturalism to classical and neoclassical economics (e.g., Davis, 1989: pp. 459-460).

Roughly put, in both the Occident and the Orient, things, minds, actions, processes or states of being tend to be called natural, when they are recognized as inevitable and/or desirable. However, the notion of the natural, as conceived by classical and neoclassical economics, remains unexplored in its entirety. This paper seeks to uncover and evaluate various meanings and implications that are involved in the notion of the natural in classical political economy.²

For this purpose, first, various meanings of the term 'natural' will be examined. Second, on the basis of this examination, classical concepts of natural wage and differential rent will be explored.³ Third, classical notion of the natural will be evaluated and criticized. Lastly, the notion will be placed in proper perspective.

¹ This line of inquiry was partly anticipated by Murphy (1994: p. 538).

² As classical political economy encompasses Smith, Ricardo and Malthus, it is defined by their common features. Disagreements between Ricardo and Malthus are of little relevance for the notion of the natural. Moreover, the term 'classical political economy' as used in this paper is basically meant to exclude Marx. However, Marx is quoted in contexts where classical economists and Marx are agreed, in order to lend support to the former.

³ Due to the lack of space, general rate of profit is not discussed, but this omission does not seem to discount the substance of the argument.

I. THE NOTION OF THE NATURAL IN BROAD OUTLINE: MEANINGS AND OBJECTS

In the modern history of economic and social thought, the notion of the natural have been not only laden with various meanings, but also ascribed to diverse objects. By clarifying the meanings and classifying the objects, our main discussion could be handled within proper bounds. In this section, one can enumerate the meanings and the objects with primary reference to Smith's *Wealth of Nations*.

1.1. Meanings

a) universal, ahistorical, and innate

Properties in things, traits of human beings or attributes of states of being are deemed natural, if they appear across places and times. More specifically, characteristics of material beings or human beings can be called natural, as far as they are conceived as independent of history and cultures (Teichgraeber, 1986: p. 21; Davis, 1989: p. 459). Very often, universality of specific properties implies that they are innate or inborn (Locke, 1954: pp. 129-130).

For instance, Smith was prone to label self-love as natural, as he presupposed that they are universal (Smith, 1937: pp. 125-126, 754-755; Polanyi, 1968: p. 116). Moreover, on the classical view, the law of diminishing fertility and the law of population were identified to be natural, as they were understood as representing universal and innate attributes of land and humans or animals. The classical notion of the natural interpreted this way also found its expression in the principle of demand and supply which has been regarded as natural on the supposed ground that it holds good universally (Polanyi, 1968: p. 117).

because though human reason might perhaps have been able to unveil, even ... some of the delusions of the superstition, it could never have dissolved the ties of private interest. ... But that immense and well-built fabric, which all the wisdom and virtue of man could never have shaken, much less have overturned, was by the natural course of things, first weakened, and afterwards in part destroyed (Smith, 1937: pp. 754-

755)

b) consequent, necessary and inevitable

Behaviours or states of being which results from innate or acquired characteristics of human nature deserves to be called natural (Puro, 1992: p. 76, 79-81).⁴ What Smith dubbed “natural liberty” or “natural justice” vivifies this meaning of the natural (Smith, 1937: p. 308). More broadly, entities and phenomena which prevail in a society are deemed natural, if they are historical consequences or logical effects of processes or of activities which take place in accord with innate characteristics of material nature or human nature. Classical economists sought to show that socioeconomic entities and phenomena arise from some natural agency, given socioeconomic conditions or market forces (Bitterman, 1940: p. 207; Murphy, 1994: p. 550). Smith apparently meant this, when he mentioned “natural equality” between various sectors (Smith, 1937: p. 238, 355).

In its less deterministic form, this notion of the natural takes the form of the claim that B is loosely a historical consequence, or a logical effect, of A, without thereby implying necessity or inevitability (Bitterman, 1940: p. 207; Alvey, 2003: p. 11). If a certain order requires specific rules or a certain rule is interrelated with another rule, then these rules can be defined as natural, given that order or that rule (Hong, 2002: p. 620). Most of the sentences attended with the adjective “naturally” which abound in Smith’s major works offer this type of examples (Smith, 1982: p. 338; Smith, 1937: p. 9, 73, 362). Other cases in point are classicals’ accounts of “natural progress of wealth, law and government, and arts”, or of “rent, profit and wages” as the result of economic conditions (Smith, 1937: p. 532; Ricardo, 1970: p. 5).

that useful inequality in the fortunes of mankind which naturally and necessarily arises from the various degrees of capacity, industry, and

⁴ Puro’s exploration into Smith’s *Wealth of Nations* is a useful guidance to clarifying the meanings of the natural. But he plays down the role of material nature and overlooks instincts as part of human nature (cf., Puro, 1992: pp. 79-81). Moreover, it is questionable for him to assign an independent meaning to the term natural as used in “natural liberty”, considering that Smith intended to specify with this term not only liberty but also justice and equality (Smith, 1937: p. 125, 355, 594; O’Brien, 1975: pp. 31-32).

diligence in the different individuals(Smith, 1982: p. 338)

In its more deterministic form, this notion of the natural underpins causation which gives rise to ineluctable or inevitable results (Smith, 1937: p. 353; Waterman, 2002: p. 910). It is often claimed that classical political economy was substantially influenced by Newtonian physics in its vision and methods (cf., Brown, 1984: p. 71, 79). Under the influence of the Newtonian physics, the classical system was designed for a scientific account of the working of a market-based society. Put another way, classical economists intended to discover objective and deterministic laws which govern the economy (Smith, 1937: p. 63, 360; Femminis & Salanti, 1995: p. 93). If a certain magnitude of Y results from a magnitude of X, then, it could be seen as natural. This aspect of the classical notion of the natural is bequeathed to neoclassical economists via, e.g., natural rate of unemployment (Blinder, 1988; Krashevski, 1988).

what are the circumstances which naturally determine the rate of wages ... what are the circumstances which naturally determine the rate of profit (Smith, 1937: p. 63) Each of those different branches of trade, however, is not only advantageous, but necessary and unavoidable, when the course of things, without any constraint and violence, naturally introduces it.(Smith, 1937: p. 353)

The foregoing tells us that the notion of the natural in this sense may be defined either logically(synchronously) or historically(diachronically) (Smith, 1937: p. 360; cf., Sowell, 1974: p. 74, 83). For instance, the emergence of money could be conceptualised as a consequence of historical development or as a necessary result of the capitalist logic. In statistical terms, it could relate to both cross-sectional and time series data. To illustrate, profit rates could be observed over time and their historical trend or changes may be accounted for. Or profit rates of individual sectors could be recorded at a certain point of time and their differences between sectors could be explicated.

According to the natural course of things, therefore, the greater part of the capital ... is first directed to agriculture, afterwards to manufactures, and last of all to foreign commerce. This order of things is so very

natural ... The manners and customs which the nature of their original government introduced ... necessarily forced them into this unnatural and retrograde order.(Smith, 1937: p. 360)

c) given or external

In some cases, the term “natural” connotes being given or being exterior, especially in the eyes of lay agents at a certain point of time (cf., Dupuy, 1996). Givenness or exteriority is closely associated with, but distinct from, being innate or ineluctable. Obviously, climatical or geographical peculiarities are natural in this sense. But, more important, money can also be taken by economic agents as natural in this regard (Smith, 1937: p. 32, 37). Moreover, habits and customs which are almost self-activating can be regarded as natural, even if they may not be universal (as specified in 1.1.a), but bound historically, culturally or socially and thus alterable or transformable (Smith, 1937: pp. 384-385, 428-429). For instance, the classical concept of natural wage does not deny the role of habits and customs in the determination of the scale and composition of wage basket. Therefore it is not too much to say that money, habits and customs fall under the rubric of the so-called second nature.⁵

It is more natural and obvious to him, therefore, to estimate their value by the quantity of money (Smith, 1937: p. 32)

But though in establishing perpetual rents, ... it may be of use to distinguish between real and nominal price; it is of none in buying and selling, the more common and ordinary transactions of human life. ... yet the merchant who carries goods from the one to the other has nothing to consider but their money price (Smith, 1937: p. 37)

d) good, right and harmonious

The classical system, relying upon natural theology or theodicy, aimed at legitimating a market-based society (Bitterman, 1940: p. 209; Waterman, 2002, p. 912). For this purpose, it advocated that some socioeconomic entities and phenomena are good and right. They are good in the sense that they are beneficial or efficient for individual agents as

⁵ The notion of the natural as understood in this way is most strikingly detected in the works of Marx and Hayek (cf., Hong, 2002).

well as for the entire economy (Smith, 1937: pp. 594-595; Ricardo, 1970: pp. 133-134; O'Brien, 1975: p. 30). They are right in that they ensure justice on the individual and the social levels. Relatedly, just as natural order is often depicted as harmonious, so does the classical notion of the natural signify either harmony between economic agents or absence of social conflict between classes (Davis, 1989: p. 461; Femminis & Salanti, 1995: pp. 93-94).

It is thus that the private interests and passions of individuals naturally dispose them to turn their stock towards the employments which in ordinary cases are most advantageous to the society. (Smith, 1937: p. 594)

It should be noted that b) and d) are often contrasted as two dimensions of the notion of the natural, as they are understood to be descriptive and prescriptive, respectively (Schumpeter, 1954: pp. 111-113). Roughly put, b) does not entail value judgment and accounts for some analogies between the classical notion of the natural and the Newtonian physics, whereas d) involves value judgment and reveals that the notion is embedded in ethics. It is here confirmed that the classical system has one foot in physics and the other foot in ethics.

e) spontaneous. voluntary, autonomous

In recent discussion, the classical notion of the natural is interpreted to mean spontaneity (Smith, 1937: pp. 421-423; Hayek, 1966: pp. 96-97; Khalil, 1996: p. 11). Spontaneity characterizes a system which regulates, expands and transforms itself “of its own accord”.⁶ In this kind of system, entities or magnitudes establish, and reproduce, themselves with no reliance on outside forces or authority. Since outside forces point, among other things, to public authority or government, the notion of the natural leads to condemnation of government intervention (Smith, 1937: p. 243; Ricardo, 1970: p. 105).⁷

⁶ Take note, however, that Smith himself employed the word ‘spontaneity’ to refer to material nature (Smith, 1937: pp. 315-318, 341; Smith, 1982: p. 335).

⁷ This feature of the natural was also entertained by other thinkers, especially by Marx (*die Naturwüchsigkeit*, in his term), as his critics like Popper and Hayek conceded. What divides classical economists from Marx as regards the notion of the natural is the former’s preoccupation

Like all other contracts, wages should be left to the fair and free competition of the market, and should never be controlled by the interference of the legislature.(Ricardo, 1970: p. 105)

On a micro-level, the concept of spontaneity fits in with the notion of volition, in the sense that an act is not “forced” but voluntary, since the latter involves no intervention of authority into agents’ decisions or activities (Smith, 1937: p. 126, 421-423). This notion is already implicated in the theory of social contract, and finds its offspring in Keynes’ concepts such as involuntary unemployment or forced saving. Moreover, both spontaneity and volition are closely linked with the notion of autonomy (cf., Dupuy, 1996: p. 62, 65).

it is by no means certain that this artificial direction is likely to be more advantageous to the society than that into which it would have gone of its own accord. ... He generally, indeed, neither intends to promote the public interest, nor knows how much he is promoting it. ... he intends only his own gain, and he is in this. as in many other cases, led by an invisible hand to promote an end which was no part of his intention.(Smith, 1937: pp. 421-423)

f) relating to senses or sentiments

Naturalness, as understood to mean spontaneity, is often counterpoised to “reason”, “wisdom” or “virtue” (Smith, 1937: p. 755). More specifically, when Adam Smith conceives some human properties to be natural, he tends to imply that they relate to affections or passions, not to reason. The type of theology, ethics and jurisprudence which he champions are dubbed natural, due to the fact that he grounds them on feelings rather than on reason (Stewart, 1793: p. 4, 7). This is evidenced by the phrases such as moral sense or sentiments which are associated with his ethics. Along this line, his political economy should be properly designated as natural, as it is based on the concept of self-love.

with quantities, their heavy reliance on laws of material nature, their avowal of the existence of universal human nature, their adoption of the Newtonian methods. These aspects, on Marx’s view, combine to form crude naturalism which tends to reduce the social to the natural in the classical system. Due to the fact that Marx was intent on socializing the (apparently) natural in his works, he was most sensitive to naturalistic elements of classical economic thought.

g) essential

The notion of the natural has the connotation of the essential which lies behind the phenomenal or the accidental (Ricardo, 1970: p. 86; Murphy, 1994: p. 550). Very often, being essential and being accidental are associated, respectively, with tendencies or the long-run and deviations or the short-run, as neo-Ricardians fervently contended. In this regard, price which establishes itself in the long-run is deemed natural, whereas market price is not. However, in some contexts where quantitative aspects come to the fore, the term 'natural' becomes emasculated and equated with ordinary, common or average (Smith, 1937: p. 29, 55; Puro, 1992: pp. 84-85).

1.2. Objects

a) categories/entities or magnitudes

The notion of the natural may relate to either categories/entities or magnitudes in which the entities or categories are expressed. Categories denote such economic phenomena as price, wages, profit. Entities refer to rules like contract laws and institutions such as private property or money. By comparison, magnitudes or numbers stand for levels of wages, rates of profit, quantities of money. Categories or entities become a subject of inquiry with respect to their origin, existence or reproduction, transformation or evolution, while quantities may be classified into levels (their primary aspect), changes or differences (their secondary aspects) (cf., Sowell, 1974: p. 129).

If applied to entities and categories, the notion of the natural deals with a matter of kinds and takes either/or forms. By contrast, if applied to magnitudes, the notion concerns a matter of degrees and takes more/less forms.

To illustrate, the origin or the existence of a specific form of private property, nation-state or money may be judged as either natural or artificial. By comparison, price categories may not only be deemed natural, but, as magnitudes, they may also be evaluated as close to, or far from, their natural level. On the one hand, one could raise the question whether profit is justifiable or natural as a category. Moreover, one could

delve into the historical origin of profits or offer a logical account of the existence of profits. On the other, it may be at issue to what extent a certain rate of profits is natural or whether profit rate differentials between industries or changes in profit rates over time may be taken as more or less natural (Ricardo, 1970: p. 146).

The natural rate of exchange would be one deer for two salmon.(Ricardo, 1970: p. 27)

Under the circumstances supposed, such a difference of prices is the natural order of things (Ricardo, 1970: p. 146)

This distinction between qualitative and quantitative dimensions is analogous to the coexistence of two formulations of reproduction. One concept of reproduction, e.g., a critical realist one, lays stress on qualitative dimensions and thus focuses more on transformation or evolution of the system. By contrast, the well-known reproduction scheme, due to its primary concern with quantitative dimensions, tends to concentrate more on proportions between sectors or the scale of reproduction, i.e., simple or extended.

Classical economists, (not to mention, neoclassical economists), were less concerned with socioeconomic entities or categories themselves than with quantities or magnitudes. Ricardo in particular focused more attention on determination of ratios rather than on reproduction of `social relations or structure.⁸ As it turns out, due to his focus, Ricardo was apt to homogenize social entities into ratios and then to impose functional relationships on the ratios and numbers (Hong, 2000: pp. 95-96). As a result, they concentrated primarily on whether there exist natural rates of prices, wage, profit, interest, etc., which establish themselves in an economy. Their quantitative orientation is exemplified by such expressions as “the natural rates of wages, profit and rent” (Smith, 1937: p. 55). Moreover, they tended to focus more on their changes and differences than on their levels.

A quantitative approach to economic phenomena does not by itself

⁸ Moreover, searches for empirical regularities à la Petty, as epitomized in the phrase “*Pondere, Mensura et Numero Deus omnia fecit*”, have left indelible mark on classical economists (Letwin, 1963: pp. 129-130).

entail any philosophical position. But excessive reliance on quantification is liable to mislead one to concentrate on ‘constant conjunctions of events’ along the Humean lines (Meikle, 1995: pp. 17-18; Jackson, 1995: p. 763). As Marx pointed out, they seem to have taken economic entities and categories as given, and thereby, natural. To go a step further, classical theory of price and distribution seems to rely on natural scientific methods and naturalistic analogies, especially in Ricardo’s works, although it does not do so as heavily as does Walrasian general equilibrium system.⁹ This feature distinguishes classical economists from Marx and the Austrian economists (Hong, 2000: pp. 95-96).

Concerning quantitative aspects of economic phenomena, Adam Smith (and the classics) posed three issues: artificial restraints to rise and fall in prices and wages; determinants of their levels; accounts of their differences and their changes. For the present purpose, his argument can be divided into a) refutation of artificial restraints to prices and wages, on the one hand, and b) demonstration of their natural levels and differences/changes, on the other.

Needless to say, proclaiming a self-regulating economy, he denounced various legal constraints to free movement of prices and quantities. In particular, targeting mercantilist restraint to wages, he argued in favour of high wages (Firth, 2002: p. 43). Then he made efforts to demonstrate how prices and quantities undergo natural changes and find, of their own accord, their ways towards natural levels.

To take stock, the classical notion of the natural has both qualitative and quantitative dimensions, although it places more emphasis on the latter. In the classical system it is thus meant by ‘natural x’ primarily that there is either a natural level of x or (more often) a natural change or difference in x, although it is implicitly presupposed that x is a natural

⁹ One could even claim that, in constructing their concepts, some classical economists seem to have foreshadowed analytic philosophy. It should be borne in mind that classicals, in particular Ricardo, decomposed prices into relative prices and general price level. In this respect, Ricardo was not so apart from Walras. This also accounts for the fact that the works of classicals relied heavily on analogies to natural phenomena. For instance, since natural price is understood to be as unavoidable as law of gravity, natural price is supposed to be handled in the same way the problem of gravity is addressed (Brown, 1984: p. 5). These analogies are similar to, rather than distant from, neoclassical concepts of equilibrium and tâtonnement. In fact, such classical economists as Ricardo initiated the history of economics with attempts to imitate natural scientific methods (Mirowski, 1989: pp. 163-174).

category.

b) agency, process or outcome

Reproduction of economic order can be conceived as going through three stages: human agency, mediating process and social outcome (Cohen, 1989: p. 46). Agency refers to decisions and activities on the part of agents who are activated by instinct, habits, self-love, altruism, or sympathy. Process denotes competition or cooperation between agents and coordination or articulation between agents' activities. Outcome stands for aggregative social results or 'states' which come out of this process. These three stages of reproduction are encompassed by what Smith dubbed "the natural course of things" (Smith, 1982: p. 365; Smith, 1937: p. 99, 424).

As a consequence, agency, process and outcome could be the three levels on which the natural may be defined.¹⁰ 'Human nature' relates to agency, whereas 'the state of nature' which has been mentioned in various contexts represents social outcome (Smith, 1937: p. 48, 421). In a similar vein, one might define a 'natural' process as the one which is conditioned by material nature and propelled by human nature, and drives the economy towards the state of nature (Smith, 1937: p. 58, 62).

As regards agency, the classical notion of the natural suggests that voluntary acts, as distinct from forced acts, are natural. Moreover, according to the notion of the natural, self-love is natural, while altruism may be unnatural. However, take note that, as explained in (1.1.c), classical economists treated as natural habits and customs which constrain and enable agents' cognition and actions. This goes hand in hand with the finding that, especially for Smith, being acquired is not the same as being artificial or unnatural. In his account, something acquired does not necessarily stand in the natural course of things (Smith, 1937: pp. 384-385).

Those different habits naturally affect their temper and disposition in every sort of business. ... The habits, besides, of order, economy and

¹⁰ This distinction which Giddens made on the basis of Marx's theory of reproduction is analogous to the distinction between initial, efficient, and final cause which is popular in the tradition of natural law (Bittermann, 1940: p. 216).

attention, to which mercantile business naturally forms a merchant, render him much fitter (Smith, 1937: pp. 384-385)

According to classical economists, free competition is a natural process which takes place in accordance with human nature and brings about a natural outcome. Their attack on government intervention and monopoly as *artificial* stems from their belief that these two ‘external’ forces deflect *natural* forces or impede *natural* processes. Put another way, government regulations or monopoly mislead agents’ self-regarding activities to give rise to “disadvantageous” social outcome (Smith, 1937: p. 590).

It is quite otherwise with the employment into which the monopoly naturally attracts, if I may say so, the capital of the London merchant. That employment may, perhaps, be more profitable to him than the greater part of other employments, but ... it cannot be more advantageous to his country.(Smith, 1937: p. 590)

As for social outcome, it is represented primarily by the natural in the sense of being ‘good, right and harmonious’(1.1.d).¹¹ More specifically, the tendency of equalization of profit rates and the consequent proportions of outputs between industries are natural (Smith, 1937: p. 149; Davis, 1989: p. 461). The state of nature may thus be featured by “the natural balance of industry or of employments” or “the natural division and distribution of labour” (Smith, 1937: p. 421, 466). Moreover, the state of nature seems, above all, contrasted with the state of “servile dependency upon their superiors” and with “a continual state of war with their neighbours” (Smith, 1937: p. 385; Polanyi 1968: p. 6).

It is his own advantage, and not that of the society, which he has in view. But the study of his own advantage naturally, or rather necessarily leads him to prefer that employment which is most advantageous to the society.(Smith, 1937: p. 421)

In sum, the classical notion of the natural suggests that self-love,

¹¹ However, the classical notion of the natural does not necessarily entail consequentialism or utilitarianism, since the notion embraces the other two aspects, as discussed.

competition, beneficence are natural.¹²

II. NATURAL WAGE

Natural wage is defined as the level of wage which establishes itself when demand for labour equals its supply as the result of competition between self-regarding agents. However, it is also defined as the level which ensures subsistence or reproduction of labourers. With reference to (1.2.a) above, one could suggest that these two definitions, taken together, purport to show that wage is natural both as a category and as a quantity. However, as will be explained in this section, the two definitions point to two distinct notions of the natural.

As already discussed in (1.2.b), the notion of the natural can be formulated on three levels: agency, process, and outcome. Concerning the first part of the definition, the concept of natural wage carries with it, first, the claim that economic *agents* including labourers act in accordance with their human *nature*, i.e., with immutable and universal self-interest (1.1 a). Self-interest is, among other things, characterized by “propensity to truck, barter and exchange” (Smith, 1937: p. 13).

Second, competition is seen as a *natural process* which arises between self-seeking agents. This process includes labourers’ movement between industries or jobs, capitalists’ bidding against each other, labourers’ bidding against each other, and interaction or bargaining between the two classes (Smith, 1937: p. 71, 83). It is through this process that the mechanism of demand and supply works and self-seeking activities on the part of the agents become coordinated.

Third, natural wage establishes itself as the *inevitable social outcome* of this process which agents’ self-regarding activities put into operation (1.1.b).

It is found that the concept of natural wage is comprised of the activation of ‘universal’ human nature, the process of competition and the

¹² More broadly, an economy would be defined as unnatural in the following cases: (a) if human desires or preferences were either manipulated by advertisements or preformed by social structure; (b) if the process by which agents’ activities are coordinated might encounter exit/entry barriers or run into a prisoners’ dilemma, or may become cumulative or self-aggravating due to systematic uncertainty; (c) if social outcome might be distorted by external shocks or by government intervention.

inevitable social outcome engendered in the market system. These elements, as they relate specifically to market economies, do not sharply differentiate classical natural wage from neoclassical equilibrium wage.

By contrast, the second definition of natural wage embodies another set of features which are not specific to a market-based society and which set it apart from equilibrium wage. In concrete terms, natural wage according to the second definition represents the level of wage which, at the given prices, is sufficient to satisfy basic needs of labourers for maintenance or reproduction of lives of labourers and their families (Smith, 1937: pp. 67-68, 361-362). The term reproduction as used here encompasses self-preservation and procreation or replication (Alvey, 2003: p. 4). It even insinuates Malthus' concept of "reproductive competition" or reproductive survival which culminates in Darwinism (Ghiselin, 1999: p. 37; Jack, 1978a: p. 240). As noted, these needs may not be necessarily physiological, but habitual or customary (Ricardo, 1970: p. 93, 97; O'Brien, 1975: p. 61). But this does not conflict with the classical view which stipulates a specific level of wage as natural at a certain point in time.

This idea seems to be closely linked with Smith's concerns about the provision of plenty of cheap goods or about "a plentiful revenue or subsistence for the people" (Smith, 1982: p. 5, 333-334). In this regard, the classical notion of the natural goes well with Aristotle's concept of *physis* (as distinct from *nomos*) and with Quesnay's idea of natural rights (Corning, 2000: p. 58; Christensen, 1994: pp. 271-272).¹³

A man must always live by his work, and his wages must at least be sufficient to maintain him. ... The scarcity of hands occasions a competition among masters, who bid against one another, in order to get workmen (Smith, 1937: pp. 67-68)

When land, like moveables, is considered as the means only of subsistence and enjoyment, the natural law of succession divides it ...

But when land was considered as the means, not of subsistence merely,

¹³ Interpreted this way, the notion of natural wage lends little support to Milgate's claim that the term "natural" in the works of classical economists is purely 'scientific' and free from normative or religious connotations (Milgate, 1987: pp. 180-181). In a similar vein, it is erroneous to identify 'normal' or 'average' with 'natural'. Comparably, Waterman's reading of Smith as natural theology is on the right track, but it does not focus on natural wage and price (Waterman, 2002: pp. 910-912).

but of power and protection (Smith, 1937: pp. 361-362)

The third thing which is the object of the police is the proper means of introducing plenty and abundance into the country, that is, cheapness of goods of all sorts. ... To this it will also be previously necessary to consider what are the natural wants and demands of mankind.(Smith, 1982: pp. 333-334)

There is *a priori* little reason that the level of wage which is ground out in the market happens to be the one which secures the survival of labourers. It is Malthus's theory of population which makes the two coincide. It is important to stress that Malthus's theory of population may be taken, more broadly, as the classical theory of population, due to the fact that it provides a basis for the entire classical system (Ricardo, 1970: p. 94; Blaug, 1985: p. 67).¹⁴

This well-known theory runs as follows. Market wage which is higher (lower) than natural wage motivates labourers to have more (fewer) children. This gives rise to an increase (decrease) in population which is equated with an increase (decrease) in labour supply. Due to the increase (decrease) in labour supply, market wage falls (rises) back to the level of natural wage.¹⁵

As a result, natural wage is conceived as the level of wage which keeps the population stationary (Bharadwaj, 1988: p. 619). Ricardo was explicit on this, when he stated that "The natural price of labour is that price which ... to subsist and to perpetuate their race, without either increase or diminution" (Ricardo, 1970: p. 93). In this context, the concept of natural wage embodies a system which is analogous to a biological system where the size of the population is internally regulated within certain limits (cf., Eldredge, 1996: p. 100).

¹⁴ It is to be added that the concept of natural wage is double-edged, as far as its social implications are concerned. From the concept of natural wage one could draw, as the present paper does, the implication that even a market-based society is supposed to provide a minimal level of subsistence for the lower classes. Or à la Malthus one could equally deduce from this concept the conservative implication that the lower classes are doomed to stay in poverty and their poverty should be blamed on their bad habits, not on human institutions. Many classical economists did not go along with Malthus's economic conservatism (Sowell, 1974: p. 91; Horner, 1997).

¹⁵ In this context, Marx's critique that Malthus's theory of population is not social scientific but biological and naturalistic is relevant. However, since Malthus's theory is tied to real wages, it is to be distinguished from Harrod's concept of *natural* rate of growth which simply takes growth rate of population as exogenous.

This does not imply that Malthus's theory of population rules out the possibility of population growth. In general, a rise in market wage owing to technical change or economic development brings about two possible consequences: rise in natural wage and increase in population (Malthus, 1964: pp. 224-226) Thus classical economists did not deny that persistent rises in market wage may result in higher natural wage or higher standard of living and at the same time create a new norm or habit for labourers in the long run (Malthus, 1964: p. 224; Eagly, 1974: p. 38). But, in the shorter run, a rise in market wage is, on the classical view, more likely to increase population at the given level of natural wage than to raise natural wage at the given size of population (Eagly, 1974: p. 68).

Given the foregoing exploration, the notion of the natural which underlies the second definition of natural wage can also be formulated on the three levels. The agency involved is natural for the obvious reason that it is based on instincts. Moreover, the process is natural in that it represents biological regeneration or procreation. Finally, the social outcome can be called natural, as it is the inevitable result of this process. It turns out that classical economists put forward a notion of the natural which might be also applicable in animal kingdom (Davis, 1989: p. 473).

This interpretation sheds new lights on classical theory of value. It is widely known that Smith furnished two kinds of labour theory of value: embodied labour and labour command (Smith, 1937: pp. 30-31). The one and the other were inherited by Ricardo and Malthus (and Keynes), respectively (Malthus, 1964: pp. 93-111). For present purposes, it is worth noting that the reason for Smith's and Malthus's advocacy of the measure of labour command is that the value of a unit of a commodity is estimated most properly by the number of labourers or lives which it can support. Thus, for them, labour command works not only as a measure of value, but also as a measure of riches and of "surplus" or growth potential (Malthus, 1964: p. 303; Higgs, 1897: p. 136).¹⁶

In all, the concept of natural wage which comprises two definitions is built upon such aspects of human nature as self-interest, desire for survival/reproduction or sexual instincts, all of which Aquinas had

¹⁶ As Sowell pointed out, classical economists were mainly concerned with economic growth (Sowell, 1974: p. 33, 71).

lumped together as “*natural* human inclinations” (Brown, 1984: pp. 14-15). To be more precise, self-interest in Smith’s context encompasses not only the inclination to preserve oneself and one’s species but also the propensity to better one’s condition and to outdo or dominate others. Whereas self-interest and instinct fall under the rubric of agency, competition and procreation come under the heading of processes. Moreover, ‘equilibrium’ wage and agents’ subsistence pertain to the category of social outcome.

However, it is of critical importance to note that, in the classical system, activities stimulated by a change in wages is of two kinds: economic and biological. Expanding on this point, one finds that the concept of natural wage rests on the combination of *socioeconomic* forces and *biological* forces. More broadly, it turns out that two different notions of the natural are involved here. The notion of the natural contained in the first definition of natural wage relies on self-interest, competition and centers of gravity or equilibrium, whereas the notion implicated in the second entails instincts, biological regeneration and subsistence or livelihood (Ricardo: 1970, p. 16).

it is probable his wages would in no long time be adjusted by the effects of competition, and the stimulus to population (Ricardo: 1970, p. 16)

On the one hand, classical economists conceived of natural wage as the aggregate result of such capitalistic features as agents’ self-interest and processes of competition among labourers themselves and between labourers and capitalists. On the other, they conceptualised natural wage as the outcome of such universal aspects as agents’ desire for survival and the process of propagation. To say the least, self-interest, competition and the mechanism of demand and supply are much less universal and immutable than are instincts, biological reproduction, and subsistence.

To go a step further, it is suspected that, in the classical system, economic processes like competition are linked to nominal or relative wages, while biological reproduction is tied to real or absolute wages, i.e., food, clothing and shelter. It goes without saying that labourers’ livelihood depends on real wages. By contrast, the linkage between

economic processes and nominal wages is not so evident as is the connection between reproduction and real wages. However, it seems that, from the classical viewpoint, monetary magnitudes in general and money wage in particular are more “natural and obvious” to lay agents than are real magnitudes and real wages, not to mention the measure of labour embodied or commanded (cf., Smith, 1937: p. 22, 32, 38; Malthus, 1964: p. 55).¹⁷

Every man thus lives by exchanging, or becomes in some measure a merchant, and the society itself grows to be what is properly a commercial society.(Smith, 1937: p. 22)

It is more natural and obvious to him, therefore, to estimate their value by the quantity of money (Smith, 1937: p. 32)

As it is the nominal or money price of goods, therefore, which finally determines the prudence or imprudence of all purchases and sales, and thereby regulates almost the whole business of common life in which price is concerned, we cannot wonder that it should have been so much attended to than the real price.(Smith, 1937: p. 38)

The foregoing exploration encourages the argument that the concept of natural wage hinges upon two distinct notions of the natural and the two notions are embedded in what might be dubbed cash nexus and food nexus, respectively. This duality reminds us of the conflict between use value and exchange value which crops up in the paradox of diamonds and water. Since cash nexus is specific to the market system and food nexus may be valid across times and places, they may be labelled ‘*capitalistically* natural’ and ‘*universally* natural’, respectively.

The capitalistically natural circuit may be viewed primarily as explanation of wage, as it conceptualises natural wage as a specific result of a market process. By comparison, the universally natural circuit seems to provide justification for natural wage, since it focuses more on universal aspects such as labourers subsistence and reproduction. To anticipate, the question is how the two circuits are related or combined in the classical system.

¹⁷ Moreover, Smith in particular allowed for possible differences between “commanded labour” and “purchased labour” (Smith, 1937: pp. 30-31).

III. DIFFERENTIAL RENT

Rent is basically grounded by the physico-chemical law of diminishing fertility in the classical system (Davis, 1989: p. 461). According to classical theory of differential rent, rent accrues from differences in fertility (and location) between various plots of land. It should be stressed that total rent (for the whole agricultural land) or average rent (per acre of land) and the share of the rent in net product are determined by differences in fertility. If pieces of land were sterile on the average but their sterility were of equal degrees, then rent would not arise. In the classical system, the category or the entity of rent itself rests upon the existence of differences in fertility between pieces of land (cf., Ricardo, 1970: p. 403).

On the face of it, classical economists seemed to entertain the view that rent is governed entirely by the law of material nature and nothing human or social intervenes in the accrual of the rent. This casual observation is reinforced by the fact that classicals, unlike Marx, did not explicitly attach much importance to the role of social and historical circumstances in the determination of fertility.¹⁸

However, it should be borne in mind that the classical theory of rent presupposes the existence of landed property and accumulated capital (Ricardo, 1970: p. 69). Moreover, according to the theory, the size and distribution of rents are, over time, governed by the degree and speed of economic development, as the latter determines how intensive and extensive agricultural cultivation could be (Ricardo, 1970: p. 327). These features of economic development are predominantly social, historical and institutional.

the quality of land which the exigencies of the society might require to be taken into cultivation (Ricardo, 1970: p. 327)

More to the point is the fact that the classical theory of rent presupposes full competition among agents and between units of capital

¹⁸ Marx's theory of rent differs from the classical theory of rent in that the former conceives fertility of land as dominantly socially determined, and, apart from differential rent, comes up with absolute rent as purely founded upon the existence of land as private property.

and labour (Ricardo, 1970: pp. 69-72). As Marx commented, the theory reflects the mature stage of British capitalism where “there is no landed property to shackle any desired level of investment in land” and “a sufficient amount of capital is available for investment in agriculture” (Marx, 1968: p. 237). For this reason, each unit of corn of equal quality which is produced on plots of unequal fertility supposedly obtains the same price (Malthus, 1964: p. 179). Moreover, units of capital or labour are conceivably rewarded equally on whichever plots of land they are employed. Without these basic elements of competition, the classical theory of rent would not hold. In a sense, the theory superimposes *disequalizing physico-chemical laws* on *equalizing socioeconomic processes*.

but no charge is made for the use of these natural aids, because they are inexhaustible, and at every man's disposal. his landlord would have the power at the expiration of his lease, of obliging him to pay fifteen quarters, ..., for additional rent; for there cannot be two rates of profit.(Ricardo, 1970: p. 69, 72)

Due to the fact that rent accrues from specific features of material nature, it is unavoidable or immutable. Its immutability may apparently be contradicted by the fact that improvement of technology and expansion of foreign trade could alleviate pernicious effects of diminishing fertility (Ricardo, 1966: p. 161). But classical economists did not regard technical innovations as significant or endogenous (Femminis & Salanti, 1995: p. 94). Moreover, innovations would change the situation only under the unrealistic assumption that they spread on plots of land in such a way that they compensate for their initial differences in fertility. Furthermore, free trade may be no more than a stopgap, because even countries with comparative advantage in agriculture will be faced with the scarcity of good land in the long run (cf., Harris, 1987: p. 448).

Up to the present, it has been shown that classical political economy explained not only differences and changes in rent but also its levels. However, it should be pointed out that, unlike other categories of income, the category of rent and the origin/existence of rent were controverted

among classical economists.¹⁹ From the viewpoint of the present inquiry, it means that classical economists did not agree that the category of rent is natural, even though they couched their theory of rent in most naturalistic terms. In other words, some classical economists did not treat rent as natural in the same sense that wage or price is so labeled, despite many 'natural' causes which give rise to rent.

In the light of the arguments and the criteria advanced with respect to general rate of profit, the controversy over rent revolves around the issue whether the existence of rent is a necessary condition for the (simple or extended) reproduction of the economy. More specifically, rent may be conceived as natural or not, depending upon: whether inequality in fertility is compatible with some kind of natural equality; whether rent is indispensable for reproduction of the class of landlords; whether the category of rent is necessary for production and supply of food or other use values in right proportions; whether the existence of rent contributes to attaining the highest level of production and employment (Malthus, 1964: pp. 74-77).

Evaluation of rent on these criteria entails the social issue whether the class of landlords is beneficial for, or parasitic on, capitalist systems. Moreover, this has direct bearings on one of the most classical theoretical questions: whether or not rent is included in natural price or whether rent is a cause/source or an effect of natural price. Defenders of rent would claim that rent is a crucial part of *natural* price, because it is *natural*, whereas critics of rent would offer the counterattack that it is not included in natural price, because it is not natural. Therefore, the controversy over rent develops into the question how to conceptualize rent.

Concerning all these issues about rent, Ricardo and Malthus were diametrically opposed to each other, while Smith seemed to be on Malthus's side (O'Brien, 1975: p. 36). However, for present purposes, it

¹⁹ In the history of economic thought as well as economic history the paramount form of surplus or non-wage income has been constantly changing. The category of rent which is associated with agricultural capital used to be its primary form in line with the Physiocratic world-view. But later, the entity of profit which accrues to industrial capital took the place of rent in accordance with the classical perspective (Marx, 1963: pp. 47-48). Still later, the category of interest which corresponds to finance capital seems to have gained prominence, which accords better with the neoclassical viewpoint.

is of more importance to note that, despite these and other differences²⁰, Ricardo's and Malthus's systems were embedded in similar notions of the natural. Above all, it should be kept in mind that Smith, Ricardo and Malthus commonly believed in a natural order (Cremaschi & Mascali, 1996: p. 507).

In order to give more substance to this conventional interpretation, one can point out their commonalities as follows: that agents are motivated by universal and innate human nature such as instincts and self-interest; that the diminishing fertility of land and the law of increasing population as laws of nature intervene in the economy (Davis, 1989: p. 461); that such processes as procreation and competition come into operation; that the social outcome of these processes is beneficial in ensuring the survival of productive economic agents and the production of proper quantities of use-values; that each of three income categories presupposes competition and the institution of private property.

IV. TWO NOTIONS OF THE NATURAL IN THE CLASSICAL SYSTEM

The finding of the above discussion is that, in the classical system, there exist two kinds of nature: material and human nature, and human nature is, in its turn, composed of two parts: instincts and self-interest. (Cairns, 2001: p. 41) Material nature is represented by the physico-chemical law of diminishing fertility of land. Moreover, instincts are embodied in the biological law of population. Furthermore, self-interest or self-love, on the classical view, seems to be an umbrella concept which encompasses "the propensity to truck, barter, and exchange" and "a desire to better one's condition" (Smith, 1937: pp. 13-

²⁰ Ricardo and Malthus, despite their common ancestry to Smith, were divided on other diverse issues such as: possibility of general glut, role of demand in the determination of price and methodology. On the methodological level, Ricardo engaged in a more deductive and abstract reasoning, whereas Malthus was more inductive or practical. Marx lashed out against Malthus's "exoteric" route as contrasted with Ricardo's "esoteric" route, as evidenced in their respective emphases on labour embodied and labour command. By contrast, Keynes ranked Malthus's common-sense approach well above Ricardo's reliance on long-chains of reasoning. This methodological similarity between Keynes and Malthus went hand in hand with the well-known fact that they shared some insights into general glut and equally adopted the standard of labour command. However, it is beyond the scope of this paper to examine whether it is possible to offer a more integrated view of the conflicting features.

14, 324-326).

Compared to the neoclassical system, the classical system is characterized, above all, by its heavy reliance on laws of material nature.²¹ This point is strengthened, if it is accepted that “biological dispositions can be treated much like physical forces” in the classical system (Brown, 1984 p. 28). But it is more important to note that, in the classical system, laws of material nature do not merely constitute conditions of, or constraints to, an economy as in the neoclassical system, but they themselves are part of the laws which govern the economy. Furthermore, classical economics places emphasis on the role of instincts in reproducing the economy and highlights agents’ subsistence or livelihood as an economic problem. This means that the classical notion of the natural entails more than the innocent view that the economy is embedded in material nature and human nature.

All these features represent the aspects of the classical system which are absent in neoclassical economics. Neoclassical economics transformed this classical type of laws of nature into utilitarian or choice-theoretical principles and some given conditions.

Crucial for the present argument is that material nature and instincts, on the one hand and self-interest, on the other, point to two conflicting notions of the natural. In Ghiselin's terms, classics let natural economy and political economy exist side by side (Hirshleifer, 1978b). Being natural seems to be a mixture of being universally natural (hereafter, UN) and being capitalistically natural (CN) in the classical system (Smith, 1937: p. 364). The one involves physico-chemical attributes of land, immutable instincts, procreation and survival of humans or agents in its biological sense. The other, on the contrary, bears specifically on self-interest, competition, business survival in capitalist society. Classical economists neither distinguished carefully the one from the other, nor did they integrate the two, as illustrated in the following quotations (Smith, 1937: p. 364, 734).

²¹ In broad outline, the history of economic thought is punctuated by the increasing disavowal of the embeddedness of the economy in nature and by the subsequent proclamation of economics as autonomous. This is illustrated by: deemphasis on the role of land and agriculture; attenuation of linkages between economy and biological nature; disappearance of analogies between reproduction of the economy and that of nature.

... an exact attention to small savings and small gains, of which a man born to a great fortune, even though naturally frugal, is very seldom capable. The situation of such a person naturally disposes him to attend rather to ornament ... the turn of mind which this habit naturally forms (Smith, 1937: p. 364)

In some cases the state of the society necessarily places the greater part of individuals in such situations as naturally form in them, without any attention of government, almost all the abilities and virtues which that state requires (Smith, 1937: p. 734)

A conflict between material nature and self-love or self-interest is found in natural monopoly, as was anticipated in the previous exploration into differential rent (Smith, 1937: pp. 59-61). In this case, ‘natural’ inequality in fertility of land (UN) clashes with ‘natural equality’ (CN) which is supposedly brought about by free competition among self-regarding economic agents.²² On the classical view, artificial monopoly owing to “particular regulations of police” must be obviously unnatural (1.2.b). And since monopoly due to “particular accidents” is transitory, it is not, in any case, judged to be natural (1.1.f). But whether ‘natural’ monopoly is ‘natural’ is a thorny question. The controversy between Malthus and Ricardo over rent and over the definition of natural price bears witness to the ambivalence of classical economists about the natural.

Of more significance is a possible conflict between instincts and self-interest. The dividing line between instincts and self-interest seems to be drawn by the fact that instincts are shared by humans and other animals, whereas self-interest seems human and social.

To reiterate, self-interest or self-love encompasses the propensity to truck, barter, and exchange and a desire to better one’s condition. The former induces lay agents to react to, and to take advantage of, their given situation by various acts of exchange. Comparably, the latter is said to motivate the agents to improve their situation by means of saving-cum-investment. The latter, if extended, may be construed to embrace attempts to improve one’s norm of consumption or one’s welfare. Given that, as mentioned, the classical theory of population does not exclude the

²² ‘Natural’ inequality in fertility may be symbolic of feudal inequality in hereditary status, whereas ‘natural’ equality as the result of competition seems to represent a contract-based modern society.

possibility of a rise in the level of natural wage or the standard of living, this interpretation reveals a hidden conflict between two aspects of human nature: desire for procreation and motive for a better living (O'Brien, 1975: pp. 61-62).²³

In fact, Smith himself made the allegation that both the former and the latter are common to all humans, (which is controversial, since such features may be historically or culturally bound). Moreover, he claimed that neither the former nor the latter is shared by other animals (Smith, 1937: pp. 13-14).²⁴ In his account, pursuit of one's self-interest which takes on the form of exchange relations in the system of division of labour entails not only competition against one another but also cooperation with each other. Moreover, exchange requires contracts, reason, language ("speech" or "persuasion") and money, all of which distinguish humans from other animals (Smith, 1982: p. 352). By extension, saving must presuppose contracts, reason and money ("fortune"), despite Smith's inadvertent analogies between human life and animal life (Smith, 1937: pp. 324-326).

This division of labour ,, is not originally the effect of any human wisdom ... It is the necessary ... consequence of a certain propensity in human nature ... the propensity to truck, barter, and exchange one thing for another. ... It is common to all men, and to be found in no other race of animals, which seem to know neither this nor any other species of contracts. ... It is not from the benevolence of the butcher ... that we expect our dinner, but from their regard of their own interest (Smith, 1937: pp. 13-14)

the desire of bettering our condition, a desire which ... comes with us from the womb, and never leaves us till we go into the grave. ... An augmentation of fortune is the means by which the greater part of men propose and wish to better their condition. It is the means the most

²³ In classical economic thought, labourers' sustenance and their child bearing/rearing tended to be conflated. But it should be stressed that, in sociobiology, an individual's survival and reproduction of its own species are sharply differentiated as 'existence' and 'reproduction' (Eldredge, 1996: pp. 94-95). On the other hand, in sociobiology, there is no distinction which is analogous to the one between labourers' subsistence and capitalists' gain or profit.

²⁴ Smith enumerated many other characteristics which, he believed, divide human beings from other animals and which seem to create cravings for conveniences and luxuries: "reason and ingenuity, art, contrivance, and capacity of improvement"; "four distinctions of colour, form, variety or rarity, and imitation"; "the natural feebleness of his frame and his desires of elegance and refinement" (Smith, 1982: p. 334, 336, 340).

vulgar and the most obvious; the most likely way of augmenting their fortune is to save and accumulate ... (Smith, 1937: pp. 324-326)

It is to be reminded that the two notions of the natural are founded upon the conceptual pair of use value and exchange value and that exchange value is inseparably intertwined with money. Money, as distinct from use value, is bound up with the existence of property and economic inequality.

Property in the form of money is much more durable and liquid than a stockpile of use values. As money precludes waste and disuse, it is the best method of preserving property beyond one's lifetime and of accumulating it well in excess of one's subsistence. Just as use values for subsistence and nutrition are indispensable for self-preservation, money is crucial for preservation and accumulation of property. Moreover, preservation of private property and accumulation of capital, unlike self-preservation, tend to give stimulus to economic inequality. As a consequence, the conflict between use value and exchange value can be understood as the contrast between subsistence and economic inequality or between property and life. In fact, the gist of Smith is often said to lie in his effort to reconcile the protection of private property rights with the level of well-being provided for the labouring population (Firth, 2002: p. 53).

It is tempting, on this ground, to suggest that the conflict between two notions of the natural is to be translated into a tension between life and property (Smith, 1937: pp. 121-122).²⁵ In modern Western social thought, life and property have recurrently appeared in parallel. More often than not, a possible tension between life and property has been submerged by the pretension that there is little conceptual discrepancy between labourers' (biological) *life* and capitalists' (business) *life* in that labour-power qualifies as private *property* on an equal footing as does land or capital. This pretension reaches its apex in its neoclassical version that capitalists allegedly perform the labour of superintendence or

²⁵ For example, Locke's conception of private property differs from that of neoclassical economists in that the former, unlike the latter and more in line with that of classical economists, allows for everyone's right to subsistence (Henry, 1999). Moreover, Locke was adamant that the preservation of everyone's life takes precedence over, or sets limits to, the protection of private property.

management and labourers supposedly receive dividends from their portfolio investment. However, in our terms, the *life* of economic agents, and their *property* or their social existence in capitalist economies could be conceptualised, respectively, by UN and CN. The former is more explicitly revealed in the notion of natural wage, whereas the latter is more evidently embodied in the concept of general rate of profit.

The conflict between the two notions of the natural can be highlighted by reference to Aristotle. Aristotle discriminated between self-sufficiency, livelihood or household management and money-making (Polanyi, 1968: p. 114).²⁶ According to him, trade is natural in so far as it is carried on for livelihood, and prices are just and natural to the extent that it helps secure livelihood (Polanyi, 1968: p. 100). By contrast, activities for the purpose of making money, in particular usuary, are denounced as unnatural. This lends support to the argument that the motive of self-interest and the desire for survival are not easily reconcilable.

In this regard, Smith's thought could be comparable to Aristotle's. Both Aristotle and Smith took into account three types of life: the good life, life, business life. Due to their common basis of life or self-preservation, Aristotle and Smith share the position of tolerating or upholding economic activities for livelihood or subsistence. However, Aristotle's civic humanism is characterized by higher goals of virtue and justice, whereas Smith's commercialism is highlighted by pursuit of self-interest and profit-seeking.

Aristotle ruled out profit-seeking, and focused on combining the goal of subsistence with the higher goals of virtue and justice. In similar vein, he attempted to forge links between life and the good life to the exclusion of business life. By contrast, Smith tried to reconcile business life with life and the good life or to harmonize wealth with subsistence and virtue.

In concrete terms, this endeavour requires reconciliation between self-preservation and virtue, on the one side, and harmonization between profit-seeking and self-preservation, on the other. Profit-seeking may be often mixed up or confused with earning one's living. Moreover, earning

²⁶ As Meikle(1995) elaborates, this distinction develops into commodity circuit (C-M-C) and capital circuit (M-C-M) in Marx's system. However, unlike Aristotle, Marx made room for the coexistence of the two circuits by subsuming C-M-C into M-C-M and alleged that M-C-M is not unnatural but capitalistically or socially natural (cf., Hong, 2002).

one's living could be (mis)taken as a means towards virtuous living. But it seems to be nearly out of the question to identify profit-seeking with virtuous living.

The way of bridging the gulf between accumulation of wealth and life of virtue seems to be mediating them via the notion of subsistence or self-preservation. This accounts for the significance of life and subsistence in Smith's works. Moreover, in order to bridge this gap, it is necessary to secularize the good life and, at the same time, to sacralize business life. Both secularization of the good life and sacralization of business life seem to take the common forms of *socialization* and *naturalization* which aim to embed life in nature, human or material.

Smith seems to have made the good life secular, when he showed that ethics is embedded in passions and affections by means of the concepts of *moral sentiments* and *impartial spectator* in *TMS*. On the other hand, he glorified, and naturalized, profit-seeking by means of demonstrating that men's self-love such as their propensity to exchange or to better their condition leads to beneficial social consequences through *the invisible hand* in *WN*. As a result, Smith seems, in *TMS* and *WN*, to have reduced the distance between the good life and business life.

The good life in Aristotle's system requires virtue and justice, whereas business life in Smith's relies on private property and profit-seeking. On the same ground, the former conceives philosophers to be ideal, while the latter conceptualizes bearers of property or capitalists as the model.

The term life as used here encompasses self-preservation, subsistence or living longer and reproduction. Life is characterized by food nexus which is characterized by use value (especially, corn), agriculture, population. On the other hand, business life is dominated by cash nexus which is punctuated by exchange value, manufacture, capital accumulation. The food nexus is more striking in Quesnay and Malthus, whereas the cash nexus in Ricardo. Just as life is necessary but not sufficient, for the good life in Aristotle's system, life in its biological sense is necessary, but not sufficient, for business life on the part of capitalists in Smith's. In this context, the topic of *Wealth and Virtue* is relevant.

Classical economists were neither fully conscious of the coexistence of

the two conflicting notions of the natural, nor went they so far as to resolve the tension between life and property.²⁷ A possible way of making sense of the classical notion of the natural is to interpret UN as a criterion for the natural and CN as being in need of justification (cf., Smith, 1937: p. 594). That is to say, classical economics is interpreted to have posited UN as a criterion of being natural which is independent of contingencies and then to have sought to show that CN meets this criterion. In other words, the former refers to potentiality, whereas the latter constitutes actuality. Thus the so-called gravitation towards a set of natural price, natural wage and general rate of profit could be interpreted as a process through which the potential UN is being actualized, as CN gets closer to UN. In a similar vein, the set itself can be read as the state of nature in the sense that CN coincides with UN.

But if the profits of those who deal in such goods are above their proper level, those goods will be sold dearer than they ought to be, or somewhat above their natural price (Smith, 1937: p. 594)

By this endeavour classical economists seem to have purported both to explain and to justify a market-based society. It is to be recalled that classical economists often attributed the state of nature to precapitalist economies (Smith, 1937: p. 47, 64).²⁸ Relying upon such entities or categories as natural wage, general rate of profit and natural price, classicals apparently carried out the task of demonstrating that a variant of the state of nature is restored or reinstated in capitalist economy (cf., Moore, 1985: p. 90). Despite many disagreements among themselves, Smith, Ricardo and Malthus were equally committed to showing that capitalist economies are capable of attaining a quasi-natural order.

In this state of things, the whole produce of labour belongs to the

²⁷ Wieser's peculiar notion of *natural* value is premised upon equality of incomes among agents (Streissler, 1987: p. 921). This notion has the implication that market-determined exchange value and income distribution, not to say institution of private property itself, could possibly be unnatural. Seen in this way, Wieser does not fail to notice, even from the perspective of his utility theory, the dual notion of the natural, and unawares comes near to disapproving of it, unlike most mainstream economists.

²⁸ This line of reasoning suggests that *capability* (or 'supply side') as well as *need* (or 'demand side') of labourers may have to be considered with respect to natural wage.

labourer (Smith, 1937: p. 47).

The produce of labour constitutes the natural recompence of wages of labour (Smith, 1937: p. 64).

Since use value and exchange value can be taken as representing UN and CN, respectively, Malthus's endeavour to ground exchange value on use value can be construed as a way of defending CN on the basis of UN. More relevant is Smith's project of demonstrating that in the "advanced", "civilized", "improved" or "commercial" state of society dominate laws of nature which are similar to those prevalent in the "early and rude", "rude" or "original" state of society (Smith, 1937: p. 47, 64, 100, 414). The former is distinguished from the latter by: (i) development of division of labour, existence of money, and free competition; (ii) capital accumulation and land appropriation, and the consequent class distinction. The existence of division of labour and money prompted Smith to conceptualise real and nominal price, while class distinction motivated him to come up with the concepts of natural and market price.

According to Smith, the price of a commodity, the riches or private property of an agent, and the wealth of nations can be equally represented by the quantity of commanded labour in both rude and civilized societies. In this regard, the measure of labour command is natural. 'Labour' command as distinct from corn or money relates to (i), whereas labour 'command' as different from embodied labour concerns (ii).

Concerning the first, Smith was convinced that riches or wealth which are objectively measured by the quantities of necessities, conveniences and possibly luxuries should not be identified with gold or money. This anti-mercantilist position was bequeathed to Ricardo. This view yielded two consequences. First, this view led Smith to distinguish between real and nominal price and to claim that the substance of labour lies behind monetary forms. Second, given the development of the division of labour and the subsequent interdependence between economic agents for subsistence and other economic activities, this encouraged him to conceive of use value in general as distinct from corn or other specific use values and to adopt labour as the source of use value in general.

Moreover, on Smith's view, (changes in) riches/wealth or use value do not, and cannot, exist independently of (changes in) exchange value in a

market-based society. In general, classical economists were convinced that a market-based society is excellent in generating economic welfare and growth. This conviction seems to have motivated Smith to adopt the view that the wealth of nations (UN) is interrelated with exchange value which characterizes a market-based society (CN). To buttress this view in a class-divided capitalist economy, Smith apparently switched from the measure of embodied labour over to the measure of labour command on the supposed ground that the latter, unlike the former, serves to encompass both use value and exchange value. This measure plays the pivotal role of demonstrating that natural price is no more than a reflection of labour command. But this measure was rejected by Ricardo in favour of the theory of embodied labour.

This interpretation unveils a serious difference between the classical system and the neoclassical system, despite their common focus on quantitative determination. Basically, the classical system endeavours to explain and justify a market-based society with reference to something outside itself, whereas the neoclassical system regards it as self-justifying. To say the least, classical economists were much more careful about justifying the market system than neoclassical economists.

This difference in vision between classical and neoclassical economics seems to underpin the following methodological confrontations between the two schools: long-period position or reproduction vs. equilibrium; unidirectional or sequential causality vs. simultaneous determination (Sowell, 1974: p. 127); open vs. closed system; Ricardo's surplus and (un)productive labour versus Marshall's surplus or value added.²⁹

Among other things, for the classical system, it is not natural price but market price that is phenomenal in the sense that market price is directly observable and serves as a basis for economic activities on the part of lay agents. Natural price neither realizes itself in the market nor functions as a signal for agents' economic activities. Still natural price does allegedly work as a center of gravity which regulates the economy. Moreover, the economy, on the classical view, is defended by the fact that subsistence is guaranteed to labourers under the constraint of limited fertility of land.

²⁹ As is widely accepted, neoclassical economics denies the peculiarity of land and extends the concept of marginality to all factors of production. Similarly, it reformulates the concept of surplus in terms of individuals' preferences and cost conditions without allowing for class distinction.

All this suggests that classical economists did not think of a market economy as self-justifying or self-explanatory, but as in need of justification and explanation with reference to something outside the system.

By contrast, in the neoclassical system, equilibrium price stabilizes the economy only by manifesting itself in the market and becoming immediately observable signals for lay agents. This means that neoclassicals are prone to conceive as perfectly 'natural' whatever prevails in the market. They, unlike classicals, do not bother to set up an independent criterion by which current market situation is evaluated. It follows that neoclassical economists treat equilibrium as 'natural' by itself.

This difference between the classical and neoclassical traditions is encapsulated in the difference in their positions on the role of use value. As explicated, most classical economists were, at least, conscious of the distinct status of use value. Moreover, Malthus went so far as to explain and justify exchange value by reference to use value. By contrast, neoclassical economists were apt to reduce use value to insignificance by means of homogenizing use value into exchange value. The place of natural laws which mediate between exchange value and use value in the classical system is taken over by principles of marginal utility (and productivity) in the neoclassical system.

Critical for the shift into this direction is Jevons's resolution of the paradox of diamonds and water. He explained exchange ratios in terms of marginal utilities and reconstructed use value as the sum of marginal utilities. Jevons's endeavour was much more aggressive than was Ricardo's attempt to exclude use value from his domain of inquiry. Through his endeavour, Jevons effectively melt down the entity of use value.

Moreover, unidirectional causality which is characteristic of the classical system meshes with its dependence upon natural laws or upon natural quantities such as labour time embodied (cf., Lippi, 1979: pp. 20-37; Hong, 2000: p. 99). Comparably, simultaneous determination which is representative of the Walrasian system fits in with its pretension to self-reference or self-justification. If one intends to defend a system with no

reliance on outside forces, then, there seems to be no other way but to resort to the method of simultaneous determination, since, in this system, every variable is determined, even if (except for given parameters) no variable is given. Most classical and even some neoclassical economists would insist that simultaneous determination is neither a real determination, nor a real legitimation, of a system. But it must be conceded that this is a methodological significance which underlies the contrast between the classical concept of *natural price* and the neoclassical concept of *equilibrium price*.

However, this classical vision goes together with their frequent lapses back into physiocratic notions (Smith, 1937: pp. 346-347; Ricardo, 1970: ch. vi). The primary difficulty which confronts classical economists lies in their inability to explain and defend a market-based society without reducing the social to the natural, or, to say the least, without impoverishing the social. The law of diminishing fertility and the law of population which are supposed to work as connecting links between the two notions of the natural are too much rooted in the nature of things to qualify as social scientific. In other words, their goal of explaining and defending capitalist society tends to be achieved only at the sacrifice of the relative autonomy of economic science and of the economic domain.³⁰

V. IN PERSPECTIVE

In broad terms, it seems that theory, religion and ideology are intermingled in the classical notion of the natural. It is not surprising to find that the classical notion of the natural has its roots in the philosophy of natural law. According to Schumpeter, the concept of natural law has two aspects: normative and analytic. Roughly put, the normative and analytic aspects provide justification and explanation of market economy, respectively (Schumpeter, 1954: pp. 111-113; Brown, 1984: pp. 1-24). In a similar fashion, the notion of the natural which is embodied in natural

³⁰ In all, the classical system is embedded in the notion of the natural, which not only accords natural and universal necessity to results of economic processes such as prices, but also draws, in part, on methods of natural sciences, especially physics, and on analogies to natural phenomena (Letwin, 1963: p. 223). Classicals seemed to expound the view that, due to natural necessity of economic phenomena, economics has to depend partly on natural scientific methods and naturalistic analogies.

wage, general rate of profit and natural price plays the roles of theory and ideology in the classical system (cf. Clark, 1989: p. 598). The notion of the natural, viewed from its analytic aspect, is more attached to market process, whereas the natural, seen from its normative aspect, tends to be associated with inevitable and beneficial consequences of the process.

First, the notion of the natural lays the groundwork for economics as a distinct discipline by denoting that laws of Society which hold the same status as laws of Nature do exist and can be discovered by reason (Brown, 1984: pp. 10-13). More specifically, this notion serves to demarcate its own object or subject-matter, to point to proper methods, and to give clues to explanations of its object. The notion of the natural defines natural price as the primary object of its value theory which is the centerpiece of the classical system, and offers the concepts of natural wage and general rate of profit, in terms of which the value theory is framed. However, the forerunners of economics might have been flawed in their presumption that laws of Society must be similar to those of Nature, and must be amenable to natural-scientific methods.

Second, the notion may also be viewed as providing justification of market order by its suggestion that market order is natural. Since nature is composed of material nature and human nature, this suggestion amounts to the claim that market order is based upon material nature and human nature which obeys natural laws. The concepts of natural price and natural wage have the normative implication that they make it possible for most agents to preserve or reproduce themselves (Stabile, 1997).

In order to advocate this view, it seems to be of crucial importance for classical economists to claim that laws which determine human nature are as universal and immutable as are laws which govern physical or biological world. If each type of socio-economic system moulds human nature in its own way, each system could be conceived as natural in its own way. Then, classical economists would not be able to accord the property of being natural to a market system,

Given the above discussion, explanatory and justificatory roles of the notion of the natural do not seem to be separable but intrinsically intertwined, despite Schumpeter's interpretation to the contrary. As long as social processes are conceptualized as similar to natural processes,

laws which govern social processes are liable to be given the same level of necessity as is attributed to laws which govern natural processes. Then there is little room left for free will or 'artificial' intervention, either at the individual level (e.g., ethics of agents), or at the intermediate level (e.g., politics of trade unions), or at the collective level (e.g., government policies). This means that humans, individually or collectively, can do nothing about economic laws for the same reason that they can do nothing about the laws of gravity or the cycle of the seasons.

All told, a few kinds of tension or conflict seem to be latent in the classical system in general and the classical notion of the natural in particular. There are tensions between universally natural and specifically natural, between law-like principles and human agency, between theory and ideology or policy. The notion of being universally natural may be relied upon to justify the market system, but it may clash with elucidation of specific features of market system. Moreover, it would be desirable to discover law-like regularities in economic realm, but the existence of such regularities as centers of gravitation may make the system too deterministic to admit of human agency. Similarly, the goal of constructing classical economic theory tends to allow for little role of politics or policies.

References

- Alvey, James E. (2003), "Adam Smith's view of history," *History of The Human Sciences*, Vol. 16, No. 2, 1-25.
- Aristotle (1952), *The Politics of Aristotle*, ed. E. Barker, Oxford at the Clarendon Press.
- Bharadwaj, K. (1988), natural wage, *The New Palgrave: A Dictionary of Economics*, Vol. 3, London: Macmillan.
- Bittermann, H.J. (1940), "Adam Smith's Empiricism and the Law of Nature," Parts I-II, *Journal of Political Economy*, Vol. 48, No. 4, 190-235, Reprinted in *Adam Smith: Critical Assessments*, ed. J. C. Wood, London & Canberra: Croom Helm, Vol. 1.
- Blaug, M. (1985), *Economic Theory in Retrospect*, Cambridge: Cambridge University Press.
- Blaug, M. (1987), Classical economics, *The New Palgrave: A Dictionary of Economics*, Vol. 1, London: Macmillan.
- Blinder, A. (1988), "The Challenge of High Unemployment," *American Economic Review, Papers and Proceedings*, May, Vol. 78, No. 2, 1-15.
- Brentano, L. (1923), *Der Wirtschaftende Mensch in der Geschichte*, Leipzig: Verlag von Felix Meiner.
- Brewer, A. (1995), "The Concept of Growth in Eighteenth-Century Economics," *History of Political Economy*, Vol. 27, No. 4, 609-638.
- Brown, R. (1984), *The Nature of Social Laws*, Cambridge: Cambridge University Press.
- Cairns, J.E. (2001), *The Character and Logical Method of Political Economy*, Batoche Books, Kitchener.
- Christensen, P. (1994), Fire, motion, and productivity: the proto-engetics of nature and economy in François Quesnay, *Natural Images in Economic Thought*, ed. P. Mirowski, Cambridge: Cambridge University Press.
- Clark, C.M.A. (1989), "Equilibrium for what," *Journal of Economic Issues*, Vol XXIII, No. 1, 597-808.
- Cohen, I.J. (1989), *Structuration Theory*, London: Macmillan Press.
- Corning, P.A. (2000), "Biological Adaptation in Human Societies: a 'Basic Needs' Approach," *Journal of Bioeconomics*, Vol. 2, 41-86.
- Cremaschi, S. & M. Mascali (1996), "Malthus and Ricardo on Economic Methodology," *History of Political Economy*, Vol. 28, No. 3, 476-511.

- Davis, J.B. (1989), "Distribution in Ricardo's machinery chapter," *History of Political Economy*, Vol. 21, No. 3, 457-480.
- Dixon, H. (1995), Of coconuts, decomposition, and jackass: the genealogy of the natural rate, *The Natural Rate of Unemployment*, ed. Rod Cross, Cambridge: Cambridge University Press.
- Dupuy, J.P. (1996), The autonomy of social reality, Chapter 3, *Evolution, Order and Complexity*, ed. E. L. Khalil & K. E. Boulding, London and New York: Routledge.
- Eagly, R. V. (1974), *The Structure of Classical Economic Theory*, New York: Oxford University Press.
- Eldredge, N. (1996), Ultra-Darwinian explanation and the biology of social systems, Chapter 4, *Evolution, Order and Complexity*.
- Femminis, G. & A. Salanti (1995), "Davis on Ricardo's machinery chapter: A comment," *History of Political Economy*, Vol. 27, No. 1, 89-99.
- Firth A. (2002), "Moral supervision and autonomous social order," *History of the Human Sciences*, 15:1, 39-57.
- Friedman, M. (1968), "The role of monetary policy," *American Economic Review*, Vol. LVIII, 1-17.
- Ghiselin, M.T. (1999), "Progress and the economy of nature," *Journal of Bioeconomics*, Vol. 1, 35-45.
- Haltiwanger, J. (1988), Natural rate of unemployment, *The New Palgrave: A Dictionary of Economics*, Vol. 3, 610-2, London: Macmillan.
- Harris, D.J. (1987), Classical growth models, *The New Palgrave: A Dictionary of Economics*, Vol. 1, London: Macmillan.
- Hayek, F.A. (1967), *Studies in Philosophy, Politics, and Economics*, London: Routledge & Kegan Paul.
- Henry, J.F. (1990), *The Making of Neoclassical Economics*, Boston: Unwin Hyman.
- Henry, J.F. (1999), John Locke, property rights, and economic theory, *Journal of Economic Issues*, Vol. 33, No. 3.
- Higgs, H. (1897), *The Physiocrats*, London: Macmillan.
- Hirshleifer, J. (1978a), "Competition, cooperation, and conflict in economics and biology," *American Economic Review*, Papers and Proceedings, Vol. 68, No. 2, 238-243.
- Hirshleifer, J. (1978b), "Natural economy and political economy," *Journal of Social and Biological Structures*, Vol. 1, 319-337.

- Hodgson, G.M. (1998), "The Approach of Institutional Economics," *Journal of Economic Literature*, Vol. XXXVI, 166-192.
- Hong, H. (2000), "Marx and Menger on value: as many similarities as differences," *Cambridge Journal of Economics*, Vol. 24, 87-105.
- Hong, H. (2002), "Marx's value forms and Hayek's rules: a reinterpretation in the light of the dichotomy between physis and nomos," *Cambridge Journal of Economics*, Vol. 24, 613-635.
- Horner, J. (1997), "Henry George on Thomas Robert Malthus: abundance vs. scarcity," *American Journal of Economics and Sociology*, Vol. 56, No. 4, 595-607.
- Jackson, W.A. (1995), "Naturalism in economics," *Journal of Economic Issues*, Vol. XXX, No. 3, 761-780.
- Keynes, J.M. (1930), *A Treatise on Money*, Vol. 1, London: Macmillan.
- Keynes, J.M. (1933), *Essays in Biography*, ed. G. Keynes, New York: The Norton Library.
- Keynes, J.M. (1936), *The General Theory of Employment, Interest and Money*, London: Macmillan.
- Khalil, E.L. (1996), Social theory and naturalism, *Evolution, Order and Complexity*.
- Krashevski, R.S. (1988), "What is so natural about high unemployment," *American Economic Review, Papers and Proceedings*, May, Vol. 78, No. 2, 289-93.
- Leijonhufvud, A. (1988), natural rate and market rate, *The New Palgrave: A Dictionary of Economics*, Vol. 3, 608-610, London: Macmillan.
- Letwin, W. (1963), *The Origin of Scientific Economics*, London: Metuen & Co.
- Lippi, M. (1979), *Value and Naturalism in Marx*, London: New Left Books.
- Locke, J. (1691), *Some considerations of the consequences of the lowering of interest and raising the value of money*, London.
- Locke, J. (1954), *Essays on the Law of Nature*, ed. W. von Leyden, Oxford: Clarendon Press.
- Mainwaring, L. (1984), *Value and distribution in capitalist economies*, Cambridge: Cambridge University Press.
- Malthus, T. (1964), *Principles of Political Economy*, New York: Augustus M. Kelley.
- Marshall, A. (1920), *Principles of Economics*, London: Macmillan.

- Marx, K. (1963), *Theories of Surplus Value*, Part I, Moscow: Progress Publishers.
- Marx, K. (1968), *Theories of Surplus Value*, Part II, Moscow: Progress Publishers.
- Meikle, S. (1995), *Aristotle's Economic Thought*, Oxford: Oxford University Press.
- Milberg, W. (1993), "Natural order and postmodernism in economic thought," *Social Research*, Vol. 30, No. 2, 255-277.
- Milgate, M. (1987), equilibrium: development of the concept, *The New Palgrave: A Dictionary of Economics*, Vol. 2, ed. J. Eatwell et al., London: The MacMillan Press.
- Mill, J.S. (1965), *Principles of Political Economy*, London: Routledge & Kegan Paul.
- Mirowski, P. (1989), *More Heat than Light*, Cambridge: Cambridge University Press.
- Moore, S. (1985), Ricardo and the state of nature, *David Ricardo: Critical Assessments*, Vol. II, ed. J.C. Wood, London & Sydney: Croom Helm.
- Murphy, J.B. (1994), The kinds of order in society, chap. 19, *Natural Images in Economic Thought*, ed. P. Mirowski, Cambridge: Cambridge University Press.
- O'Brien, D.P. (1975), *The Classical Economists*, Oxford: Clarendon Press.
- Phelps, E. (1995), The origins and further development of the natural rate of unemployment, *The Natural Rate of Unemployment*.
- Pigou, A.C. (1941), *The Veil of Money*, London: Macmillan.
- Polanyi, K. (1968), *Primitive, Archaic and Modern Economies*, ed. G. Dalton, Anchor Books: New York.
- Pollin, R. (1998), "The "reserve army of labor" and the "natural rate of unemployment": can Marx, Kalecki, Friedman and Wall Street all be wrong?," *Review of Radical Political Economics*, Vol. 30, No. 3, 1-13.
- Popper, K.R. (1966), *The Open Society and Its Enemies*, Vol. 1, London: Routledge.
- Pufendorf, S. (1934), *De Jure Naturae et Gentium, Libri Octo*, volume two, trans. by C.H. Oldfather & W.A. Oldfather, Oxford: At the Clarendon Press.
- Puro, E. (1992), "Uses of the term "natural" in Adam Smith's Wealth of Nations," *Research in the History of Economic Thought and Methodology*, Vol. 9, 73-86.

- Ricardo, D. (1966), *Notes on Malthus's Principles of Political Economy*, Vol. II *The Works and Correspondence of David Ricardo*, ed. P. Sraffa Cambridge: Cambridge University Press.
- Ricardo, D. (1970), *On the Principles of Political Economy and Taxation*, Vol. I *The Works and Correspondence of David Ricardo*.
- Schumpeter, J.A. (1954), *History of Economic Analysis*, Oxford: Oxford University Press.
- Shackle, G.L.S. (1972), *Epistemics and Economics*, Cambridge: Cambridge at the University Press.
- Smith, A. (1937), *The Wealth of Nations*, ed. E. Cannan, New York, The Modern Library.
- Smith, A. (1982), *Lectures on Jurisprudence*, ed. R.L. Meek et al. Indianapolis: Liberty Fund.
- Sowell, T. (1974), *Classical Economics Reconsidered*, Princeton: Princeton University Press.
- Stabile, D.R. (1997), "Adam Smith and the natural wage," *Review of Social Economy*, Vol. 55, No. 3.
- Stewart, D. (1793), *Account of the Life and Writings of Adam Smith*, Vol. 10 *Collected Works of Dugald Stewart*.
- Streissler, E. (1987), Wieser, Friedrich, *The New Palgrave: A Dictionary of Economics*, Vol. 4.
- Teichgraeber, (1986), *'Free Trade' and Moral Philosophy*, Durham: Duke University Press.
- Thornton, H. (1991), *An Enquiry into the Nature and Effects of the Paper Credit of Great Britain (1802)*, Fairfield, N.J.: Augustus M. Kelley.
- Vaggi, G. (1988), natural price, *The New Palgrave: A Dictionary of Economics*. Vol. 3, 605-8.
- Veblen, T. (1898), "why is economics not an evolutionary science? ," *Quarterly Journal of Economics*, Vol. 12.
- Veblen, T. (1899), "the preconceptions of economic science," *Quarterly Journal of Economics*, Vol. 13.
- Veblen, T. (1909), "the limitations of marginal utility," *Journal of Political Economy*, Vol. 17.
- Waterman, A.M.C. (2002), "Economics as theology: Adam Smith's Wealth of Nations," *Southern Economic Journal*, Vol. 68, No. 4, 907-921.
- Weir, D.R. (1988), Malthus's theory of population, *The New Palgrave: A*

Dictionary of Economics, Vol. 3, 290-293.

Wicksell, K. (1898), *Interest and Prices*, translated by R.F. Kahn, New York: August M. Kelley.

Witt, U. (1997), "Self-organization and economics," *Structural Change and Economic Dynamics*, Vol. 8, 489-507.