

## **WILLIAM PETTY: AN UNLIKELY INFLUENCE ON KARL MARX**

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As a leading economist of his time, William Petty's contribution was, and continues to be, widely recognized. Mark McGovern gives a short biography of this renowned economist with specific reference to his theories on value and surplus. Subsequently, he examines the relationship between Petty's concept of value and the views of other famous economists, such as John Locke, Adam Smith, David Ricardo and Karl Marx. In particular, Petty's influence on the work of Marx is expounded.

### **Introduction**

William Petty (1623-1687) is often cited as being one of the foremost innovators in the history of economic thought, and is without doubt one of the most extraordinary figures of the 17<sup>th</sup> century. Although he has been praised by many significant economists, Karl Marx was particularly vocal. He referred to him as "one of the most gifted and original of economic investigators" (Roll, 1992:98). It is the aim of this essay to examine why Marx held this view, with reference to Petty's role in developing a labour theory of value.

Born into relatively humble beginnings Petty went to sea at the young age of 13. After breaking his leg he was put ashore in Normandy, France, where he attended university. In Caen he revealed himself to be an exceptionally bright student, paying his way by tutoring and trading jewellery. He later spent a year acting as secretary to the influential Thomas Hobbes<sup>1</sup> in Paris, before proceeding to Oxford. He was appointed professor of medicine in 1650, where he was most famous for resurrecting a supposed corpse during one of his lectures. He rose rapidly through the ranks at Oxford and was involved with the leading scientific minds of the time. He was cofounder of the Royal Society of London for the Improvement of Natural Knowledge (along with Samuel Hartlib and Robert Boyle). Indeed one of his greatest achievements was to introduce rigorous quantitative methodology (more commonplace in Boyle's discipline of physics) into

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<sup>1</sup> Thomas Hobbes 1588-1679, philosopher and author of *Leviathan*.

economics. Along with his work in the field of economics, he is particularly noted for the role he played in founding the discipline of statistics (along with his friend John Gaunt). He later joined the armed forces as chief physician to Cromwell's army in Ireland and made his fortune after he was appointed to undertake the Down Survey; a formidable task which he completed with distinction<sup>2</sup>. As a result of these efforts he was rewarded with substantial amounts of land, including a large estate in Kenmare, county Kerry.

Many of his writings were aimed at those in power and were often undertaken to address matters of personal concern, particularly the protection of the wealth which he had amassed, hence his works on the issue of taxation. However, his abilities were not confined to academia. Among his more practical projects were the creation of an iron factory on his Kenmare estate and the construction of a boat with a new type of double hull (which sadly ended at the bottom of the Irish Sea). Recent evidence (Aspromourgos, 2005) suggests he was conducting experiments in new types of agricultural machinery. He is also accredited with the invention of the w.c.<sup>3</sup> Readers can judge for themselves the relative importance of his contributions!

While Petty wrote his works during the mercantilist period of economic thought, it is clear that his views were far more advanced than many of his contemporaries. Unlike them, he was not so concerned with trade balances or hoarding of specie. His acknowledgement of the existence of other forms of value (labour in particular) is the main topic of this essay. It is my contention that Petty casts a long shadow; that his theories can clearly be recognised as the underlying influence behind the value theories of Smith, Cantillon, Ricardo and Marx. As a corollary of his investigations into value, Petty was the first to explore the notion of surplus. This will also be examined (in the light of some new information concerning Petty's involvement in agriculture) in an attempt to answer why Marx regarded Petty as one of his most important predecessors, and the "founder of modern political economy" (Marx, 1951:15)

## Petty on Value

The nature of value has occupied philosophers for millennia, and has been a preoccupation of many schools of economic thought. The philosophers of ancient Greece were taken by issues such as the water/diamond paradox.

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<sup>2</sup> See Hutchison (1988)

<sup>3</sup> Erroneously, according to Spiegel (1991)

Aristotle was able to provide an explanation using relative scarcity and abundance. He held that value was expressed in the proportion that goods were exchanged (Sewall, 1901). Plato also pondered the paradoxes of value (Bowley, 1973).

Petty's aim in examining value as a concept was entirely different from that of the philosophers or schoolmen of the middle ages. He wrote his famous work *A Treatise on Taxes and Contributions* in 1662 to examine the contemporary tax system. He held that there must be some method of valuation other than money (which he recognised can fluctuate in accordance with relative abundance and scarcity of specie, setting himself apart from other mercantilists).<sup>4</sup> Petty regarded the "Wealth, Stock or Provision of the Nation" as "being the effect of...past labour" (Dooley, 2002:1). He establishes a measure of value in terms of labour and land and states, "labour is the Father and active principle of Wealth, as Lands are the Mother" (ibid).

Petty's analysis of value is not contained in the one work; rather it is spread throughout his publications. This makes summarising his views more difficult. Nevertheless it is clear that his theory is still cogent and innovative (Roll, 1992; Hutchinson, 1988). Although not all of his analysis was entirely new, he turned the analysis of the origins of value into one of the fundamental paradigms for the classical school of economics. However, just as with the suggestion that Smith held a labour theory of value, Petty's contribution on this front has also been questioned. Bowley states, "it is not in Petty's measure of value that the labour theory of value sometimes attributed to him is to be found, for his measure is based on inputs of both land and labour" (Bowley, 1973:85).

Indeed, his statement above suggests he also believed in land as a source of value. Slutsky agrees with this criticism. He believed that "Marx conscientiously selected practically all of the most vital parts of Petty's work but explained them in an excessively one-sided manner" (Slutsky, 2005:4). Like Blaug (1979) he points out that Petty's statement on land being the mother is given as a quote (or more specifically a saying) in the original publication. Petty was obviously concerned with this inconsistency however, as he believed that it was necessary "to find out a natural Par between Land and Labour, so as we might express the value by either of them alone as well or better than by both, and reduce one into the other as easily as we reduce pence into pounds" (1667:25).

Indeed Richard Cantillon criticised Petty for not considering this further when writing on his own theories. However Roll (1992:106-7)

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<sup>4</sup> Also noteworthy is his attempt to distinguish between real and nominal variables, something which has occupied economics ever since.

believes Petty did intend to put forward a labour theory of value and believes that the above inconsistency is evidence of a confusion Petty had between exchange value and use value. Roll states that “where he is concerned with the latter, he speaks of land and labour, and where he is dealing with exchange value (at any rate implicitly) he speaks of labour alone”. Overall he gives “ample evidence for his fundamental belief in a labour theory of value”.

Petty had a well known tendency to digress, and the fact that his views on the subject are not all contained in one context makes analysis difficult. Petty may have been confused himself; Slutsky (2005) also points that Petty sometimes refers to wealth or a method of exchange rather than value. At the time of writing the concepts may have appeared interchangeable. However, whatever Petty intended is to some extent unimportant. The fact is that Petty has often been credited with developing a labour theory of value, notably by Marx himself.

## **Petty as the Inventor of Surplus**

Another hugely influential theory developed by Petty, as a consequence of his analysis of value and rents, was the concept of surplus and subsistence. In his *Political Anatomy of Ireland* (1667:65) he states, “the day’s food of an adult man, at a Medium, and not the day’s labour, is the common measure of Value”. This is precisely what Marx came to call ‘labour surplus’. Indeed Marx singles out Petty’s views in his *Treatise* as the origin of his surplus value theory; “the law that appoints such wages... should allow the labourer but just wherewithal to live; for if you allow double; then he works but half so much as he could have done, and otherwise would; which is a loss to the public of the fruit of so much labour” (Marx, 1662:87).

It is interesting to consider what may have prompted Petty’s investigation of surplus. In a recent article, Aspromourgos (2005) puts forward the view that Petty developed this concept from his involvement with Samuel Hartlib (c.1600-1662) and agricultural circles. This is particularly suggested by his use of corn in his *Treatise* of as a proxy for the basic necessity in society. It seems that Petty was taken with agricultural innovation. Hartlib received several letters from a Cheny Culpepper concerning certain ‘corn engines’ that Petty was developing. Despite apparent success of the invention (he evidently would have made a better farmer than seafarer!), pecuniary difficulties arose and Culpepper stated that his dealings “hath bred . . . a resolution, not to trouble my . . . thoughts any farther with these kind of people” (Culpepper, as cited in Aspromourgos 2005:10). Aspromourgos believes that Petty’s insight (that there could be an

economic surplus on a societal level analogous to surplus in the corn industry)<sup>5</sup> had its origins in his agrarian explorations.

## Locke, Smith and Ricardo on Value

William Petty's theories on value had wide ranging influence, and not only on his immediate successors. There is a clear line of thought stretching from Petty to Marx, which Marx himself acknowledged on several occasions.

John Locke (1632-1704), writing in his *Second Treatise of Civil Government*, presented a theory which was similar to Petty's, also considering land, but reckoning it of little importance. He also refers to other goods embodied in the production process, citing Petty's 'past labour' concept. He states that all of this "would be almost impossible, at least too long, to reckon up" (Locke, 1681:44). Dooley (2002) regards this as the Achilles heel of any empirical labour theory of value, and Smith, Ricardo and Marx all came face to face with this problem.

Smith begins the *Wealth of Nations* with the bold statement that the entire nation's wealth comes from labour. However when he turned his analysis to the civil society which he occupied, his labour theory of value dissipates, leaving a cost of production theory of value. Interestingly, Bowley believes that Smith is not really interested in a labour theory of value at all and that the exposition above is intended to show that such theories only hold under special assumptions. She uses the lack of such a theory from his lectures as evidence for countering the "very common view that Adam Smith's theory of natural price was, as it were, a second string in his analysis introduced because he found himself unable to develop a labour-input theory for an advanced society" (Bowley, 1973:110). Roll again provides an opposing point of view, but agrees that "it is not easy to give a summary account of Adam Smith's ambiguous and confused theory of value...not even adherents of the same school can agree on their interpretation of Smith's theory" (Roll, 1992:139-140).

Following on from Adam Smith, David Ricardo sought to apply a labour theory of value to a more advanced society with profit, rent and capital. Again he encountered the problem of Petty's 'past labour' assertion.

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<sup>5</sup> Net output per worker exceeds consumption per worker

## Marx

The line of thought discussed above (originating in William Petty) was used by Karl Marx to establish his theories of exploitation of labour. Marx's concept of a labour theory of value was tied up with the idea of surplus (essentially the difference between the value of what a labourer could produce and what it cost to keep a labourer alive), which he believed capitalists generated by exploiting labour. Marx believed that in capitalist society, goods had exchange value which was determined by the socially necessary labour time involved in their production, being defined as "the labour time necessary to produce any use value with the given normal conditions of social production and the social average degree of skill and intensity of labour" (Roll, 1992:63).

Marx also recognised that land played a part in the production process, and that any machinery used in production was also the product of 'past labour'. He distinguished between the exchange value and use value of labour, defining the exchange value of labour as the subsistence of the labourer. But the use value employed by the capitalist exceeds this exchange value. If the subsistence level of the labourer is 4 hours, and the labourer is generally employed for the whole day (12 hours), then the surplus the capitalist enjoys is the value of 8 hours labour. As Dooley (2002:21) notes, "the whole working day is, in this way, divided into two parts: one to produce the necessary subsistence for the labourer, the other to produce the surplus value for the capitalist".

We have already seen how Petty recognised the difference between production necessary for subsistence and production which resulted in a surplus. Marx defined the rate of surplus as the ratio of labour time spent producing a surplus for the capitalist, to labour time required to cover subsistence. This was the degree of exploitation of labour by the producer.

However, as with all proponents of a labour theory of value, Marx shied away from it in the end, as did Ricardo and Smith before him. As Dooley states:

Even though Marx sought to explain the prices of production by the labour embodied in production, he ended up with a cost-plus-profit theory of value like Adam Smith and David Ricardo. Marx's transformation turns profits into a necessary cost of production, because any industry that did not receive the 'average profit' would see its capital diverted to other industries. (Dooley, 2002:24-25)

## Conclusion

Petty's contribution to the evolution of a labour theory of value was instrumental, and even if this line of argument was to be discredited (partly due to his own assertion that capital goods were 'past labour'), it preoccupied many leading economists for centuries. Marx's own exultation of Petty as the founder of modern political economics is surely enough evidence of his influence. In particular, Petty's development of the surplus concept anticipates the crux of Marx's theories.<sup>6</sup>

It is interesting to conclude by considering how Petty would have fitted into Marx's world of post-industrial revolution Europe and how Marx would have viewed him, if they had had the opportunity to meet. Without doubt Petty was a capitalist, an entrepreneur in the tradition that Richard Cantillon describes so well. Although this essay has necessarily concentrated on a narrow section of his work, his contributions in other areas should not be ignored, such as in terms of the circulation of money. As the evidence suggests, he was constantly seeking out innovation, take for example his agricultural digressions. Although he made a significant contribution to Marx's theories, as a wealthy landowner he would most certainly have viewed communist theories with scepticism (or, more likely, horror, given his interest in protecting his own wealth and property).

Let us return to Petty's discussion on wages. While Marx argues that it is unjust for the labourer to be paid at subsistence level, Petty is arguing the exact opposite, taking the point of view of the 'capitalist'. While it is unfair to suggest that Petty only wrote to further his own interests, most of his works do so.

The fact that Marx singles out Petty for praise is certainly worthy of note. Slutsky (2005) believes Marx was very selective in his quotation of Petty's writings, however the origins of many of his theories can be found therein. Indeed Petty's views on unemployment have a distinctly socialist flavour<sup>7</sup>. That is not to say that he was a communist! But nor could he be classified as a classicist or mercantilist. He was surely unique.

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<sup>6</sup> By 200 years

<sup>7</sup> Petty sounds remarkably like Keynes in some passages, even arguing for the relocation of Stonehenge to boost employment. Hutchison (1988) has an interesting discussion on whether Petty was in fact a prescient Keynesian.

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