

# Marx, the labour theory of value and the transformation problem

**Tony Burns**

The University of Nottingham, UK

## Abstract

This article reconsiders what Marx says about what has come to be known as the transformation problem in Chapter IX of *Capital* Volume III, in the light of Marx's claim, made in *Capital* Volume I, that the value of a commodity is determined by the socially necessary labour-time that goes into its production. I criticise the traditional way of thinking about the transformation problem, according to which what Marx is doing in Chapter IX is considering the transformation of values into prices ('prices of production'). I argue that Marx's prices of production may be thought of as modified values. The discussion in Chapter IX is usually seen as a supplement to the labour theory of value. On this view, its purpose is to explain how and why the prices of commodities sometimes deviate from their values. Against this view, this article argues that Marx's remarks in Chapter IX can be seen as an elaboration on or development of the labour theory of value. It is a refinement of the account offered in *Capital* Volume I, which takes into consideration what Marx had in mind there when he introduced the notion of socially necessary as opposed to actual labour-time. The article draws attention to the importance of Marx's distinction between the individual value of a commodity (determined by actual labour-time) and its social value (determined by socially necessary labour-time). It also draws attention to the methodological difficulties that are generated by any attempt to read Marx in this way.

## Keywords

history of economic thought, Marx, political economy, the labour theory of value, the transformation problem

---

## Corresponding author:

Tony Burns, Centre for the Study of Social and Global Justice (CSSGJ), School of Politics and International Relations, The University of Nottingham, University Park, Nottingham, NG7 2RD, UK.  
Email: [tony.burns@nottingham.ac.uk](mailto:tony.burns@nottingham.ac.uk)

## Introduction

[T]hat different lines of industry have different rates of profit, which correspond to differences in the organic composition of their capitals ... [that] ... capitals of equal magnitude yield equal profits in equal periods, applies only to capitals of the same organic composition, even with the same rate of surplus-value. These statements hold good on the assumption which has been the basis of all our analyses so far, namely that the commodities are sold at their values. There is no doubt, on the other hand, that aside from unessential, incidental and mutually compensating distinctions, differences in the average rate of profit in the various branches of industry do not exist in reality, and could not exist without abolishing the entire system of capitalist production. It would seem, therefore, that here the theory of value is incompatible with the actual process, incompatible with the real phenomena of production, and that for this reason any attempt to understand these phenomena should be given up. (Marx, 1974 [1894]: 153)

In what follows, I consider what has come to be known as the ‘transformation problem’, which Marx discusses in *Capital* Volume III and elsewhere (Marx 1974 [1894]: 154–172). This article has four parts. In Part 1, I make some preliminary remarks about Marx’s version of the labour theory of value, on the assumption that this is necessary for an understanding of the discussion of his views regarding the transformation problem. In Part 2, I examine one way of thinking about Marx’s understanding of the transformation problem, which is associated with a certain interpretation of the labour theory of value. On this view, what Marx says about the transformation problem is a contribution to a theory of prices, not values. This traditional reading is commonly held in the secondary literature and does have support from the primary sources. Indeed, it is dominant in Marx’s own reflections on the subject.

In Part 3, I question the assumptions on which the traditional understanding of the transformation problem is based and suggest that if we attribute to Marx a different set of assumptions then the transformation problem, as it has been traditionally understood, does not arise. I also propose an alternative reading of Marx, according to which his reflections on the transformation problem are best seen as a contribution to a theory of value, not prices. They amount to a more detailed exposition of the labour theory of value, which Marx introduces to his readers in *Capital* Volume I, and of the notion of ‘socially necessary labour-time’. Finally, in Part 4, I point out some of the methodological issues which are raised by this alternative reading of Marx.

## Part 1

### *Marx and the labour theory of value*

Central to the labour theory of value, as Marx understands it, is the notion of ‘social necessity’. When discussing this issue in *Capital* Volume I, Marx states that the value of a commodity is determined by the amount of ‘socially necessary labour time’ which goes into its production. This is, he says, the labour-time ‘required to produce an article under the normal conditions of production, and with the average degree of skill and intensity of labour prevalent at the time in a given society’ (Marx 1958 [1898/1865]: 422, 1974 [1867]: 46–47). In the case of the cotton industry, Marx (1989 [1861–1863]) states in

his *Economic Manuscript of 1861–1863* that ‘the quantity of labour by which, for example, [the value of] a yard of cotton is determined’ is again ‘not the quantity of labour it [actually] contains, the quantity the manufacturer expended upon it’, but rather ‘the average quantity with which all the cotton-manufacturers produce one yard of cotton for the market’ (p. 428). It matters a great deal, therefore, what Marx means when he talks about average conditions of production.

Marx accepts that the amount of labour-time which actually goes into the production of a particular commodity could in principle differ from this average. Whether or not it differs, in fact, depends on the productivity of the labour which produces it, which in turn depends on the level of technological development of the machinery which is employed by the labourer. In short, it depends on what Marx (1974 [1867]) refers to as the ‘organic composition of capital’, understood in the technical rather than the value sense of that term (p. 574; also pp. 582–583). The distinction that Marx (1974 [1867]) makes between the ‘individual value’ of a commodity and its ‘social value’ is important here (pp. 301, 383). I shall say more about this later.

When Marx introduces the labour theory of value in *Capital* Volume I, he makes three simplifying assumptions, two of which are implicit and the other explicit. The first of these is the implicit assumption that the organic composition of capital in all units of production is the same. Paul Sweezy (1942) has rightly pointed out that ‘throughout Volume I Marx develops his analysis as though the law of value were directly controlling for the prices of all commodities’, a procedure which is ‘legitimate so long as it is assumed that in every branch of production the organic composition of capital is the same’ (p. 109). Thus, complications associated with the existence of different organic compositions of capital do not arise in Volume I. Such complications arise only later, in *Capital* Volume III, when this first assumption is relaxed.

The second simplifying assumption which Marx makes in *Capital* Volume I, as he explicitly informs his readers in Volumes II and III, is that commodities sell at their values. For example, at one point in Volume III, Marx (1974[1894]) states that ‘these statements hold good on the assumption which has been the basis of all our analyses so far, namely that the commodities are sold at their values’ (p. 153; also pp. 150, 178, 193, 195). And in *Capital* Volume II, Marx (1977 (1893 [1885])) notes that, as in the case of *Capital* Volume I, it is ‘taken for granted here that the commodities are sold at their values’ (p. 26). It is only in Volume III of *Capital*, when discussing the transformation problem, that Marx abandons this second assumption.

The third simplifying assumption which Marx makes in *Capital* Volume I, although implicitly rather than explicitly, is a logical corollary of the first two. It is that, quantitatively speaking, the socially necessary labour-time and the actual labour-time required to produce a commodity are one and the same. According to Marx in *Capital* Volume III, the principle that ‘capitals of equal magnitude yield equal profits in equal periods’ applies ‘only to capitals of the same organic composition’ with ‘the same rate of surplus-value’. Moreover, as we have just seen, in Marx’s (1974 [1894]) view ‘these statements hold good’, on the assumption ‘which has been the basis of all our analyses so far’, that ‘commodities are sold at their values’ (p. 153). These remarks support the claim that in *Capital* Volume I Marx assumes both that commodities sell at their values and that organic compositions of capital are equal. It seems clear enough, however, that, as a

matter of logic, they also commit Marx to the view that, in such a scenario, there is, quantitatively speaking, no distinction to be made between the labour-time which is actually required for the production of a commodity and that which is socially necessary for its production. Hence also there is no difference between a commodity's individual value and its social value.

It should be emphasised that this third assumption is implicit rather than explicit. It is, however, an assumption to which Marx is logically committed, given the fact that he has already made the first two assumptions identified earlier. So, either Marx does make this third assumption (implicitly) or, given that he has already made the first two assumptions, he must contradict himself. In my opinion, with respect to this particular issue, Marx does not contradict himself. He consistently makes all three of the assumptions identified above throughout *Capital* Volumes I and II and only considers the implications of relaxing one or more of them in Volume III.

It is arguable that, when discussing the transformation problem in *Capital* Volume III, as soon as Marx relinquishes the first two of these assumptions and considers both the possibility that the organic composition of capital of different production units might not be equal and the possibility that commodities might not, in consequence, sell at their (individual) values, he really ought to abandon this third assumption also. He ought to factor into his analysis the fact that the actual labour-time required for the production of a commodity, and the socially necessary labour-time required for its production might be numerically different. In fact, however, Marx continues to assume that no such difference exists. It is this, above all, which lends support to the claim that Marx does contradict himself at this point in his argument.

## Part 2

### *The traditional understanding of Marx on the transformation problem*

What we now call 'the transformation problem' is discussed by Marx in Chapter IX of Part II of *Capital* Volume III (Marx 1974 [1894]: 154–172). Central to the discussion is the concept of prices of production (Produktionspreise). According to the traditional understanding of this issue, Marx's prices of production are monetary prices. The transformation problem is about the transformation of values into prices (Baumol 1974: 51; Carchedi 1984: 431, 1993: 197–203; Fine & Harris 1979: 34; Fine & Saad-Filho 2004: 130; Glick & Ehrbar 1987: 295; Laibman 1973: 407–408; Langston 1984; Meek 1977; Parys 1982; Sweezy 1942; Von Bortkiewicz 1952; Winternitz 1948; Yaffe 1976). When discussing this problem, Marx considers how to explain the deviation which sometimes exists between the prices of commodities and their values, while retaining and not contradicting the commitment to the labour theory of value which he makes in *Capital* Volume I.

This way of thinking about the transformation problem is supported by the primary sources. For example, in his *Economic Manuscript of 1861–1863*, Marx (1991 [1861–1863]) notes that once different organic compositions of capital are taken into account 'an essential difference enters the picture, both between profit and surplus-value and

between the price and the value' of a commodity (p. 101). Moreover, Marx also talks in this way when discussing the transformation problem in the all-important Chapter IX of *Capital* Volume III. For example, he refers there to the price of production of a commodity as 'the price of a commodity', understood as being 'equal to its cost price plus the share of the average annual profit on the total capital invested (not merely consumed) in its production that falls to it' (Marx 1974 [1894]: 158). And he also makes it plain to his readers there that in his view the transformation problem has to do with 'deviations of price from value' (Marx 1974 [1894]: 157). Indeed, 'Deviation of Price from Value' is the heading which Marx uses in one of the tables which he inserts in Chapter IX in order to illustrate mathematically his proposed solution to the problem (Marx 1974 [1894]: 157; also 155–156). These passages all support the view that Marx believed that prices of production are not values, they are prices.

Not surprisingly, this understanding of the transformation problem is also held by a number of commentators on Marx's writings, including Marxists and non-Marxists alike. For example, Robert H. Langston (1984) has said that the transformation problem is 'the problem of formulating within the labour theory of value a concept which will strengthen our theoretical hold on the phenomenon of "price" and its intrinsic relations to value' (p. 1). M.C. Howard and J.E. King (1975) have claimed that 'the essence of the problem, for Marx, is to prove that a coherent theory of prices can and must be derived from the labour theory of value' (p. 143; see also pp. 79, 105). And Tom Kemp (1982) has said that for Marx 'the prices obtained by adding average profit to cost price transmutes values into prices' (p. 83; see also Foley 1986: 97). From this standpoint, what Marx says about the transformation problem should be seen as a contribution to a theory of prices. It is not a contribution to the labour theory of value.

It is necessary at this point to clarify what is meant by a theory of prices, as opposed to a theory of value. I say this because the expression 'theory of prices' can be used in two significantly different senses. First, there is a sense in which for Marx, a theory of value just is and has to be a theory of prices. On this account, the concept of price cannot be completely separated from that of value. This is so because Marx holds that in a capitalist economic system, value is manifested as exchange value. That is to say, it is manifested in and through exchange relations between commodities in a market, where the commodities concerned necessarily exchange for one another in a particular numerical ratio and, therefore, have a definite monetary price. For every value, therefore, there is and must be a corresponding monetary price and vice versa. There are numerous passages where Marx makes this point. For example, he states on one occasion that 'price is the money name of the labour realised in a commodity' (Marx 1974 [1867]: 103–104). On another, he says that 'price, in its general meaning, is but value in the form of money' (Marx 1974 [1894]: 193). And elsewhere, he maintains that 'the exchange value of a commodity reckoned in money, is what is called its price' (Marx 1958 [1847]: 81; see also Marx 1958 [1898/1865]: 422, 1973 [1857–1859]: 189, 1981 [1859]: 66). Let us use the term price<sup>1</sup> to refer to prices in this sense of the term.

From this point of view, the labour theory of value is an explanation of why, in such a situation, commodities exchange for one another in the particular numerical ratios that they do. In other words, although some commentators have denied this (Elson 1979: 123; Gerstein 1986: 52), it is a theory of why commodities have the monetary prices<sup>1</sup>

that they have. In this first sense of the expression, 'theory of prices', therefore, for Marx the labour theory of value, laid out in *Capital* Volume I, is not only a theory of value, it is *also* a theory of prices<sup>1</sup> (Dobb 1973: 31; Meek 1977: 124; Murray 2005).

What about the second way in which it is possible to think about a theory of prices? For Marx, a theory of prices, in the second sense of the term (prices<sup>2</sup>), insofar as it is something which is thought to be distinct from a theory of value, could only be a theory which attempts to explain how and why deviations of prices<sup>2</sup> from values occur if and when they do. That is to say, it is a theory which seeks to explain how and why the actual prices<sup>2</sup> of commodities are sometimes different from what the prices<sup>1</sup> of those commodities would be if they sold at their values.

Applying the above distinction between two different ways of thinking about the idea of a theory of prices to what Marx says about the transformation problem, the question arises whether, on the one hand, Marx's account is a contribution to the labour theory of value, and, therefore, to a theory of prices<sup>1</sup> in the first sense of the term, or whether, on the other hand, it is an attempt to develop a theory of prices<sup>2</sup> in the second sense only. As we have seen, many commentators, and arguably Marx himself, have taken the latter view. According to advocates of this reading, Marx's prices of production are just prices<sup>2</sup>. They are not values. Hence, the analysis of the concept of a price of production which Marx offers in *Capital* Volume III should be seen as a contribution to a theory of prices<sup>2</sup> in the second sense rather than the first. In Marx's opinion, this analysis is a component part of a theory which purports to explain, not why commodities have the value that they have, but, rather, why they have the prices<sup>2</sup> that they have – it being assumed that the prices<sup>2</sup> in question are different from values, or from what they would be (prices<sup>1</sup>) if the commodities in question sold at their values.

To illustrate, let us consider what is said about this issue in Chapter IX of *Capital* Volume III. Marx (1974 [1894]) argues there that 'the price of production may differ from the value of a commodity' (pp. 164–165) and that only 'in branches of production in which the composition happens to coincide with the social average, would value and price of production be equal' (p. 164). He claims that 'the capital invested in some spheres of production has a mean, or average composition, that is, it has the same, or almost the same composition as the average social capital' and that it is 'in these spheres' only that 'the price of production is exactly or almost the same as the value of the produced commodity expressed in money' (Marx 1974 [1894]: 173). He also states explicitly that 'the price of production of a commodity is not at all identical with its value' (Marx 1974 [1894]: 758; see also Marx 1973 [1857–1859]: 436, 1989 [1861–1863]: 402, 408, 414–415, 423, 431–432; Marx & Engels 1983: 76).

On this reading, as Marx understands the transformation problem in *Capital* Volume III, the whole point of his theory of 'prices of production' is to explain how and why deviations of prices<sup>2</sup> from values occur when they do. Marx states that 'deviations of price from value balance out one another through the uniform distribution of surplus-value' between capitalists. 'One portion of the commodities', he observes, 'is sold above its value' and the other 'is sold below it'. Moreover, it is only because this is the case that it is possible for the rate of profit for capitals 'to be uniformly' the same, 'regardless of their different organic composition' (Marx 1974 [1894]: 157). However this implies, Marx insists, that in real-life commodities cannot, in fact, 'sell at their values', as is

assumed in *Capital* Volume I. It is for this very reason, Marx (1974 [1894]) claims, that both in reality and in theory values must be (and are) 'converted into prices of production' (p. 195; see also p. 193).

The text on which the analysis in *Capital* Volume III is based was written in 1864–1865. There is, however, no conclusive evidence that this dominant line of thinking about the transformation problem changed after that, up until his death in 1883. Consider, for example, what Marx (1974 [1867]) says about this issue in *Capital* Volume I. There, Marx rarely mentions the transformation problem. Nor would one expect him to do so, given his assumption that organic compositions of capital are equal and that commodities sell at their values. Nevertheless, there is a reference in the final footnote of Chapter V of the English translation (Marx 1974 [1867]: 163, fn. 1). There Marx alludes to the possibility that the prices of commodities might 'differ from values'. Marx employs the term 'average prices' rather than 'prices of production' at this point, although it is clear that he means the same thing by the two expressions. He observes that individual capitalists are well aware that 'over a long period of time' commodities can be and are 'sold neither over nor under, but at their average price', that is to say, at a price which is regulated 'ultimately by the value of the commodities'. However, as also in *Capital* Volume III, Marx emphasises the importance of his use of the word 'ultimately'. He insists that these average prices (prices of production) 'do not directly coincide with the values of commodities', as Adam Smith, Ricardo and others erroneously believed (Marx 1974 [1867]: 163, fn. 1). Similarly, in another footnote, Marx (1974 [1867]) states that although his argument hitherto has 'assumed that prices = values', nevertheless, 'we shall however see in Volume III, that even in the case of average prices' (prices of production) 'the assumption cannot be made in this very simple manner' (p. 212, fn. 1).

A year later, in a letter to Engels, dated 30 April 1868, Marx again refers to the transformation problem, pointing out that in certain cases 'the determination of the price' of commodities must 'diverge from their values', and maintaining that it is only 'in those spheres of production where the percentage composition of capital' is the average in relation to 'the total social capital', or the 'capital invested in society as a whole', that the prices of commodities will 'coincide with their value'. Marx refers to the 'production price' of commodities in this context, as 'centre around which the oscillation of the market prices moves'. And again, as in Chapter IX of *Capital* Volume III, Marx talks about 'the transformation of values' into what he now calls 'prices of production' (Marx & Engels 1983: 136–137).

Finally, 3 years before his death, in a letter to Ferdinand Domela-Nieuwenhuis, dated 27 June 1880, Marx is again critical of Ricardo and Adam Smith for not distinguishing between the value of a commodity and its production price. Marx states explicitly in this letter that to identify values with cost prices or prices of production would be to misunderstand his theory of value. Significantly, he also says there that the theoretical explanation of 'the connection between "value" and "production price"' does not 'belong at all to the theory of value as such' (Marx & Engels 1983: 198). In other words, he states that the idea of a price of production is a contribution to a theory of prices in the second of the two senses alluded to earlier and not the first.

In all of these cases, when applying the labour theory of value in an attempt to understand concrete economic realities, Marx does relax the first two of the three assumptions



which he makes in *Capital* Volume I, namely, the assumption that commodities sell at their values and the assumption that organic compositions of capital are equal. He consistently argues that once the assumption that all production units have the same organic composition of capital is dropped, then it follows that some commodities will no longer sell at their values. Rather, they will in many cases sell at prices<sup>2</sup> which deviate from their values, depending on the actual organic composition of capital. It is this deviation of prices<sup>2</sup> from values which needs to be accounted for theoretically. And it is this problem which Marx addresses in *Capital* Volume III and elsewhere with his theory of prices of production.

The passages cited above all support the view that Marx did not think of his theory of prices of production as a contribution to, or an elucidation of, the labour theory of value. Rather, he considered it to be a theory of prices<sup>2</sup>, in the second of the two senses referred to above. From this point of view, the point of the theory is to explain how and why prices<sup>2</sup> deviate from values when they do.

We have seen that, when discussing the transformation problem in *Capital* Volume III, Marx relaxes the first two of the assumptions which he makes in Volume I. However, given the close logical relationship which exists between them, it is arguable that Marx really ought to have relaxed his third assumption also. For it seems obvious that as soon as it is assumed that organic compositions of capital are not equal, and that commodities do not sell at their (individual) values, it cannot then be the case that the labour-time actually taken to produce a commodity and that which is socially necessary to produce it must be numerically the same. They may, in fact, be the same but only in the case of those commodities which are produced under average conditions of production. In the case of all other commodities, one would expect Marx to say that there will be a difference between the labour-time which is socially necessary for the production of a commodity (its social value) and that which it actually takes to produce it (its individual value).

However, one of the most striking features of Marx's account of the transformation problem, in all of the writings referred to above, is that although he does indeed abandon the first two assumptions referred to earlier, he never abandons the third. Marx continues to assume in all of these texts that the value of a commodity is determined by the actual rather than the socially necessary amount of labour-time which goes into its production. He does not distinguish, as arguably he should have done, between the actual labour-time required to produce a commodity and the labour-time which is socially necessary to produce it. Nor, therefore, does he, in his treatment of the transformation problem in *Capital* III, Chapter IX, distinguish between the individual value of a commodity and its social value. Moreover, it is only because Marx continues to make this third assumption that it is possible for him to think of his theory of prices of production, in the way that he does, as having to do with the problem of how values are transformed into prices<sup>2</sup> and how any deviation of prices<sup>2</sup> from values is to be explained.

### Part 3

#### *An alternative reading of Marx on the transformation problem*

The traditional understanding of Marx on the transformation problem does have support in Marx's writings. In the all-important Chapter IX of *Capital* Volume III, Marx



does maintain that the problem is that of explaining how values are transformed into prices<sup>2</sup>. However, there is another possible reading of Marx, which differs significantly from the traditional view, which also has at least some support from the primary sources, although it must be conceded that this reading is associated with a minority rather than the dominant line of reasoning in Marx's thought. Consideration of this alternative takes us in a direction somewhat different from that which Marx himself follows, most of the time, when talking about the transformation problem.

According to this alternative reading, once Marx factors the presence of unequal organic compositions of capital into his analysis, as he does in *Capital* Volume III, then it is far from clear that he is justified in continuing to make the third of the assumptions referred to earlier. For if it is true that, according to the labour theory of value, the value of a commodity is determined by the socially necessary labour-time which goes into its production, and if it is also true that this is the amount of labour-time required to produce it under average conditions, then given Marx's assumption of unequal organic compositions of capital it follows, not only that in some cases, the labour-time actually taken to produce a commodity will not determine its value but also that in these cases, what appears at first sight to be the value of a commodity is not really its value at all. On this view, then, a consideration of what Marx has in mind when he defines the concept of value by reference to the notion of socially necessary rather than actual labour-time, combined with the assumption that organic compositions of capital are in fact unequal, leads to the conclusion that if we are to understand both Marx's theory of value and his theory of production prices right, then it is necessary for us to distinguish between what might be termed the apparent value of a commodity and its true or real value. As noted earlier, Marx also refers in this connection to the distinction between a commodity's individual value and its social value.

Advocates of this alternative reading observe that Marx himself makes this distinction quite explicitly in *Capital*. For example, in Volume I Marx (1974 [1867]) argues that 'the real value of a commodity' is 'not its individual value, but rather its social value' (p. 301). That is to say, the real value of a commodity 'is not measured by the labour-time that the article in each individual case costs the producer, but by the labour-time socially required for its production' (Marx 1974 [1867]: 301). If, therefore, Marx continues, a capitalist applies a 'new method' which 'doubles the productiveness of labour' by halving the amount of labour-time actually required to produce a commodity, then he 'sells his commodity at its social value', which, Marx (1974 [1867]) argues, will stand 'above its individual value' because it will 'have cost less labour-time than the great bulk of the same article produced under the average social conditions' (p. 301). Marx also states in Volume I that when new machinery 'is first introduced sporadically into an industry', its effect is to 'raise the social value of the article produced above its individual value', because the labour involved is of 'a higher degree and greater efficiency'. Consequently, the labour-time which it actually takes to produce the article will be less than the labour-time which is socially necessary for its production. There is, therefore, Marx argues, a 'transition period' during which the use of the new machinery 'is a sort of monopoly', and in which 'profits' are 'exceptional' for the capitalist who introduces it. However, Marx (1974 [1867]) points out, as soon as this usage 'becomes more general' then 'the social value of the product sinks down', once again, 'to its individual value'

(p. 383). In these passages, then, Marx explicitly differentiates between a commodity's individual value and its social value. The first of these he associates with the amount of labour-time which it actually takes to produce it and the second with the labour-time which is socially necessary for its production. It is the second of these which, Marx suggests, is the real value of a commodity.

Marx attaches considerable importance to this notion of real value. In his view, the distinction between the concepts of individual and social value, or between apparent and real value, is a pre-requisite for a genuinely scientific understanding of the true origins of surplus-value, and, therefore, also of profit. As Marx (1958 [1898/1865]) puts it, 'normal and average profits' are always made 'by selling commodities not *above* but at their *real values* [Marx's emphases]' (p. 431). If we wish to explain 'the general nature of profits' it is, Marx says, necessary to start

from the theorem that, on an average, commodities are sold at their *real values* [Marx's emphasis]: and that profits are derived from selling them at their values, that is, in proportion to the quantity of labour [*sic*] realized in them. If you cannot explain profit upon this supposition, you cannot explain it at all. (Marx 1958 [1898/1865]: 424; also Marx 1974 [1867]: 163, fn. 1)

Moreover, taking this argument a little further, Marx maintains that the concept of real value is required for an understanding of 'the equalization of profits into a general rate of profit'. Any attempt to explain this phenomenon scientifically, Marx insists, must again begin with the assumption that 'all commodities in the different branches of production are sold at their real values'. The crucial question, therefore, is 'how does this exchange of commodities at their real values come about?' (Marx 1974 [1894]: 174–175).

On this view, the things which Marx refers to as prices of production in *Capital* Volume III, and which as we have seen he sometimes maintains are different from the values of commodities, are not to be thought of as the monetary prices<sup>2</sup> of commodities. They are best thought of as being not prices at all but values. They are the real values of commodities, or their values properly understood – their social values, as opposed to their individual values. Marx is wrong, therefore, to suggest otherwise, as he does the texts referred to earlier. He ought to have argued differently. The claim which Marx makes in these texts that prices of production are different from values (by which Marx has in mind individual values) contradicts one of the core assumptions of the labour theory of value which he endorses in *Capital* Volume I, namely, his assumption that what determines the value of a commodity is the socially necessary labour-time and not the actual labour-time required for its production.

There are times when Marx himself suggests that his prices of production are not monetary prices<sup>2</sup>, but, rather, modified values. For example, he states on one occasion that the prices of production of commodities are brought into being by a process which involves the averaging, 'equalization' or 'levelling out' of their values (Marx 1974 [1894]: 761, 1989 [1861–1863]: 431–432). This implies that in his view prices of production can be seen as modified or converted values – values which have been 'transformed' quantitatively but not qualitatively. This reading is borne out by Marx's assertion, made in *Capital* Volume III, that 'in Books I and II we dealt only with the value of commodities'. Here,

however, 'the price of production of commodities has been developed as its converted form' (Marx 1974 [1894]: 163). Marx (1974 [1894]) also maintains at one point that the prices of production of commodities are 'modifications of these values' which are 'determined by general laws' (p. 635). And, finally, he claims on another occasion that 'the price of production' of a commodity is 'cost price plus profit', which 'in practice' is 'equal to the value of the commodity' (Marx 1974 [1894]: 207). When making this last remark, Marx distinguishes between the value of a commodity in theory and its value in practice. He accepts that in practice, the value of a commodity is its price of production. What Marx does not do here, although arguably he should have done, is maintain that in *theory* also the (social) value of a commodity is identical with its price of production.

One implication of this alternative analysis is that if, for Marx, it is the price of production of a commodity which (*ceteris paribus*) determines its monetary price<sup>1</sup>, and if prices of production and real values are indeed the same thing, then there can be no deviation of prices<sup>1</sup> from values arising because of the existence of unequal organic compositions of capital. On this reading, Marx is committed to the view that even in those circumstances where organic compositions of capital are unequal, commodities must sell at their values, properly understood. That is to say, they will sell at a monetary price<sup>1</sup> that is determined not by their individual, immediate or apparent values but rather by their social or their real values. This is why Marx (1974 [1894]) says in *Capital* Volume III that if we assume the existence of different organic composition of capitals, then 'for commodities of the same sphere of production, the same kind, and approximately the same quality, to be sold at their values', it is necessary that 'the different individual values' which they possess are all 'equalized at one social value' (p. 180).

This is also why Marx says, in his *Economic Manuscript of 1861–1863*, that because a commodity which is 'produced under more favourable conditions', in a production unit with a higher than average organic composition of capital, contains 'less labour-time' than one 'produced under less favourable conditions' but, nevertheless, 'sells at the same price', it follows that it has, not a different but rather 'the same value'. It is, Marx (1989 [1861–1863]) notes, 'as if it contained the same labour-time', although this is not, in fact, 'the case' (p. 430; 1969 [1862–1863]: 206). If one is talking about actual labour-time, here, then Marx's claim is, of course, correct. In the situation envisaged, the two commodities in question would not contain the same labour-time. On the other hand, if one is talking about socially necessary labour-time, then Marx's claim is evidently mistaken. The very fact that, when discussing this particular example, Marx is willing to concede that the commodities in question have the same value clearly implies that, in his opinion, they contain the same amount of socially necessary labour-time, despite the fact that the organic compositions of the capitals which produce them, and, therefore, the actual labour-time which goes into their production, are different. Their social value is the same even though their individual values are not.

The traditional way of thinking about the transformation problem is that Marx starts with values and considers how these are transformed into prices<sup>2</sup>. However, if one attaches sufficient importance to Marx's claim that the real value of a commodity is determined by the socially necessary rather than actual labour-time required for its production, then it follows that the transformation problem just cannot be about the transformation of values into prices<sup>2</sup>. It must, therefore, be about something else. Indeed,

from this point of view, it is arguable that there is no transformation problem at all, in the traditional sense of the term, in Marx's writings. The 'so-called' transformation problem is, as some commentators have suggested, a 'non-problem' (Fine & Saad-Filho 2010; Kliman & McGlone 1988). For if Marx's prices of production are not monetary prices<sup>2</sup> which deviate from values, but rather modified values, it follows that what the transformation problem is really about is the transformation of individual values into social values or of apparent values into real values. When discussing the transformation problem Marx does not begin with values, properly understood. Rather, he ends with them.

On this reading, Marx's discussion of prices of production in Chapter IX of *Capital* Volume III is not to be thought of as a theory of prices<sup>2</sup> in the second sense referred to above, that is to say, a theory which purports to explain how and why prices<sup>2</sup> deviate from values. Rather, it should be seen as a contribution to the labour theory of value. It is best seen not as going beyond the labour theory of value, or supplementing it, but as an articulation or more precise specification of it. It is a more accurate account of what a commitment to the labour theory of value actually involves, once the assumption of equal organic compositions of capital is relaxed. Or, putting it another way, it is a commentary on what Marx has in mind in *Capital* Volume I when he says that the real value of a commodity is determined, not by the actual labour-time, but by the socially necessary labour-time that goes into its production.

A number of commentators have suggested that for Marx prices of production are not prices<sup>2</sup> which deviate from values but rather transformed or modified values (Bandyopadhyay 1981: 102, fn. 2; Fine 1975: 61; Fine & Harris 1979: 23, 25; Hilferding 1973 [1904]: 156–157; Mandel 1984: 158–159; Meek 1973 [1956]: 189; Oakley 1985: 10, 61, 86–88, 104; Shaikh 1977: 134; Sweezy 1942: 54; Yaffe 1976, 1994: 84). For instance, Ira Gerstein (1986) has claimed that it is 'easily seen' that Marx's prices of production 'are not prices at all but values' and that 'it is incorrect to think of the transformation' referred to by Marx in Chapter IX 'as being from value to price, as is so often done (and as we are encouraged to do by Marx's terminology)' (p. 68).

Ernest Mandel (1984), also, has argued that Marx's prices of production 'cannot be prices in the current, common-sense meaning of the word, that is prices as they appear in the market place' (p. 157). When examining what Marx has to say about the transformation problem it is, in Mandel's opinion, important that 'one does not mistake prices of production' for 'market prices'. Rather, the transformation problem 'concerns the transformation of values, and of values only'. Mandel (1984) argues that Marx's critics tend to overlook the fact that his prices of production 'cannot be and are not prices in the current sense of the word, but only transformed values' (pp. 158–159).

Nevertheless, there is a tendency, even in the writings of those commentators who appreciate this point, not to fully grasp its significance. For example, Paul Sweezy (1942) also maintains that Marx's prices of production should be thought of as 'modifications of values' (p. 54). However, despite this, Sweezy goes on to suggest that Marx's concern in Chapter IX of *Capital* Volume III is with the issue of how values are transformed into prices. Indeed, the chapter in his *The Theory of Capitalist Development* which discusses this issue is titled 'The Transformation of Values into Prices' (Sweezy 1942: 109–132).

When discussing this issue, Guglielmo Carchedi (1993) has claimed correctly that, according to Marx, 'the socially necessary labour time (SNLT)' required to produce a

commodity, and hence also the value of that commodity, 'can be found only after the rates of profit have been equalized' (p. 211). However, a logical implication of this is that for Marx, the value of a commodity should be identified with, rather than differentiated from, its price of production. It is surprising, therefore, that, like Paul Sweezy, Carchedi (1993) also claims (without noticing the contradiction involved) that in Marx's thought, the transformation problem has to do with 'price formation' or the transition 'from values to prices' (pp. 197–199).

The commentators who have come closest to developing a reading of Marx along these lines are Richard D. Wolff et al. (1982, 1984). According to them, the production price of a commodity for Marx is best seen as 'the specific form' which value possesses 'under the social conditions considered in *Capital*, Vol. III' (Wolff et al. 1984: 125). This 'new form' is, therefore, something which, for Marx, 'enters directly into the determination of commodity value', that is to say, 'into the determination of the abstract labour-time "socially necessary" to reproduce the commodity' (Wolff et al. 1984: 123). This reading of Marx is an improvement on that of other commentators because it attempts to connect the idea of a 'price of production' to a discussion of what Marx had in mind by the notion of socially necessary labour-time. Hence, it also attempts to connect this idea to a revised conceptualisation of Marx's understanding of the labour theory of value, one which takes into account the fact that organic compositions of capital might be unequal.

Wolff et al. (1982: 574) rightly argue that for Marx in *Capital* Volume III, given his assumption of unequal organic compositions of capital, it can no longer be assumed that the actual labour-time required to produce a commodity and the time which is socially necessary to produce it are quantitatively the same. It is for this reason that they maintain that the transformation discussed by Marx in Chapter IX is a 'transformation of value form' which 'affects value itself'. In other words, as they see it, Marx is of the opinion that prices of production just are the values – that is to say, the real or modified values – of commodities.

Additionally, Wolff et al. (1982) claim that 'the general definition of the value of a commodity' which Marx 'consistently maintains across all levels of his argument in the three volumes of *Capital*, is the quantity of abstract labour-time socially necessary for its reproduction' (p. 568). However, so far, as Chapter IX of Volume III of *Capital* is concerned, this claim seems to me to be mistaken. For Marx evidently does not factor the notion of social necessity into his account when discussing the transformation problem there. Indeed, it is for this very reason that he is able to think about the transformation problem in the way that he does, as being about the transformation of values into prices<sup>2</sup> and about the deviation of prices<sup>2</sup> from values. Throughout this chapter, when talking about the value of a commodity, Marx invariably has in mind its individual value and not its social value.

Two interesting things follow from this alternative account of Marx's views. First, this reading implies that for Marx there could be no deviation of prices<sup>1</sup> from values arising because of the existence of unequal organic compositions of capital. Second, it implies that Marx's theory of production price is best seen, not as a theory of prices<sup>2</sup> which supplements the labour theory of value but rather as a contribution to the development of a deeper understanding of the labour theory of value itself. According to Wolff et al., the labour theory of value is not confined to *Capital* Volume I only. They argue, correctly,

that it should be thought of as being a 'progressively elaborated conceptualization evolving across the three volumes of *Capital*' (Wolff et al. 1984: 122). However, if we take this view seriously, then we need to reassess what Marx is doing when he discusses the transformation problem in Chapter IX of *Capital* Volume III.

## Part 4

### *Reading Marx's texts: questions of method*

Although it is a minority view, the reading of Marx on the transformation problem which is alluded to by Wolff et al. has a great deal to be said for it. It is clear, however, that this reading conflicts with the line of reasoning adopted by Marx himself in Chapter IX of *Capital* Volume III. Wolff et al. (1984) concede this point when they say that 'we recognize that our interpretation represents a departure from the traditional understanding of Marx's value concept' (p. 126). They are right to maintain that this alternative reading involves a 'radical reconceptualization' of Marx's own thinking about the transformation problem, albeit one that in their view finds 'ample support' from Marx's writings (Wolff et al. 1982, 1984: 126).

There is, however, an obvious problem associated with reading Marx in this way, namely, that in order to do so, it is necessary to argue against what Marx says explicitly on numerous occasions about the transformation problem and about the relationship which exists between values and prices of production. For example, in Chapter IX of *Capital* Volume III, Marx (1974b) argues that the price of production may, in fact, 'differ from the value of a commodity' (p. 164). He concedes there that the price of production of a commodity can be and sometimes is 'the same as the value of a commodity' (Marx 1974 [1894]: 173). However, he also claims that this is only the case when the capital invested 'has a mean or average composition' (Marx 1974 [1894]). Elsewhere in Chapter IX, Marx (1974b) insists that it 'only in the case of capital in branches of production in which the composition happens to coincide with the social average, would value and price of production be equal' (p. 163). In all other cases, he argues, the price of production of a commodity and its value will be different. Similarly, in the well-known chapter on ground rent in *Capital* Volume III, Marx (1974b) asserts that 'the price of production of a commodity is not at all identical with its value' (p. 758). It may, he says, 'lie above or below its value' and 'coincides with it only by way of exception' (Marx 1974b). According to the alternative understanding of his views presented above, Marx can plausibly be read as holding that prices of production and values properly understood (social values) are actually the same thing. However, as we have just seen, Marx himself appears to explicitly reject this view on numerous occasions. Indeed, he criticises Adam Smith and David Ricardo for holding it and refers to this identification in their writings as a theoretical 'blunder' (Marx 1989 [1861–1863]: 465).

In order to adequately defend this alternative reading, therefore, it is necessary to provide a response to this line of reasoning. It is, in effect, necessary to argue with Marx against Marx, or to 'rescue' Marx from himself, for example, by drawing attention to the importance of the distinction which Marx makes elsewhere between the notion of individual value and that of social value. This brings us to the issue of whether it is legitimate to read Marx in this way. Or should not such a reading be simply dismissed out of hand



on methodological grounds? As Andrew Kliman has noted, any consideration of what Marx says about the transformation problem raises questions regarding hermeneutic understanding and the methodological procedures that are to be followed when reading texts (Kliman 2007a: 55–74), especially in the case of those thinkers and texts where logical contradictions, real or apparent, are concerned. The notion of a ‘reconstruction’ seems to me to be a fruitful one for those who are interested in issues of this kind (Burns 2011; 2013). It is perhaps worth noting at this point that, in addition to Wolf et al., other commentators have also referred to the need to reconceptualise or reconstruct Marx’s thoughts on the transformation problem, in such a way that consistency of usage is achieved and real or apparent contradictions are removed (Heinrich 2009; Reuten 2002; Taylor 2004; Tomba 2009).

## Conclusion

There is evidence which supports the traditional view that, for Marx in *Capital* Volume III, the transformation problem is about the transformation of values into prices<sup>2</sup>. This understanding of the transformation problem does have support from the primary sources. Indeed, it is arguable that the ideas associated with this reading are dominant in Marx’s writings. Moreover, as Engels observes in the Preface to *Capital* Volume II, these ideas have an important part to play in Marx’s reply to the anticipated accusation, articulated most clearly by Eugene von Böhm-Bawerk (1973 [1896]), that what he says about the labour theory of value in *Capital* Volume I is contradicted by what he says about this issue in Volume III.

In my view, the argument which Marx uses to defend himself in advance against this charge, which attempts to demonstrate that the alleged contradiction in question is not real but merely apparent, is not successful. This is so because what Marx says about the transformation problem in Chapter IX rests on a way of thinking about the labour theory of value, specifically that the value of a commodity is determined by the actual rather than the socially necessary labour-time required for its production, which is significantly different from that which he endorses in *Capital* Volume I. I am not surprised, therefore, by Riccardo Bellofiore’s (2002) contention that at least ‘some of the contradictions’ on which Marx’s critics ‘have insisted’ are ‘really there’ in Marx’s texts (p. 104). There is indeed an inconsistency in at least some of the things that Marx says about the concept of value across Volumes I and III of *Capital*. In Volume I, Marx defines the concept of value by reference to the notion of socially necessary labour-time, whereas in his discussion of the transformation problem in Chapter IX of Volume III, he assumes that the value of a commodity is determined by the actual labour-time which goes into its production.

I have claimed that an alternative reading, which addresses Böhm-Bawerk’s accusation that Marx contradicts himself, is in principle possible. Such a reading would remove the apparent contradiction in Marx’s thinking in a different way from that proposed by Marx in *Capital* Volume III, by suggesting that for Marx prices of production are best seen as modified values rather than monetary prices<sup>2</sup> which deviate from values. It would take more seriously, therefore, than arguably Marx himself did in Chapter IX, the claim made in *Capital* Volume I that the value of a commodity is determined by the socially necessary labour-time which goes into its production.



I have also suggested that this alternative reading may be thought of as a theoretical reconstruction of Marx's thought and that this raises the question of whether such a reading is a valid one methodologically speaking. However, this is a further issue, which really requires a separate discussion. For the present, let us say simply that a proposed alternative reading of Marx's views on the transformation problem, along the lines suggested above, although not without its problems, does merit a closer examination. Such a reading would be consistent with some of the things which Marx says about the concept of value, especially his distinction between the notions of individual value and that of social value, and his emphasis on the importance of the concept of social necessity – things that are overlooked by those (including Marx himself in Chapter IX) who think that the transformation problem is about the transition from values to prices<sup>2</sup>, and who hold that what Marx says about this problem should be thought of, not as a refinement of the labour theory of value but rather as a theory of prices which supplements the labour theory of value.

## References

- Bandyopadhyay P (1981) Critique of Wright, 2: In defence of a post-Sraffian approach. In: Steedman I, Sweezy P (eds) *The Value Controversy*. London: Verso, pp. 100–129.
- Baumol WJ (1974) The transformation of values: What Marx 'really' meant (An interpretation). *Journal of Economic Literature* **12**(1): 51–62.
- Bellofiore R (2002) 'Transformation' and the monetary circuit: Marx as a monetary theorist of production. In: Campbell M, Reuten G (eds) *The Culmination of Capital: Essays on Volume III of Marx's Capital*. London: Palgrave Macmillan, pp. 102–127.
- Burns T (2011a) Interpreting and appropriating texts in the history of political thought: Quentin Skinner and poststructuralism. *Contemporary Political Theory* **10**(3): 313–331.
- Burns T (2011b) 'A fourth hermeneutic approach? Establishing the meaning of a text by reconstruction. In: Burns T (ed.) *Aristotle and Natural Law*. London: Continuum, pp. 23–26.
- Carchedi G (1984) The logic of prices as values. *Economy and Society* **13**(4): 431–455.
- Carchedi G (1993) Marx's logic of inquiry and price formation. In: Moseley F (ed.) *Marx's Method in Capital: A Re-Examination*. Atlantic Highlands, NJ: Humanities Press, pp. 185–216.
- Dobb M (1973) Introductory: On ideology. In: Dobb M (ed.) *Theories of Value and Distribution since Adam Smith*. Cambridge: Cambridge University Press, pp. 1–37.
- Elson D (1979) The value theory of labour. In: Elson D (ed.) *Value: The Representation of Labour in Capitalism*. London: CSE Books, pp. 115–180.
- Fine B (1975) *Marx's Capital*. London: Macmillan.
- Fine B, Harris L (1979) Value, price and the transformation problem. In: Fine B, Harris L (eds) *Rereading Capital*. London: Macmillan, pp. 21–48.
- Fine B, Saad-Filho A (2004) The transformation problem. In: Fine B, Saad-Filho A (eds) *Marx's Capital*. 4th ed. London: Pluto Press, pp. 126–134.
- Fine B, Saad-Filho A (2010) The so-called transformation problem. In: Fine B, Saad-Filho A (eds) *Marx's Capital*. 5th ed. London: Pluto Press, pp. 108–115.
- Foley DK (1986) *Understanding Capital: Marx's Economic Theory*. Cambridge, MA: Harvard University Press.
- Gerstein I (1986) Production, circulation and value: The significance of the 'transformation problem' in Marx's critique of political economy. In: Fine B (ed.) *The Value Dimension: Marx versus Ricardo and Sraffa*. London: Routledge, pp. 45–93.
- Glick M, Ehrbar H (1987) The transformation problem: An obituary. *Australian Economic Papers* **26**: 294–317.

- Heinrich M (2009) Reconstruction or deconstruction? Methodological controversies about value and capital and new insights from the critical edition. In: Bellofiore R, Fineschi R (eds) *Re-Reading Marx: New Perspectives after the Critical Edition*. London: Palgrave Macmillan, pp. 71–98.
- Hilferding R (1973 [1904]) Böhm-Bawerk's criticism of Marx. In: Sweezy PM (ed. and intro) *Karl Marx and the Close of His System and Böhm-Bawerk's Criticism of Marx*. Clifton, NJ: Augustus Kelley, pp. 121–198.
- Howard MC, King JE (1975) *The Political Economy of Marx*. London: Longman.
- Kemp T (1982) Marx on the formation of the average rate of profit. In: Kempt T (ed.) *Karl Marx's Capital Today*. London: New Park Publications, pp. 7–86.
- Kliman A (2007) Making Marx make sense: On interpretive method. In: Kliman A (ed.) *Reclaiming Marx's Capital: A Refutation of the Myth of Inconsistency*. Lanham, MD: Lexington Books, pp. 55–74.
- Kliman A, McGlone T (1988) The transformation non-problem and the non-transformation problem. *Capital & Class* 35: 35–63.
- Laibman D (1973) Values and prices of production: The political economy of the transformation problem. *Science & Society* 37(4): 404–436.
- Langston RH (1984) A new approach to the relation between prices and values. In: Mandel E, Freeman A (eds) *Ricardo, Marx, Sraffa*. London: Verso, pp. 1–10.
- Mandel E (1984) Gold, money and the transformation problem. In: Mandel E, Freeman A (eds) *Ricardo, Marx, Sraffa*. London: Verso, pp. 141–164.
- Marx K (1958 [1847]) Wage labour and capital. In: Marx K, Engels F (eds) *Selected Writings*, vol. 1. London: Lawrence & Wishart, pp. 70–105.
- Marx K (1958 [1898/1865]) Value, price and profit. In: Marx K, Engels F (eds) *Selected Writings*, vol. 1. London: Lawrence & Wishart, pp. 398–447.
- Marx K (1969 [1862–1863]) *Theories of Surplus Value*, part II (ed Ryazanskaya SW; trans. Simpson R). London: Lawrence & Wishart.
- Marx K (1973 [1857–1859]) *Grundrisse: Foundations of the Critique of Political Economy* (Rough Draft; ed and trans. NicolausM). Harmondsworth: Penguin Books.
- Marx K (1974 [1867]) *Capital: A Critique of Political Economy, Vol. I – A Critical Analysis of Capitalist Production* (ed Engels F). London: Lawrence & Wishart.
- Marx K (1974 [1894]) *Capital: A Critique of Political Economy, Vol. III – The Process of Capitalist Production as a Whole* (ed Engels F). London: Lawrence & Wishart.
- Marx K (1977 (1893 [1885])) *Capital: A Critique of Political Economy, Vol. II – The Process of Circulation of Capital* (ed Engels F). 2nd ed. London: Lawrence & Wishart.
- Marx K (1981 [1859]) *A Contribution to the Critique of Political Economy* (ed Dobb M). London: Lawrence & Wishart.
- Marx K (1989 [1861–1863]) *Economic Manuscript 1861–1863, Collected Works*, vol. 31 (ed Miskievich L; trans. Burns E, Simpson R, Cohen J). London: Lawrence & Wishart.
- Marx K (1991 [1861–1863]) *Economic Manuscript 1861–1863, Collected Works*, vol. 33 (ed Miskievich L; trans. Fowkes B, Burns E, Simpson R, et al.). London: Lawrence & Wishart.
- Marx K, Engels F (1983) *Letters on Capital*. London: New Park Publications.
- Meek RL (1973 [1956]) Karl Marx's theory of value (II). In: Meek RL (ed.) *Studies in the Labour Theory of Value*. 2nd ed. London: Lawrence & Wishart, pp. 157–200.
- Meek RL (1977) From values to prices: Was Marx's journey really necessary? In: Meek RL (ed.) *Smith, Marx and after: Ten Essays in the Development of Economic Thought*. London: Chapman & Hall, pp. 120–133.
- Murray P (2005) Money as displaced social form: Why value cannot be independent of price. In: Moseley F (ed.) *Marx's Theory of Money: Modern Appraisals*. London: Palgrave Macmillan, pp. 50–64.

- Oakley A (1985) *Marx's Critique of Political Economy: Intellectual Sources and Evolution, Vol. 2: 1861–1863*. London: Routledge.
- Parys W (1982) The deviation of prices from labour values. *The American Economic Review* 72(5): 1208–1212.
- Reuten G (2002) Marx's *Capital III*, the culmination of capital: General introduction. In: Campbell M, Reuten G (eds) *The Culmination of Capital: Essays on Volume III of Marx's Capital*. London: Palgrave Macmillan, pp. 1–15.
- Shaikh A (1977) Marx's theory of value and the 'transformation problem'. In: Schwarz J (ed.) *The Subtle Anatomy of Capitalism*. Santa Monica, CA: Goodyear, pp. 106–139.
- Sweezy P (1942) The transformation of values into prices. In: Sweezy P (ed.) *The Theory of Capitalist Development: Principles of Marxian Political Economy*. New York: Monthly Review Press, pp. 109–132.
- Taylor N (2004) Reconstructing Marx on money and the measurement of value. In: Bellofiore R, Taylor N (eds) *Constitution of Capital: Essays on Volume I of Capital*. London: Palgrave Macmillan, pp. 88–116.
- Tomba M (2009) From history of capital to history in *Capital*. In: Bellofiore R, Fineschi R (eds) *Re-Reading Marx: New Perspectives after the Critical Edition*. London: Palgrave Macmillan, pp. 195–210.
- Von Böhm-Bawerk E (1973 [1896]) Karl Marx and the close of his system. In: Sweezy PM (ed. and intro) *Karl Marx and the Close of His System and Böhm-Bawerk's Criticism of Marx*. Clifton, NJ: Augustus Kelley, pp. 3–120.
- Von Bortkiewicz L (1952) Value and price in the Marxian system. *International Economic Papers* 2: 5–60.
- Winternitz J (1948) Values and prices: A solution to the so-called transformation problem. *The Economic Journal* 58(230): 276–280.
- Wolff RD, Callari A, Roberts B (1984) A Marxian alternative to the traditional 'transformation problem'. *Review of Radical Political Economics* 16(2–3): 115–135.
- Wolff RD, Roberts B, Callari A (1982) Marx's, not Ricardo's 'transformation problem': A radical reconceptualization. *History of Political Economy* 14(4): 564–582.
- Yaffe D (1976) Value and price in Marx's *Capital*. *Revolutionary Communist* 1: 31–49.
- Yaffe D (1994) Value, price and the neo-Ricardians: An introductory note. In: Mohun S (ed.) *Debates in Value Theory*. London: Macmillan, pp. 82–88.

## Author biography

Tony Burns is a member of the Centre for the Study of Social and Global Justice (CSSGJ) in the School of Politics & International Relations, University of Nottingham, UK. He is co-editor (with Ian Fraser, Loughborough University, UK) of *The Hegel-Marx Connection* (Palgrave, 2000) and (with Simon Thompson, University of the West of England, UK) *Global Justice and the Politics of Recognition* (Palgrave, 2013).