

NEO-RICARDIAN ECONOMICS

A Wealth of Algebra, A Poverty of Theory

by Anwar Shaikh

ABSTRACT: Neo-Ricardians economics claims to possess a "rigorous" theoretical and algebraic framework which is the basis for their conclusion that Marxian labor values are redundant, inconsistent with prices of production, and, in fact, determined by them. This claim is challenged, and it is set out why labor appears as an integral aspect of Marx's notion of value, why the magnitude of value is measured by abstract labor time, and how this magnitude regulates and dominates prices. Also developed is the essential phenomena of Marx's theory of competition of capitals which is contrasted to the vulgar, ideologically based notion of perfect competition. Within this framework, *the very same algebraic formulations which the neo-Ricardians use* yield exactly the kinds of results Marx anticipates. Indeed, once it is established how heavily the neo-Ricardians are in debt to neoclassical (i.e. vulgar) concepts such as general equilibrium, perfect competition and the notion of profit as "cost" of production, then the bankruptcy of their theory becomes evident, and the logical contradictions and inconsistencies within their own analysis are thrown into sharp relief. It then becomes clear that the so-called rigor of their algebra merely disguises the true condition of their theory: *rigor mortis*.

Not long ago, it was fashionable in orthodox social science to proclaim that the millenium had begun. The end of poverty. The end of alienation. The end of ideology.

But this was all in theory, of course. Capitalist reality, on the other hand, has continued to develop in its own brutal and crisis prone manner, in blatant disregard of the tender sensibilities of its ideologues. Nowhere has this had a more devastating effect than in orthodox economics, whose standing has plunged as it has suffered from what Marx once called the "practical criticism" of the real. At the same time, this justly deserved decline in the status of orthodox economics has been attended by a correspondingly rapid revival of interest in Marx and in Marxian economics. We are all Marxists now, after a fashion.

But the trouble is that there is quite a difference between Marx and Marxian economics. Marx labored over the great body of work in *Capital* for more than twenty-five years, and even this core of his planned greater work was never quite finished by him.¹ Moreover, the systematic completion of this plan, which he had hoped would be carried out by his successors, was never really undertaken. Instead, in the over one hundred years since his death, Marxian economics has developed in an erratic and uneven manner with only sporadic connection to Marx's own work:² an equation here, a scheme of reproduction there, and a dialectical class struggle everywhere—with the holes in between filled in with whatever material was already at hand. *And this material, by and large, has been appropriated from orthodox economics.* As a consequence, the original relationship between Marxist theory and capitalist reality has been "subtly but steadily substituted by a new relationship between Marxist and bourgeois theory" [Anderson, 1976:55]. We are all Keynesians now, after a fashion.

Given this history, it was inevitable that the revival of interest in Marx, especially in *Capital*, would pose a tremendous difficulty for Marxian economics: namely, how to absorb Marx's conceptual structure and particularly his theory of value, into a pre-existing "Marxian" economics in which the great bulk of the analysis is founded precisely on the *absence* of such concepts. How does one absorb the concept of value, for instance, into the dominant analyses of the labor process, price theory, effective demand, accumulation, imperialism, etc., when as currently constructed none of these really "use" this concept in the first place?

The dilemma is unavoidable. If the structure of *Capital* is indeed a scientific one, then it is based on a *system* of concepts, interlocked and interdependent, and one cannot simply sample individual concepts as one might

recipes in a cookbook. Moreover, not only does each concept have its place in relation to others, it also has its own particular effects: it influences the facts one uncovers and the conclusions one draws. *It makes its presence felt.* From which it follows that its absence will be felt just as much. It is not possible, for instance, to absorb the concept of value into pre-existing analyses which are in fact predicated on its absence, *without one or the other having to give way.*

There are only two basic ways out of this impasse. Either one must demonstrate that the system of concepts in *Capital* can indeed be extended and concretized to deal with existing arguments and historical evidence. Or else one must show that the dominant formulations in what is currently defined as Marxian economics are in fact based on a superior structure, and Marx's concepts, where "appropriate," must then be reformulated to fit this. In the former case, it is Marxian economics which will inevitably be altered, perhaps decisively, as it is critically appropriated into Marx's conceptual structure. In the latter case, it is this conceptual structure itself which will be modified and perhaps rejected in good part as being inconsistent with currently accepted theories.

The neo-Ricardians of course adopt the latter position. Their framework, they argue, is vastly more rigorous than that of Marx, and within it they are easily able to treat a whole host of issues involving prices of production without any reference whatsoever to value analysis. It follows from this, they insist, that the very notion of value is a redundant one. What is worse, it is inconsistent with price analysis since magnitudes in terms of values generally differ from those in terms of price. Operating on this basis, they then conclude that it is the concept of value which must be abandoned, as must a host of other arguments in Marx such as those involving productive/unproductive labor, the falling rate of profit, etc. The remainder, that part which fits into their framework, is then defined to be the "essence" of Marx's analysis, and this of course can easily be integrated into a modern framework in the Ricardo-Marx-Sraffa-Keynes-Kalecki tradition [Steedman, 1977:205-207].

I wish to argue exactly the opposite position. The analysis in Marx is, I claim, vastly superior in its overall structure to anything imaginable within the flat conceptual space of the neo-Ricardians. Indeed, it is their vaunted algebra, on which they base so many of their claims to rigor, which is in fact their greatest weakness. This is so, as we shall see, precisely because their algebra goes hand in hand with a series of concepts taken directly from what Marx calls vulgar economy: equilibrium, profit as a *cost*, and worst of all, perfect competition and all that it entails. It is not the algebra but rather these concepts, whose apologetic and ideological roots are well-known, which generate their basic conclusions. This will become immediately apparent when it is shown that ex-

actly the same algebra generates very different answers and hence very different conclusions, once it is "asked" different questions. And these questions, in turn, are different exactly because the method and the system of concepts in Marx, his scientific analysis of the law of value, is so unlike that of vulgar economy.

It should be emphasized that I am *not* claiming that neo-Ricardian analysis should be dismissed. On the contrary, I wish to argue that their real contributions can be fully utilized only when those contributions are divested of the vulgar concepts which are smuggled in with them. This is what the term critique always means: a critical appropriation of knowledge.

In what follows, I will therefore briefly outline the structure of Marx's argument in order to highlight the reason that labor time appears in Marx as the regulating principle of exchange relations, and the manner in which this regulation occurs. I will then present and critically examine the principle arguments of the neo-Ricardians, as represented by the work of Steedman. Here, the argument will proceed along the lines outlined earlier. Along the way I will develop the contrast between Marx's analysis of the competition of capitals and the neoclassical concept of perfect competition. A recent defense of neo-Ricardian economics, by van Parijs [1980], will be critically examined in the light of this distinction.

The Basic Structure of Marx's Argument

The role of labor in the reproduction of society. In all societies, the objects required to satisfy human needs and wants imply a certain allocation of society's productive activities, of its labor time, in specific proportions and quantities. Otherwise reproduction of the society itself is impossible: the relation of people to nature must be reproduced if society is to be reproduced. Moreover the relation of people to nature exists only in and through definite relations of people to people; these are therefore two aspects of the same set of relations which define the mode of (re)production of social life. The production of material wealth goes hand in hand with the reproduction of social relations.

None of this implies that labor acts unaided. On the contrary, labor is a relation between people and nature, in which people actively and consciously utilize nature to their own ends. The important point here is that *the production process is a labor process, a basic human activity, without which the reproduction of society would be impossible.* By the same token, while it is true that use-values may occasionally arise as the spontaneous fruits of nature (wild grapes, etc.), it is obvious that no society could exist for long without the *production* of use-values, that is, without labor itself.

In all class societies, labor acquires yet another aspect, since under these circumstances it is the extraction of

surplus labor and the creation of the resulting surplus product which forms the material basis for the reproduction of the class relation.

It is therefore Marx's contention that *labor time is fundamental to the regulation of the reproduction of society*: the performance of labor produces both use-values and social relations; the performance of surplus labor reproduces both the surplus product and the class relation; and a particular distribution of the "social labour in definite proportions" results in the production of the (specific) masses "of products corresponding to the different needs" of society [Marx and Engels, 1975:196].

The role of labor in the regulation of capitalist society. Capitalist production, like that in every other class society, is also subject to the same fundamental regulation through labor time. But capitalist production has the peculiarity that it is based on generalized commodity production, in which the vast bulk of the products which constitute the material basis of social reproduction are produced without any direct connection to social needs. They are produced instead by private independent labor processes, each one dominated by the profit motive. Neither the connection of a given labor process to the social division of labor, nor indeed the actual usefulness of the product itself, is of any immediate interest to the capitalist involved: only profit matters, in the final analysis.

And so Marx points to the fundamental contradiction which exists here. On one hand, each labor process is privately undertaken as if it is independent of all others, with exchange for profit as the goal. On the other hand, this undertaking assumes in advance that other similar labor processes will also be there at the right time and in the right proportions. Buyers of this product, sellers of the means of production for this process, and sellers of the means of consumption for these capitalists and workers, must all be presupposed if this endeavor is to be successful, and even more important, if it is to be repeated (reproduced).

Each apparently private and independent labor must therefore *presuppose* a social division of labor. Moreover, in order for this presupposition to be realized in practice, the private and apparently anarchic labors must somehow in fact end up being integrated into a social division of labor.

It is in exchange that the apparent independence of each private labor process *collides* with the true interdependence inherent in a social division of labor. Exchange is the sphere, as Marx puts it, where the contradictions of commodity production are "both exposed and resolved" [Marx, 1967c:880]. It is the sphere where the private independent labors are *forcibly articulated into a social division of labor* [Colletti, 1972:83].

Notice what is being said here. Exchange is the sphere in which the contradiction *internal to production itself*,

the contradiction between private labor and the social division of labor, is made visible. It is here that each capitalist first gets the good news or bad news, through the medium of prices and profits. But at the same time, because this contradiction is internal to the social division of labor itself, its resolution implies the *domination* of the outcomes of exchange, of prices and profits, by social labor time. The outcomes of exchange are "the form in which this proportional distribution of labour asserts itself" [Marx and Engels, 1975:196].

And so we have a double relation. Prices and profits as the immediate regulators of reproduction, and social labor time as the intrinsic regulators of prices and profits and hence of reproduction. The operation of this double relation is what Marx calls the law of value, and it is precisely because of his analysis of the role of labor time in social reproduction that the law of value rests on a labor theory of value:

in the midst of all the accidental and ever fluctuating exchange-relations between the products, the labour-time necessary for their production forcibly asserts itself like an overriding law of Nature [Marx, 1967a:75].

Abstract labor and value. We have seen why labor time enters in a fundamental way into the regulation of exchange value. Now, we need to specify exactly how this regulation takes place.

In all form of societies, concrete (i.e. specific) types of labors produce specific types of products: a weaver produces cloth, a baker produces bread. The concrete qualities of their labors result in the concrete forms of their use-values.

However, commodity production is production for exchange, and in exchange the distinct qualities which give various commodities their concreteness are abstracted from by the process of exchange itself. When cloth is exchanged for bread, a certain quantity of the former is socially equated with a certain quantity of the latter. Their concrete differences are therefore subordinated to a common social property, that of having "quantitative worth," what Marx calls exchange value. So, by becoming a commodity, a use-value acquires an additional aspect, that of possessing exchange value.

As a product, a use-value is the result of concrete labor. This means that the social process of equating different use-values and hence abstracting from their concrete qualities is at the same time a social process of abstracting from the concrete qualities of the labors whose results are these use-values. It follows that the very same set of social relations which endows use-values with the common quantitative property of exchange value also endows the labor which produces this concrete use-value with the capacity to produce a common abstract quantity. Thus labor too acquires an additional aspect when it is aimed at producing commodities: it ac-

quires the aspect of abstract labor, and from this point of view all commodity-producing labor becomes qualitatively alike and quantitatively comparable.

Because it is only labor actually engaged in the production of commodities which acquires the property of abstract labor, it is only the labor time of this commodity-producing labor which regulates the exchange values of commodities. Moreover, since from a social point of view the total labor time required in the production of a commodity consists of direct and indirect labor time, it is this total which Marx calls the *intrinsic measure* of a commodity's exchange value, the labor value of the commodity [Marx, 1971:403].

It is important to stress here that the abstraction process described above is a real social process. Abstract labor is the property acquired by human labor when it is directed towards the production of commodities, and as such, it exists *only* in commodity production. The concept of abstract labor is not a mental generalization that we somehow choose to make, but rather the reflection in thought of a real social property. This in turn means that *abstract labor, and hence value too, are real* [Colletti, 1972:87]: commodity-producing labor creates value, which is objectified (materialized) in the form of a commodity. We will see shortly how important this point is vis a vis the neo-Ricardians.

There is one further issue here. We have seen that abstract labor has its origin in the process whereby a use-value becomes a commodity. But this process in turn has two possible forms, with quite different implications for abstract labor.

Consider the case of a type of product which is produced not for exchange but for direct use, say by pre-capitalist peasant labor. Suppose now that a portion of this product happens to find its way into exchange. Then, in this case these use-values become commodities only in the *act* of exchange — which in turn means that the concrete labor which produced them is abstracted from, and acquires the additional property of abstract labor, only in the moment of exchange itself. Non-commodity *production* therefore involves concrete labor and use-values only, and a portion of these are *realized* as abstract labor and commodities, respectively, only in exchange itself.

The matter is very different in the case of *commodity production*. Here, the use-value is produced as a commodity, and indeed the whole nature of the production process is dominated by the fact that to the producer it is the exchange value of this commodity which is central. In this case the use-value acquires its character as a commodity by virtue of the fact that this labor process exists within and through commodity relations, and not merely at the moment of exchange. This use-value is a commodity from its very conception, and the labor is both concrete and abstract labor from the very start. *Thus labor involved in the production of commodities produces*

value, while exchange merely realizes it in money form. It is only because of this that Marx can distinguish between the amounts of value and surplus value created in commodity production, and the generally different amounts realized through exchange.

Money and price. The above analysis also implies that money is an absolutely necessary aspect of developed commodity production. Exchange is the process in which people equate different use-values to one another, and money is the necessary medium in which this equation is expressed, and through which the articulation of the private labors is accomplished. Money is the medium of abstraction, and the means of forcible articulation.

The price of each commodity is therefore always a money price, the golden measure of its quantitative worth. It is what Marx calls the *external measure* of exchange value, and hence the *form* taken by value in exchange [1967a:47-8; 1968:403].

Because price is the monetary expression of value in the sphere of exchange, it is always more complexly determined than value. Even in the simplest case, when prices are proportional to values, the money price of a commodity is still a quantity of money (say gold) determined by the value of the commodity *relative* to the standard of price (say one ounce of gold), *and is therefore already a (trans)form of the commodity's value.* As such, the movements of prices need not parallel those of commodity values. For instance, prices may rise even when commodity values are falling, if the value of gold falls even faster [Marx, 1967a:99].

We know of course that as Marx develops his argument in *Capital*, the relative complexity of the price form becomes greater. In *Capital I*, price is generally treated as a simple money form of value, but wages, as time wages and piece wages, are already more complex forms of the value of labor power. In *Capital II*, costs of circulation and turnover add fresh determinations to the price form. Lastly, in *Capital III*, the development of prices of production and of the splitting of surplus value into profits, rents and interest further concretizes the price form, while the distinction between individual value and average value concretizes the determination of value magnitudes, and through them, those of price magnitudes (individual, average and regulating prices of production; differential profitability; and absolute and differential rent). It must be noted here that the increasing complexity of the price-value relationship is no defect. Since price magnitudes are the immediate regulators of reproduction, the law of value must contain within it a theory of the structure of price phenomena — right down to their most concrete determinations. Otherwise the law remains abstract, unable to grasp the real movements of the system.

On the other hand, because the price magnitudes are themselves regulated by the socially-necessary distribu-

tion of labor, the various forms of price categories must be developed in relation to the quantities of socially-necessary labor time whose magnitudes and movements dominate and regulate these price phenomena. We must be able to conceive not only of the relative autonomy of price magnitudes, as expressed in their variability (complexity) relative to values, *but also of the limits to these variations, and of the connection of these limits to social labor time.* It is significant that in his own development of the increasingly complex categories of price phenomena, Marx never loses sight of the domination of these phenomena by the law of value.

No matter how the prices are regulated, we arrive at the following:

1. The law of value dominates price movements with reduction or increases in required labour time prices of production fall or rise...
2. The average profit determining the prices of production must always be approximately equal to that quantity of surplus-value which falls to the share of individual capital in its capacity of an aliquot part of the total social capital... Since the total value of the commodities regulates the total surplus-value, and this in turn regulates the level of average profit and thereby the general rate of profit—as a general law or a law governing fluctuations—it follows that the law of value regulates prices of production [Marx, 1967c:179-80].

In a highly modern vein, Marx goes on to note how meaningless it is—but how very convenient—to treat the difference between price and value (i.e. the *relation* between the two) as a mere separation.³

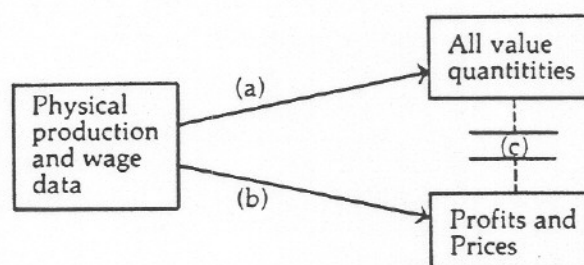
The price of production includes the average profit... It is really what Adam Smith calls *natural price*, Ricardo calls *price of production*, or *cost of production*,... because in the long run it is a prerequisite of supply, of the reproduction of commodities in every individual sphere. But none of them has revealed the difference between price of production and value. We can well understand why the same economists who oppose determining the value of commodities by labour-time, i.e. by the quantity of labour contained in them, why they always speak of prices of production as centres around which market-prices fluctuate. They can afford to do it because the price of production is an utterly external and *prima facie* meaningless form of the value of commodities, a form as it appears in competition, therefore in the mind of the vulgar capitalist, and consequently in that of the vulgar economist [1967c:198].

I remind the reader that Marx is speaking here of economists of his time who claim to ground themselves in "classical" economics—minus the labor theory of value, of course!

Critique of the Neo-Ricardians

In what follows I will divide the main points of the neo-Ricardian position, as summarized by Steedman, into three major groups and address each in turn.

FIGURE 1



The redundancy argument. Fig. 1 illustrates the first major argument marshalled by the neo-Ricardians, which as Steedman notes has been made "in various forms, by many different writers over the last 80 years," and in which he claims "no logical flaw has ever been found" [Steedman, 1977:48-9]. Eighty years without ever being seriously challenged! Such brave words clearly deserve a closer examination.

Steedman explains it as follows. The box on the left represents the physical production data and the real wage, and these "suffice to *determine* the rate of profit...and all prices of production," as illustrated by the path marked (b). At the same time, "the quantities of labour embodied in the various commodities...can themselves only be *determined* once the conditions of production are known," as illustrated by path (a). From this it follows at once that labor values "*play no essential role in the determination of the rate of profit (or of the prices of production)*" [1977:14]. (In these quotations the emphasis on the word "determine" is added.) Values are, in other words, redundant in the analysis of exchange relationships.

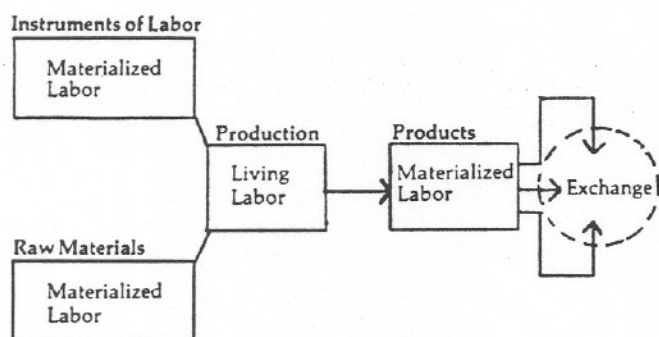
Notice how often the word "determine" crops up: the physical production data *determines* values, and in conjunction with the real wage also *determines* prices of production. But what then determines this physical production data?

In Marx, the answer is clear: it is the labor process. It is human productive activity, the actual performance of labor, which transforms "inputs" into "outputs," and it is only when this labor is successful that we have any "physical production data" at all. Moreover, if the labor process is a process of producing commodities, then it is one in which value is materialized in the form of use-values. Thus both inputs and outputs are the use-forms of materialized value, and we can then say that in the *real*

process, it is *values which determine the physical production data*.

We also know, moreover, that in the *real* process of reproduction, the production of use-values *precedes* their exchange. Indeed, exchange itself is a process in which the different labor times involved in producing these use-values actually confront each other, and are eventually articulated into a social division of labor—through the medium of money prices. Thus it is *values which also determine prices*, in a double sense: prices are the forms taken by values in exchange, and the magnitudes of these values dominate and regulate the movements of their price forms. The latter point must of course be developed further, since we need to show not merely that prices of production and profits rest on the expression in circulation of value and surplus value, but also that the former magnitudes are regulated by the latter. This we take up in the next section. Nonetheless, we may summarize the above argument in a diagram which will serve as a contrast to the neo-Ricardian one in Fig. 1.

FIGURE 2



How do neo-Ricardians manage to miss so elementary a point? It is, I think, because of two fundamental weaknesses characteristic of their analysis. First, in spite of their protestations to the contrary, they tend to view production as a technical process, as physical data, instead of a labor process in which human labor is objectified in use-values. Hence the characteristic emphasis of the neo-Ricardians on distribution; once production is seen as merely a technical process, only distribution appears truly social.⁴

Second, they typically confuse the real process with its appropriation in thought. In the real process, as summarized in Fig. 2 above, social labor time *really* regulates exchange. The so-called physical data is then an *ex post* conceptual summary of the real determination, and if we then use it to conceptually *calculate* values, we only capture in thought their real magnitudes.⁵ Such a calculation no more determines these values than does the calcula-

tion of the mass of the earth determine either the earth or its mass. It merely recognizes what already exists. This is a fundamental point in a materialist view of the world, and the eighty year failure of the neo-Ricardians to distinguish real from conceptual determination only reveals their long attachment to an idealist method.

The inconsistency argument. Let us return for a moment to the neo-Ricardian fork diagram in Fig. 1. In that diagram, the path (c) from value magnitudes to profits and prices is dotted to express its redundancy. But it is also blocked off, in order to represent the neo-Ricardian argument "that one cannot, in general, explain profits and prices from value quantities..." [Steedman, 1977:49].

There are two basic components to this argument. The first is simply the redundancy argument repeated once again, in which Steedman insists that since he can *calculate* both value and price magnitudes from the physical data, the former cannot therefore determine the latter. For him, only algebra "explains" anything. We have already dealt with the superficiality of this type of reasoning.

The second element is more substantive, though it too, like the first, is hardly new. In essence, this point has to do with the phenomena of the "transformation problem." In what follows I will therefore present both the problem and its treatment, though the main results I will utilize are developed by me elsewhere [Shaikh, 1977:106-39; 1982a], and will merely be outlined here.

The basic issues are well-known. Following Steedman's own analysis, we abstract from fixed capital and joint production, and consider a given mass of use-values representing a given sum of values and sum of surplus values. Then, with prices proportional to values (for simplicity in exposition, let \$1 represent 1 hour of value), all money magnitudes are directly proportional to the corresponding value magnitudes, and therefore all money ratios are equal to the corresponding value ratios. In this case, the form of value is a *direct* expression of value, and the relationship between production and circulation is especially transparent. I will call these prices and profits, *direct price* and *direct profits*.

Now consider the same mass of use-values, hence the same sum of values and surplus values, exchanged at prices of production. We are considering, in other words, a change in the form of value alone, from direct prices to prices of production. Prices of production are therefore transformed direct prices, and since the latter are themselves the monetary (trans)forms of value, prices of production are doubly transformed values.

The relation between the sum of prices and the sum of values defines the value of money. If we then keep the value of money constant in order to simplify the analysis, the sum of prices of production will equal the sum of direct prices. The sum of money prices will, in other words, be constant across the transformation. Nonethe-

less, individual prices of production (transformed direct prices) will differ from individual direct prices. Strictly speaking, one should refer to these differences as "price of production-direct price deviations." This is a very awkward term, however, and it is much simpler to follow Marx's usage and speak of "price-value" and "profit-surplus value" deviations. I will therefore adhere to this traditional usage, but with the clear understanding that the deviations we speak of are between money magnitudes.

It is evident that no change in the mere exchange ratios through which a given total product is distributed can alter the total mass of use-values so distributed. It follows immediately, as Marx points out, that no change in exchange ratios can alter either the sum of values or the sum of surplus values: it can only result in a different kind of division of these totals [Marx, 1967c; 1967b:43].

It does *not* follow that the *monetary* expression of these sums is invariant. Even with the value of money constant, so that the sum of prices is constant, the sum of transformed profits (corresponding to prices of production) will in general differ from direct profits. The question is, given that circulation neither creates nor destroys values (assuming the whole product is sold), how is it that profits can differ from surplus value?

When a commodity is sold at its direct price, the seller and buyer exchange equal values in commodity form and money form, respectively. But when prices deviate from values, a transfer of value takes place during the exchange process. For instance, when a commodity sells at a price below its value (i.e. below direct price), the capitalist who sells the commodity receives a value in money form which is less than the value he hands over in the form of a commodity, and vice versa for the buyer. Surplus value is therefore transferred from seller to buyer.

To understand the general implications of this, let us first divide the total social production into three great branches (means of production, workers' articles of consumption, and capitalists' articles of consumption), and then, on this basis analyze the effects of price-value deviations on the transfers of value in simple reproduction. To do this we will consider the effect of price-value deviations in each branch *taken singly*, holding the prices of the remaining two branches exactly equal to values. We are therefore momentarily allowing the sum of prices to deviate from the sum of values, though we will soon return to this equality. It is important to note that this is an analytical device only, not a description of an actual process.

Suppose the first branch raises its total price above its total value, with the other two keeping their prices equal to values. Then the gain in profits of the first branch is exactly equal to the rise in the sum of prices. This branch, however, sells means of production, which in simple

reproduction are equal in magnitude to those used up as constant capital in all three branches. Therefore the price rise of the first branch, *which is the same thing as the rise in the sum of prices*, produces an exactly equal rise in the total cost price of all three branches. But if the sum of cost prices rises as much as the sum of prices, the difference between the two, which is the *sum of profits*, is not changed at all. It follows therefore that though the first branch can alter its own profits by altering its price, other things being equal, this cannot in any way give rise to any change in the sum of profits. What is gained by one capitalist as *capital value*, in the form of profits, is exactly offset by what is lost by the capitalist class as a whole as *capital value*, in the form of constant capital. *The transfers of value therefore remain within the circuit of capital, so that within this circuit the net transfer of value is zero.*

A similar analysis can be conducted for the second branch, which sells workers' articles of consumption. Here, any rise in this total price is initially at the expense of the immediate buyers, who are the workers as a whole. But since we are considering a change in the form of value alone, the value of labor power and hence the real wage are held constant, so that any rise in the price of workers' means of subsistence is also a rise in the variable capital advanced by capitalists in all three branches for the purchase of labor power. Consequently, here too the sum of cost prices will rise exactly as much as the sum of prices, so that total profits remain unchanged. The second branch can alter its own profits, but only at the expense of the profits of the remaining two branches, because what it gains as capital value in the form of profits is also lost by the capitalist class as a whole as capital value in the form of variable capital. Once again, the transfers of value remain internal to the circuit of capital, with the consequence that the net transfer is always zero.

We come finally to the sale of capitalist articles of consumption by the third branch. A change in total price here, say a fall in total price below value holding all other prices constant, means an equivalent fall in its profit below surplus value, and of course an equal fall in the overall sum of prices. Thus far, this is similar to the previous two cases. But from here on the analysis differs because the loss in *capital value* due to profits being below surplus value in the third branch appears as a gain in *revenue value* to the capitalists who buy these articles of consumption. Though this loss in capital value is indeed compensated by a corresponding gain elsewhere in social reproduction, this compensating effect disappears from the purview of the circuit of capital and is therefore not "charged," so to speak, against the fall in profit. It is this transfer of value between the circuit of capital and the circuit of revenue, through the process of exchange, which explains why price-value deviations can give rise to deviations between the sum of profits and the sum of

surplus values, *without violating the law of the conservation of value through exchange.*

The above results were explicitly derived for the case of simple reproduction only. However, they can be extended to cover expanded reproduction also. Moreover, in this general form they hold true for any price-value deviations at all, not merely those arising from the formation of prices of production.⁶

In most analyses of social reproduction, the circuit of capitalist revenue is not explicitly accounted for.⁷ Of course, under these circumstances it appears completely mysterious that as prices deviate from values, a given surplus product and hence a given mass of surplus value can manifest itself as a variable mass of profit.

However, once the *whole* of social circulation is analyzed, the mystery disappears. To the extent that price-value deviations give rise to transfers between the circuit of capital and the circuit of capitalist revenue, these transfers will manifest themselves as differences between actual profit and direct profits. Ironically, though this phenomenon is evidently a mystery to most Marxist discussions of this issue, it was no mystery to Marx himself.

This phenomena of the conversion of capital into revenue should be noted, because it creates the *illusion* that the amount of profit grows (or in the opposite case decreases) independently of the amount of surplus value [1971:347].⁸

None of this should come as any surprise once the difference between value and form of value has been grasped. Value and surplus value are created in production, and expressed as money magnitudes in circulation. Since the circulation magnitudes are more concrete, they are necessarily more complexly determined than value magnitudes, for they express not only the conditions of production of value but also the conditions of its circulation. As such, the relative autonomy of the sphere of circulation necessarily expresses itself as the relative autonomy of price magnitudes from value magnitudes. Profit, in other words, depends not only on the mass of surplus value but also on its specific mode of circulation.

The concept of the relative autonomy of circulation from production implies not only that profit can vary independently of surplus value, *but also that this independence is strictly limited.* It is necessary, therefore, to show how value categories themselves provide the limits to the variations in their money expressions.

Intuitively, it is evident from the preceding discussion that the overall deviation of actual profits from direct profits is the combined result of two factors. First, it depends on the extent to which the prices of capitalists' articles of consumption deviate from the values of these articles—that is, it depends on the manner in which surplus value is distributed among capitalists, and on the resultant pattern of individual price-value deviations.

Second, it depends on the extent to which this surplus value is consumed by capitalists as revenue—that is, on the distribution of this surplus value between capital and revenue. Even when prices deviate from values, the size of any transfer from the circuit of capital to the circuit of revenue will also depend on the relative size of the circuit of revenue. Where all surplus value is consumed, as in simple reproduction, then the deviation of actual profits from direct profits will be at its maximum. When, on the other hand, all surplus value is reinvested, in maximum expanded reproduction, then there is no circuit of capitalist revenue and consequently no transfer at all: total actual profits must, in this case, equal total direct profits, regardless of the size and nature of individual price-value deviations.⁹

With only a little more effort, one can extend the preceding results on the sum of profits to the case of the rate of profit. It will be recalled that when all capital turns over in one period, as is assumed here, the rate of profit is equal in magnitude to the mass of profit over the cost price. The sum of prices, on the other hand, is the sum of cost prices and the sum of profits. Then, if with a constant sum of prices individual price-value deviations cause the sum of profits to be larger than surplus value, the sum of cost prices will be correspondingly smaller than $C + V$. Then the average money rate of profit will be larger than the value rate of profit $[S/(C + V)]$ on account of both a larger numerator and also a smaller denominator. Nonetheless, the general relation between the two is merely another expression of the total profit-surplus deviations analyzed above, and are therefore subject to the same fundamental determination [Shaikh, 1982a].

All of this was based on arbitrary market prices. If we now confine ourselves to prices of production, we can be even more precise. Since the mass of profit and the rate of profit are so closely connected as far as these issues are concerned, it is sufficient to illustrate the argument for the latter.

We begin by noting that for given conditions of the labor process, the value rate of profit r^* can always be expressed as a steadily (i.e. monotonic) increasing function of the rate of surplus value.

$$r^* = S/(C + V)$$

Where S is surplus value, V is value of labor power. $L = V + S$ is value added by living labor (if N is the number of workers employed, and h is the length of the working day in hours, $L = Nh$). Let k be C/L , the ratio of dead to living labor. Then

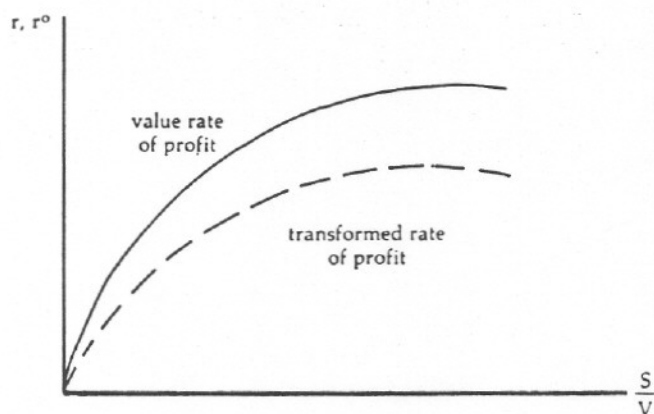
$$r^* = \frac{S/V}{(C/L)(L/V) + 1} = \frac{S/V}{K(1 + S/V) + 1}$$

Since k depends only on the technology and the length of the working day h , when these conditions of the labor process are given r^o will vary directly with the rate of surplus value. That is, the value rate of profit is a monotonic increasing function of the rate of surplus value.

In recent years, it has been shown that when direct prices are transformed into prices of production, though the transformed money rate of profit r will in general deviate from the value rate (we have already seen how and why), nonetheless this transformed rate also is a monotonic increasing function of the rate of surplus value [Shaikh, 1973; Morishima, 1973:64]. But once it is recognized that the value rate of profit r^o and the transformed rate r both increase as S/V increases, it follows at once that they must move together: *when the value rate of profit rises (falls) its reflection in the sphere of circulation, the transformed rate of profit, also rises (falls).*

Fig. 3 below depicts this intrinsic relationship. For the sake of illustration, it is assumed here that r^o is larger than r , though of course it could equally well be the other way around.¹⁰

FIGURE 3



It is interesting to note that although Marx insists that the equalization of the rate of profit and the formation of individual prices of production are of great importance for individual capitals or subsets of capitals, he at the same time also insists that for the system as a whole the previously derived laws are basically unaltered. In a letter to Engels, after having presented the basic phenomena arising from the transformation process, Marx goes on to summarize what remains to be developed.

Further: the *changed outward form* of the laws of value and of surplus value – which were previously set forth and which are still valid – *after the transformation of value into price of production* [Marx and Engels, 1975:194].

At all times and all places, price is the outward form of value, the reflection of value in the sphere of circulation. What the transformation does, Marx argues, is to transform this outward form, to introduce into it certain fresh determinations and new sources of variation, but to do so exactly in such a way as to leave the intrinsic connections unchanged. Look again at Fig. 3. It illustrates this conception perfectly: in the relatively autonomous mirror of circulation the transformed rate of profit appears *as a displaced image of the value rate of profit*, essentially the same in determination but somewhat different in exact magnitude. The autonomy of the sphere of circulation expresses itself in this displacement of magnitude; on the other hand, the limited nature of this autonomy manifests itself precisely through the fact that it is the structure of value categories (the pattern of organic compositions, and the proportion of surplus value which is converted into revenue) which provides the limits to this displacement effect. The variations in the form of value are thus shown to be conditioned and limited by the very structure of value itself.

The notion of relative autonomy, of variation within limits, is of course entirely absent from the neo-Ricardian discussion. Given their own deep debt to orthodox economics, this should come as no surprise. Consequently, they have always insisted that the difference between value and its expression in circulation implies an inconsistency, a complete divorce of inner connection, between the two. The money rate of profit, notes Steedman, is generally different from the value rate. And from this he concludes that "the latter ratio provides no adequate measure of either the rate of profit in a capitalist economy or the potential for accumulation in such an economy..." [1977:205]. This is the ventriloquist voice of his method speaking, not the algebra. It is, moreover, an obscurantist voice, precisely because it takes refuge in algebra in order to obscure the profound silence on the question of method.

There are two further points to be made on this subject. First of all, even though we can establish that individual price-value deviations do not alter the fact that aggregate value magnitudes clearly regulate aggregate price magnitudes, it is not sufficient to stop there. Once we move to a more concrete analysis, then the individual price-value deviations and the transfers of value which they give rise to become quite important in their own right. For the analysis of the phenomena of competition, of regional and international differences, of development and underdevelopment, the relation of the parts to the whole is itself of paramount concern.¹¹ Once we consider these issues, then it becomes important to address the theoretical determinants of individual price-value deviations, both in terms of their directions (which dictate the directions of the transfer of value) and in terms of their magnitudes (which indicate how large such transfers are

likely to be).

In addition to the above we also need to look at the empirical magnitudes involved. Indeed, this second issue is implicit in the issue of the theoretical determinants, since in Marx's method the purpose of theory is to grasp the structure of the real relations—which can only be done through the study of the real relations themselves.¹²

The primacy argument. I have argued that the quantitative difference between say the value and money rates of profit does not, and should not, obscure the more fundamental qualitative and quantitative relation between the two. Steedman does not see this, naturally, because his method does not provide him with the concept of relative autonomy.

But to this Steedman replies:

Now if these profit rates differ, which is the significant one? Which will affect capitalists' decisions and actions? And which will tend to be made uniform, as between industries, in a competitive economy? The answer is self-evident; it is the money rate of profit which affects decisions and tends to be equalized. The 'value rate of profit,' used by Marx, is of no concern to capitalists, it is unknown to capitalists... The implication is clear; $S/(C+V)$ is *not* a significant rate of profit in a capitalist economy, and it does *not* equal the actual, money, rate of profit [1977:30].

There are three levels of argument here. At the first level, Steedman notes that all actual decisions are made in terms of money magnitudes. This is of course the point of departure for Marx also. Money prices and profits are the immediate regulators of reproduction, and the very object of the law of value is to discover the inner laws of these money magnitudes.

At the next level, Steedman goes on to say that because the value rate of profit is "unknown to the capitalists," "of no concern" to them, it is "*not* a significant rate of profit in a capitalist economy." How extraordinary it is to claim that only what "the capitalists know" is significant, in other words, that appearances are significant but essences are not! In one stroke Steedman throws out all science.

But there is a third level here, with an even deeper problem. Let us stop for a minute and ask what it is that these capitalists in fact "know."

Capitalists know that capitalism is an unplanned society, in which they are free to take their chances in producing commodities in the hope of profit. And they certainly know that there is no guarantee they will receive this profit, or any profit at all, and even if they do, that they will be able to repeat it. They therefore know that prices and profits fluctuate constantly, and that there is never at any moment a uniform rate of profit, so that prices of production never exist as such. It follows from this that the prices, the individual profit rates, and even the average rate of profit, on which capitalists base their actual deci-

sions are never equal to prices of production and the uniform profit rate on which Steedman apparently bases his decisions.¹³ The uniform rate of profit is of course "unknown to the capitalists, hence of "no concern to them," so that if his own argument were valid, it is "*not* a significant rate of profit in a capitalist economy."

Fortunately for him the last proposition is not true. And that is simply because it is his argument itself which is not significant. But then if one does argue instead that prices of production and the uniform rate of profit are important even though they never exist as such in circulation—precisely because they dominate and regulate the constantly fluctuating constellation of market prices and profit rates—then it is equally true that values and the value rate of profit are even more important because they in turn dominate and regulate prices of production and the uniform rate of profit. And this is just what Marx argues all along.

One might ask: how could Steedman make so egregious an error? Quite simply, because he operates entirely within the neoclassical concept of equilibrium. If one assumes that there is no contradiction between private independently undertaken labors and the social division of labor, so that the articulation of labor is *immediate*, then one can equally well assume that prices of production and the uniform rate of profit obtain directly in circulation. *But then the characteristic contradiction of capitalism has been spirited away altogether.* Once you replace the concept of tendential regulation with that of equilibrium, you have switched from abstraction as typification to abstraction as idealization. This is of course characteristic of vulgar political economy, and is built into the basic mathematical formulations upon which Steedman relies so heavily. To see what is hidden there, we must take a closer look at the various concepts of competition.

Marx's Analysis of the Competition of Capitals.

In order that scientific abstraction be what Marx calls a "determinate abstraction," the theory must be developed in conjunction with the "material of observation" which, precisely because it is *material*, can 'weed out... hypotheses, doing away with some and correcting others until finally the law is established in a pure form'... [Colletti, 1972:42]. Scientific abstraction must therefore be typification, the extraction of the "simplest characterization" of some aspect of the real [1972:43].

In bourgeois social science, however, the fundamental abstractions tend to be idealizations, not typifications. When Marx speaks of the reproduction of the moving contradiction which is capitalist commodity production, a reproduction process which is necessarily one of *trial-through-error*, he always speaks of a process of tendential regulation in which discrepancies and errors of one

sort constantly produce those of an opposite sort. "The total movement of this disorder is its order" [Marx, 1972:175]. Similarly, when he speaks of capitalist competition he speaks of it as a war in which "each individual capital strives to capture the largest possible share of the market and supplant its competitors and exclude them from the market—*competition of capitals*" [Marx, 1968:484]. In contrast, the neo-Ricardians remain safely ensconced within equilibrium analysis, conducted on the assumption of "something like perfect competition" [Armstrong and Glyn, 1979:69].¹⁴ But these concepts do not merely idealize capitalist reality, they systematically and ideologically obscure it.

The Marxist notion of competition defines a process, not a state. It describes an antagonistic and destructive process, not an equilibrium fantasy. For competition among capitals, it describes a war. To extend the analogy a bit further, the movement of capital from one industry to another corresponds to the determination of the terrain (site) of battle; the development and adoption of technology corresponds to the development and adoption of the weapons of war (the arms race); and the competition of one firm against another corresponds to the battle itself.

In all of this there can never be any guarantee for an individual capital that it will earn any profit at all, let alone the social *average* rate of profit. This average rate is, after all, an average of the outcomes of hundreds, of thousands of battles fought over varying terrain and with varying weapons. You pay your money and you take your chances.

It follows from this that the social average rate of profit does not, and cannot, function as a direct determinant of capitalist decisions, since it is not "given" for any individual capital. What is given for an individual capital, however, is an interest rate, for the simple reason that this is guaranteed in advance. If an industrial or commercial capital chooses to withdraw from the fray, to be merely deposited in a bank, then it can earn interest.¹⁵ But in so doing it loses precisely the possibility of functioning as industrial or commercial capital, and so loses all hope of earning what Marx calls profit of enterprise—profit in excess of interest.

It is of course crucial to capitalist production that interest be less than total profits, i.e., that profit of enterprise exist as a positive magnitude, for it is this magnitude which motivates the *active* role of capital as extractor and distributor of surplus value, and hence producer and realizer of the fund (total profit) from which capitalist interest is to come. Thus the rate of profit must generally be greater than the rate of interest, the difference constituting the rate of profit of enterprise.¹⁶

In any given industry, different methods of production of various ages coexist, with both differences in age and

method producing variations in annual profit rates. Since old methods are constantly eliminated and new ones constantly added, this intra-industrial constellation of profit rates is perpetually recreated by the dynamics of accumulation.¹⁷

Among these intra-industrial profit rates, one set will correspond to the profit rates of those capitals which employ the best method generally available.¹⁸ I will call the capitals using the best practical method the *regulating capitals*. It is the average profit rate of these capitals, or to be more precise, the difference between their average rate of profit and the interest rate—i.e. their average rate of profit of enterprise—which is of concern for new investments in an industry.

Even for regulating capitals, specific concrete factors ranging from variations in managerial abilities to sheer luck will produce a spectrum of profit rates across the individual capitals concerned.¹⁹ To a newly entering capital, there is never any guarantee that there will be any profit at all, let alone the average profit rate of the average regulating capital. Nonetheless, the existence of an average profit rate greater than the rate of interest is a powerful inducement to invest in the best practical plant and equipment rather than merely earning interest on idle money capital. Moreover, the greater the difference between profit rate and interest rate, the stronger the inducement for new capital. It follows from this that net investment will take place in any industry in which regulating capitals on average earn a positive profit of enterprise, and that these flows of new capital will tend to be relatively greater in industries with above average profit rates for regulating capitals, and relatively smaller in industries with below average rates. This differential flow will cause supply to grow faster than demand in the former industries and slower than demand in the latter, thereby drawing down market prices and average profit rates in the one case and raising them in the other. In this manner the average profit rates (and profit rates of enterprise) of regulating capitals in various industries will be tendentially equalized. It is the price of production of an industry's average regulating capital, in other words, which regulates the industry's market price.²⁰

To sum up. Within an industry, the dynamics of competition tends to constantly reproduce differences among the profit rates of individual capitals. On the other hand, between industries competition tends to equalize the average profit rates of the respective *regulating* capitals. As in any turbulent process, there is never any state of equilibrium, and regulating profit rates may differ considerably from industry to industry at any given moment. Nonetheless, over what Marx calls "a cycle of lean and fat years" [1967c:208] in each industry, the inner laws of capitalist competition reveal themselves in the average movement [Marx, 1970:208].

Perfect Competition and Imperfect Competition.

How very different things are in the bizarre and fetishized world of perfect competition!

Perfect competition is the creature of neoclassical economics. And neoclassical economics in turn has its roots in an anti-classical and anti-Marxian tradition which was eager to emphasize the virtues of capitalism and anxious to get away from the labor theory of value and the "erroneous and practically mischievous" support it seemed to provide for the working class movement [Meek, 1956:248]. It has always been clear to bourgeois economists that the "main claims for a private-enterprise system rest upon the workings of competition" [Stigler, 1957:4]. The concept of perfect competition is the cornerstone of the vision of a perfect capitalism.

Central to all of this is the *definition* of perfect competition as a situation in which each firm acts as if it has neither the intention nor the ability to influence prices. The main characteristic here is that "each seller believes that he cannot change the price and therefore assumes the role of a 'price taker'" [Sichel and Eckstein, 1974:158].

In order to justify this framework, it is necessary to make a whole host of assumptions. To begin with, each firm is assumed to always price its output at the going (or expected) uniform market price. Its potential sales therefore vary with its output alone, and by comparing these potential sales with the corresponding estimated costs, it estimates that volume of production which will maximize total profits.

Note that there is a catch here. The firm is not only a profit maximizer, it is also a *passive* profit maximizer which by assumption never seeks to cut its prices to attack the positions of its rivals. Instead, it peaceably and politely sells all that it can at the market price: it is a "price taker." *Thus antagonism among firms is excluded by assumption.*

However, this is not enough, for even when a firm seeks to maximize profits by varying only its output, this output may be sufficiently weighty in the whole market so as to affect the market price through its impact on the total market supply. It would then possess the ability to change the market price itself, in contradiction to the definition of perfect competition. Thus it becomes necessary to assume that each firm is infinitesimal in relation to the total market: each industry is assumed to consist of an infinite number of firms, each of which is infinitesimally small and produces an infinitesimal portion of an infinitely divisible product [Aumann, 1964:39]. The firm is now not merely peaceful by nature, it is also impotent. In one stroke the central characteristics of warfare among firms – the intention to fight, and the ability to damage – are eliminated by assumption. Perfect competition, in other words, assumes away the competition of capitals.

But that is only the starting point. The infinite

divisibility of each input trivializes the very notion of fixed capital, the *sine qua non* of capitalism's "Industrial Revolution," while the infinite divisibility of output excludes the very notion of a minimum scale of production. Needless to say, these same assumptions thereby exclude any notion of concentration and centralization of capitals as an organic part of competition; concentration and centralization in any case would violate the requirement that each firm is, and will remain, infinitesimal.

Worse yet, in a perfectly competitive (long-run) *equilibrium*, all firms within an industry are assumed to be alike, and each is assumed to enjoy exactly the same rate of profit as all the others.²² Since this must hold for all industries, every firm in the economy is assumed to have exactly the same rate of profit as every other. Moreover, because of the infinite divisibility of both input and outputs of each infinitesimally small firm, each individual capital is literally an "atom" in an overall fluid. As such, all distinctions between money capital and capital tied up in production, i.e. between what Marx calls liquid capital and fixated capital, are abolished at the outset. It comes as no surprise, therefore, that in a long-run perfectly competitive equilibrium, the uniform rate of profit enjoyed by every atomistic firm is also equal to the rate of interest on money capital. In this way profit of enterprise is abolished from equilibrium.

Lastly, perfect competition assumes that each person, and hence each capital, has perfect knowledge of all past, present and future events relevant to their intentions [Stigler, 1957:12]. This is essential to the claim that the private, independently undertaken labors which are characteristic of commodity production will end up in an *immediate* articulation of the social division of labor (i.e., in general equilibrium). And so we also abolish the anarchy of capitalist production, the necessity of the forcible articulation of labor, the necessity of money, and so on. Indeed, strictly speaking, the assumption of perfect knowledge abolishes the very existence of human beings themselves!

A perfectly competitive equilibrium thus assumes away all the contradictions inherent in the commodity, as well as all of those inherent in capital. It abolishes forcible articulation, money and tendential regulation, and also fixed capital, concentration and centralization, profit of enterprise, as well as both rivalry and collusion between firms. It even abolishes time itself.²³ All this through the simple device of making the "appropriate" assumptions – which, I suppose, is what makes it so perfect.

Neo-Ricardian Algebra and the Poverty of Its Theory

Amazingly enough, the concept of perfect competition is fundamental to the neo-Ricardian representation of capitalism, as is painfully evident in their analysis of the so-called choice of technique. Since I have discussed the

issue elsewhere [1978:231-51], I will only mention the central points here.²⁴

In his book, Steedman notes that capitalists in a particular industry often face the possibility of more than one method of production. The various alternatives must therefore be evaluated in terms of existing wages and prices, and as always, these existing prices are exactly equal to prices of production, and all rates of profit are exactly equal to the uniform rate. In short, the point of departure is a perfectly competitive equilibrium.

By definition, perfect competition rules when no individual capital has either the intention or the ability to influence the market in any way. Under the circumstances, each capital is assumed to act in complete disregard of its competitors. Faced with a set of alternative methods, it will therefore simply choose the one with the highest rate of profit [Steedman, 1977:74].²⁵

Because capitalists choose the method with the highest rate of profit, no method will be adopted unless its profit rate is higher than their own existing rate of profit; and since equilibrium is the point of departure, their existing rate is identically equal to the uniform rate of profit. By assumption, each firm can always attain this uniform rate. They will therefore adopt a new method only if it yields a rate of profit higher than the uniform rate. It follows from this that the adoption of a new method in effect adds a new higher rate of profit to the pool of existing rates (which by assumption are all equal to the uniform rate), and thus, it can be shown, necessarily ends up raising the uniform rate of profit itself.²⁶

The result I have just outlined is known as the Okishio theorem, and it consists of two parts: (1) the mathematical proof that if a new method with a potential rate of profit higher (lower) than the uniform rate is actually adopted, the uniform rate itself will necessarily be raised (lowered); and (2) that under the conditions of perfect competition, no method will in fact be adopted unless it offers a higher rate of profit than the guaranteed uniform rate. Taken in conjunction with (1), this implies that all "viable" technological change will necessarily raise the general rate of profit. In other words, Marx's law of the falling rate of profit is impossible.

But this is just a trick. It is the assumption of profit maximizing behavior in perfect competition which produces this result, not the mathematics. Indeed, as I have shown elsewhere, when the Marxian notion of competition is allied with the very same mathematics, "the cheapening of commodities through mechanization is inevitably bound up with a tendency for the actual rate of profit to fall" [Shaikh, 1980:95]. As I noted earlier, Marx's notion of competition implies that each individual capital seeks to expand its share of the market, to attack its competitors and to defend itself against their onslaughts. And here, it is new, larger scale methods of production with lower unit costs which provide the principal weapon in

this battle, because by lowering unit costs a capitalist can lower selling prices and "supplant (his) competitors and exclude them from the market." It is the *nature* of capital to try and expand in value, and it is in competition that this takes the external form of aggression against all those who stand in its way. *C'est la guerre*.

Now, the development of weapons is a costly affair, and Marx argues that the reductions in (flow) costs per unit output are *achieved* primarily through the incorporation of larger amounts of fixed capital per unit output in the form of new, larger scale plant and equipment. The higher capitalization of output in turn would generally be associated with lower rates of return than those which held before [Shaikh, 1981:6]. But once the new method is available, the past is no longer relevant because the situation has changed. The first capitalist to adopt the new, lower cost method can undercut his competitors and grow at their expense, so that the real choice confronting a capitalist is whether to move on to the new — and expand, albeit at a slightly lower rate of return²⁷ — or to stick with the old and be damaged or even wiped out. Moving to a new industry will of course not solve anything, since in general the same dilemma will confront the capitalist there too. If anything, as a newcomer among more experienced combatants, his/her chances of achieving even the average outcome will be smaller in a new industry. Bit by bit, here and there, such a process therefore produces a tendential fall in the general rate of profit.²⁸

The neo-Ricardians and their supporters do not attempt to deny that capitalists may actually behave this way. Instead, they insist that such behavior is irrational. For example, in a recent article in this journal, van Parijs announces that he will provide a "rational reconstruction" of this debate, so as to help combat the tendency of less scientific Marxists to resist the "bad news" due "to the pressure of 'extra-scientific' considerations" [van Parijs, 1980:2]. After much digression, he comes to the central point: if "profit-maximization and perfect competition can be safely assumed," then "it is completely impossible for the general rate of profit to fall as a result of a viable technical innovation, if real wages are kept constant" [1980:12]. The competitive behavior which I have outlined above is irrational, van Parijs asserts, *because it is inconsistent with perfect competition* [1980:11]!

What an extraordinary, topsy turvy logic this displays. One would think that at the very least a "rational reconstruction" would begin by first examining the validity of the notion of perfect competition itself. But this of course is not possible for a defender of economic orthodoxy, because once the supremely ideological and irrational (i.e., unreal) character of this notion is exposed, the whole foundation of neo-Ricardian economics would come crashing down.

It is also characteristic of the deformation produced by

the concept of perfect competition that its supporters tend to view the real behavior of capitalists as *imperfect*. When "faced with the unavoidable discrepancy between the fantasy world of perfect competition and the elementary facts of real competition" [Shaikh, 1980b:82], they reform the fantasy *and thus end up preserving it*. In fact, this preservation operates in two ways. First of all, the notion of "perfect competition (is) modified to imperfect competition, in order to add realism to the analysis" [Clifton, 1977:137]. In so doing, perfect competition is retained as the base of the argument, and is at the same time displaced from an explanation of real competition to the role of an "ideal or 'benchmark'." The full ideological content of the claim that it is, or should be an ideal is therefore retained.

But an ideal is only imaginary, and thus open to question. And so, in order to buttress it, perfect competition is also given a mythological historical existence by treating it as the essence of the *competitive stage* of capitalism. In this way it is preserved as a "real" ideal, a state of grace once attained and perhaps possible once again. The fact that this shameless claim is nowhere supported by any historical evidence is of course symptomatic of the "extra-scientific considerations" which underlie it.

Quite typically, van Parijs faithfully reproduces both these attitudes. In responding to the argument about competition as a war, he concedes that it becomes a possibility if one is prepared to abandon perfect competition for imperfect competition. Of course, precisely because imperfect (i.e., oligopolistic) competition is viewed as a degeneration of perfect competition, nothing much can be said here except that a falling rate of profit *may* be possible. Even here he covers his bets by referring to the difference between the general rate of profit and the interest rate as a "narrow area," thus suggesting that the distasteful possibility is not a probability. Naturally he does not bother to establish how he arrives at the conclusion that the rate of interest is generally very close to the rate of profit—that is, that profit of enterprise is generally negligible. But here too one must discern that the ventroloquist is the theory of perfect competition, in which the profit rate and interest rate are equal in equilibrium. Faced with the realities of capitalist competition, the defender of orthodox theory thus retreats into an eclectic skepticism.²⁹

Conclusion and Summary

Recent events have led to a tremendous revival of interest in Marxian economic analysis. But this process has also produced its own specific problems, because as Marxian economics gains in respectability, the temptation to represent itself in "respectable" terms grows

accordingly. And these terms, in the end, are almost always the wrong ones.

There is no question that Marxism must appropriate all modern developments. But to appropriate them involves much more than merely adopting them: it involves tearing them out of the bourgeois framework in which they appear, examining their hidden premises, and resituating them (when and where appropriate) on a Marxist terrain—a terrain which cannot be derived merely by algebraic variation or sociological transformation of the premises of orthodox economics. We must, and indeed we do, have our own ground to stand upon.

It is my contention that the neo-Ricardian (Sraffa-based) tradition is by far too respectable. Its roots in Keynesian and neoclassical theory are easy to establish, and its refuge in mathematical economics is quite revealing. Nonetheless, the claims made by this school must be addressed, and its real contributions must be separated out from what is merely part of its cloak of respectability. In this paper I have attempted to do just that, by focusing on the central arguments involved. Secondary matters involving questions of fixed capital and joint production are not treated here, in part because of their greater difficulty, and in part because of the astonishing weakness of the neo-Ricardian formulation of these issues. An adequate treatment of these issues would require confronting these formulations themselves, both in terms of their internal consistency and in terms of their (external) adequacy to the relations they pretend to represent. Such an investigation is well outside of the scope of the present paper.

In the same way, van Parijs repeatedly associates perfect competition with "competitive capitalism," and imperfect competition with "oligopolistic capitalism." Real competition is therefore presented as "imperfect," while perfect competition is thought to reign in "competitive capitalism." The escape from reality is complete.

Van Parijs ends his essay by reminding us that his rational reconstruction is an obituary:

As "bad news" accumulates about the soundness of the theory, the conflict between what one ought to believe and what one would like to believe, between "scientific" and "extra scientific" considerations, may become increasingly acute. The more vulnerable the community feels, the more likely "extra scientific" considerations are to prevail. The more self-confident it feels, on the other hand, the more able it becomes to give way to "scientific" considerations—and to stomach the truth. Because I believe contemporary Marxist economics to be in the latter position, rather than in the former, I also believe that calling this rational reconstruction an *obituary* may turn out to be more than just wishful thinking [1980:12-13].

I couldn't agree more. His paper is indeed an obituary. But I wonder if he realizes just for whom the bells toll?

The neo-Ricardians tell us that the concept of value in Marx is not only unnecessary to the analysis of capitalism, but also irreconcilable with the actual relations involved.

In order to address these claims, I have first attempted to set out how and why *labor* appears inextricably bound up with Marx's notion of value, why the magnitude of value is measured by abstract labor time, and why Marx argues that this magnitude *regulates and dominates* what he calls the "ever fluctuating exchange relations between the products."

With this in mind, I then addressed the specific arguments made by the neo-Ricardians, primarily as summarized by Steedman, concerning the redundancy of values, their inconsistency with respect to prices, and the primacy of the latter over the former. In all cases I utilized the same algebraic formulations that they do, and within this framework I demonstrated that there are a host of issues and results which the neo-Ricardians remain unable to discover precisely because they remain so closely tied to the structure of orthodox economics. The concept of value, including the magnitude of value, illuminates the whole qualitative and quantitative analysis of price relations, uncovering relationships and causalities where the neo-Ricardians see merely discrepancies. It informs and orders the analysis, thereby demonstrating precisely its scientific power.

By the same token, the logical contradictions and inconsistencies in the neo-Ricardian analysis are thrown

into sharp relief. For instance, Steedman's own logic, if correct, would lead one to conclude that not only values and the value rate of profit, *but also* prices of production and the uniform rate of profit, are *not* "significant... in a capitalist economy." But of course his logic is not correct, and its correction reinstates both prices of production and values. It only goes to show that algebra is no substitute for logic.

In all of this, the distinction between Marx's notion of the competition of capitals and the neoclassical notion of perfect competition turns out to play a crucial role, particularly in the discussion of the question of the so-called choice of technique and its impact on Marx's theory of the falling rate of profit. I therefore have contrasted the two theories of competition, and traced the manner in which Steedman and other neo-Ricardians such as van Parijs repeatedly take refuge in the vulgar fantasy of perfect competition in order to justify their claims. Nothing illustrates more clearly how deeply the neo-Ricardians are in debt to their apparent opponents, the neoclassicals. The quarrel between the two may be a bitter one, but in the end it is merely a family feud.

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NOTES

1. On the place of *Capital* in Marx's overall planned work, see Rosdolsky [1977:10-95].

2. McLellan's book, *Marxism after Marx* [1979] makes abundantly clear that very little of the history of Marxist thought depends on the specific analysis developed in *Capital*. Economics plays only a small role in all this, and even here a good part of the history is one of a series of struggles to justify the need to set aside the analysis in Marx, or at least to "modernize" it by ridding it of "unnecessary," "outmoded" concepts (such as value). Colletti [1972] brilliantly analyzes this process of revision and its conceptual roots. See also Anderson [1976].

3. In an earlier version of the present paper [Shaikh, 1981] is an analysis of the two different aspects of socially-necessary labor time, and their distinct roles in the relation between value and price.

4. Steedman states that "all production is assumed to be carried out by workers, in a socialized labour process..." [1977:17]. Nonetheless he remains quite oblivious to the elementary implications of the above, and continues to speak of "physical conditions of production determining the quantities of labour embodied in the various commodities" [1977:14]. The characteristic neo-Ricardian emphasis on distribution is traced in Roosevelt [1977:440-44].

5. An input-output table, for instance, is a summary of the results of the production and circulation process, since the outputs do not exist as such until after the production process has been completed. Thus the results of the labor process are already "built in" an input-output table, and the values estimated from such a table are *our* estimates of the real quantities of labor time already expended.

6. Strictly speaking, price-value deviations transfer value not only between the circuit of capital and the circuit of revenue, but also *within*

the circuit of capital between current accounts and capital accounts. This latter aspect becomes important in treating expanded reproduction, because there we have to contend with net investment.

7. The conventional treatment of reproduction schemes is always in terms of departments alone, in which the circuit of capitalist revenue disappears from view. See, for instance, Sweezy [1942:75-95, 156-213].

8. It is interesting to note that Marx discovers this phenomenon in connection with his analysis of differential rent, and not that of price of production. It is often forgotten by Marxists that differential rent also implies price-value deviations, since it is the marginal conditions of production which regulate the market price while it is the average conditions of production which always determine (social) value. Thus even when the regulating price is equal to value, it is in this case equal to the unit value in the marginal land, which is necessarily different (higher) than the average unit value. Thus the regulating price deviates from (average) value.

9. This result has been mathematically known for some time, *though not conceptually grasped*, as the equality of profits and surplus value along the von Neuman ray. See Shaikh [1973] and Morishima [1973:142]; for a more detailed treatment, see Shaikh [1982a].

10. The general shape of the functional relationship between r and S/V can be derived graphically from Morishima [1973:64].

11. See, for instance, Shaikh [1979; 1980a], in which is discussed the role of trade, capital flows and transfers of value between capitalist regions.

12. In Shaikh [1982b] it is established that on both theoretical and empirical grounds the typical price-value deviation is $\pm 20\%$ for both market prices and prices of production, with typical correlation coeffi-

cients (adjusted for heteroskedasticity) of about 93%. As I note in my paper, Ricardo seemed to have a vastly superior grasp of these relations than do the neo-Ricardians!

13. Steedman makes much of the fact that since direct prices differ from prices of production, the average profit rate in terms of direct prices (which is the value rate of profit) will differ from the average profit rate in terms of prices of production (which is of course the uniform rate of profit). But he does not seem to notice here that this would also hold for any two sets of differing prices, so that in general the average rate of profit in terms of existing market prices will in turn *never* be equal to the uniform rate of profit based on hypothetical prices of production.

14. Van Parijs makes this point especially clear by his repeated resort to "profit-maximization" and "perfect competition" as the fundamental basis of the neo-Ricardian argument [van Parijs, 1980:12].

15. At a concrete level, the multiplicity of interest rates must also be accounted for. But these different rates are related to specific conditions of borrowing and lending, and though different, have in common that they are generally settled in advance for the individual capital, and are therefore "given" in precisely the way that profit rates are not [Marx, 1967b:364-9]. For this reason, at this level of abstraction it is sufficient to deal with a single rate of interest as given for any single capital.

16. It is important not to confuse interest received on a bank deposit and interest paid on a loan from the bank. The former is the "opportunity cost" of an individual capitalist, and the total profits on an investment must be greater than this interest equivalent if the investment is to be feasible. On the other hand, once an investment has been made, that portion of this investment which is borrowed from a bank will incur interest charges at the rate charged by the banks for loans, and this will serve to divide actual profits between the bank and the capitalist. The difference between the two interest rates is the basis of the profits of the bank, so that the former must be smaller than the latter.

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17. Marx discusses the notion of different conditions of production within an industry, and notes that this gives rise to differential profitability among firms [1967c:178-86, 197-98, 641-45, 761].

Orthodox economics, on the other hand, begins from a "long run equilibrium" in which all firms are alike, introduces a once and for all technical change, assumes that capitalists will one by one switch to the new method, and then waits for all the "disturbances" to die down. At the end "long-run equilibrium" is established once again. This conception reflects the essentially static nature of neoclassical economics, and is impossible in Marx's analysis of the perpetually changing accumulation process.

18. These are the best generally reproducible conditions of production, and they comprise the best generally reproducible methods of production under generally available conditions. Special advantages of location, access to power, etc., may thus enable capitalists to have even lower unit costs than the best practical method under general condi-

tions. This becomes important in the theory of ground rent, where both location and land fertility are crucial, especially in agriculture. Under these circumstances, other things being equal, the regulating capitals are those producing with the best practical method on the land generally available—i.e., the existing marginal land. The theory of ground rent is therefore a special case of the theory of intra-industry competition.

19. In fact, even for a given type of method under given conditions, there will be a probability distribution of profit rates due to concrete factors.

20. See note 18 above for the application of this general principle to the case of ground rent.

21. Stigler [1957:4-5] notes that within the neoclassical conception of profit maximization, "the question is: How does revenue (say, pq) vary with output (q)?" Observe that his assumes that is *output* which is the independent variable here, not price. The *intention* to set prices other than the market price is thereby ruled out. He goes on to say that the "natural answer is to *define* competition as that situation in which p does not vary with q ..." This, then, rules out the *unintentional* effect of output changes on the market price.

22. This trick is accomplished through a *static* notion of the long run. See note 17 above.

23. The assumption of perfect knowledge of the future reduces time to a mere spatial location. The assumption of perfect knowledge of the present, on the other hand, makes distance itself irrelevant to knowledge.

24. See the debate surrounding the article cited [Shaikh, 1978], as well as the rejoinder by Shaikh [1980b:75-83].

25. From this, the neo-Ricardians argue that we could always judge which method will "rule" in a given industry, and hence which set of industry methods will be the one chosen by the economy under perfect competition. In order for us to identify this set we need to know the real wage and the different methods available. Steedman concludes from this that the real wage and the technology set "determine" the physical data and corresponding uniform rate of profit, so that "the determination of the rate of profit is thus *logically prior* to any determination of value magnitudes" [1977:65]. This whole argument is a resumé of the confusions of the neo-Ricardian school. Their notion of "determination" has already been criticized in this paper. Other logical inconsistencies of this argument are pointed out in Shaikh [1981:295-97].

26. Even this result does not necessarily hold when rates of profit are not exactly equal for every firm in every industry [Shaikh, 1981:295-96].

27. It should be noted that the fall in the individual capital's rate of return has only a slight effect on lowering the social average rate, so that as far as the individual capital is concerned, its rate may fall below the average at normal capacity utilization, rise above it at a higher than normal capacity utilization level as it attracts new customers with its lower price, and then settle around the now slightly lower social average—if it is the regulating capital in the industry. Any fall in the social average is of course minor compared to the fluctuations in profitability arising from competition itself. The neo-Ricardians forget all this because they think in terms of equilibrium states.

28. This follows from the Okishio mathematics, because the regulating capital is also subject to the same process.

29. To move from the possibility of a falling rate of profit to its likelihood, one must develop Marx's analyses of the labor process in conjunction with his analyses of competition [Shaikh, 1982b]. It then becomes possible to address the rest of van Parijs' essay.

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