

# 1 Non-equilibrium market prices

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## 1.1 INTRODUCTION

It is usually assumed, in the ongoing research on the transformation of values into prices, that such a process concerns the transformation of (individual) values into prices of production, that is tendential prices. It is on this level of abstraction that Marx's procedure has been criticized. This is the transformation debate around the so-called transformation problem. Recently, a growing literature has shown that the two major critiques, the circularity critique and the infinite regression critique, rest on errors of method and that Marx's transformation procedure is immune from these critiques.<sup>1</sup> This is the perspective of this chapter as well. However, contrary to the common conviction, the Marxian theory of prices also includes the formation of market prices. This theoretical step has been usually disregarded probably because of the belief that, if production prices are properly theorized, the formation of market prices presents no theoretical difficulties, these prices being simply the result of fluctuations around production prices. One of the claims of this work is that this simplicity is only apparent.

In the real process of price formation, production prices (tendential prices) do not realize themselves. Only market prices are actual prices, that is realized prices. Or, the real process of price formation is not a two stage process, the first stage being the transformation of individual values into, and their realization as, production prices and the second being the transformation of production prices into, and their realization as, market prices. Rather, individual values are *directly* transformed into, and realize themselves as, market prices, that is as actually realized social values. These latter, in their turn, tend towards production prices without ever reaching them. While this movement, the tendential transformation, has been theorized in G. Carchedi and W. de Haan in this book, the present chapter will analyze the process of market prices formation, or the actual transformation.

First, however, a necessary preliminary step must be taken. Given that production prices are averages computed on the basis of market prices, the latter can be seen as fluctuations around the former.<sup>2</sup> But then the following question arises. Given that neoclassical economics has a theory of actual prices as fluctuations around equilibrium prices due to discrepancies between demand and supply, that is, that prices are found at the intersection of the demand and supply

curves, could we not graft this theory on the Marxist theory of production prices in order to determine the fluctuations of actual prices around tendential prices? The first task is to answer this question.

## **1.2 PARTIAL EQUILIBRIUM PRICE THEORY: A METHODOLOGICAL CRITIQUE**

Neoclassical economics is a variegated body of knowledge which only reluctantly lends itself to an all-encompassing definition. For the purposes of this paper, I shall identify it with that type of economics which rests upon the assumptions (1) that the basic unit of analysis is the individual and more specifically an ahistorical individual in her or his unique specificity, (2) that this individual is equipped with some kind of inborn ahistorical rationality, and (3) that the free exercise of the individual's rational behaviour results in the economy tending towards equilibrium. Here, I shall disregard the question as to whether those authors who do not share all three postulates should be regarded as neoclassical economists. Also, I shall consider a specific version of neoclassical price theory, that which is taught to undergraduate students in standard textbooks. It is on the basis of the arguments submitted in this version that neoclassical price theory is usually claimed to be congruent with Marxist price theory.

In section six of Carchedi and de Haan in this volume, it has been mentioned that neoclassical economics is based on a notion of economic rationality as utility maximizing behaviour. Under capitalism, this is assumed to coincide with profit maximizing behaviour. Profit maximization, then, is supposed to be the social form taken by a natural, that is not socially determined and thus necessary, human rationality. Profit maximization becomes a sort of natural impulse and is thus provided with a powerful ideological legitimation.<sup>3</sup> However, the explanation of human rational behaviour according to utility maximization can be used to account for any kind of behaviour (both 'rational' and not) and thus comes down to the hardly useful insight that people (for example capitalists) do what they do (for example maximize profits) because that is what they want to do. If one were to assert that people want to do what they do because it is rational for them to do so, rationality would have to be explained in terms of utility maximization which, as just said, can be used to explain any type of behaviour, both 'rational' and not.

To escape this impasse, one could concede that capitalists maximize profits because they are so forced by the capitalist system (and not because they conform to an ahistorical, natural, rationality), but this would immediately destroy the claim that capitalist rationality is simply the social form of natural rationality. This would be an admission that profit maximization is rational in terms of the capitalist system but that this has nothing whatsoever to do with a human, ahistorical, rationality. In short, it is the rationality of the capitalist system in terms of an ahistorical human nature (one of the most powerful claims of

neoclassical economics) which would be called into question. To avoid this conclusion, neoclassical economics must cling to the theoretically empty notion of utility maximization as the rational form of human behaviour. This critique, in itself sufficient to undermine the whole neoclassical edifice, applies also to partial equilibrium price theory. But this theory can also be criticized on more specific grounds, that is on the improper use made by neoclassical economics of the *ceteris paribus* condition.

In neoclassical economics, the shape of the demand and supply curves is built on the basis of the *ceteris paribus* condition. But this is untenable both in terms of how individuals behave and in terms of how the economy works. Consider first an individual's demand and supply curves. People do not react to a variation in a certain price by assuming the *ceteris paribus* condition. Rather, they react by taking into account the highest possible number of variables influencing their decisions, like price changes in other goods, forecast future income, employment, and so on. For example, given a fall in the price of a certain commodity, the consumer's question as to what to do with the extra disposable income is dealt with not by assuming that (the price of) everything else remains constant but by examining various alternative expenditure patterns, one of which might be to increase the purchase of (only) that commodity. As for supply, suffice it to mention that on one of the most important markets, the labour market, people do not react to wage changes as indicated by the demand and supply curves. If wages increase, people might very well not increase their supply of labour. Rather, they either keep working the same hours or choose more leisure time. To higher wages there correspond either the same or a decreased supply of labour.

Consider now how the aggregate works.  $D_a$ , the demand for commodity  $a$ , is not only affected by a change in  $p_a$ , the price of that commodity.  $D_a$  is also modified by changes in the price of other commodities (for example  $p_b$ ), by income changes and by a host of other factors. Or,  $D_a = f(p_a, p_b, Y, \dots)$ . Neoclassical economics knows this, and theorizes it in the form of cross elasticity of demand and income elasticity of demand. It then adds (a) the effects of the changes in a commodity's own price alone upon the quantity demanded of that commodity to (b) the effects of the changes in other commodities' prices alone upon the quantity demanded of that commodity and to (c) the effects of the changes in income alone also upon the quantity demanded of that commodity, and arrives at the determination of changes in  $D_a$  due to all these factors. But this procedure not only is not exhaustive of all possible factors affecting demand, it also does not capture the real movement, the *contemporaneous* determination of the demand for a certain commodity by all variables, because it does not eliminate the *ceteris paribus* condition. To add one methodologically wrong step (for example the own elasticity of demand, which is based on the *ceteris paribus* condition) to another methodologically wrong step (for example the cross elasticity of demand, which is also based on the *ceteris paribus* condition) does not correct the inherent methodological fault.

In other words, the superposition of two *ceteris paribus* conditions imply that the same factor (for example a commodity's price) is kept constant (for example under the hypothesis of cross-elasticity of demand). The superposition of two or more *ceteris paribus* conditions amounts to assuming that the same thing both changes and at the same time does not change. It is because of this logical contradiction that this method cannot account for contemporaneous determination.

However, in neoclassical economics the *ceteris paribus* condition cannot be ejected because without it the demand and supply curves cannot be drawn. Neoclassical economics must choose. Either it retains the *ceteris paribus* condition and it can draw the demand and supply curves but then it is unable to theorize the actual movement of demand, supply and prices (that is their contemporaneous determination by a multiplicity of factors); or it can drop the *ceteris paribus* condition in order to reflect the real world but then cannot draw (theorize) the demand and supply curves. If the 'abnormal' influence of  $p_a$  on  $D_a$  (for example Giffen goods or speculative goods) and of  $p_a$  on  $S_a$  (for example the backward-bent labour supply curve) as well as the other factors codetermining  $D_a$  and  $S_a$  are considered in their contemporaneous determination, the neoclassical demand and supply curves become both operationally useless and theoretically indeterminate.

The argument that the demand and supply curves are only ideal types and that abnormal behaviour can be explained as deviations from these ideal types (Walras 1984:71) does not hold water. There is nothing wrong in constructing a model of normal behaviour and then to consider deviations from this norm on condition either that (a) both the normal and the abnormal behaviour can be explained by the same principles or that (b), if two explanatory principles are needed, they are not mutually exclusive. In neoclassical economics, on the other hand, the principle of the contemporaneous determination of demand and supply by a multiplicity of factors excludes the *ceteris paribus* condition and denies the demand and supply curves. One must choose. If one chooses the *ceteris paribus* condition, one cannot choose the principle of simultaneous and contemporaneous reciprocal determination and vice versa. Notice, however, that what just submitted should not be construed as an argument against any use of the *ceteris paribus* condition. It is this specific use which is objectionable. The reason why neoclassical economics holds on to the *ceteris paribus* condition is that this condition is needed to draw the demand and supply curves and that these latter, as we shall see in the next section, are needed to 'show' that the capitalist system is both efficient in production and equitable in distribution.

### 1.3 PARTIAL EQUILIBRIUM PRICE THEORY: AN IMMANENT CRITIQUE

Neoclassical partial equilibrium price theory first presupposes all possible prices corresponding to all possible quantities demanded and supplied, including that equilibrium price which it wants to find, and then proceeds to ‘determine’, that is select, that pre-given price. Since one assumes what one wants to determine (the equilibrium price), neoclassical partial equilibrium price theory is circular and thus useless as a theory of price formation. The moment it attempts to analyse the formation of the equilibrium price, it falls into circularity. This price is, as all other prices, selected from a range of pre-given prices. Neoclassical economics has at most a theory of price selection, not a theory of price formation. This a consequence of the individualistic methodology upon which neoclassical economics is based. The demand and supply curves are constructed by generalizing the perspective of the individual capitalist<sup>4</sup> whose demand and supply depends on pre-given prices. Since individuals can only react to pre-given prices and price changes (according to the demand and supply curves model), the aggregation of individual behaviours (that is of the individual demand and supply curves) cannot explain price formation.<sup>5</sup> Neither the individual nor the collective demand and supply curves can explain the formation of prices, including the equilibrium ones.<sup>6</sup>

The same charge of circularity can be moved to the determination of the demand curve’s shape. The cardinalist, or marginal utility, approach assumes that, given two goods  $a$  and  $b$ , their marginal utility  $MU_a$  and  $MU_b$ , and their prices  $p_a$  and  $p_b$ , the consumer maximizes his/her utility when  $MU_a/p_a = MU_b/p_b$ . Suppose now that  $p_a$  falls. Then,  $MU_a/p_a > MU_b/p_b$  and  $D_a$  increases. In other words, it is assumed that, if  $p_a$  decreases,  $D_a$  increases. But what is here assumed, an increase in  $D_a$  following a decrease in  $p_a$ , is precisely what had to be shown. In the ordinalist, or indifference curves, approach each budget line is associated with an indifference curve tangential to it. Here, the downward slope of the demand curve is implicit in the budget line. Suppose  $p_a$  falls. The budget line pivots because, it is assumed, more of  $a$  is demanded. But, again, this is what had to be proved. Finally, the same critique holds for the revealed preference theory which is designed to do away with the subjective element implied in the two above mentioned theories and which is based only on the choices actually made by the consumers. Here too it is assumed, rather than shown, that a fall in  $p_a$  causes a rise in  $D_a$  (and vice versa).<sup>7</sup>

But the determination of the downward sloping demand curve is not only circular, it is also based on a dubious argument: if the quantity consumed increases, consumer satisfaction (marginal utility) decreases and with it demand. This is certainly possible. However, first, this applies at most to people as consumers. The capitalists’ demand for means of production and labour power can in no way be explained on these grounds. In times of economic expansion,

the more the means of production and labour power are consumed, the more they are demanded. In times of economic depression and crises, the opposite is true. Secondly, even in the case of individual consumers, under capitalism an increase of the quantity consumed of a certain good can only be achieved through an increase in the purchasing power allocated to that good. Thus, the lower demand associated with an increase in the quantity consumed can be the result of ‘the fact that with increasing purchases the purchasing power at the disposal of the buyer or demander declines’ (Linder 1977 Volume II p120) rather than being the result of the lower  $MU_a$ . This is certainly the case for the great majority of the world population, the poor of the world.

Neoclassical economics has an alternative option: general equilibrium analysis. Even though the focus here is on partial equilibrium, it can be briefly mentioned that the general equilibrium model is based on a system of equations whose simultaneous solution provides the equilibrium prices. There are many objections which can be raised against general equilibrium analysis. The most important one is that the method of simultaneous equations cancels time. Instead of there being a determination of the prices of the production factors (inputs) at time  $t_1$  and of the prices of the products (outputs) at time  $t_2$ , the prices of the inputs and of the outputs of the *same* production process are determined simultaneously (the same criticisms can be levelled at the neo-Ricardian system of technical production equations). By seeking refuge in general equilibrium analysis, neoclassical economics retreats even more from, rather than rooting itself more deeply into, the real world.<sup>8</sup> It follows that the quantities demanded and supplied cannot be read on neoclassical curves.<sup>9</sup>

## 1.4 THE SOCIAL CONTENT OF PARTIAL EQUILIBRIUM PRICE THEORY

If the critique submitted in sections two and three stands, the question which naturally comes to mind is: why are the demand and supply curves and partial equilibrium price theory so unquestionably accepted by economists? A first answer is that students, in their first encounter with economic theory, are not usually exposed to alternative views to, and critiques of, neoclassical economics. By the time economics students have become professional economists, the demand and supply curves have become so firmly entrenched in their perception of reality that even the most damaging critique fails to have any effect. Most of them choose to ignore the critique.

But there also is a second level of explanation: that of the social determination and social content of theories. The social determination of theories is given by their formulating views of social reality functional for the reproduction or supersession of the social system within which those theories have been generated. For any specific theory, the question is then: how has a specific social matrix been transfigured into a theory such that that theory can foster the

reproduction or the supersession of that social matrix? In class divided societies the reproduction or supersession of a social system is the outcome of the conflict between different classes with antagonistic interests. Therefore, the question becomes: how has a specific social matrix been transfigured into a theory such that that theory can foster the contradictory interests of different social groups and classes? This functionality, which a theory has for the reproduction or supersession of the social system within which that theory has been generated, and thus for the domination of one class upon the other, is that theory's social content. It is because it has a social content that a theory can foster the reproduction or supersession of the social (class) system which has generated that theory. Often, the social content of a social theory must be discovered by digging underneath the surface of that theory's apparently 'objective' and 'scientific' interpretation of reality.<sup>10</sup> In the case of the neoclassical partial equilibrium price theory its social content is revealed by at least the following six points.

First, it has been seen above that the demand and supply curves are constructed by generalizing the behaviour of the individual capitalists who react to pre-given price changes. But, in neoclassical economics, the individual capitalist is at the same time the epitome of *the* individual, he *is* the individual. Therefore, the individual pre-supposed by the demand and supply curves, while being the implicit theorization of a socially specific individual, appears as a socially undetermined individual: he can be a capitalist as well as a labourer because the demand and supply curves implicitly assume that the capitalist's behaviour is everybody's rational behaviour. It follows that classes, and thus the production of value and surplus value, are excluded a priori from neoclassical analysis. If classes are excluded, so are class conflicts and ultimately the system's inner contradictions of which class conflicts are the expression. Another way to put this is that production is seen simply as production of use values rather than of value and surplus value embodied in use values. The fundamental insight that commodities are the produce of labour under specific, that is capitalist, conditions is irreparably lost. It becomes then impossible to inquire into 'who labours for whom?' at the level of production, rather than of distribution. The demand and supply curves imply an ideological notion of production, a notion which hides, rather than revealing, the class nature of production and its internal contradictions.

Second, neoclassical economics is not only class blind, it is also sex blind. In 'advanced' capitalist societies, both women and men are seen through sexist lenses: men are deemed to be assertive, egoistic, rational, and so on while women are seen as docile, altruistic, emotional, and so on. These stereotypes, whose obvious economic content is that of reducing the value of women's labour power, influence the socialization, and thus the behaviour, of both men and women from cradle to grave and this, in its turn, contributes to the reproduction of those myths. The rational, self-interest pursuing individual of neoclassical economics, then, is a 'he' in the sense that this is the stereotype man, which capitalist

ideology perceives men to be. The neoclassical image of the individual is supposed to apply equally to all classes as well as to both sexes because it is supposed to focus on what all people have in common, an ahistorical human nature and rationality. In reality, this image is abstracted from both what the capitalists really are and from what men are supposed to be, that is from a socially determined reality (capitalist rationality) and from a socially determined myth (male rationality).

Third, the demand and supply curves imply an ideological notion of exchange. The demand and supply curves presuppose individuals who, given some initial endowments, are free to exchange their goods and services, including 'labour'. But, neither the origin and unequal size of these initial endowments nor the social (in)justice inherent in their original distribution are taken into consideration. This blindness is made possible by the marginalist approach, by the focus on the last unit produced and exchanged, and this is the real, ideological, reason why neoclassical economics must rest on a marginalist approach. Moreover, the individual's freedom to exchange is purely formal. In reality, this freedom does not exist for the great majority of wage and salary earners who must sell their labour power: they are like those who, having been pushed into the sea, are free to swim or 'sink like a stone'.

Fourth, the demand and supply curves elevate the capitalist price system to the role of the most rational and most equitable allocation system. According to neoclassical economics, the prices emerging from the 'free' interaction of demand and supply on the one hand signal consumer needs and, on the other, satisfy those needs through the production of goods up to the point where marginal costs equal marginal revenues, that is where each 'factor of production' gets exactly the same as what it contributes. Society might want to interfere to protect those who cannot pay the 'freely determined' prices, but then it must face a tradeoff between efficiency and equity. Inefficiency and more generally the malfunctioning of the economy (crises, unemployment, and so on) are explained in terms of tampering with the forces of the market. The problem here is both theoretical and practical. Theoretically, prices reflect the most rational allocation of resources *for the capitalists*, that is they are the best indicators of how to make profits, not satisfy human needs. From the point of view of the great majority of the world population living in absolute or relative poverty there is nothing rational in a price system which prices most essential goods beyond the reach of those who do not have the purchasing power to buy them. Practically, if crises, unemployment, and so on are endemic to capitalism (as business cycles show) and if malfunctioning is caused by tampering with the market forces as revealed by the demand and supply curves, then tampering and malfunctioning must be endemic to the system. The demand and supply curves lose relevance as an explanatory tool.

Fifth, the demand and supply curves imply an equilibrating mechanism. Demand and supply gravitate towards a (pre-given) equilibrium price at which

they are equal. At this point the economy comes to rest. If reality tends to stasis, movement is a deviation from rest, from equilibrium. The static state is the economy's (and reality's) natural state.<sup>11</sup> But if the system tends towards equilibrium it is inherently harmonious. It follows that equilibrium and harmony are implicitly associated with the *status quo* and that change is associated with chaos and disorder. Of all features of neoclassical economics, this notion is perhaps the most patently at odds with reality. In the face of recurrent crises, financial cracks, unemployment, poverty, and so on in the developed countries, not to mention the underdeveloped ones, one cannot but admire the courage with which neoclassical economists keep claiming with a straight face that equilibrium is the economy's gravitational point and harmony is its essential feature.<sup>12</sup>

Sixth, the demand and supply curves are based on a notion of value as utility. But utility is not an objective quality and, even if it were so, it could not be that element which is common to all commodities and which thus make their exchange possible. In fact, 'Utility is the most abstract, most general notion indicating that each commodity has its own specific use, is useful for something in its own specific way, and not that all commodities share a common type of utility, are useful for the same purpose in the same way. *Utility is thus the most general concept of what makes things different.* As such, it cannot be used to indicate a feature things have in common' (Carchedi 1991:126-7).

Rather, utility is a subjective category. For neoclassical economics, the satisfaction of utility inherent in consumption implies (1) a relation between an individual and a commodity (2) that this commodity is considered simply as a use value and (3) that this use value is considered simply as an object of individual consumption. But here too difficulties loom large for neoclassical economics. In a society in which the superfluous portion of products are exchanged and, even more so, in a society in which products are exclusively made in order to be exchanged, the

commodity possesses for [the owner, and especially for the capitalist – G. C.] no direct use value. Otherwise, he would not bring it to the market. It has use value for others; but for himself its only direct use value is as a bearer of exchange value, and consequently, a means of exchange. (Marx 1976a:179)

It follows that the act of consumption implies (1) a relation between a (group of) person(s) and another (group of) person(s) whose labour has resulted into the object of consumption, in short between two (groups of) people, rather than between an individual and a commodity (2) that this commodity be seen both as a use value and as an exchange value and (3) that this commodity be considered as an object of both individual and of productive consumption.

With regard to productive consumption, the capitalists acquire labour power not to maximize their own utility but to maximize the rate of profit through the maximization of the rate of surplus value (Marx and Engels 1976:409). Similarly, when the capitalists purchase the means of production, they do that not because they want to maximize the utility they get from those means of production but

because they want to maximize their rate of profit through efficiency maximization. It is not denied here that individual consumers might want to maximize the utility they derive from the consumption of certain objects. This, however, cannot explain the demand curve because it refers at most to objects of personal (unproductive) consumption (thus excluding means of production and labour power) and because, even in this latter case, of the circularity inherent in the relation between quantities and prices (see section 3 above).

It follows that utility reveals its social determination in that it mystifies the specific nature of the capitalist production and distribution relations. In fact, utility theory (1) focuses on *unproductive consumption* (that is, on consumption for the consumers own reproduction, rather than on productive consumption, consumption of means of production and of labour power in the production process) (2) in which the objects of consumption are seen exclusively as *use values* (rather than also as products containing a share of the social, abstract labour which must be realized through exchange, in short as exchange values) (3) in which the act of consumption is seen as involving a relation between *persons and objects* (rather than between persons and other persons, since the former consume the product of the latter's labour) (4) in which persons are seen as ahistorical *individuals* (rather than as members of historically specific social groups and classes) and (5) in which the individual's *initial endowments* are unimportant. This latter point is most clearly seen in the case of marginal utility. As mentioned above, by focusing on the margin, initially different endowments and property are rendered irrelevant.

Through this partial and distorted view, utility theory obliterates historically specific social relations (the relations among individuals as representatives of specific social classes) and replaces them with ahistorical and fetishistic relations, relations between individuals and things in a social and historical void. Or, by explaining the 'intercourse of people ... from their material needs and the ways of satisfying them' irrespective of the specific, historical, context, utility theory reveals its real nature: 'a mere apologia for the existing state of affairs' (Marx and Engels 1976:413-4).<sup>13</sup>

To sum up, the social content of partial equilibrium theory is its functionality for the reproduction of the capitalists' system at the ideological level, its theorization of an economic system (1) excluding classes, and thus the production of value and surplus value (2) postulating a mythical, masculine, rationality as the natural form of human rationality (3) assuming equal power in exchange relations based on equal economic endowments (4) operating on the basis of the most rational and equitable price, that is distribution, system (on this point, more in the next section) (5) tending towards equilibrium and (6) reducing specific, that is capitalist, social relations to ahistorical utility relations between individual and things thus misrepresenting the former as 'the' natural form of economic relations.

It follows from this and the previous section that, if demand and supply curves, and the price theory which they symbolize and summarize, imply the above inherent theoretical flaws and socially coloured theoretical frame, the formation of market prices in Marxist economics should not be explained by grafting the neoclassical demand and supply curves onto Marxist price theory. Marxism needs an alternative theory.

## 1.5 NON-EQUILIBRIUM MARKET PRICES

The critique submitted above does not deny that market prices as well the quantities demanded and supplied might behave as predicted by the demand and supply curves. The point, however, is that they might just as well behave ‘abnormally’ and that both ‘normal’ and ‘abnormal’ behaviour require a different explanation than that provided by neoclassical economics. The discussion above indicates that this alternative explanation should be based on three cardinal points.

First, the relation between demand, supply and market prices should not be theorized on the basis of the *ceteris paribus* condition but on the basis of a total process of change. Suppose that the price of a good reacts ‘normally’ to that good’s demand variations, for example that it increases following a demand increase. The reason for this is not that that price increases because demand has increased under the *ceteris paribus* condition. Rather, the same forces which acted upon the structures of production, of demand and of prices and which increased the demand for that good *as part of a total process of change* at time  $t_1$  cause a further change in those same structures such that at  $t_2$  the price of that good increases, also a part of a total process of change.<sup>14</sup> It is only if we focus on the net effect of a total process of change on the demand for a good at  $t_1$  and on the price of that good at  $t_2$  that we can say that that price increases at  $t_2$  ‘because’ the demand for that good has increased at  $t_1$ . It is this process, excluding by definition the *ceteris paribus* condition, that explains both ‘normal’ and ‘abnormal’ demand behaviour. From this angle there is nothing abnormal about, say, lower real estate prices followed by a falling demand for houses in a period of economic crisis. The same holds for similar changes in supply, demand and prices.

Second, the relation between demand, supply and market prices should be theorized in terms of value rather than of utility. Suppose that, given unchanged conditions of production of a good, its price increases because its demand has increased. The reason for it is that consumers are willing to allocate a greater share of societal value (purchasing power) to that good. This greater demand indicates *a posteriori* that insufficient societal labour has been allocated to the production of that good, That is, that more labour had to be allocated to it. Therefore, the labour contained in it must count as more labour; that is, that commodity realizes more societal labour. It is through the realization of extra

value by that good that the labour contained in it counts as a multiple of itself. Even though higher demand causes the allocation of extra value for the purchase of that good, it is the latter which explains higher prices, not the former.

Third, the relation between demand, supply and market prices should be theorized as market prices converging towards tendential, or production, prices. This means that the allocation of value to the different goods is not arbitrary but tends towards that allocation which allows all commodities to be sold at a price at which all capitals realize the average rate of profit.<sup>15</sup> It is on these three points that an alternative market price theory should be based. Let us begin by defining some basic concepts.

In a capitalist society, *value* is abstract labour which has been performed under capitalist production relations and necessarily taking the form of money.<sup>16</sup> The *structure of production* in a branch is given by the number of capitalist enterprises in that branch, by their size (capital invested), by their level of productivity (as indicated by the organic composition of capital), and by the rate of surplus value. The structure of the economy is given by the structure of all its branches as connected through commodity exchange. Changes in the structure of production are caused by capital mobility across branches, by technological innovations within branches, and by changes in the rate of surplus value. The commodities produced are at the same time physical outputs, that is use values,<sup>17</sup> and (exchange) values. The structure of production determines the individual value of the commodities, that is their value contained. The *structure of supply* is the structure of production seen not as a process but as the result of that process.

If we now consider *demand*, we should distinguish between desire, or demand proper, and purchasing power. Demand is both an element of, and arises from the mutual interaction with, all other elements of a society's culture.<sup>18</sup> The purchasing power with which economic agents enter the present period is the value the capitalists have realized at the end of the previous period through the sale of their products and the value the labourers have realized at the beginning of the present period through the sale of their labour power. The purchasing power allocated in the present period is then given by the expenditures of the capitalists as productive consumers (that is as purchasers of means of production and of labour power) at the beginning of the present period plus the expenditures of the labourers and of the capitalists as unproductive consumers during the length of the present period.<sup>19</sup> Thus, the *individual demand* for a certain commodity is governed by an individual's need for it (both for his/her own individual consumption and for the firm's inputs for the next production process) and by his/her purchasing power, that is both by the willingness to purchase and by the ability to pay for that commodity. A commodity's *social demand* is given by the sum of individual demands and is thus measured by the total purchasing power allocated to it. The *structure of demand* is given by the distribution of a society's total purchasing power among the several commodities, that is by the way the

individual purchasers allocate their purchasing power among the different commodities.

Against this background, we now submit a theory of market prices. Once the *ceteris paribus* condition is dropped, the formation of the market prices of the individual commodities can only be understood within the framework of a general process of formation of all market prices. To this end let us start from the following relations

$$[SS(t_1) \Rightarrow SD(t_1)] \Rightarrow SP(t_1) \quad (1)$$

$$SS(t_2) \Leftarrow SP(t_1) \quad (2)$$

$$[SS(t_2) \Rightarrow SD(t_2)] \Rightarrow SP(t_2) \quad (3)$$

where SS is the structure of supply, SD is the structure of demand, SP is the structure of market prices,  $\Rightarrow$  indicates determination,  $\Leftarrow$  indicates overdetermination, and  $t_1$  and  $t_2$  stand for different points in time delimiting period  $t_1-t_2$ . Let us disregard for a moment the symbols  $\Rightarrow$  and  $\Leftarrow$  and let us consider relation (1) first. This relation indicates that, given a structure of supply at  $t_1$ , the purchasing power redistributed both between capital and labour and among capitalists is allocated to the several commodities due to the structure of demand at time  $t_1$ . At  $t_1$  there emerges a price structure SP(1), due to the interaction between SS( $t_1$ ) and SD( $t_1$ ). Relations (2) indicates that the structure of prices thus formed modifies the structure of supply at  $t_2$ , given the effect of the price structure of the profitability of the different capitals and thus on their decision to move to different branches, to introduce new technologies, or to attempt to change the rate of surplus value. Value and surplus value are created in period  $t_1-t_2$ , and this is redistributed at  $t_2$ . Due to the new structure of demand at  $t_2$  a new price structure emerges (relation 3).

To fully understand relations (1), (2) and (3), the notions of determination and of overdetermination must now be briefly explained. In general, to determine means to create the conditions of its own existence (reproduction) or supersession. What  $\Rightarrow$  indicates within the square brackets in relations (1) and (3) is that the structure of supply determines the structure of demand in the sense that the latter is the condition for the reproduction of the former, even though in a modified form. In fact, if the products are not demanded and thus sold, production and thus supply cannot restart in the next period. If we now consider the relation between the structure of supply and of demand on the one hand and the structure of prices on the other, the former (that is SS and SD in their relation of determination) determine the latter (that is SP). In other words, all elements determining market prices have been summarized in the structures of supply and demand. These two structures, then, in their relation of determination, are the determinant instances and the structure of market prices is the determined instance in the sense that the structure of market prices is the condition of existence of both structures. In fact, without price formation it would be impossible to sell this period's products and thus to restart production and supply. Without the latter, demand could not emerge again.

These are relations (1) and (3). Consider now relation (2). The notion of determination necessarily implies that of overdetermination. This means that the determined instance (the structure of market prices) reacts upon and modifies the determinant one. In fact, on the basis of these market prices, there arises a hierarchy of rates of profit which cause a change in the structure of production and thus of supply (relation 2). The new cycle begins with this new structure of supply which determines the new structure of demand (relation 3).

Let us now apply relations (1) through (3) to a specific commodity, say  $a$  and let us focus on the relation between the supply, the demand and the price of  $a$ . Let  $S_a$ ,  $D_a$ , and  $p_a$  be respectively the supply of, the demand for, and the market price of  $a$ .<sup>20</sup> Then,

$$[S_a(t_1), D_a(t_1)] \Rightarrow p_a(t_1) \quad (4)$$

$$S_a(t_2) \Leftarrow p_a(t_1) \quad (5)$$

$$[S_a(t_2), D_a(t_2)] \Rightarrow p_a(t_2) \quad (6)$$

Take relation (4) first. This relation indicates how a change in the structures of production and of demand (including  $S_a$  and  $D_a$ ) determines a change in the structure of prices (including  $p_a$ ). Relation (4) extracts one aspect of this intricate process of determination: it focuses only on the *net changes* in  $S_a$ ,  $D_a$  and  $p_a$  emerging from this process. This means that in relations (4) and (6) the meaning of  $\Rightarrow$  changes. It now shows the direction and scope of change in  $p_a$  (from  $p_a(t_1)$  to  $p_a(t_2)$ ), when  $(S_a, D_a)$  have changed (from  $S_a(t_1)$  and  $D_a(t_1)$  to  $S_a(t_2)$  and  $D_a(t_2)$ ) while serving as a reminder that  $(S_a, D_a)$  have changed as part of the total change occurring in the determinant instances (the change in the structures of supply and of demand) and  $p_a$  has changed as part of the total change in the determined instance (the structure of prices). In other words,  $S_a$  and  $D_a$  are not the only determinants of  $p_a$  (the *ceteris paribus* condition). Rather, they codetermine  $p_a$  together with all the other elements of SS, SD and SP. This is why there is no symbol of determination between  $S_a$  and  $D_a$  in relations (4) and (6). If we focus only on (4) we do not know how the structures of supply and of demand have changed, nor do we know how this change has determined a change in the structure of prices. All we can observe is the net result of a complex process of change, that is a change in  $S_a$ ,  $D_a$  and  $p_a$  in which the *ceteris paribus* condition has no role left to play.

Consider next relation (5). This is a limited view of how a change in the structure of prices (including  $p_a$ ) overdetermines a change in the structure of supply such that at  $t_2$  the supply of  $a$  is  $S_a(t_2)$ . Again, relation (5) extracts from this wider process of overdetermination only net changes in  $S_a$ . All we know, if we focus only on (5), is that a change in  $p_a$  is related to changes in the prices of other commodities and that this change in the price structure has reacted upon and modified the structure of supply and thus of demand in such a way that, as relation (6) shows, the net effect of all these changes on  $S_a$  and  $D_a$  is  $S_a(t_2)$  and  $D_a(t_2)$ .

Seen through the lens of the *ceteris paribus* condition, it is as if a change in  $p_a$  (a) happens independently of, and in isolation from, changes in other prices and (b) affects  $S_a$  and  $D_a$  only. Actually, exactly the opposite is true. The same can be repeated concerning the neoclassical optical illusion in which changes in  $S_a$  and  $D_a$  are not affected by changes somewhere else in the structure of supply and of demand and affect only  $p_a$ .

## 1.6 EQUILIBRIUM VERSUS NON-EQUILIBRIUM PRICES

On the basis of the what has been submitted above, it is now possible to outline the most important differences between price formation in neoclassical economics and in the version of Marxist economics developed in this chapter.

First, neoclassical price theory is circular, it presupposes the prices it wants to determine. Marxist price theory is not circular because it transforms individual values into social values, that is prices, through (surplus) value redistribution. These are either the market prices, that is the commodities' actually realized values, or the production prices, that is tendential prices towards which the market prices tend.

Second, neoclassical economics theorizes prices on the basis of the *ceteris paribus* condition while in Marxist price theory it is assumed that prices are affected by a large number of variables, including each other, and that they in turn affect all other prices and other variables. This difference is a consequence of a more fundamental difference at the level of method. Neoclassical economics theorizes an unreal and static world and superimposes this scheme on a real and dynamic world in a vain attempt to explain it. Marxist economics theorizes a real and dynamic world and proceeds to use this scheme to interpret reality.

Third, in Marxist theory a capitalist represents a unit of capital, which is composed of constant capital, variable capital and surplus value. This implies from the very beginning the existence of capitalists (constant capital and surplus value) and labourers (variable capital), that is of social classes in production. Individuals operate within a unit of capital and thus are representatives of classes. In neoclassical economics, the capitalist is a person whose social identity is not different from that of the labourer. The demand and supply curves are constructed by generalizing the capitalist's socially determined behaviour as if it were not socially determined, an unchanging feature of human personality. Moreover, in neoclassical economics this supposedly unchanging feature of human personality is ascribed to men rather than to women.

Fourth, tendential prices in Marxist economics are not equilibrium prices.<sup>21</sup> In neoclassical economics, if actual prices did coincide with equilibrium prices, movement would cease (sometimes, it is even asserted that they do coincide). Lack of capital movement and of technological change become the essence of this (static) theory. In Marxist price theory, in terms of the tendential distribution

of the value actually produced (see Carchedi and de Haan in this volume, Table 7.2), if market prices did coincide with production prices, there would be no equilibrium situation: this situation would be immediately upset by the action of all capitals, including the high productivity ones, searching for (still) higher rates of profit. The moment at which the average capital realized the average rate of profit would also be the moment at which non-average capitals realized more or less than the average rate of profit. Or, the condition for the formation of the prices of production (tendential equalization of the rates of profit into an average and its realization only by average capitals) is also the condition for its immediate upsetting (tendential realization of different rates of profit by the non-average capitals in proportion to their level of productivity). The price movement is not chaotic, it has a direction, but this is not towards an equilibrium state.

Fifth, tendential prices in Marxist price theory are not simply statistical averages void of any economic content (contrary to so many statistical and mathematical manipulations in neoclassical economics). Tendential prices are real but unrealized and unrealizable tendential points. They are potential but real situations. If  $p_a$  is such that profits in sector A are sufficiently higher than in sector B, capital moves from B to A until  $p_a$  falls and  $p_b$  rises, that is until the realized rate of profit falls in A and rises in B. This is a real movement towards an average rate of profit. Only, the movement itself changes the average, the point towards the different rates of profit tend. This is the reason why the average rate of profit is a part of reality but a part bound to remain unrealized. Therefore, this average cannot take an empirically visible form. The only way to 'see' it is to construct a statistical average, a concept, a number giving somehow a form to a formless element of reality.

Sixth, both theories assume the equality of demand and supply, Marxist economics in determining production prices and neoclassical economics in selecting equilibrium prices. However, neoclassical economics hypothesizes equal quantities of goods, that is of use values, demanded and supplied. For neoclassical economics,  $D = S$  only in physical terms. Marxist economics takes both the surplus value produced and the reproduction price of the inputs and then computes the prices of production of the outputs under the assumption that social demand is such that all commodities are wanted ( $D = S$  in physical terms) and that purchasing power is so distributed that all commodities are sold at prices at which all (modal) capitals realize the average rate of profit ( $D = S$  in value terms).

Seventh, in neoclassical economics an increase in the supply of a good causes a shift in the supply curve to the right and decreases its equilibrium price. Marxist economics argues that the effects of an increase in supply on production prices cannot be disjointed from the question as to whether more or less value is produced in that process. For example, it is possible that the supply of that good is increased by introducing a new technology (with a higher than average organic composition of capital), thus increasing the average organic composition of

capital. In this case, the new production prices, including that of that commodity, are lower. But it is equally possible that that increased supply is achieved through a higher rate of surplus value. In this case, the average rate of profit increases, and, with it, all production prices. A similar reasoning holds for a decrease in supply.

Eighth, in neoclassical economics equilibrium prices cannot alter demand and supply because they are those prices at which movement ceases. In Marxist economics production prices cannot affect demand and supply for a different reason, because they are unrealized instances.<sup>22</sup> Only realized instances can modify other realized instances. Thus, only market prices can modify demand and supply.

Ninth, in Marxist economics the difference between a commodity's market price and its production prices is caused by the difference between the exchange value actually allocated to that commodity and the exchange value tendentially allocated to it. In neoclassical economics the difference between a commodity's actual price and its equilibrium price is caused by the discrepancy between the demand and the supply of that commodity as a use value. The same holds as far as the difference between a commodity's market price and its previous market price. In short, in Marxist Economics, changes in market prices (both around their previous level and around their prices of production) are explained in terms of discrepancies between the quantities of societal labour (value) allocated rather than in terms of demand and supply of use values.

Tenth, while in both theories diminished purchasing power is the cause of falling prices, in neoclassical economics (contrary to Marxist economics) purchasing power is not related to value allocated and even less to value produced: the value dimension is absent.

## NOTES

<sup>1</sup> See, for example, Carchedi (1991, Chapter 3), Carchedi and de Haan (this volume), Giussani (1991), Kliman and McGlone (1988 and this volume), and Freeman (1984, 1992a and b). For a review of the literature, see Carchedi *op cit*.

<sup>2</sup> See G. Carchedi and W. de Haan in this volume, note 27.

<sup>3</sup> It follows that the capitalist form taken by social phenomena is also seen as the reflection of natural, and thus necessary, phenomena. This is, of course, a powerful argument in favour of the *status quo*. A typical example is the application of the principle of the 'survival of the fittest' to explain and legitimate capitalist competition and entrepreneurship. First, natural selection is interpreted through the capitalist lens, that is, as being governed by the selection of the fittest through competition. Then, this principle is used to legitimate capitalist competition as the form of social selection reflecting natural selection.

<sup>4</sup> 'In a competitive environment, the capitalist faces a hostile environment: workers as well as other businessmen are his enemies. The appearance is that of the individual standing alone, facing forces (the market) over which he has no control. Success in such an environment then seems to be based solely on the sagacity or luck of the individual' (Henry 1990:93).

<sup>5</sup> This is a specific case of the limits of methodological individualism. 'Once one starts with a micro-individual logic, the only way to come to the social level is by aggregation of individual units'

(Carchedi 1989:106). Methodological individualism can explain neither socioeconomic regularities (laws) nor historical formations and change.

- <sup>6</sup> See also Horverak (1972:279). Neoclassical economics can also be criticized from a neo-Ricardian, an institutionalist, and a game-theoretical viewpoint. From the point of view of this paper, the neo-Ricardian school shares with the neoclassical school its emphasis on equilibrium while the institutionalists jettison the notions of value, class, and dialectics thus focusing on the reproduction, rather than on the supersession, of the capitalist system. For a recent example of the institutionalist critique of (a) neoclassical economics, see Hodgson (1992); of (b) neo-Ricardian economics, see Clark (1992a); and (c) of Marxian economics, see Klein, (1992). Carchedi (1991) can be seen as an answer to Klein's critique. Morgenstein (1972) is a sustained attack on neoclassical economics from a game theoretical perspective.
- <sup>7</sup> For additional elements of critique see Linder (1977 Volume II, Chapters 13 through 16).
- <sup>8</sup> In its Walrasian formulation, general equilibrium analysis is an extension of 'the study of the exchange of two commodities ... to the study of the exchange of several commodities ... In this connection all we need to do is to return to the case in which each party to the exchange is a holder of only one commodity and then generalize our formulae in a suitable way' (Walras 1984:153). The supply and demand functions, then, are still basically built as in partial equilibrium price theory and are thus subject to the same critique. In the more modern general equilibrium model associated with the work of Arrow and Debreu, convergence towards equilibrium depends on the form of the excess demand functions. There is such a convergence only if a commodity's excess demand is negative when its price is higher than the equilibrium price and positive in the opposite case. But recent work has shown that this is not necessarily the case and that, consequently, the excess demand functions can have any form (see Guerrien 1989, Chapter III). It follows that the convergence towards equilibrium has no theoretical foundation.
- <sup>9</sup> Lianos and Droucopoulos (1992) engage in an original and interesting attempt to construct a non-neoclassical supply curve. However, these authors insert in Figure 3, p. 95, a neoclassical, downward sloping, demand curve.
- <sup>10</sup> If A is the determinant instance and B the determined instance,  $A \Rightarrow B$  means that A determines B as a condition of A's own reproduction or supersession. But B can fulfill this role only because it has a social content, only because B is a transfiguration of A. For a much more extended treatment of these issues, see Carchedi (1987 and 1991).
- <sup>11</sup> Neoclassical economics does have a notion of dynamics as the study of the path between two equilibrium points. This, however, does not change the static nature of the theory. This 'dynamic' path is a deviation from two equilibrium points, just as oscillations around the same equilibrium point are a deviation around that point. This is comparative statics, rather than dynamics.
- <sup>12</sup> For example, a recent textbook asserts that 'The process of price adjustment moves the economy towards potential GDP. When the price level is too high, GDP is less than potential, prices fall, demand rises, and eventually full employment is restored' (Hall and Taylor 1993:219). The tendency towards equilibrium is based on the negative relationship between demand and prices which is extended from the individual to the economy as a whole. This negative relationship, in its turn, needs the *ceteris paribus* condition, a point criticized above. It is amusing to notice that in this text the term 'economic crisis' does not appear in the 20 page long subject index.
- <sup>13</sup> The notion of utility finds its corresponding concept in the notion of use value in Marxist theory. Both use value and utility are socially determined concepts, that is, both derive from the contradictory nature of bourgeois society. Use value reflects the point of view of the collective labourer who draws the distinction between use value and exchange value to understand the specific nature of this society in order to change it into one in which exchange value will be abolished and only use values will be produced (on the basis of different social, and thus production, relations and thus with a different technical division of labour). Utility reflect the view of the global capitalist whose interest is the mystification of the specific, exploitative, nature of bourgeois society and who therefore focuses on the supposedly eternal features of this society, that is on what this society has supposedly in common with all other types of society, that is the satisfaction of material needs and economic behaviour based on utility considerations.
- <sup>14</sup> Thus, the elasticity of demand measures the percentage price change at  $t_1$  corresponding to a certain percentage change in demand at  $t_2$  not because everything else remains the same (and thus not under

the *ceteris paribus* condition) but because the total process of change causing that percentage change in the price of a good at  $t_1$  further evolves into a different situation at  $t_2$  of which that percentage change in the demand for that good is a part.

- <sup>15</sup> See Carchedi and De Haan in this volume, Figure 7.5. If the case dealt with in Figure 7.6 is considered, only the average productivity capitals tendentially realize the average rate of profit.
- <sup>16</sup> This statement seems to contradict Marx's own notion of value: 'Human labour power in its fluid state, or human labour, creates value, but is not itself value. It becomes value in its coagulated state, in objective form' (Marx 1976a:142). In other words, during the process of production, the commodity, and thus its value, is still being produced by labour. Or, in its fluid state labour creates value but cannot be yet value, the value of the product, because the product as such, the product in its completed form, does not exist yet. Should the production process be interrupted before completion, the unfinished product would have no use value and thus no value. But as soon as the production process ends, labour ceases to create value and the labour contained in the product becomes its value. Confusion is bound to arise if the difference between labour in its fluid state and in its congealed state is overlooked. It is on this basis that some commentators deny that value is labour. But it is labour in its fluid state which is not (yet) value. The value of a product *is* labour (in its coagulated state). Thus, in the definition above, value is labour which has been performed under capitalist production relations and not labour which is being performed under capitalist production relations. This is quite obvious, given that it is the value of the products which is being discussed. Notice that only productive labour creates value because only productive labour transforms, by definition, use values into new use values. If this further refinement is taken into consideration, value is defined as abstract labour which has been performed under capitalist relations of production and which, as concrete labour, has transformed old use values into new use values. This point need not be pursued further in this context.
- <sup>17</sup> As I argue in 1991, Chapter 2, use values are both material (physical) and mental. This distinction is fundamental in a different context but can be disregarded here.
- <sup>18</sup> For the present purposes, the following definition is sufficient: *culture* is a specific combination of knowledge and behavioural patterns shared by the members of a social group and creating in them a feeling of identification with that group. A group's culture is not necessarily homogeneous but is often structured in different, and often contradictory, subfields. One of these is the norms and values (including consumption patterns) characterizing a group.
- <sup>19</sup> I disregard here other forms of allocation of purchasing power, such as financial speculations.
- <sup>20</sup> Notice that  $S_a$  refers both to the quantity of use values  $a$  and to the value contained in them.
- <sup>21</sup> This interpretation contrasts with that of a large number of authors. For two recent examples, see Horverak (1972) and Wolfson (1988).
- <sup>22</sup> Production prices are tendential and unrealized phenomena. But not all tendential phenomena are unrealized. See Carchedi (1991), appendix, for a distinction between three types of tendential phenomena.