VALUE and PRODUCTIVE LABOUR

A purely social approach to some basic concepts of Marxist economic theory

by

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INTRODUCTION

The purpose of this booklet is to contribute to the unceasing debate concerning the Marxist concepts of value and productive labour.

On a *qualitative* level, the question is to determine which activities should be considered as productive. It is well-known that productive labour can be understood in two senses : in a broader sense, productive labour is labour which creates value and revenue ; in a narrower sense, which is specific to capitalism, productive labour is labour which creates surplus value and surplus revenue.[1] Both in the broader and in the narrower sense, productive labour is always labour devoted to commodity production. Hence the question : do services constitute commodities in the same way as goods ? do all the activities in the market sector contribute to the production of commodities ?

On a *quantitative* level, the question is to know whether all activities considered as productive create the same quantity of value and revenue (of surplus value and surplus revenue). The problem here is that of differences in labour productivity, or in the intensity or skill of labour : does not the labour of a particular producer, relying on more advanced technology, on greater skill or intensity, create more value than the labour of another producer, whose labour employs less advanced technology, is less skilled or less intensive ?

1 « Surplus value » refers to a magnitude expressed in hours of labour, whereas « surplus revenue » refers to the monetary equivalent of surplus value. On the basic Marxist concepts in terms of labour and in monetary terms, see the appendix, § 6.1.

Traditional Marxist approaches answer those two questions by considering, at least partially, the contents or concrete aspects of the activities carried out. The quality of productive labour is denied to a great number of immaterial activities, among which circulation and supervisory activities : due to their very nature, these activities are supposed to fall outside the commodity sphere. On the other hand, from a quantitative viewpoint, a certain conception of abstract labour as expenditure of energy results in considering that more intensive or skilled labour creates more value than average labour.

The approach adopted in this text, on the contrary, answers the two questions in a unified way and completely disregarding the contents or concrete aspects of the activities carried out. In order to determine which activities are productive, and also to determine the quantity of value created by any productive labour, only one criterion will be used : that of indirectly social labour, i.e. labour which is recognized as socially useful through the sale of the product. This same criterion will also be used to question another traditional approach, which considers labour-power as a commodity and the money wage as depending on a predetermined « value of labour-power ».

Section 1 gives a classification of labour in capitalist society and specifies the concept of indirectly social labour (§ 1.1). We then defend the idea that abstract labour (the common denominator of commodities, the substance of value) is precisely this indirectly social labour (§ 1.2), which enables us to develop our approach of productive labour, both from a qualitative and a quantitative viewpoint.

The following sections oppose traditional Marxist approaches and our alternative approach on three issues : section 2 deals with productive labour on a qualitative level, section 3 deals with the quantitative problem, section 4 discusses the relations between wage and value of labour-power. The criticisms aimed at the traditional approaches give us the opportunity to explicit our approach and introduce new conceptual distinctions.

By way of conclusion, section 5 shows the advantages of our approach both on the level of Marxist economic theory and in the ideological and socio-political field.

The appendix (section 6) clarifies some concepts and points out that Marx, in a specific context, uses a contradictory concept of « necessary labour ».[2]

[2] This text draws substantially on Gouverneur J., *The Foundations of Capitalist Economy. An introduction to the Marxist economic analysis of contemporary capitalism*, Louvain-la-Neuve, Diffusion Universitaire Ciaco, 2005, 389 p. (see in particular chapters 1 and 2, as well as appendices 5, 6 and 7). The book can be ordered through the online scientific library www.i6doc.com (20 €). It can also be downloaded free of charge from the same website or from www.capitalism-and-crisis.info.

1. LABOUR AND VALUE

1.1 Labour in capitalist society

Table 1 gives a breakdown of all labour according to the two essential criteria which define a capitalist economy, namely : the market (or non-market) character of the goods and services produced and the waged (or non-waged) character of the labour provided.

Rectangles A and B comprise all enterprises producing for the market. Be they capitalist or not, aiming at profit or not, all enterprises in principle live from the sale of their products. Labour performed within them (by wage-earners, capitalists or self-employed) is *indirectly social labour*, i.e. labour which is recognized as socially useful only in an indirect way, through the sale of the products on the market. Labour performed there is at the same time *heteronomous* labour, i.e. labour the reproduction of which is subject to external norms : enterprises are indeed subject to the « market laws » (they can only subsist if they meet the purchasers' demand and are competitive with respect to rival firms).

Rectangle C comprises all institutions of public interest producing non-marketed goods or services. Be they public or private, they do not live from the sale of their products, but from public financing. Labour performed within them (by wage-earners) is *directly social labour*, i.e. labour which is recognized as socially useful in a direct way by the public authority financing them. Labour performed there is also *heteronomous* labour, in the sense that institutions are subject to public authorities' decisions (they can only subsist if they meet the criteria established by the latter, who may take very diverse criteria into consideration : the financial burden for the public authority, the social needs to satisfy, the partisan or personal interests of the politicians in power, etc.).

Table 1 : A classification of activities and production units

	Market production	*Non-market production*
Waged labour	A. Enterprises using waged labour A1. capitalist enterprises A2. public enterprises (Live from sales) (Indirectly social labour, heteronomous labour)	C. Institutions of public interest C1. public institutions C2. private institutions (Live from public subsidies) (Directly social labour, heteronomous labour)
Non-waged labour	B. Entreprises relying on self-employement B1. individual independent enterprises B2. collective independent enterprises (Live from sales) (Indirectly social labour, heteronomous labour)	C. Non-professional sphere D1. voluntary organizations D2. Households (Live from voluntary contributions) (Social or private labour, autonomous labour)

In the non-professional sphere (rectangle D), households and voluntary organizations in principle live from unpaid labour and voluntary contributions. The labour provided may be social (useful to others than the producers themselves) or private (useful to the producers alone). Labour is autonomous labour, insofar as these production units are not subject either to « market laws » or to public authorities' decisions. They can subsist as long as voluntary contributions are maintained.

Table 1 tells us nothing about the nature of the production which is carried out. In fact, the same production, defined by the nature of the product, can appear in two or more of the different rectangles, even in all of them (this is the case for teaching and education, for example). A given production can also shift from one rectangle or item to another, following changes in political decisions (privatization of public enterprises = shift from A2 to A1).

The table assumes that all labour performed in the professional sphere (rectangles A, B, C) is professional labour, and that all labour performed in the non-professional sphere (rectangle D) is labour provided free of charge. In reality, labour provided free of charge can be found at various points in the professional sphere : such is the case, for instance, of unpaid labour provided by family members in the small retail trade or by voluntary workers in hospitals. Conversely, professional labour can be found within the non-professional sphere : such is the case of waged members of voluntary organizations (D1). All these exceptions, however, do not affect the properties of labour performed in the respective spheres. Be it paid or gratis, labour performed in the professional sphere is heteronomous labour, subject to validation either by the market (indirectly social labour) or by public authorities (directly social labour). Be it paid or not, labour performed in a voluntary organization is autonomous labour, insofar as it need not be validated either by the market or by public authorities.

The table also assumes that each unit of production has only one source of income or finance available to ensure its continuation : market enterprises live from the price paid by the customers ; institutions live from public financing, which implies compulsory levies ; households – considered as production units – rely only on their members' unpaid labour ; and voluntary organizations live only from voluntary contributions (unpaid labour, subscriptions, grants). Reality often differs from this scheme, as the same production unit may have several sources of incomes in varying proportions.[3] Actual realities are thus not as plain a theoretical distinctions : in particular it may be difficult, or even impossible, to draw a clear dividing line between market and non-market production.[4]

[3] Thus market enterprises may partly rely on public *subsidies* (railway companies for instance) and/or on member's *subscriptions* (football clubs), to say nothing of property *rents* (very important in the case of financial companies). Voluntary organizations may *sell* services to their members or to outside customers ; they may also take advantage of public *subsidies*. Various institutions require *individual payments* for services provided (education fees, registry office fees). And household production might possibly benefit from public *subsidies* (wages for housework).

[4] Thus a day-nursery half financed by parents and half by local authority belongs equally to market and non-market production. An education centre belongs

1.2 Value as indirectly social labour

If dissimilar commodities can be exchanged on the market, there must be in them a common denominator relevant to the market. We know that the latter is labour : not concrete labour, but abstract labour. *Concrete labour* is labour considered in its *material*, visible aspects : it differs from one commodity to another and from one category of workers to another, it is *specific* to each commodity and each category of workers. *Abstract labour* is labour considered *in general*, disregarding all its specific aspects. This abstract labour common to all commodities is also called *value*. We can thus briefly say that the necessary common denominator of commodities is their value.[5]

However, we should make clear what is meant by abstract labour. All authors admit – at least in principle – that abstract labour disregards all the *material* aspects which constitute concrete labour and which differ according to commodities and workers. We add that abstract labour should also disregard all the variable *social* aspects that define the status of the enterprise (capitalist, public, independent) and of the producer (self-employed, capitalist, executive, wage-earner without control over the production process, etc.).

In our opinion, abstract labour is labour taking into account ONLY ONE *social* aspect (less evident but no less real), namely its characteristic as indirectly social labour. If a carpenter, a steel factory worker, a bank clerk, an engineer and an executive contribute to producing goods or services sold on the market, they all perform *indirectly social labour*. This indirectly social labour is the real common denominator of comodities.

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predominantly to non-market production if it is financed mainly by public subsidies, and *predominantly* to market production if financed mainly by private payment. And so on.

[5] Many authors distinguish between value and abstract labour : value is a property of *commodities*, namely their capacity of being exchanged for one another ; abstract labour is a specific type of *labour*, namely indirectly social labour. Using this terminology, we should say that commodities have value because their common denominator is abstract labour. Abstract labour is the *substance* of value, the other constituent aspects of value being its *magnitude* and its expression in the *form* of a price.

Since indirectly social labour is the common denominator of commodities, these can be defined in a precise manner : *commodities* are the *products of indirectly social labour*. Conversely, value can also be defined precisely : *value* is *labour devoted to producing a commodity which is then sold*. Creating value thus means performing indirectly social labour, i.e. taking part in the production of goods and services sold on the market. Several important consequences flow from this conception of value.

First, *all* labour performed in the market sector creates value, irrespective of the social characteristics of the enterprises and producers, and irrespective of the concrete nature of the commodities sold and the activities carried out. The enterprises may be capitalist, public or independent. The producers may be wage-earners, capitalists or self-employed. The commodities produced may be goods as well as services. And the activities carried out may have a technical or an administrative character, they may be more or less manual or intellectual, they may take place within any department of the enterprise : « production », « sales », « accounting », « general services », etc. (Thus, for instance, in the car industry : as far as value creation is concerned, the labour performed by foremen, book-keepers or sales agents does not differ from that performed by workers directly involved in the technical process of production : in both cases, it is labour performed on the initiative of the capitalist who engaged the wage-earners ; in both cases, it is the sale of the cars which validates the capitalist's initiative and recognizes the labour performed as socially useful.) All the workers in the market sector thus take part in the production of commodities and value, and the production process carried out in the enterprises must be understood in a much broader sense than the mere process of transformation of input into output.

Second, we must stress that value implies both production *and sale*. Production by itself is not sufficient : before the commodity is sold, the labour-time expended in it does not count as value, but simply as private labour expecting social recognition. Only the sale of the commodity grants this social recognition and transforms the private labour embodied in a commodity into value. Thus, while it is correct to assert « no production, no value », it is equally necessary to add « no sale, no value ».[6]

Third, all the producers are on an equal footing as far as the *quantity* of value created is concerned. This flows from the very definition of value : value = abstract labour = indirectly social labour. For value creation to take place, it is necessary and sufficient that labour be indirectly social labour, i.e. that it contribute to creating a product which is sold on the market. One disregards (abstracts from) all the specific social features of the enterprise and the producer, as well as the nature of the products (goods or services), as well as the concrete characteristics of the commodities produced and the activities carried out. Since all the concrete characteristics of the activities carried out are disregarded, no account is taken – among other things – of the degree of mechanization, intensity and skill of labour.

Providing the products of labour are sold, we can therefore establish : 1h of labour of any worker = 1h of labour of any other worker = 1h of value. Thus the degree of skill and intensity of labour, the degree of mechanization of the production process, do not affect the quantity of *value created by present labour*.

Admittedly the degree of mechanization and that of skill and intensity do affect the value of commodities, but not the quantity of value created by present labour. Two points are worth recalling in this respect :

- More advanced mechanization and/or more intensive work imply the use of more means of production (machines and/or materials), while more skilled labour implies the use of more « means of training » (books, studies, etc.). Insofar as these means of production and means of training have to be *purchased* from other producers (assuming a pure market economy), 1h of more mechanized or more intensive or more skilled labour will result in *more past value* being transferred. This will affect the magnitude of value of the commodities produced (which is the sum of past value transferred and new value created), but does not mean that 1h of more mechanized or more intensive or more skilled labour would result in more new value being created.

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[6] This insistence on the twofold role played by production *and by sale* constitutes the difference between value conceived of as « indirectly social labour » and value conceived of as « embodied labour » (independently of the commodity being sold).

- Similarly, a higher labour productivity means that more *use-values* are produced per hour of labour and that the *value per unit of commodity* is lower. But it does not in any way mean that more *value* would be produced *per hour of labour* : 1h of indirectly social labour always creates 1h of value, irrespective of labour productivity.

2. THE DEBATE CONCERNING COMMODITIES AND PRODUCTIVE LABOUR

Both in the broader sense (labour which creates value and revenue) and in the narrower sense (labour which creates surplus value and surplus revenue) productive labour is always labour devoted to commodity production.[7] Hence the question : do services constitute commodities in the same way as goods ? do all the activities in the market sector contribute to the production of commodities ?

2.1 Traditional approaches

2.1.1 The exclusion of circulation and supervisory activities

The analysis of productive labour traditionally makes a distinction between production activities on the one hand, and circulation and supervisory activities on the other. *Production* consists of all the operations which are technically necessary to result in a given product. These technical operations are meant in a broad sense : they include, not only the making of the product proper, but also transport, storage, maintenance, etc. *Circulation* comprises all the activities which secure transfers of rights of ownership or use over products or money, that is, activities which are made necessary by the commodity form of production : purchase of means of production and labour-power, sale of products, lending and borrowing of money. These activities are carried out either within specialized departments of production enterprises (« marketing », « finance », etc.) or within specialized enterprises (retailers, wholesalers and banks in particular). *Supervisory* activities are made necessary by the capitalist nature of production, with its class division : they are intended to enforce workers' discipline in the enterprise (labour of various executives and foremen).

According to traditional views, only production activities (in the market sector) are productive : they alone create commodities, value and revenue. On the other hand, circulation and supervisory activities are unproductive : they do not create commodities, value or revenue. As a consequence, the incomes earned in these activities, just like the wages earned in the sector of non-commodity production, involve

[7] On the concepts of surplus value and surplus revenue, see footnote 1 and appendix, § 6.1.3.

deductions from the aggregate revenue created : this is the case for wages and profits of commercial and financial enterprises, and also for wages paid to employees devoted to circulation and supervisory activities within production enterprises.

The deductions required to finance circulation and supervisory activities, like those required to finance non-market collective goods and services, affect the rate of profit and potential for accumulation of the productive sectors. Insofar as the proportion of workers devoted to those activities increases, insofar as the proportion of workers devoted to technical production activities decreases, the economy as a whole comes up against limits to its growth.

2.1.2 The exclusion of immaterial services

The analysis of commodities at the beginning of *Capital* only considers the case of material goods. Similarly, subsequent analysis of the production process focuses on the making of material goods. Whereas this limitation can be explained by the historical context (market services were hardly developed during the nineteenth century), many authors have considered that the concept of commodity should by nature be restricted to material goods, as well as to services directly related to material goods. According to them, for instance, the transport and repair of objects can be classed as commodity production, whereas the transport of persons, or health care, or education, etc., cannot.

According to this approach, immaterial production activities are thus unproductive : they do not create commodities, value or revenue. The incomes earned in these activities also involve deductions from the aggregate revenue created in material market production. Insofar as the proportion of immaterial activities increases, the economy runs into additional limits to its growth.

2.2 An alternative approach

2.2.1 Principles

The traditional views summarized above define a commodity, and thus productive labour, taking account of the nature of the activities carried out. According to their advocates, the criterion of indirectly social labour (human labour validated by sale on the market) is not sufficient to define a commodity : an additional condition is that labour be devoted to technical activities of *production* (as opposed to circulation and supervisory activities), or even to technical activities of *material* production (as opposed to immaterial services).

The alternative view adopted here defines a commodity, and thus productive labour, using the sole criterion of indirectly social labour (which we consider as being the genuine abstract labour : see above, § 1.2). If *any* enterprise proves successful in selling its goods or services, *all* labour carried out in it counts as indirectly social labour and therefore contributes to the creation of commodities, value and revenue. This conception runs against traditional approaches in two ways :

- On the one hand, *services* are analyzed in the same way as goods : they are commodities insofar as they are sold. The concrete contents of the services do not matter, no more than their more or less material or immaterial character : a philosophy lesson, for instance, is less material than steel transport, but both are commodities if they are sold. And the labour producing these services is productive labour.

- On the other hand, circulation and supervisory activities in the market sector (irrespective of whether they are carried out in specialized enterprises or within « production » enterprises) equally constitute indirectly social labour. Producers involved in those activities also perform productive labour.

All commodity services, therefore, including circulation and supervisory activities, contribute to the creation of aggregate revenue. The development of such activities, in itself, involves no deductions from the aggregate revenue and no slowing down of the growth of the economy.

2.2.2 A reply to two objections

a) The alternative view we advocate considers that commodity services contribute to the creation of aggregate revenue (and of aggregate surplus revenue if they are produced in enterprises employing waged labour). Does this mean that activities like trade and finance can develop indefinitely, without prejudice to the system ?

The answer is negative, but not because such activities would be unproductive. If an excessive expansion of those activities is prejudicial to the economy, it is because *no* branch of activity can expand without taking account of the requirements of general interdependence, without taking account of the relations it maintains with other branches (from which it purchases or to which it sells means of production) and possibly with consumers (to whom it sells means of consumption).

b) The alternative view we support abolishes the traditional distinction between « production » and « circulation » activities : both are included in the concept of indirectly social labour (if products are sold). What remains then of the formula $M \rightarrow C_0 \rightarrow P \rightarrow C_1^+ \rightarrow M^+$ and of the thesis stating that revenue and surplus revenue are created in production (P) and not in circulation ($M \rightarrow C_0$ and $C_1^+ \rightarrow M^+$) ?

We must in fact introduce a distinction between circulation *acts* and circulation *activities*.

Circulation acts are juridical acts effecting transfers of rights of ownership or use over commodities and/or money. The transactions $M \rightarrow C_0$ transfer to the enterprise the right of ownership or use over means of production and labour-power (simultaneously, the sellers of the means of production and the wage-earners become the owners of the sum of money paid by the enterprise). The transactions $C_1^+ \rightarrow M^+$ transfer to the buyer or user the right of ownership or use over the finished product (simultaneously, the enterprise becomes the owner of the sum of money paid by the purchaser). All these transfers are *instantaneous acts* : they take place at a definite moment in time, which is determined by the contracting parties or by law (for example : at the moment of signing the contract, or of paying the price, etc.).

Though instantaneous acts, the transfers of rights imply a variable amount of labour, a certain number of varied activities : thus the purchase of labour-power (which is effected when signing the labour contract) implies varied activities such as organizing recruitment, establishing labour contracts, paying the employees engaged, etc. ; similarly, the sale of the finished product (which occurs for instance when the invoice is signed) is surrounded by multiple activities such as advertising, determining the sale conditions, invoicing, giving credit, recovering debts, etc. All these activities constitute *circulation services* or *circulation activities* : the latter may be defined as all activities carried out to implement transfers of rights, or again as all activities implied by circulation acts.

Once the distinction between circulation acts and circulation activities is established, the thesis concerning the source of revenue and surplus revenue remains perfectly valid. Circulation *acts* ($M \rightarrow C_0$ or $C_1^+ \rightarrow M^+$) do not create value or revenue, surplus value or surplus revenue : they do no more than transfer juridical rights over commodities embodying a certain value or over money symbolizing a certain value. Circulation *activities*, on the contrary, contribute to creating value and revenue, surplus value and surplus revenue : they are included in the process of production in the wider sense.[8]

2.2.3 Relevance of the two concepts of productive labour

The concept of productive labour in the narrower sense (labour which produces surplus value and surplus revenue) aims at determining the potential for profit and accumulation of capitalist economy. Does this mean that the broader concept ((labour which produces value and revenue) is without importance in an assessment of the potential for profit and accumulation ? Not at all, and for two reasons.

First, insofar as a (non-waged) activity is productive of value and revenue, it is « self-financing » : it involves *no levy on surplus revenue*. Let us consider, for example, the activity of doctors in the private sector : is their work productive of value and revenue or not ? If it is, the doctors' incomes derive from the value created by their labour. If not, these incomes derive from a levy on the wages and the surplus revenue created in society as a whole : they thus reduce the profit available and the scope for accumulation.

Next, insofar as a (non-waged) activity is productive of value and revenue, it can indirectly *increase profit* and thus help finance accumulation. Indeed, non-capitalist producers find themselves caught up in the market mechanisms and in the transfers of revenue involved : if they are less efficient or less strong than their capitalist competitors or customers, their labour (provided it is productive in the broader sense, that is, devoted to commodity production) creates value and

[8] In our opinion, the profits of the financial sector (banks, insurance companies) have a threefold origin : 1. the *surplus revenue* created by the employees of the sector (whom we actually consider as productive workers) ; 2. *transfers of surplus revenue* from other sectors, insofar as the financial sector enjoys a higher-than-average market power ; 3. *financial rents*, due to the mere ownership of financial assets (financial rents are comparable to ground rents, which derive from the mere ownership of land, independently of any labour).

revenue, but a part of that revenue will be lost to them and will feed an increase in profits and the potential for accumulation.[9]

2.2.4 Productive labour and social classes

The distinction between productive and unproductive labour does not involve the slightest moral judgement of the activities considered : a wage-earner working in an arms factory provides productive labour (if the arms are sold), the teaching staff of state schools provide unproductive labour (since the lessons are not sold).

Nor is the distinction in any way aimed at dividing wage-earners into two social classes, whose interests could be considered as contradictory (some creating surplus revenue, the others living off the surplus revenue created). In this respect, two points should be emphasized.

On the one hand, *unproductive wage-earners perform surplus labour in the same way as productive wage-earners*. As in the case of productive wage-earners, the duration of their working day normally exceeds the working time necessary for the production of their means of consumption. If a steel worker and a civil servant work 8 hours and get the same wage, representing 3 hours of labour (necessary labour), both of them provide 5 hours of surplus labour.

On the other hand, *the system gains by increasing the surplus labour of all wage-earners* : increasing the surplus labour of productive wage-earners means increasing the creation of surplus revenue ; increasing the surplus labour of unproductive wage-earners means reducing the levy on the surplus revenue and so increasing the profit available.

Though distinct from the point of view of the creation of surplus revenue, productive and unproductive wage-earners do not, however, constitute two opposed classes. All of them share the following features : they are obliged to sell their labour-power, they carry out activities which are considered indispensable (by the capitalists or public

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[9] See Gouverneur J., *The Foundations of Capitalist Economy*, chapter VI, section 1, p. 145-150. To the extent that independent producers give up a part of the revenue they create, they actually find themselves in an *analogous* situation to the wage-earners : like the latter, they create more revenue than they get, they create more value than they consume. It is to emphasize this analogy that one can speak in such a case of the independent producers' « surplus revenue », « surplus value », « surplus labour » (in inverted commas).

authorities) and they perform surplus labour which is profitable to the system.

A complementary observation concerning capitalists. Once we grant that the distinction between productive and unproductive labour is not bound up with the question of social classes, we will recognize a capitalist's labour as productive (of value and revenue) : capitalists' labour in commodity production takes part in the creation of value and revenue, just like labour performed by waged or self-employed producers (see § 1.2). However, the capitalists' contribution to the total revenue created is very limited, since their labour is only a tiny part of the total present labour carried out in the sector of commodity production.

3. THE DEBATE CONCERNING MORE PRODUCTIVE, MORE INTENSIVE OR SKILLED LABOUR

This section examines the problem of productive labour from a quantitative point of view : do all the activities considered as productive create the same quantity of value and revenue (of surplus value and surplus revenue) ? The problem here is that of differences in labour productivity, or in the intensity or skill of labour.

3.1 Traditional approaches

3.1.1 The creation of value

According to traditional approaches, *more productive* labour is labour which, without requiring a greater expenditure of energy on the part of the workers, produces more commodities in a given lapse of time (in a working day of 8h, for instance). In accordance with this definition, labour is (or becomes) more productive for reasons independent of the workers' efforts : the main reason for advances in labour productivity lies in mechanization and technical progress, but other factors may also have the same effect (better organization, for instance). On the other hand, *more intensive* and *more skilled* labour do require a greater expenditure of energy on the part of the workers : in the case of more intensive labour, additional expenditure of energy takes place at the very moment when labour is carried out ; in the case of more skilled labour, it takes place prior to labour, when the worker (alone or, more often, with the help of others' labour) makes the efforts needed to acquire or maintain the skill required.

1. Commodities are exchanged in proportion to their unit social value, that is, in proportion to the quantity of labour required under *average* conditions of productivity, skill and intensity prevailing at a given time. The average conditions of productivity can only be assessed within each branch of production. The average conditions of skill and intensity, on the contrary, must be considered both within each branch and on the level of the whole economy.

The unit social value of commodities is determined, in the first place, by the *average* conditions of productivity, skill and intensity prevailing *within each branch*. Commodities cannot be exchanged in proportion to the labour-time resulting from the *productivity* in each particular enterprise : for in such a case, it would be in each enterprise's interest to use the least efficient techniques, requiring more labour-time. Consequently – according to traditional views – one hour of more productive labour must count as a multiple of one hour of average productivity : it creates more social value ; conversely, one hour of less productive labour should count as a fraction of one hour of average productivity : it creates less social value. The same argument holds for labour *intensity* : assuming identical techniques, if commodities were exchanged in proportion to the labour-time provided by each individual producer, it would be in each one's interest to work lazily and slowly. As a matter of fact, one hour of more intensive labour involves a greater expenditure of energy and must count as a multiple of one hour of average intensity : it creates more social value. Similarly, more *skilled* labour also implies a greater expenditure of energy (during the process of training) : in order to induce producers to acquire the necessary skills, one hour of more skilled labour (called « complex labour ») must count as a multiple of one hour of average skill (called « simple labour »).

The unit social value of commodities is determined, in the second place, by the average conditions of skill and intensity prevailing *in the whole economy.* Suppose that the producers within each branch work with the same degree of productivity, skill and intensity. Suppose that 15h are required to produce one commodity B and 5h to produce one commodity C. Will the two commodities be exchanged in the ratio 1B = 3C ? This is only possible if the degree of skill and intensity is the same in the two branches. If labour is more demanding in branch B (if it is more intensive or requires higher skills in it), the exchange ratio 1B = 3C would divert producers from branch B to branch C. Consequently, more skilled or more intensive labour in a particular branch must count as a multiple of labour of average skill and intensity in the whole economy : it creates more social value than this average labour.

2. The foregoing referred to *differences* in productivity or skill or intensity between different enterprises or branches. What can be said concerning an *increase in the average degree* of productivity, skill and intensity in a branch and concerning an increase in the average degree of skill and intensity in the whole economy ? The answers given in *Capital* refer to an increase in productivity and in intensity :

- An increase in the average productivity of labour in a branch gives rise to an increase in the quantity produced, but not in the value created : for a given working time, labour will create more commodities, but no more value. The increase in productivity will actually reduce the present labour per unit and the unit value of commodities (past and present labour per unit).

- An increase in the average intensity of labour in the whole economy also gives rise to an increase in the quantities produced, but not in the value created (though there is a greater expenditure of energy). Just like a general increase in productivity, it will depress the unit value of commodities.

3.1.2 The effect on the rate of surplus value

1. If labour productivity or intensity *increase* in the whole economy (or at least in the branches producing, directly or indirectly, the wage-earners' means of consumption), the unit value of the latter diminishes. Assuming that labour-time and the real wage remain constant, necessary labour decreases and the rate of surplus value increases : this is one type of production of « relative surplus value ».[10]

2. If labour productivity or intensity *differ* between different enterprises within a branch, the unit individual value of commodities produced in more efficient enterprises is lower than the unit social value. These enterprises, by selling their commodities at a price above the unit individual value, obtain an « extra surplus value », which is commonly regarded as a case of « relative surplus value » production : assuming that the working day and the wage are equal in all the enterprises, the more efficient enterprises enjoy a higher rate of surplus value, due to a lower « necessary labour » on the part of their wage-earners. This « extra surplus value », however, is doomed to disappear when the competing enterprises imitate the methods used in the innovating ones.

[10] According to traditional views, however, a higher intensity or skill of labour increases the number of means of consumption necessary for the workers (see § 4.1) : this should logically limit the production of « relative surplus value ».

3.2 An alternative approach

3.2.1 Critical comments on traditional approaches

a) According to traditional approaches, the common denominator of commodities and the substance of value lie in the *expenditure of energy* (considered in an abstract way, that is, without taking account of the specific type of commodity produced or labour carried out). Insofar as more skilled and more intensive labour involve a greater expenditure of energy, they create more value than less skilled and less intensive labour. Three observations can be made on this view.

- If the energy spent is to act as a common denominator, a unit of measure of it should be specified, at least on a theoretical level (the practical difficulty of actually calculating the expenditure of energy is not the point here). But what common unit of measurement could we use to compare, for instance, the energy spent by a more manual worker with that spent by a more intellectual worker ? These two types of energy are part of the material characteristics which define the concrete labour performed by each worker, they are not comparable with one another.

- If the energy spent is taken as the substance of value, it seems logical to consider an increase in the average intensity of labour in the same way as a lengthening of labour-time and to recognize that « absolute surplus value » is produced in both cases. This is the viewpoint adopted by most followers of traditional approaches ; in *Capital*, however, a general increase in the intensity of labour has no effect on the quantity of value created.[11]

- If we consider a capitalist system rather than a system of simple commodity production, the expenditure of energy plays no part in regulating commodity exchange. In a system of *simple commodity production*, commodities are exchanged as *products of labour*. The equilibrium of exchanges logically implies that the energy spent in each branch be taken into account : if the social value took account of the labour-time alone and disregarded the skill and intensity specific to each branch, the producers would leave the branches requiring more intensive or more skilled labour. In a *capitalist* system, however, commodities are exchanged as *products of capital*. The equilibrium of

[11] See Volume I, Part 4, chap. XVII : in this case, only international intensity differentials affect the quantity of value created.

exchanges implies that the different branches obtain the same average rate of profit; otherwise, capital would leave the branches with a lower-than-average rate of profit. But it does not imply that the labour-time should be weighed by the degree of skill and intensity specific to each branch : capital will not move out of branches where wage-earners must carry out more skilled or more intensive labour. (The problem will rather be of attracting wage-earners to branches and occupations requiring more skilled or more intensive labour : depending on the balance of forces between workers and capitalists, it is possible – but not certain – that higher wages will have to be paid. This problem, however, is about wages and value of labour-power : it is different from the problem of the social value of commodities produced in different branches.)

b) By regarding « extra surplus value » as a form of « relative surplus value », another definition of necessary labour is implicitly adopted (which does not coincide with the basic definition), and the distinction between surplus revenue and profit (which plays an essential role on the level of branches of production) completely disappears on the level of enterprises : the surplus revenue created in each enterprise is supposed to be equal to the profit obtained.[12] The consequence is that the « rate of surplus value » is turned into a mere profit/wage ratio, it varies according to enterprises, depending on the profit obtained : even if all the working conditions were identical in the different enterprises (same wage, same working day, same skill and intensity of labour), wage-earners would be all the more (less) exploited as their enterprise would have more (less) profit ; in the extreme case of enterprises having no profit (like marginal enterprises only surviving thanks to subsidies), wage-earners would not be exploited at all ![13]

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[12] See a detailed criticism on this matter in the appendix, § 6.2.

[13] a) In the analysis of « extra surplus value » in *Capital*, Volume I (Part 4, chap. XII), the situation of marginal enterprises is not taken into account : all the enterprises in the branch are on an equal footing, except for one more efficient enterprise (where the unit individual value is less than the unit social value). In the analysis of the whole hierarchy of unit individual values in Capital, Volume III (Part 2, chap. X), the problem of « extra surplus value » and inter-firm differences in the « rate of surplus value » is no longer taken into account.

b) Authors are usually reluctant to use the concept of individual value and prefer the expression « individual labour-time » (as against the « socially necessary labour-time »

3.2.2 Alternative principles

a) In our opinion, the common denominator of commodities (abstract labour, value) must disregard *all* the concrete characteristics of labour, including the degree of mechanization of the production process and the degree of skill and intensity of labour (see §1.2). These concrete characteristics cannot be the object of comparisons between different commodities or different producers. The only thing that remains comparable in all cases is the length of labour-time or, more precisely, the time during which the workers place their labour-power at the enterprise's disposal. If two workers are at the disposal of an enterprise during 8h and if the goods or services they contribute to producing find purchasers on the market, both workers have created 8h of value. The quantity of value created is thus independent of labour productivity, skill or intensity. It only depends on two *purely social conditions* : 1) the time during which the worker is subjected to the enterprise and 2) the fact that the goods or services produced in the enterprise are validated by the market. Labour-time being equal, more productive or more intensive or more skilled labour creates as much value and revenue as less productive or less intensive or less skilled labour. Labour-time and the wage being equal, both types of labour create the same quantity of surplus value and surplus revenue.[14]

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which determines the social value). The concept of individual value is nevertheless perfectly justified : if an enterprise succeeds in selling its commodities, the labour devoted to producing them is indirectly social labour (and thus creates value), no matter the degree of productivity of the enterprise. The concept of individual value appears explicitly in the chapter of *Capital* just referred to (Volume III, Part 2, chap. X), where it is distinguished from « market value » or « social value ».

[14] These principles clearly apply to the production of services, where simply waiting for the client may be more or less time-consuming. Consider for instance hairdressing. Suppose that the production process is identical in all salons, that each of them employs one wage-earner for 8 hours a day, and that it takes the latter 1 hour of present labour to care for a client (for simplicity's sake, we will overlook past labour). Suppose that the salons receive 6 clients per day on average : the unit social value of the hairdressing service is equal to 1.33h (=8h/6). Suppose now that a better-placed salon attends 8 clients daily, while a marginal one only attends 4 clients : the *daily value created per worker amounts to 8h in all the enterprises*, but the *unit individual value* (per commodity) is below average in the better-placed salon (8h/8=1h) and above average in the marginal one (8h/4=2h). (Price being the same for all the competing enterprises, the usual transfer of surplus revenue necessarily takes place : the first salon obtains a profit higher than the surplus revenue created in

b) An increase in the intensity of labour (or in its skill) is one of the ways of increasing labour productivity and so of reducing the value of commodities. It must therefore be treated in the same way as any other cause of productivity gains (development of mechanization in particular)[15] :

- If it takes place in the whole economy (or at least in branches which contribute to producing the wage-earners' means of consumption), it gives rise to production of « relative surplus value ».

- If it takes place only in a particular enterprise, the latter will benefit from « extra surplus value ». But this additional profit is not created by the wage-earners employed in the more efficient enterprise : it results from a redistribution of the surplus revenue created in the less efficient enterprises.

Just as well as traditional approaches, this alternative approach accounts for the enterprises' drive to increase labour intensity. Moreover, it has the advantage of avoiding the contradictions, mentioned above, inherent in traditional approaches. For the alternative approach uses one and only one concept of necessary labour ; it maintains the essential distinction between profit and surplus revenue not only for branches, but also for enterprises ; and it recognizes the existence of exploitation in all the enterprises, including in the enterprises which do not make profit.

3.2.3 Physical exploitation and economic exploitation

In our view, wage-earners working more intensively do not provide more labour than wage-earners working less intensively ; in the market sector, the former do not create more value or revenue than the

it, to the detriment of the marginal one where profit is less than the surplus revenue created).

[15] In practice, differences in the degree of mechanization are normally *combined* with differences in *skill* and *intensity* of labour. More advanced technology does in fact require higher qualifications on the part of the workers (engineers, technicians etc.) responsible for planning, directing and controlling the production process ; it also makes it possible to increase the intensity of labour by the mass of workers, subordinated to the machine and its rhythm. But these simultaneous differences in technology, in the skill and intensity of labour do not give rise to differences in the *creation* of value and surplus revenue : they only affect the hierarchy of the unit individual values and, in this way, the *distribution* of the surplus revenue created (on this point, see the appendix, § 6.2.1).

latter ; labour-time and the wage being equal, the rate of surplus labour or surplus value will be the same for all of them. Is it not « evident », however, that wage-earners subjected to more intensive labour are more exploited, that the rate of surplus labour or surplus value is higher in their case ? In order to meet this objection, which is based on straightforward common sense, we must establish a clear distinction between physical exploitation and economic exploitation.

Economic exploitation relates *economic* magnitudes which are *homogeneous* and comparable : either monetary magnitudes (surplus revenue, variable capital) or hours of abstract labour (surplus labour or surplus value, necessary labour or value of labour-power). From an economic point of view, wage-earners are all the more exploited as the rate of surplus value or of surplus labour is higher. The influences bearing on this rate (s') are the length of labour-time, the real wage and the average value of the means of consumption (MC) :

$$\boxed{s' = \frac{S}{V} = \frac{\text{present labour}}{\text{real wage x value per MC}} - 1}$$

Physical exploitation, on the other hand, refers to *material* elements which are *heterogeneous* and not comparable : on the one hand, the length, difficulty and intensity of labour (which determine the wear of labour- power and negatively affect the wage-earners' living conditions), on the other hand, the real wage obtained as a counterpart (which positively influences the ability to recover one's labour-power as well as the wage-earners' living conditions). From a physical point of view, wage-earners are all the more exploited as they work longer, harder and more intensively and consume less : in extreme cases, they are exhausted by their work while being reduced to starvation wages.

The degree of economic exploitation and that of physical exploitation may move in the same direction or in opposite directions. *In the same direction* : thus, an increase in labour-time or a decrease in the real wage contribute to raising both the degree of physical exploitation and the rate of surplus value or of surplus labour. *In opposite directions* : thus, an increase in the real wage brings about a decrease in the degree of physical exploitation, but it may very well be accompanied by a rise in the rate of surplus value or of surplus labour (if the decrease in the average value of the means of consumption is stronger than the rise in the real wage) ; conversely, and contrary to straightforward common sense, a higher physical exploitation – in this case a higher intensity of labour – does not necessarily involve a higher economic exploitation.

From a socio-political point of view, wage-earners will react to the degree of physical exploitation rather than to the degree of economic exploitation : they immediately experience the former, while they may completely ignore the latter.

4. THE DEBATE CONCERNING WAGES AND THE VALUE OF LABOUR-POWER

4.1 Traditional approaches

Since the wage-earner's labour-power is *sold* (hired out) on the « labour market », it is traditionally considered as being a *commodity*. Just like any commodity, labour-power has therefore a value ; and just as the price of commodities is basically determined by their value, the price of labour-power (the wage) is basically determined by the « *value of labour-power* ».

Traditional approaches define the value of labour-power as the value of the « *socially necessary* » means of consumption, that is, the value of the means of consumption which enable the wage-earner to cover the different needs considered as normal in a given country at a given time. This conception implies that the « socially necessary » means of consumption can be determined *a priori*. Knowing them, as well as their average value, it is possible to determine the value of labour-power ; from the latter, it is possible to derive the equilibrium wage, around which the actual wage fluctuates (see table 2).

In the logic of these approaches, differences in equilibrium wages are accounted for by objective differences in the value of labour-power defined *a priori*. This is the way, for instance, wage differentials between skilled workers (engineers, executives, etc.) and unskilled workers are explained : the « socially necessary » means of consumption are more considerable in the case of the former, so the value of their labour-power is greater, and their wage is logically higher.[16]

[16] According to traditional approaches, differences in the intensity of labour also entail objective differences in the value of labour-power : a more intensive labour involves a more rapid wear of the labour-power, which must be compensated by additional means of consumption (more food to recover the energy spent, relaxation sessions to eliminate stress, etc.).

Table 2 : Relations between wage and value of labour-power

1. *Traditional approaches*

- Level of necessities → number of necessary MC
- Overall productivity → unit value per MC

→value of LP
→ equilibrium wage
→ actual wage

2. *The alternative approach*

- Balance of forces → *actual wage* → number of MC *purchased*
- Overall productivity→ unit value per MC

→ value of MC

Note : MC = means of consumption; LP = labour-power

4.2 An alternative approach

4.2.1 Principles

Contrary to the prevailing view, we consider that the wage-earner's labour-power is not a commodity, for it is not the product of indirectly social labour (which is the precise definition of commodities : see § 1.2). On the one hand, labour-power is not the result of an actual process of production : we cannot speak of a process of labour in which means of production and labour-power are brought together in order to create a new commodity, the wage-earner's labour-power.[17] On the other hand, and more fundamentally, the labour which contributes to the development and reproduction of labour-power does not constitute indirectly social labour, that is, labour whose social usefulness would depend on the sale of the labour-power : the labour provided within households (upbringing, health care, etc.) or in the institutional sector (education, for instance) *need not be validated by the market* ; and the labour carried out in the market sector to produce the necessary means of consumption *was already validated* when the latter were purchased.

Since labour-power is not a commodity, its price does not depend on a predetermined value and there is no equilibrium wage. The

[17] Most of the « means of production » would actually be the means of consumption used by the wage-earner. However, is it possible to think of an average technique of production ? Is there any competition penalizing the « producers » who use too many « means of production » and benefiting those who economize on them ? What would the « present labour » devoted to producing the « new commodity » (labour-power) consist of ? Do eating, reading, breathing, sleeping constitute present labour ? And would it be necessary to economize on this « present labour » ?

actual wage depends directly on the balance of forces on the labour market and will be found within two limits : the lower limit is given by the need to ensure the workers' physical reproduction, the upper limit is given by the need to ensure the enterprises' profitability. The actual wage in its turn determines the wage-earners' purchasing power, that is, the number of means of consumption that can be *actually purchased* : according to this view, there is no need to define *a priori* what the « socially necessary » means of consumption would be. Knowing the means of consumption actually purchased, as well as their unit value, we can derive the « value of labour-power », that is, the value of the means of consumption actually purchased by the wage-earner (see table 2). All things considered, the wage does not depend on the value of labour-power : the latter actually depends on the former.[18]

In the logic of this alternative approach, wage differentials are accounted for by the respective balance of forces in which the different categories of workers are involved. This principle applies to wage differentials between men and women, between nationals and immigrant workers, between occupations (engineers and unskilled workers, for instance), between branches (energy and textile industries, for instance), between regions. All these wage differentials are due to the relative positions of strength or weakness of the workers concerned. These positions in turn are dependent on factors such as the political power of the groups concerned, the degree of unionization, the scarcity or excess supply of manpower, the profitability of the enterprise or branch, etc.[19]

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[18] Since labour-power is not a commodity, the concept of « value of labour-power » is irrelevant : strictly speaking, labour-power has no value. By continuing to use this concept, we simply conform to the current usage. Contrary to the current approach, however, we consider that the value of labour-power is equal to the value of the means of consumption *actually purchased* and that it therefore depends on the wage level.

[19] In a society in which the dominant positions are practically monopolized by educated white men, it is tempting to justify the privileged wages of those who are educated or white or male by supposedly objective factors which gloss over the actual balance of forces. Explaining wage differentials by objective differences in the value of labour-power entails the risk of disregarding or underestimating this balance of forces.

4.2.2 Criticism of competing views

Wage differentials between skilled and unskilled workers (between engineers or executives and manual workers, for instance) are usually explained by « objective » factors, which overlook the actual balance of forces.

a) The first « objective » conception was mentioned above : it states that the value of labour-power is higher in the case of skilled workers, that the socially necessary means of consumption are more considerable as far as they are concerned.

This argument is only valid for a limited number of means of consumption, namely for those « means of training » (that is, the goods and services necessary to acquire and maintain the required skills) which have to be *purchased* by the wage-earner. The argument is not valid for the means of training which the wage-earner obtains free or almost free of charge from public authorities or from his enterprise. And the argument is completely irrelevant as far as current means of consumption are concerned : if « necessities » are greater for executives and engineers than for manual workers, it is only because the former benefit from a more favourable balance of forces in society, which enables them to enforce this broader definition of their « necessities ».

As a matter of fact, the executives' and engineers' higher wages are due to their relative strength vis-à-vis employers (compared to the relative weakness of unskilled workers). This more favourable balance of forces, in turn, is due to their strategic position in the enterprise, to the fact that they often carry out typically entrepreneurial tasks (command, organization, innovation, etc.) which are delegated to them ; it is also due to their relative scarcity, which they may deliberately maintain in order to protect their privileges.

b) A second argument focuses, not on the value of labour-power, but on the value *created* by labour-power : the skilled labour performed by executives and engineers would create more value than the unskilled labour performed by manual workers, which would justify the former obtaining higher wages than the latter. This argument does not hold : as far as the *creation* of value and revenue is concerned, all the producers are on an equal footing (see § 1.2 and § 3.2.2).

c) Among other arguments, the lack of incomes during years spent in education is put forward, as well as differences in responsibilities exercised. But the considerable income differentials observed over the whole professional life do more than make up for the later entry into professional life. As far as responsibilities are concerned, they cannot be compared with one another, and the argument can be reversed in many cases.[20]

[20] Is the responsibility of engineers designing new locomotives greater than the responsibility of workers manufacturing them or of railwaymen driving them ? And if « everything is settled by the age of six » as regards child development, is not the responsibility of kindergarten teachers infinitely greater than that of university professors ? This would justify an exactly inverse scale of income...

5. CONCLUSION

5.1 A short synthesis

The abstract labour common to all commodities – the substance of value – has been defined disregarding *all* the variable aspects of labour : we first disregard all the variable *material* aspects that constitute concrete labour (including the degree of mechanization, the skill and intensity of labour) ; we also disregard all the variable *social* aspects that define the status of the enterprise (capitalist, public, independent) and of the producer (self-employed, capitalist, executive, wage-earner without control over the production process, etc.). Abstract labour is labour taking into account only one social aspect, namely its characteristic as indirectly social labour.

This radical conception of abstract labour puts on a equal footing all the producers involved in the market sector :

- On the one hand, all the activities in the market sector take part in the production of commodities, value and revenue (and of surplus value and surplus revenue in the case of wage-earners). No distinction is made between goods and services : provided that they are sold, both are commodities, and all the workers employed in the enterprises producing these goods and services perform productive labour. No distinction is made, either, beween « production », « circulation » and « supervisory » activities : be they carried out in specialized enterprises or within « production » enterprises, « circulation » and « supervisory » activities equally constitute indirectly social labour, and producers involved in such activities also perform productive labour.
- On the other hand, provided the goods or services produced by the enterprises are actually sold, the quantity of value and revenue created is identical in all cases : in 1 hour of labour, any producer in the market sector produces 1 hour of value, irrespective (among other things) of labour productivity, of skill and intensity of labour.

Moreover, as a result of the definitions adopted for abstract labour (= indirectly social labour) and commodity (= product of indirectly social labour), the conclusion flows that waged labour-power is not a commodity and that the wage is not the monetary expression of a predetermined « value of labour-power ». Any wage is the direct product of a balance of forces ; and it is the wage that, through determining the worker's purchasing power, codetermines the « value of labour-power ».

5.2 Impact in the field of Marxist economic theory

Do the theoretical viewpoints adopted basically affect the analysis of capitalism ?

Considering that it is the wage that influences the « value of labour-power » (rather than the other way round) does not affect in any way the core of Marxist analysis : the theory of surplus value remains fully relevant.

Considering that more productive, more intensive or skilled labour does not create more value and revenue than any other labour does not in any way affect the theory of competition : enterprises keep the same interest in innovating, in maintaining a gap between the unit individual value and the unit social value of the commodities (the lesser creation of surplus revenue in these enterprises is compensated by a higher transfer of surplus revenue to their advantage).

On the other hand, considering that all labour in the market sector is productive of value and revenue (and surplus value and revenue in the case of waged labour) results in broadening the potential for profit and accumulation of the capitalist system. This, however, does not solve the basic contradictions and problems of capitalism, among which the present market contraction due to neo-liberal policies and increasing inequalities in the distribution of aggregate revenue.

While justified only by conceptual consistency, the non-conventional viewpoints adopted present the additional advantages – as by-products, we might say – of making the theory simpler and allowing a much easier quantification of various key-concepts.

The theory is made simpler, in particular, by the fact that the sphere of productive labour (in the broader sense) coincides with that of market production (which does not mean that the latter is always perfectly clear : see end of § 1.1). The theory is also simplified by the fact that there is no need to a priori define the wage- earners' « socially necessary » means of consumption and « value of labour-power ».

The statistical estimation becomes much easier since the quantity of value created does not depend on labour productivity, intensity or skill : it only depends on the length of labour-time or, more precisely, on the time during which the worker is subjected to the enterprise. Hence ;

- It becomes fairly easy to calculate the sum total of values (∑values = number of producers in market sector x average labour-time) and thus the magnitude of the money equivalent of value (E), which makes the link between the sphere of values and that of prices and incomes : E = ∑prices / ∑values = ∑incomes / ∑values.[21]

- Once E is known, the « value of labour-power » and necessary labour (of any particular or average worker) are obtained through dividing the money wage by the magnitude of E. Subtracting this necessary labour from the labour-time, we obtain the surplus labour (surplus value) and can estimate the corresponding rate of surplus labour (or of surplus value).

- Multiplying by E the value or surplus value created (by a given worker or in a given enterprise or branch) gives the revenue or surplus revenue created. Comparing the latter with the wage or profit obtained, we can see immediately whether the distribution of the revenue created turns out to the advantage or disadvantage of the producer (or enterprise or branch) considered.

- Dividing the market price of a commodity by E gives the « labour-equivalent of the market price », which approximates the unit social value of the commodity. This approximation is all the more satisfactory as one considers the value of a whole set of commodities (such as the means of consumption purchased by a wage-earner) and/or the evolution of value over a certain period of time (rather than the measure of value at a given time) .

Let us note here that the unit value of the commodity is the most comprehensive and appropriate concept to estimate productivity. This is so because unit value takes into account both the present labour *and the past labour* required to produce a commodity. Unit value thus

[21] The money equivalent of value gives the accurate translation of one hour of indirectly social labour into monetary terms. To say that the money equivalent of value is $10 per hour (E = $10/h) amounts to saying that one hour of value is expressed in an equivalent manner by a monetary magnitude of 10 dollars.The money equivalent of value is a macro-economic magnitude which is specific to each country and is expressed in the country's currency. This magnitude changes over time. When the money equivalent of value increases (for instance, from E = $10/h to E = $100/h), the same quantities of value are expressed by higher prices (10 times higher in this example).

expresses *both* the efficiency with which workers produce the commodity considered *and the efficiency with which the means of production are produced and utilized* (this second aspect is ignored by most productivity measurements, which calculate the quantity produced per worker or per hour of *present* labour). The evolution of the *unit value of the means of consumption* (which is calculated by dividing the series of the consumer price index by the evolution of E) reflects the evolution of total labour productivity (of present + past labour) in the whole economy.[22]

5.3 Impact in the ideological and socio-political field

The viewpoints adopted in the field of economic theory also have some indirect impact in the ideological and socio-political field.

First, they establish a basic equality between all commodity producers as far as the creation of value and revenue is concerned. Fitted into market relations in any corner of the planet, a plot peasant, an unskilled industrial worker or a subordinate clerk create as much value and revenue – neither more nor less – as the most skilled expert or successful manager. The differences in the incomes each one obtains are basically due, not to some less or more important contribution to the creation of aggregate revenue, but to unequal power relations.

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[22] a) Concerning the statistical estimation of these concepts (E, unit value of the means of consumption, necessary labour, rate of surplus value) and concerning the different concepts of productivity, see Gouverneur J., « Productive labour, price/value ratio and rate of surplus value : theoretical viewpoints and empirical evidence», *Cambridge Journal of Economics*,1990, vol. 14, p. 1-27, as well as Gouverneur J., *The Foundations of Capitalist Economy*, chapter VIII, p. 238-241, and appendices 3 and 4, p. 291-304.

b) An approximate but suggestive method to estimate E is explained in *The Foundations of Capitalist Economy*, chapter II, exercise 2.21, p. 77 : the magnitude of E can be roughly estimated from data on the *price of one hour of work as charged to customers*. The hourly rate charged to customers is obviously higher than the hourly wage paid to workers in the enterprises considered : the difference gives a direct (though approximate) idea of the reality of surplus labour. The contrast between the abundance of statistical data on hourly wages and their absence concerning the hourly rate charged to customers is therefore neither surprising nor innocent : behind the supposed neutrality of statistics, the dominant ideology fully plays its concealing role.

Second, the viewpoints adopted completely separate the issue of productive labour and that of social classes. Far from opposing productive wage-earners, unproductive wage-earners and independent producers, they rather suggest that all of them share common interests facing capitalists :

- Wage-earners in institutions of public interest (rectangle C in table 1) are as much exploited as wage- earners in the market sector, since they too provide surplus labour which the system seeks to maximize. For all of them, the degree of economic exploitation depends on the length of labour-time and the real wage obtained (given overall productivity and thus the average value of the means of consumption). For all of them, the degree of physical exploitation depends on the length, difficulty and intensity of labour (given the real wage).

- Contrary to wage-earners, self-employed market producers (rectangle B in table 1) are not subjected to direct exploitation within production. However, to the extent that they are less efficient or powerful than their capitalist competitors or clients, they give up, through the market mechanisms, a part of the revenue created by their labour (see footnote 9). They also are thus exploited by the system. For them also, the degree of economic exploitation increases with the length of labour-time, while the degree of physical exploitation increases with the length, difficulty and intensity of labour.

6. APPENDIX

6.1 Clarification of some basic concepts

6.1.1 Value, simple price, market price

Simple prices are theoretical prices obtained through multiplying the unit social value of commodities by the monetary equivalent of value : simple price = value x E.

Market prices normally differ from simple prices : they are higher or lower, depending on the balance of forces that actually prevail on the market.[23] Enterprises enjoying a favourable balance of forces (a positive market power) benefit from 'unequal exchanges' : they sell their commodities at market prices higher than simple prices and/or buy their means of production at market prices lower than simple prices. The situation is exactly inverted for enterprises facing a unfavourable balance of forces (a negative market power).

The factors that affect market power and market prices are numerous :
- imbalances between *supply and demand* (which can be deliberately influenced : fixation of production quotas, advertising…) ;
- intensity of *competition*, from 'pure competition' to monopoly ;
- pressure on *public authorities* (when these regulate prices) ;
- differentiated products and *customer preferences* : differentiated products may very well embody the same quantity of labour, of value (and hence have the same simple price) ; their market prices, however, will vary according to the specific qualities attributed to and recognized in each of them.

On the *micro-economic* level, the market price normally deviates from the simple price, according to each branch's market power. On a *macro-economic* level, however, all these micro-economic deviations compensate each other. For what is gained by some producers through unequal exchange is by necessity lost by others : if market prices are higher than simple prices for some commodities, they are necessarily lower for other commodities, and the « sum total of

[23] We ignore here differences in the composition of capital between branches : see below, § 6.1.3, footnote 25.

market prices » is necessarily equal to the « sum total of simple prices ». We thus have :

simple price	=	value × E
market price	=	simple price ± déviation
Σ market prices	=	Σ simple prices

6.1.2 New value, revenue created, revenue obtained

The revenue created by the producers is the *monetary equivalent of the new value created* by their present labour. As a matter of fact, the producer simultaneously creates a new value (expressed in hours of labour) and a new revenue (expressed in monetary terms) : thanks to his present labour, the value of the product sold is higher than the value of the means of production purchased, and the price of the product sold is therefore higher than the price of the means of production purchased. We can thus write : revenue created = new value created × E.

The total revenue of a market society is created by the present labour of all the commodity producers. Its magnitude depends on the *number of workers* in the sector of market production and on the *labour-time* provided by each of them. Each producer contributes to the *creation* of the total revenue in proportion to the quantity of indirectly social labour he performs. In the same way, each branch of production contributes to the creation of the total revenue in proportion to the quantity of indirectly social labour which is performed within it.

But the producers, enterprises and branches do not participate in the same proportion in the *distribution* of the total revenue : the revenue *obtained* by each of them may be very different from the revenue *created*. The sum total of the revenues distributed necessarily coincides with the total revenue create. But this equality does not hold true for each producer, for each enterprise, for each branch : some obtain a revenue which is higher than the revenue they create, others, in compensation, must necessarily be content with a revenue which is smaller than the revenue they create.

The distinction between revenue created and revenue obtained is analogous to the distinction between simple price and market price . The *simple price* is the exact monetary equivalent of the unit social value (past and present) of a commodity ; the *market price* of each particular commodity normally differs from its simple price, but the « sum total of market prices » is necessarily equal to the « sum total of simple prices ». Similarly, the *revenue created* is the exact monetary equivalent of the new value created by a producer, an enterprise, a branch ; the *revenue obtained* by each particular producer, enterprise or branch normally differs from the revenue created by each, but the total revenue distributed is necessarily equal to the total revenue created by the commodity producers. We thus have :

revenue created	= new value × E
revenue obtained	= revenue created ± daviation (revenue transferred)
Σ revenues obtained	= Σ revenues created

6.1.3 Surplus value, surplus revenue, profit

In a capitalist system, part of the new value and of the revenue created by the wage-earners is appropriated by the capitalists : it is the surplus value (expressed in hours of labour), the surplus revenue (expressed in monetary terms).

In precise terms, *surplus revenue* is the *monetary equivalent of the surplus value* produced by a wage-earner or a group of wage-earners in an enterprise, a branch of production, or a country. As to *profit*, it is the *monetary income actually appropriated* by a capitalist or a group of capitalists in an enterprise, a branch, or a country.

Total surplus revenue of the capitalist system is *created* by wage-earners in the commodity production sector, and by them only. Its magnitude depends on three factors : the total number of wage-earners involved in commodity production, the length of their labour-time (which determines the revenue created by each of them) and the wage (which determines how this revenue is *divided* into the worker's remuneration and the surplus revenue). If the length of labour-time and the wage are identical in all the enterprises and branches (if the rate of surplus value is uniform), each enterprise or branch contributes to the creation of the total surplus revenue in proportion to the number of wage-earners it employs.

However, the surplus revenue created by the wage-earners of a particular enterprise or branch (or country) is not necessarily appropriated by the capitalists of that enterprise or branch (or country) : some enterprises and branches (and some countries) benefit from a transfer of surplus revenue and receive a profit that is higher than the surplus revenue created within them ; others, in compensation, get a profit that is less than the surplus revenue created within them.

The distinction between surplus revenue and profit is analogous to the distinctions between simple price and market price or between revenue created and revenue obtained. In a purely capitalist system, we have :

surplus revenue	= surplus value × E
profit	= surplus revenue ± deviation (surplus revenue transferred)
Σ profits	= Σ surplus revenues

The differences between surplus revenue and profit can be explained by numerous factors :
- differences in *market power* between branches (or countries)
- differences in *productivit*y between enterprises : as demonstrated below (§ 6.2.1), more efficient enterprises get a profit higher than the surplus revenue created within them, at the expense of less efficient enterprises ;
- the existence of a sector of *non-market production* : wage-earners in this sector get a revenue which partly derives from total surplus revenue ;
- the existence of *self-employed producers* : part of the revenue created by them is appropriated by capitalists[24] ;
- differences in the *composition of capital* between branches : branches with a higher composition obtain a revenue greater than the surplus revenue created within them, to the expense of branches with a lower composition.[25]

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[24] If we drop the assumption of a purely capitalist system and take the non-capitalist sectors of production into account, differences between surplus revenue and profit appear even on the macro-economic level : 1. due to transfers of revenue from self-employed producers, profit is *greater* than the surplus revenue created by the wage-earners ; 2. due to the public levies aimed at financing the institutional sector, the available profit is *smaller* than the surplus revenue created.

[25] In the capitalist system, the requirement of equal rates of profit for the average enterprises of the different branches result in unequal exchanges of values, even under the assumption of equal market power. When the composition of capital (C/V) varies from branch to branch, the equilibrium price is not the simple price (c + v + s) corresponding to the social value, but the price of production (c + v + p) ensuring the

6.2 Two concepts of necessary labour in Marx

As already stated (§ 3.2.1.b), by regarding « extra surplus value » as a form of « relative surplus value », Marx implicitly adopts another definition of necessary labour, which does not coincide with his basic definition. This appendix aims at making our criticism clear. First, we will analyze the transfers of surplus revenue between unequally productive enterprises within a given branch, using the usual concept of necessary labour, i.e. the labour-time during which the wage-earner create a quantity of value equal to the value of his means of consumption. Second, we will show that Marx implicitly adopts a new definition of necessary labour, i.e.the labour-time during which the wage-earner creates a quantity of product that brings in a net revenue equal to the worker's wage.

6.2.1 The transfers of surplus revenue between enterprises

The example of table 3 and figure 1 illustrate the transfer of surplus revenue between entreprises which are unequally mechanized, and therefore unequally productive, within a simplified and « average » branch of production : the enterprises that make up the branch produce only one category of commodity, which is identical in all the enterprises (homogeneous product) ; the branch as a whole is characterized by a rate of surplus value, a composition of capital and a rate of profit which are equal to what these ratios are on the macro-economic level ; the branch does not enjoy any particular market power and sells at a price equal to the simple price (the social value expressed in monetary terms).

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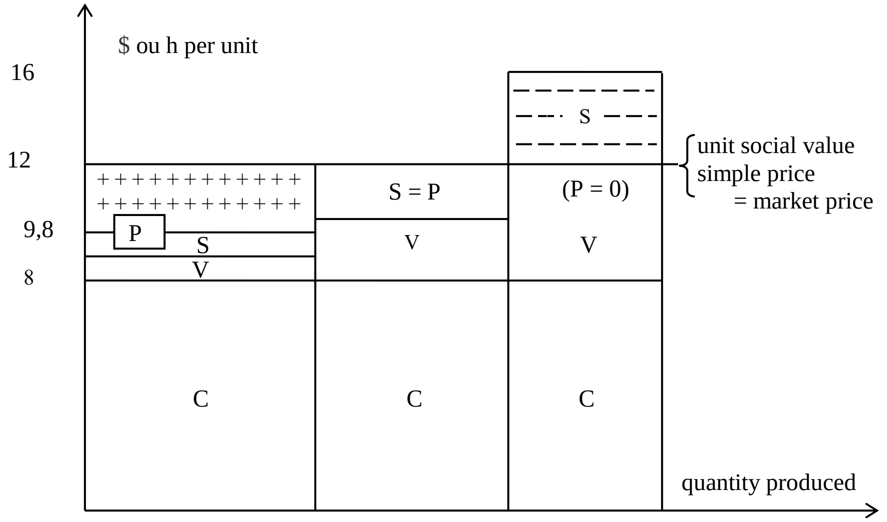
equalization of average rates of profit. In the branches where C/V is lower than social average, the price of production is lower than the simple price and profit is less than surplus revenue (P<S) ; in those with a C/V above social average, the price of production is higher than the simple price ans profit is more than the surplus revenue created (P>S). On the aggregate level, however, the sum total of prices of production is equal to the sum total of simple prices and, at the same time, total profit is equal to total surplus revenue. On this issue, see A. Ramos and A. Rodríguez, « The transformation of values into prices of production : a different reading of Marx's text », in A.Freeman and G. Carchedi (ed.), *Marx and Non-Equilibrium Economics*, Cheltenham, Edward Elgar, 1996, p. 49-76.

Table 3 : Distribution of surplus revenue between unequally mechanized enterprises within the same « average » branch of production

	(units)	*Enterprise 1*	*Enterprise 2*	*Enterprise 3*	*Whole branch*
L	(number)	100	150	250	500
C	($ ou h)	3.600	2.400	2.000	8.000
V	($ ou h)	400	600	1.000	2.000
S	($ ou h)	400	600	1.000	$\boxed{2.000}$
V + S	($ ou h)	800	1.200	2.000	4.000
C + V (=K)	($ ou h)	4.000	3.000	3.000	10.000
C + V + S	($ ou h)	4.400	3.600	4.000	12.000
s' = S/V	(%)	100 %	100 %	100 %	100 %
c' = C/V	(%)	900 %	400 %	200 %	400 %
Q	(units)	450	300	250	1.000
c (= C/Q)	($ ou h)	8	8	8	8
v (= V/Q)	($ ou h)	0,9	2	4	2
s (= S/Q)	($ ou h)	0,9	2	4	2
v + s	($ ou h)	1,8	4	8	4
c + v	($ ou h)	8,9	10	12	10
c + v + s	($ ou h)	9,8	12	16	12
price	($)	12	12	12	12
p (= price-[c + v])	($)	3,1	2	0	2
P (= p × Q)	($)	1.400	600	0	$\boxed{2.000}$
p' = P/K	(%)	35 %	20 %	0 %	20 %
P – S	($)	+1.000	0	–1000	0

Figure 1 : Distribution of surplus revenue between unequally mechanized enterprises within the same « average » branch of production



Enterprise 1		Enterprise 2		Enterprise 3		Whole branch	
s'=S/V	=100%	s'=S/V	=100%	s'=S/V	=100%	s'=S/V	=100%
c'=C/V	=900%	c'=C/V	=400%	c'=C/V	=200%	c'=C/V	=400%
Q	=450	Q	=300	Q	=250	Q	=1000
c + v	=8,9	c + v	=10	c + v	=12	c + v	=10
c + v + s	=9,8	c + v + s	=12	c + v + s	=16	c + v + s	=12
p'=P/K	=35%	p'=P/K	=20%	p'=P/K	=0%	p'=P/K	=20%

The three enterprises employ different techniques : enterprise 1 is the most mechanized, enterprise 3 is the least mechanized, while enterprise 2 operates with an « average » technique within the branch.

Differences in the degree of mechanization do not result in different rates of surplus value in the three enterprises : indeed, the rate of surplus value in each enterprise depends on the length of labour-time (which determines the revenue created) and on the wage paid (which determines the necessary labour). In the example, we assume that the working day is in each case 8h (hence each wage- earner creates a revenue of $8 and the total revenue created, V + S, is in each case equal to the number of workers, L, multiplied by $8)[26] ; we assume moreover that the wage is in each case $4 (hence the necessary labour is in each case equal to 4h and the total variable capital, V, amounts in each enterprise to L × $4). The three enterprises thus have the same rate of surplus value (s' = S/V = 100 %).

On the other hand, differences in the degree of mechanization give rise to a series of other differences between the three enterprises : differences in the composition of capital (c' = C/V), differences in the quantities produced (Q), differences in the unit costs of production (c + v = $8.90 in enterprise 1, $10 in enterprise 2, $12 in enterprise 3), differences in the individual unit values (c + v + s : to produce one unit, 9.8h of labour (past and present) are required in enterprise 1, 12h in enterprise 2, 16h in enterprise 3).

Though they have different unit costs of production and different unit values, the three enterprises face the same selling price. In the average branch considered, the market price is equal to the simple price, corresponding to the unit social value of the commodity (to the labour time required on average to produce it).[27] In the example, the market price is therefore $12, and this sale price applies to all the commodities. Thus, enterprise 3 cannot hope to sell its commodities at

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[26] The money equivalent of value (E) is supposed to be equal to $1 per hour. Hence the basic symbols (C, V, S for total magnitudes ; c, v, s, for magnitudes per unit) represent both values (in hours of labour) and monetary magnitudes (in dollars).

[27] The unit social value is calculated by dividing the total value of a branch's production by the total quantity produced in that branch. In the example, the unit social value calculated in this way (12 000 ÷ 1000 = 12) corresponds exactly to the unit individual value in the « average » enterprise (3600 ÷ 300 = 12).

$16 : potential customers would rather buy from competitors 1 and 2 producing and selling at a lower price. Conversely, it is not in the interest of enterprise 1 to sell its commodities at $9.80 : it would make more – and without losing any customers – by selling them at $12.

With the sale price at $12, enterprise 1 obtains a profit per unit (p) of $3.10 (while the surplus revenue per unit, s, is only $0.90). This gives it a total profit of $1400 (while the surplus revenue created by its 100 wage-earners is only $400) and a rate of profit (p' = P/K)[28] of 35 % (higher than the average rate of profit of the branch, which is 20 %). The additional profit of $1000 enjoyed by enterprise 1 is exactly balanced by the loss of an equal amount of surplus revenue on the part of enterprise 3 : with the market price at $12, the latter can barely cover its production cost (c + v) ; it thus makes no profit, while its 250 wage-earners have created a surplus revenue of $1000 (corresponding to 1000h of surplus labour). As to the average enterprise, it makes a profit exactly equal to the surplus revenue created by its own wage-earners and obtains a rate of profit equal to the average rate of profit of the branch.

We thus see that the total profit of the branch is equal to the total surplus revenue created by the wage-earners in that branch ($2000 in the example). But this total surplus revenue is distributed according to the degree of mechanization of the enterprises, so that the more mechanized enterprises enjoy a higher rate of profit than the others. The distribution of the total surplus revenue among the enterprises is brought about automatically by the market : the existence of a uniform price, applicable to the commodities produced by all enterprises, penalizes the less efficient ones (where high unit values reflect a relative waste of human labour) and benefit the more advanced ones (where low unit values reflect a relatively economical use of human labour).[29]

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[28] We assume that the purchases of means of production and labour-power have to be renewed « in one go » at the beginning of each period (1 day in the example) : hence the sum C + V (= K) represents both the total cost of production and the money-capital invested (on the basis of which the rate of profit is calculated).

[29] a) The distribution of the surplus revenue among the enterprises is thus determined by the differences in the unit individual values (and by the existence of a uniform market price corresponding to the unit social value). These differences in unit values most often result – as in the example considered – from differences in the degree of mechanization (in the C/V ratio). But they may also result from other causes : thus, production techniques being identical, differences in natural conditions (varying

6.2.2 *Two definitions of necessary labour in Marx*

If labour productivity varies between enterprises within a same branch of production, the unit individual value of the commodities produced in the more efficient enterprises is lower than the unit social value. By selling their commodities at a price above unit individual value, these enterprises benefit from a « extra surplus value » which Marx regards as a form of « relative surplus value » : given equal labour-time and wage, these enterprises enjoy a higher rate of surplus value, trough the reduction of their workers' « necessary labour ».

Going back to the preceding example, the « extra surplus value » of enterprise 1 is the difference between its profit (P = \$1400) and the normal surplus revenue created by its wage-earners (S = \$400) ; this « extra surplus value » is represented by the rectangle with + signs.

According to the current definition, necessary labour is equal to 4h in the three enterprises : we assume that all the wage-earners earn \$4 and that the value of their labour-power is 4h.

According to the new (implicit) definition, necessary labour is different in the three enterprises : given the same selling price (\$12) and the cost of the means of production per unit (which happens to be \$8 in the three enterprises), it is necessary to produce and sell 1 unit in order to obtain a net revenue of \$4. Now a wage-earner produces 1 unit in 0.222 day in enterprise 1, in 0.5 day in enterprise 2 and in 1 day in enterprise 3 : since the working day is 8h everywhere, « necessary labour » amounts to 1.78h (= 8h x 0.222) in enterprise 1, to 4h (= 8h x 0.5) in enterprise 2 and to 8h in enterprise 3 ; the respective« rates of surplus labour » or « rates of surplus value » are 350 % (6.22h/1.78h), 100 % (4h/4h) and 0 % (0h/8h). « Necessary labour » (in the implicit definition) therefore depends on the *productivity of present labour* in the three enterprises.

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fertility of soils) or in labour intensity will also give rise to differences in unit values and thus similarly determine the distribution of the surplus revenue among the enterprises.

b) We can consider the extreme case of an entirely automated enterprise, not employing a single wage-earner (L = 0, hence V = 0). Under this assumption, no surplus revenue can be created (S = 0). The enterprise will, however, make a profit : as the unit individual value of its commodities (reduced to « c ») is lower than the average, it will benefit indirectly (thanks to the uniform sale price) from the surplus revenue created in the least efficient enterprises.

But it also depends on the *selling price of the product* : if enterprise 1 sold its product for $11 (instead of $12), each unit would bring in a net revenue of $3 only (instead of $4) ; the enterprise would have to sell 1.33 unit (instead of 1 unit) in order to obtain a net revenue equal to the wage ($4) : « necessary labour » would then amount to 2.37h (instead of 1.78h).

As a matter of fact, these different « rates of surplus labour » or « rates of surplus value », which vary according to labour productivity and the selling price, are no more than profit/wage ratios (in enterprise 1, $1400/$400 = 350 % ; in enterprise 2, $600/$600 = 100 % ; in enterprise 3, $0/$1000 = 0 %).

If one wishes to avoid this coexistence of two contradictory definitions of necessary labour, one should rather regard « extra surplus value » as a form of « absolute surplus value » : necessary labour would remain equal to 4h in the three enterprises, but 8h of more productive labour in enterprise 1 would be considered as equivalent to a working day of 14h (thus creating a value of 14h), while 8h of less productive labour in enterprise 3 would be considered as equivalent to a working day of 4h (thus creating a value of 4h). By so doing, the « rates of surplus labour » or « rates of surplus value » would be the same as above (in enterprise 1, 14h/4h = 350 % ; in enterprise 2, 4h/4h = 100 % ; in enterprise 3, 0h/4h = 0 %). But again, these different rates would be no more than profit/wage ratios.

Irrespective of whether « extra surplus value » is regarded as « relative surplus value » or « absolute surplus value », another contradiction remains. The distinction between surplus revenue and profit, which plays an essential role on the level of branches of production, completely disappears on the level of enterprises : the surplus revenue created in each enterprise is supposed to be equal to the profit obtained. The consequence is that the « rate of surplus value » varies according to enterprises, depending on the profit obtained : even if all the working conditions were identical in the different enterprises (same wage, same working day, same skill and intensity of labour), wage-earners would be all the more (less) exploited as their enterprise would have more (less) profit ; in the extreme case of enterprises having no profit (like enterprise 3 in the example, like marginal enterprises only surviving thanks to subsidies), wage-earners would not be exploited at all …

LIST OF ILLUSTRATIONS

TABLE DES MATIERES

6. Appendix