The Labour Theory of Value

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Labour is the source of wealth. This insight is probably as old as mankind. In its consequences it is however extraordinarily dangerous and therefore all sides of society incessantly fight against this truth, in particular political economists. Nevertheless the wealth of the dominant classes is nothing else but the result of the exploitation of the labour of the working people.

Historically, the labour theory of value, LTV, plays a central role in classical political economy and in the emancipation of the labour movement. It is fundamental for the theory of Historical Materialism and Marxism. Incorrect interpretations contributed substantially to the ideological and economic decay of real existing socialism.

In modern economic theory the LTV is of great importance for value and price theory, its role is here however mostly disfigured and masked, so that even eminent economists deliver striking misstatements over its nature.

The LTV as the core of political economy forms the material basis for the peaceful integration of the individuals into a vital, i.e., reproducible society on the basis of social equality. It is one of the conditions for the possibility of the realization of the human rights. The right to work is a most important social human right. The tortures committed by the German national socialists in the KZs were an enormous perverseness of the right to work. The gate of the KZ Auschwitz carried the inscription “Work is liberating!”.

To the degree that the assurance of existence by the performance of labour is impaired by exploitation, in particular under conditions of monopoly-capitalism, compensating measures must ensure the social integration and social equality of the citizens. Amongst these are free educational facilities, profit and capital sharing by employees, socialization of the means of production, land and natural resources, and in addition the nationalization of whole economic sectors, e.g. the banking sector.

Analytical Presentation

The correct analytical definition of the labour value of a commodity is obtained by the use of mathematical optimization. Before continuing it should be emphasized that the LTV does not pretend that the entire costs of a commodity are equal to labour costs. It is very important to understand that labor costs constitute only the value of the assigned labour force (in Marxian terminology labour power). There is however an important difference between the *value of the labour force* and the *labour value* of a commodity. This distinction has been made by Karl Marx but is also made by bourgeois economists such as John Bates Clark and Irving Fisher. A worker sells his *labour power* against wages. The *labour value*, however, depends on the production conditions and is not the subject of the labour contract.

The analytical problem consists in showing that the cost of a unit of a commodity, its marginal cost, **dC/dQ**, is equal to its labour value converted into monetary units.

From the theory of cost it is well-known that the analytic expression for the cost of a unit of a commodity is marginal cost, **dC/dQ**. Cost, **C**, is a function of the quantity, **Q**, produced.

$$\mathbf{C = f(Q)}$$

The marginal cost of a commodity is

$$\mathbf{dC/dQ = f'(Q)}$$

The labour theory of value asserts that the labour value of a commodity, thus a certain quantity of labour units, multiplied by the wage rate, **w**, is equal to the marginal cost of the commodity. The multiplication with the wage rate is necessary, in order to ensure the equality of the dimensions. The labour value of a unit of a commodity has the dimension labour units per piece whereas the marginal cost has the dimension money per piece. The dimension of the wage rate is money per labour unit. So the product of labour value with the wage rate has the dimension money per piece.

$$\mathbf{w * labour\ value = marginal\ cost}$$

At this point it is already possible to find a solution intuitively. If marginal cost, **dC/dQ**, is the adequate expression for the costs of a unit of a commodity, then this means that **dC** is the cost, which result from the additional production of a unit of the commodity, **dQ**. In analogy to this we can conclude that **δL** represents the quantity of additional labour units, which are needed for the production of an additional unit of the commodity **δQ**. We use here the partial derivative, because another factor of production, capital, **K**, has to be considered. However, capital, **K,** is taken as a constant.

Thus, the labour theory of value asserts that marginal cost is equal to the product of marginal labour value and the wage rate:

$$w \frac{\delta L}{\delta Q} = \frac{dC}{dQ}$$

The marginal labour value, **δL/δQ**, represents the **socially necessary labour** for the production of a commodity.

This solution results indeed, if one examines the profit maximizing and/or cost minimizing firm under conditions of perfect competition.

Under conditions of perfect competition the profit maximizing firm faces a situation, in which the price of the product, **p**, the interest rate, **r**, the wage rate, **w**, and capital resources, **K**, are given. The problem consists then of maximizing profit by determining the optimal quantity of labour power, **L**, to be used.

The quantity of output, **Q**, is a function of the quantities of the factors of production capital, **K**, and labour, **L**. This is the production function

$$Q = g(K, L)$$

A firm optimizes the profit for a given production process, if the factors of production are used so that the value of their marginal products equals the cost of their services. This means for the factor labour power, **L**, that the value of the marginal product of labour is equal to the wage rate:

$$w = p\frac{\delta Q}{\delta L}$$

Rearranging we get

$$p = w\frac{\delta L}{\delta Q}$$

To invert the marginal productivity, **δQ/δL**, of labour presuppose that the production function is invertible. This is indeed the case for a production function and therefore the inverse of a function rule applies.

The equation means that under the conditions of perfect competition the price of a commodity is proportional to its labour value.

In addition, profit maximization under conditions of perfect competition requires that the price of the commodity, **p**, equals marginal cost:

$$p = \frac{dC}{dQ}$$

The proof for the validity of the labour theory of value results immediately, since we receive the desired solution now by substitution:

$$w\frac{\delta L}{\delta Q} = \frac{dC}{dQ}$$

Historically, the discovery of the marginal labour value, **δL/δQ**, goes back to William Stanley Jevons, who developed it in the chapter on labour in his book "Theory of Political Economy", London, 1871, thus at a time when Karl Marx was still alive. However, Jevons recognized the enormous meaning of his discovery and inverted it immediately and used in the following only its inverse, the marginal productivity of labour, **δL/δQ**. In modern economics the analysis of labour values, i.e. the inverse of the production function, is an absolute taboo.

This proof resolves also Adam Smith's paradox of the labour theory of value on the one hand and the "Adding-up Theorem" of wages, profits and rent on the other in the determination of the price. It can be shown that the difference of the marginal labour value, **δL/δQ**, and average labour value, **L/Q**, is equal to the surplus labour whose monetary value corresponds exactly to the value of profits and rent.

$$profits + rent = w[\frac{\delta L}{\delta Q} - \frac{L}{Q}]Q$$

In Marxist terminology the surplus labour is equal to the difference of marginal labour value and average labour value.

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