A CRITIQUE OF ROEMER'S CONCEPTION OF EXPLOITATION

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Abstract

The paper deals with Roemer's claims that the Marxian theory of surplus value is logically faulty and should be considered the special case of his own "general theory of exploitation" (the "GTE"). It is shown that Roemer's model and theorems implicitly confirms the main point of "Das Kapital": profit does be the converted form of surplus value produced by working class under capitalism.

Introduction

It is widely acknowledged that the central problems with which Marx wrestled are still with us (e.g., see [1, p.5]). Marx's methodological achievements, however, have not yet been fully adopted by some modern streams of economic thought [2, pp.7-15].

From Roemer's point of view, "the definition of exploitation in terms of property rights is not only more general than the surplus labour definition but is a better definition as well, due to the concrete institutional alternative which it poses" [3, p.218].

In particular "a coalition is considered capitalistically exploited if it would be better off with access to its per capita share of society's alienable assets (means of production, resources)" [4, p.207].

We confine ourselves in this paper to consideration of the capitalist exploitation abstracting from the reduction of skilled labour to simple one.

1. A Subsistence Economy With Labour Market

Let us consider a key model of "pre-capitalist economy" with labour market, paying attention to relevant conclusions derived from the analysis of models of pre-capitalist economy with no labour market. We'll follow Roemer's terminology and notation (see [3, pp.33-86]).

There are a certain number of private commodity producers ($\nu, \mu = 1,\ldots, N$). They all have one unit of labour power to dispose of, but they possess, in general, different vectors of produced goods ($\omega^{\nu} \in R^{n}_{+}$).

All producers have the same subsistence requirements, a vector $b \in R^{n}_{+}$. There are markets for produced goods and for labour power, but there is no credit market. Each producer can choose to operate production activities on his own, hire labour to operate them, or sell his labour power for a wage.

Subject to the goal of subsisting, each tries to minimize labour performed. In this model A is an $n \times n$ commodity input-output matrix of activities, L is an $1 \times n$ row vector of direct labour input coefficients, $x^{\nu} \in R^{n}_{+}$ is the vector of activities that the owner ν of the means of production operates himself (there are n processes in the Leontief technology), $y^{\nu} \in R^{n}_{+}$ is the vector of activities ν hires others to operate, $x^{\nu}_{o} \in R_{+}$ is the amount of labour time ν sells, a scalar.

Commodity input A_j (the j-th column of A) and L_j units of labour, measured in producer-days, are the same for all producers.

"ASSUMPTION 1. A is indecomposable and $L > 0$" [3, p.28].

Facing a commodity price vector $p \in R^{n}_{+}$ and wage rate $w \in R_{+}$, each producer will "choose x^{ν}, y^{ν}, x^{ν}_{o} to

min $Lx^{\nu} + x^{\nu}_{o}$ subject to

$p(I - A)x^{\nu} + (p - (pA + wL))y^{\nu} + wx^{\nu}_{o} \geq pb$ (reproducibility), (Pi)

$pA(x + y) \leq p\omega^{\nu}$ (feasibility), (Pii)

$Lx^{\nu} + x^{\nu}_{o} \leq 1$ (length of working day), (Piii)

$x^{\nu}, y^{\nu}, x^{\nu}_{o} \geq 0$" [3, p.63]. Here and below I is a unit matrix.

According to Roemer, (Pi) states that net revenue should not be ex-

ceeded by the cost of subsistence. (Pii) is the capital constraint. A producer need not possess the endowments in physical form, that he chooses to use, but he must be able to trade for them before production starts. (Piii) is the quantity constraint on the labour supply of the individual. Wages are paid out of revenues, not in advance.

Let $\mathcal{A}^{\nu}(p,w) \equiv \{(x^{\nu}, y^{\nu}, x_{o}^{\nu})$ solving this program$\}$. Vectors in $\mathcal{A}^{\nu}(p,w)$ are individually optimal [3, p.64].

"DEFINITION 2.1. A RS (reproducible solution - A.R.) in the economy $\mathcal{E}(p,w;A,L,\omega^{1},\ldots,\omega^{N})$, or $\mathcal{E}(p,w)$, is a price vector (p,w) and associated set of options such that:

(i) $\quad \forall \nu, (x^{\nu}, y^{\nu}, x_{o}^{\nu}) \in \mathcal{A}^{\nu}(p,w)$,

(ii) $\quad (x,y) \geq A(x + y) + Nb$, $x = \sum x^{\nu}$, $y = \sum y^{\nu}$ (reproducibility),

(iii) $\quad A(x + y) \leq \omega \equiv \sum \omega^{\nu}$ (feasibility),

(iv) $\quad Ly = x_{o} \equiv \sum x_{o}^{\nu}$ (labour market equilibrium)" [3, p.64].

Markets are veiwed as operating at two points in time. At the beginning of the period trades take place on the market for production inputs and labour power. At the end of the period trades take place on the market for consumption goods. "The difinition of a <u>reproducible solution</u>, an equilibrium, for this model is analogous to the previous one. A price-and-wage vector equilibrates the system if, when all producers optimize, aggregate production is feasible, global reproducibility is achieved, and the labour market clears. That is, the markets for inputs and consumption goods all clear" [4, p.191].

Elaborating the definition of the "Marxian exploitation" Roemer calculates a vector of labour values, or embodied labour, as $\Lambda = L(I - A)^{-1}$. He defines socially necessary labour time (SNLT) as the amount of labour time embodied in the subsistence bundle each producer consumes (Λb). At "inegalitarian solutions", producers who work longer than Λb are "exploited" and producers who work less long are "exploiters". There is no "Marxian exploitation" at the egalitarian solutions where $Lx^{\nu} + x_{o}^{\nu} = \Lambda b$ for all ν [3, pp.30-34, 67].

Following Proudhon, maybe unconsciously, Roemer explains "the Marx-

ian exploitation" by unequal exchange [3, p.38]. This explanation is based upon the model of pre-capitalist economy with no labour market $\mathcal{E}(p)$ [3, pp.33-34].

"THEOREM 1.5. Let $\omega \geq A(I - A)^{-1}(Nb)$. Let p be a RS. Then $p \sim \Lambda \Leftrightarrow p$ is egalitarian. ($p \sim \Lambda$ means p is proportional to Λ.)" [3, p.36].

It has been proved that for models $\mathcal{E}(p,w)$ and $\mathcal{E}(p)$ the "capitalist exploitation" coincides with the "Marxian" one [3, pp.202-206]. The following assumption is done in order to eliminate some indeterminacy in ν s choice.

"ASSUMPTION 2 (NBC). Let (p,w) be prices such that $\exists (x^{\nu}, y^{\nu}, x_o^{\nu}) \in \mathcal{A}^{\nu}(p,w)$, for some ν, such that $x^{\nu} = x_o^{\nu} = 0$. Then among the optimal solutions to his program, ν chooses a solution y^{ν} which minimizes his capital outlay pAy^{ν}.

A producer who operates in this way is a <u>nonbenevolent capitalist</u> (NBC): a "capitalist", since he only hires others; nonbenevolent, since he chooses to circulate the minimal amount of capital to achieve his zero work time, instead of circulating more and thus possibly creating additional employment" [3, p.65].

"LEMMA 2.1. Let (p,w) be a RS for $\mathcal{E}(p,w)$. Assume NBC. Then: $\forall \nu$, $p(I - A)x^{\nu} + (p - (pA + Lw))y^{\nu} + wx_o^{\nu} = pb$" [3, p.66].

"THEOREM 2.1. Assume NBC. At a RS (p,w) of $\mathcal{E}(p,w)$:

$$x + y = (I - A)^{-1}(Nb), \qquad (a)$$

$$Lx + x_o = N\Lambda b \qquad (b)$$

...Hence total work time at a RS in $\mathcal{E}(p,w)$ is, as in $\mathcal{E}(p)$, precisely socially necessary labour time. As in $\mathcal{E}(p)$, we can, therefore, speak of a RS as being <u>egalitarian</u> if all producers work Λb, and inegalitarian and exploitative otherwise" [3, p.67].

2. An Analysis of the Premises of the Model

The model reflects autonomy of producers as private owners. Every commodity can be produced by different agents. So the model $\mathcal{E}(p,w)$ does not avoid the essential peculiarities of free competition (intra- and intersectoral), and yet methods of competition have been reduced mainly

to a choice of an assortment of commodities.

To some extent Roemer pays attention to contradictions of private commodity production. The condition (ii) of a RS means that there is no guarantee even for simple reproduction, say nothing about reproduction on the progressively increasing scale. Conditions (iii) and (iv) tell us the implementing of individual plans is also problematic. Still, the necessary and sufficient conditions for a RS to be not only potential but also realisable equilibrium have not been explicitly formulated.

Roemer postulates that all use-values produced are – at least potentially – exchangeable on the market. Moreover, every producer can theoretically buy or sell labour-power. Hence in the model $\mathcal{E}(p,w)$ all products and labour-power could take the form of commodities. In fact, it was capitalism that actualized this possibility. We think the "assumption NBC", however, contradicts both the objective aim of capitalist production and the subjective goal of a capitalist.

The model $\mathcal{E}(p,w)$ is based upon a price vector (p,w). The market is presupposed and this premise excludes a participation of all producers in natural economy. Yet there are no markets if every producer's initual endowment is sufficiently large: $\omega^{\nu} \geq Ax^{\nu} = A(I - A)^{-1} b$, $Lx^{\nu} = L(I - A)^{-1} b \leq 1$, $x^{\nu} \geq 0$, $x^{\nu} \leq 1$. Then the optimal solution $(x_o^{\nu} = y^{\nu} = 0,\ x^{\nu} = (I - A)^{-1} b)$ is achieved without exchange, but this contradicts the assumption of the existence of prices.

Honestly, the usage of assumptions which have not been explicitly stated means that the model and the theorems derived from it are incorrectly interpreted by the "GTE".

Roemer's conception does not distinguish between two meanings of socially necessary labour time (SNLT) considering the magnitude $N \wedge b$. If supply corresponds to demand this magnitude is the amount of SNLT for production of consumer goods for all economic agents. One should not, however, restrict himself only to this meaning of the term "SNLT" forgetting the other one: the amount of labour necessary for production of the particular commodity labour-power (see [5, p.208]).

3. The Capitalist Exploitation

This mixture prevented the American economist from uncovering the difference between necessary labour and surplus labour of the working class under capitalism. From his point of view, the following theorem is "the analog of theorem 1.5... for the economy with labour market" [3, p.68].

"THEOREM 2.2. Assume NBC. Let $\omega \geq A(I - A)^{-1}(Nb)$. (p,w) is a RS for $\mathcal{E}(p,w)$. The following are equivalent:

(A) Possibility of positive profits (PPP) (i.e., $p \neq w\Lambda$).

(B) Existence of exploitation at (p,w).

(C) Some producer does not work.

Theorem 2.2 can be thought of as a "Fundamental Marxian Theorem" (FMT) for this economy, as it shows that exploitation is equivalent to the possibility of profits" [3, p.69].

Notice that at a RS hired labour seems to be fully paid. Profit, considered a result of the unequal exchange, is not associated with unpaid surplus labour and surplus product.

Obviously, the requirement $p = w\Lambda$ is stronger as the requirement of $p \sim \Lambda$, therefore theorem 2.2. is hardly "an analog of theorem 1.5".

Let us demonstrate that principles of the theory of surplus value can be derived with a help of Roemer's model $\mathcal{E}(p,w)$.

For the sake of simplicity suppose that workers are absolutely deprived of the means of production and sell their labour-power to capitalists who are not working at all. Let (p,w) be a RS for $\mathcal{E}(p,w)$ such that $p > 0$, $w > 0$ and let there markets be in equilibrium.

The number of workers and the number of capitalists will be indicated by symbols N_1 and N_2, respectively $(N_1 + N_2 = N)$.

We assume the vector b corresponds to the necessary needs of a worker and his family, and there is no difference between consumption bundles of workers and capitalists.

The optimization program of worker μ can be written as:

$\min x_o^{\mu}$ subject to

$wx_o^{\mu} \geq pb$, (Pi)

$0 \leq x_o^{\mu} \leq 1$. (Piii)

The optimization program of "nonbenevolent capitalist" ν is:

$\min pAy^{\nu}$ subject to

$(p - (pA + wL))y^{\nu} \geq pb$, (Pi)

$pAy \leq p\omega^{\nu}$, (Pii)

$y^{\nu} \geq 0$.

It follows from the Lemma 2.1 that the condition (Pi) is satisfied as the equality for all workers and capitalists. By Theorem 2.1,

$$y = (I - A)^{-1}(Nb) = (I - A)^{-1}(N_1 b + N_2 b) \quad , \tag{1}$$

$$x_o = N \wedge b = Ly = N_1 \wedge b + N_2 \wedge b \quad . \tag{2}$$

(1) states that net national product is produced in the necessary and sufficient amount for workers and capitalists consumption, (2) implies the total consumption fund embodies the whole of labour input.

The necessary labour time for reproducing the social labour power equals $N_1 \wedge b$. The amount of surplus labour time equals $N_2 \wedge b$. By (2), expenditures of living labour in toto are equal to the sum of the necessary and the surplus labour time.

The necessary product, $N_1 b$, embodies the necessary labour of the workers, $N_1 \wedge b$, and can be bought by them:

$$wx_o = wLy = N_1 pb \quad . \tag{3}$$

The surplus product, $N_2 b$, embodies the surplus labour of the workers, $N_2 \wedge b$, and can be bought by the capitalists:

$$(p - (pA + wL))y = N_2 pb \quad . \tag{4}$$

Hence the amount of profit on the scale of the economy as a whole equals the sum total of the prices of the surplus product which embodies the surplus value that the working class has produced in toto. In other words, capitalists profit is the transformed form of surplus value, q.e.d.

It can be easily shown that in this model at a RS being general economic equilibrium the capital embodied in the product is completely

replaced and returns to the class of capitalists, while the labour, embodied in it, is not completely replaced for return to working class. It is precisely the capitalist exploitation as the specific production relation.

The equivalence of both Roemer's definitions of exploitation ("capitalist" and "Marxian") for models $\mathcal{E}(p)$, $\mathcal{E}(p,w)$ frees us from the necessity to prove that his interpretation of the capitalist exploitation is contestable as well.

Conclusion

This paper has been written in the genre of anti-critique found most suitable for illustrating vitality of Marx's ideas and logic for economic modelling. Our critique, however, only stresses the point that Roemer's conception provided the useful formal structure for the given demonstration.

References

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