

On Marxian Exploitation

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Abstract

Marx's "degree of exploitation" is equivalent to the ratio of luxuries to necessary commodities. We investigate the dynamics of the two components following a formulation by Kalecki. The outcome is an attention to the prices of the two commodities. The political result is the revolutionary potential of proletarian internationalism.

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INTRODUCTION

If the rate of surplus value s/v is the exact expression of the degree of exploitation of labor-power by capital (Marx, 1959, p. 214) and "... surplus value ... is supposed to serve mainly for the individual consumption of the capitalist" (Marx, 1933, p. 476), we have a correspondence between surplus value and luxury consumption. The denominator being necessities, we explore the relationship between the two. In Chapter IX of *Capital* Volume 1, in the Section on "the degree of exploitation of labor-power", Marx writes of labor-power in action, living instead of dead labor, labor flowing easily from one Sector to another (Marx, 1959, p. 214). Following Marx, we study the movement of variable capital, keeping constant capital at the value of zero.

For the purpose we find it convenient to write Marx's schemes of reproduction in the schema of Kalecki (1976). Our Sector I includes Marx's Department II producing luxury goods for capitalists, Sector II is Marx's Department III producing necessities for workers and Marx's Department I producing investment goods is divided into two parts, investment goods produced in Sector I and investment goods produced in Sector II. This classification is resorted to in order to make non basics and basics output correspond with the output of Sector I and Sector II respectively. Subscripting the output of the two sectors accordingly, X_i is divided in the familiar way between consumption C_i

and investment I_i , and p_i is Sector i 's producer price where $i = 1, 2$, denoting non basics and basics respectively.

Excess demand in the luxury goods sector in nominal terms is

$$p_1 C_1 + p_1 I_1 - p_1 X_1$$

Excess demand in the necessities sector is

$$w_1 L_1 + w_2 L_2 + p_2 I_2 - p_2 X_2$$

where $w_i L_i$ is the wage bill in sector i . It will be clear shortly why we prefer the expression $w_1 L_1 + w_2 L_2$ to $p_2 C_2$ to denote the consumption of necessities by workers.

The adjustment dynamics is given by

$$\begin{aligned}\dot{X}_1 &= p_1 C_1 + p_1 I_1 - p_1 X_1 \\ \dot{X}_2 &= w_1 L_1 + w_2 L_2 + p_2 I_2 - p_2 X_2\end{aligned}$$

The systems representation is

$$\begin{bmatrix} \dot{X}_1 \\ \dot{X}_2 \end{bmatrix} = \begin{bmatrix} -p_1 & 0 \\ 0 & -p_2 \end{bmatrix} \begin{bmatrix} X_1 \\ X_2 \end{bmatrix} + \begin{bmatrix} p_1 C_1 + p_1 I_1 \\ w_1 L_1 + w_2 L_2 + p_2 I_2 \end{bmatrix}$$

We specify the stability properties of the economy in the next section. Our motivation is the incorporation of the complexity agenda into Marxian political economy. In particular, we will look at potential folds and bifurcations in the linear system above. In a survey of the Régulation agenda of Marxian theory, van der Heur (2010) has called this aspect “emergence”. The coupling of the Sectors might lead, under certain values of the parameters, prices here, to nonstandard system trajectories. Indeed, there are contemporary aspects of the feedback relations that Marx foresaw that we will not consider. In Volume II of *Capital*, Marx observes that every crisis lowers the consumption of luxury commodities by the capitalist class (Marx, 1933, p. 415). The workers employed in the production of luxury goods are, thereby, unemployed. To that extent, the sale of necessary commodities is impaired. The reverse occurs in the boom, particularly during a period of “bogus prosperity”, when the prices of commodities rise

independent of their value. The working class also partakes of the consumption of luxury commodities adding fuel to the rise in their prices. Bringing in finance and the consumption of non-basics by workers-rentiers is the subject of future work.

The second facet of modern scholarship, and the subject of the following section, van der Heur calls “strategic-relational” modeling. We offer a formulation of class-for-itself action. To that end, we model the dynamical system as a structural game on the plane. The subscripts 1 and 2 stand for the x-axis and y-axis respectively.

STRUCTURAL IMPERATIVES

We consider only the homogenous part of the differential equations. The coefficient matrix is A . The necessary and sufficient conditions for stability are (Medio and Lines, 2001):

$$1 + \text{tr}(A) + \det(A) > 0$$

$$1 - \text{tr}(A) + \det(A) > 0$$

$$1 - \det(A) > 0$$

It will be seen that, given that prices are positive numbers, cause for concern lies in the first and third condition. In order to satisfy the latter the price of basics or non-basics must be “sufficiently low”. The stationary solution is the subject of the next section and according to it the price of non-basics is irrelevant to the system. Thus, the price of basics must be “arbitrarily small”. However, that requirement runs foul of the second condition. It will be violated if the price of basics tends to zero. The chaotic possibilities are as follows. A fold bifurcation occurs if the second inequality is an equality, the other two conditions holding. A Neimark-Sacker bifurcation is said to occur if $\det(A) = 1$. Thus, $p_1 = 1/p_2$ will suffice. A Neimark bifurcation is engendered if the trace of the matrix falls in the interval $(-2, 2)$. “Appropriately high” values of p_1 and “appropriately low” values of p_2 will deliver a sum that falls in the interval. In sum, the price of non-basics should be “precisely low”.

WAR BETWEEN COMMODITIES

In a tradition going back to von Neumann, we model the interaction between the sectors as a perfectly antagonistic game (see Krass and Hammoudeh, 1981, for details). Begin with a stationary solution of the system where

$$\begin{aligned} p_1 X_1 &= p_1 C_1 + p_1 I_1 \\ p_2 X_2 &= w_1 L_1 + w_2 L_2 + p_2 I_2 \end{aligned}$$

The first equation can be divided by the price of luxury goods validating their unimportance referred to. In the second equation, division by the price of basics gives the real wage of interest to the workers. Thus, ignoring constant capital here as Marx does, we have

$$\begin{aligned} X_1 &= C_1 \\ X_2 &= w_1/p_2 L_1 + w_2/p_2 L_2 \end{aligned}$$

The battlefield is R_+^2 . Each sector seeks to extinguish the other. Victory is established either when $X_1 = 0$ or $X_2 = 0$. The story unfolds in rounds of action. Suppose the luxuries Sector acts first. The capitalist class therein, through command over the mode of production, can bring X_2 to naught in one of two or both ways: set relative prices, w_i/p_i to zero or set the quantities, L_i , to zero. However, it is constrained by the wage-employment contracts it must offer to its own workers. Indeed, in order to induce workers into luxury goods consumption, it must be the case that $w_1 > w_2$. The first term on the right-hand side of the equation for X_2 must be strictly positive. Also, pushing p_2 to infinity (in order to set real wages to zero) is the opposite of the demands of systemic stability of the previous section. Since this will hold true for any rounds, victory goes to the production of basics. The obliteration of luxuries, the first equation, seems easy to accomplish formally since only the consumption of capitalists is at stake. Yet, as suggested by Marx, the casualty would be unemployment in the luxury goods sector. The task then is to (re)vitalize innovation and industry in the production of basics.

Conflating the production of necessities with agriculture and rural enterprises, one resource is an energetic capitalist class in agriculture. However, intensive and extensive production activity by capitalists in the basics sector is undercut by the logic of intersectoral relations. Vanishing non basics means that their death knell has already sounded and the system is transiting to socialism. The historical and heroic mandate of the working class lies here. It is for the proletariat to unite across the production of basics and non-basics, from North to South. Elsewhere, as well, escape from the poverty trap is couched in terms of providing access to markets and inputs to direct producers (Sanchez, 2009). The expectation is that workers will grow food to feed themselves and generate a surplus to diversify into high-value crops and livestock. Marxists must excavate and present class composition and differentiation for analysis. In the case of Africa, the myths that rural wage employment is rare and rural markets vanishing must be dispelled (Oya, 2010). A tiny stratum of commercially-oriented small holders as well as medium- and large-sized farmers exists alongside a growing mass of wage laborers attached to miniscule plots of land. They are driven to wage labor out of distress and not a buoyant agriculture. Small-scale farmers offer low wages. Higher pay and working conditions are to be found in large-scale organized units. One ingredient in the mainstream recipe to contend with agrarian distress can be dismissed here. The evidence is that there is a weak connection between education and skills and agrarian and non-agrarian work. Employment in agriculture is a function of public and private investment.

Technology can be a deadly weapon in forging solidarity within and across economies (Evans, 2010). The ease of communication means that the particularities of local characteristics can be celebrated and international common ground worked upon. For instance, the shrinking of the manufacturing sector anywhere is a common platform. Transnational Agrarian Movements (TAMs) partly illustrate the felicity of transnational coordinated action (Borras Jr., 2010). Once again, class action by rich farmers, as illustrated by the Karnataka State Farmers' Association in India, is not directed towards redistribution of land or labor reforms. In contrast, movements like Brazil's Movimento dos Trabalhadores Rurais Sem Terra grounded in landless labor have land reform as

their chief strategy. La Via Campesina is an international gathering of poor peasants and small farmers and was established in 1993 to withstand the ravages of globalization. “It is both an *actor* and an *arena of action*” (Borras Jr., 2010, p. 779, italics in the original).

CONCLUSION

Marx’s “degree of exploitation” is the connection between basics and non-basics. We investigate the short-term relations between the two. The algebra highlights price connections. Since basics production approximates agriculture, the food crisis would be a natural focal point. The escalating price of food must be frontally addressed by worldwide organizations of peasants and workers. The program is not empty because, typically, greater attention is paid to rises in the prices of non-basics.

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