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THE IMPLICATIONS OF THE DEBATES ON THE LABOR THEORY
OF VALUE FOR SOCIAL RESEARCH

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of Value for Social Research

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The Implications of the Debates on the Labor Theory of Value for Social Research

Debates on the labor theory of value are usually waged at the most abstract levels of theoretical discourse. Frequently these debates are preoccupied with questions of the appropriate methodological stance toward social analysis, epistemological disputes about what it means to "explain" a social process, and mathematical arguments about the merits of competing ways of formally deriving certain categories from others. Rarely are the issues posed in terms of their implications for the concrete investigations of social life in which social scientists would engage. This will be the central theme of this essay: the implications of the labor theory of value and its critiques for empirical investigation.

In order to keep the discussion as focussed as possible, I will organize the analysis primarily around one central aspect of the labor theory of value--its account of the determination of profits in capitalist societies. In some ways this is not the most basic issue within the debates over the labor theory of value, since analysis of the determinants of profits presupposes the debates over the relationship of embodied labor times (values) to prices of commodities. Nevertheless, since the analysis of profits plays such a central role in Marxist theory as a whole, and it has particularly important immediate empirical implications, we will center our discussion on this particular issue.

One of the difficulties in embarking on an assessment of the empirical implications of theoretical alternatives is that, typically, each of the

alternative positions characterizes the debate itself in different ways. The preliminary task of this paper, therefore, will be to translate each of the positions in the debates on the labor theory of value onto a common conceptual terrain, so that it will be possible to assess their empirical implications in terms of a common framework. Such an act of translation cannot be "innocent," to use a favorite expression of Louis Althusser, but to a greater or lesser extent must presuppose one of the theoretical stances in the debate. In this essay, the evaluation and elaboration of each of the positions will be from the vantage point of the Marxist labor theory of value itself.

In the following section, I shall present a brief exposition of three perspectives on the determination of profits: a "causal-agnostic" account as developed in the work of Anthony Cutler, Barry Hindess, Paul Hirst, and Athar Hussain (1977); the "Sraffian" account as elaborated in the work of Ian Steedman (1977); and a reconstructed version of the traditional Marxist account based on the labor theory of value. In each case I shall present a substantive model of determination of profits rather than try to elaborate all of the technical details of the theoretical position. Following this exposition, we will consider the implications of each model for the kinds of questions one would ask in an empirical study.

1. ALTERNATIVE ACCOUNTS OF THE DETERMINATION OF PROFITS

Several general premises underly the following expositions of these alternative models. First, all of these contending accounts are theories of the real determinants of profits in capitalist societies. There may be

disagreements about what can count as a real determinant and how one would adjudicate between competing claims about such determinants, but they are all ultimately causal arguments.¹ Discussions about labor being the "essence" of profits, therefore, will be treated as discussions of the ways in which labor actually determines profits in the world.

Secondly, all of these stances are specific to capitalism. They are not theories of the determinants of surplus products in general, but of profits within a capitalist economic system, although as we will see, the ways in which the analysis of capitalism directly enters into analysis of the determinants of profits vary from position to position.

Finally, all of these accounts see profits as being empirically influenced by a wide variety of causes. Where they differ is not in a debate over whether profits are caused by one factor (labor) or many, but rather in how to conceptualize the interrelationships among the various causes of profits. This point will become clearer in the course of the discussion.

Although, in terms of historical development, the Marxist model of determination of profits is the earliest of the three we will consider, presentation of the different positions is made easier by discussing first the conceptually simplest model, the causal-agnostic account of profits, and then turning to the Sraffian and Marxist perspectives. The discussion which follows will assume a general familiarity with the technical details of each position, and so will focus primarily on the underlying causal models. In particular, I will not discuss any of the technical details of the

arguments about the mathematical calculation of profits from various underlying categories that play such a central role in the Sraffian position.

The Causal-Agnostic Account of the Determination of Profits

In order for profits to be produced in a capitalist society, many necessary conditions must occur. Capitalists must organize their investments and financial transactions, means of production must be combined with labor within the production process, the weather and geological conditions must fall within certain definable limits, and so on. All of these are necessary conditions in the specific sense that if they vary outside certain limits, no profits will be possible. If the weather produces horrendous flooding, or if geological conditions produce massive earthquakes, for example, profits will not be produced. A similar argument can be made about capitalists' actions, technological processes, labor, and many other factors. Of course, not all necessary conditions can be thought of as real determinants of profits. Without oxygen on the planet, for example, profits would be impossible, and thus the existence of oxygen is a necessary condition for profits to occur. Only those necessary conditions which have "pertinent effects," that is, whose range of variation in the world generates real effects on profits, can be considered theoretically relevant necessary conditions. Given that all such pertinent necessary conditions have real effects, so the causal-agnostic argument runs, it is arbitrary to raise any of them to the privileged status of the "essential" cause of profits, or as Marxists typically put it, the "origin" of profits.

This basic argument can be schematically represented as in Figure 1. Profits are pictured as the outcome of a plurality of causes. Some may be more important than others in the sense that their typical range of variation produces greater variation in profits, but since they are all pertinent necessary conditions for profits, none of them can be given privileged status.

This position has been argued at length by Cutler et al. (1977).² They insist that it is theoretically arbitrary to see any determinant of profits as the "origin" of profits:

If one does not seek a single, general determinant of profits--rejecting both Marxist and Orthodox general accounts of their origin and accepting that the profits capitalist enterprises actually make have no single 'origin' (that they cannot be ascribed to any one category of agents or factors in the production process, and are the product of many determinations)--then there is no a priori reason to conceive exchange in this way [i.e., conceiving exchange as an equation of equal quantities of labor]. [p.19]

This is not to suggest that the amount of surplus labor performed within production has no effects on profits, but simply that surplus labor has no privileged status in the analysis of profits. Since surplus labor is always performed in conjunction with specific technologies, activities of capitalists, divisions of labor, and other factors, profits can only be theoretically understood as an outcome of the total process as such rather than of any of the elements within that process:

If it is recognized that the agency of transformation of the raw material is the complex process (including each of its necessary elements, machines, the collective labourer, techniques and knowledges) then the resulting product can be ascribed only to the process itself (and to all its effectiveness in combination) and not to labour or labour-time alone. [p. 44]

It is not clear from this analysis whether all pertinent necessary conditions for profits are treated as conceptually equal determinants, or

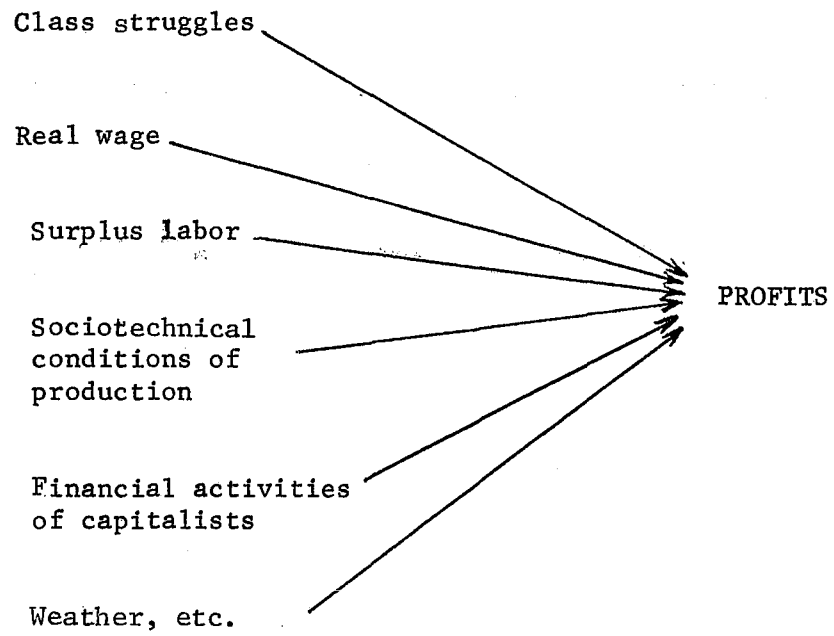


Figure 1. The Causal-Agnostic Account of the Determination of Profits

whether the authors restrict the analysis to the necessary conditions within production. There is no discussion of whether or not, for example, meteorological conditions or political institutions should be included in the analysis of the process through which profits are determined. It is also not entirely clear from their discussion whether they believe that it is impossible, in principle, to provide any theoretical ordering of the multiple, pertinent, necessary conditions of profits. In any event, in the analysis of the book, the authors refrain from imposing any such order on the various causes of profits. It is for this reason that their account of profits can be called a "causal-agnostic" account.

Sraffian Account of the Determination of Profits

Unlike the causal-agnostic stance toward the determination of profits, the Sraffian perspective argues that the various causes which influence profits can be theoretically ordered in a systematic manner. In particular, proponents of this view argue that profits can be considered a direct consequence of two factors: the sociotechnical conditions of production and the real wage paid to workers.³ Other causes of profits have their effects only by virtue of their influence on these two factors. This account is schematically represented in Figure 2.

The Sraffian argument is based on a mathematical analysis of the necessary conditions for formally calculating profits from a set of initial conditions. Steedman (1977) and others have argued, using the work of Piero Sraffa as the point of departure, that it is possible to calculate a unique profit rate simply by knowing the real wage rate and the sociotechnical

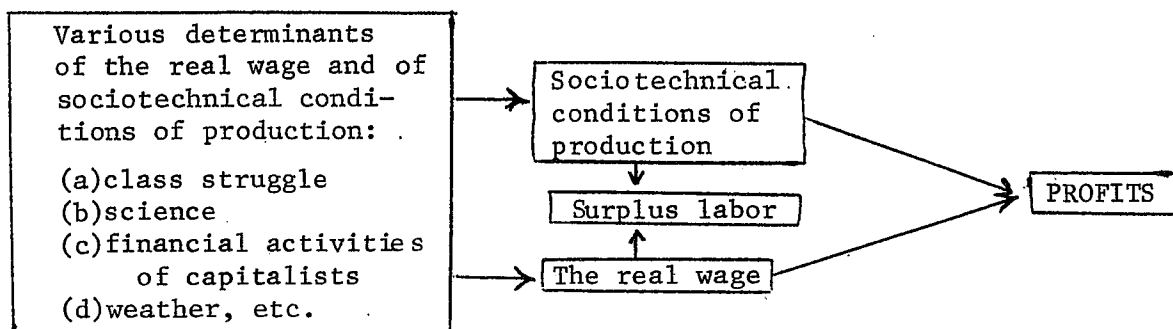


Figure 2. The Sraffian Account of the Determination of Profits.

conditions of production. The categories of the labor theory of value, they argue, do not enter into this calculation at all. Indeed, in order to define value magnitudes themselves, it is first necessary to specify the sociotechnical conditions of production. Thus, at best, analyzing value categories is a redundant step, an unnecessary detour from the systematic analysis of the two determinants of profit.⁴

The logic of this analysis rests on two premises. First, a mathematical calculation has the status of a proof about a process of causation. A mathematical derivation is viewed as a kind of thought-experiment, which replicates, in thought, a set of real conditions that cannot be observed in a pure state in a social world. If the assumptions used to frame this derivation are reasonable, then a redundant step in the calculation is viewed as a redundant step in the real world's causal process. Second, this formal argument is bolstered by a behavioral argument about the nature of the choices and decisions of the actors within the process being studied. Since the actors themselves make choices based on the real wage and on the technical conditions of production, and since these conditions are sufficient to provide a derivation of the magnitude of profits, the mathematical argument can be interpreted as linking the behaviors of real people to the structural outcome (profits).

It is important to note that this perspective on profit determination does not argue that the sociotechnical conditions of production and the real wage rate alone provide a full theory of profits, but only that they are the proximate causes of profits. Class struggle, for example, can still play a pivotal role in the dynamics of profit determination, in the form of

struggles over both the technical conditions of production and the real wage. An example of the former would be struggle within production over control of the labor process; struggles within the labor market, of course, shape the real wage.

The critical point of the model is not to collapse the theory of profits into a simple two-factor account, but rather to argue that other causes have their effects on profits by virtue of their effects on real wages and technical conditions. Thus, class struggles which have no effects on either of these factors could not have effects on aggregate profits.

Marxist Accounts of the Determination of Profits

Traditional Marxist accounts share with Sraffian accounts a commitment to organizing the multiple determinants of profits into an ordered structure of determination. But they differ in assigning a privileged status to surplus labor within the structural model of determination: in Marxist theory, real wages and technical conditions of production have their effects on profits by virtue of their effects on the performance of surplus labor.⁵ Other causes of variation in profits may be two steps removed from the final outcome. The weather, for example, may influence profits by virtue of its influence on sociotechnical conditions and real wages; these, in turn, influence profits by virtue of their effects on surplus labor. This basic model is illustrated in Figure 3.

In this account, changes in the mix of commodities in the real wage or changes in the sociotechnical conditions of production that have no consequences for the amount of surplus labor could have no effects on the total amount of profit. Only insofar as they influence surplus labor can they affect aggregate profits. It is by virtue of this strategic location within the process of profit-determination that Marxists have referred to surplus labor as the "origin" of profits.

The various critical discussions of the labor theory of value by Sraffa, Morishima, Steedman, and others have demonstrated that, stated in this simple way, the model in Figure 3 is simply incorrect. It can be shown, for example, that where there are choices of techniques of production, it is possible to increase (or decrease) the total magnitude of profits even if there are no changes in the amount of total surplus labor performed. At least at first glance, this would seem to invalidate the model of determination in Figure 3 in favor of that presented in Figure 2.

In fact, it is possible to recast slightly the model of determination in the traditional Marxist theory so as to preserve the central point of the theory and yet accommodate these objections. In order to do this, however, it is necessary to move beyond the simple notion of homogeneous determination expressed in the models so far, and replace it with a more complex notion of causation, one in which there are different kinds of causal relations between elements in a theory. These different kinds of causation I have referred to elsewhere as "modes of determination" (see Wright, 1978, Chapter 1).

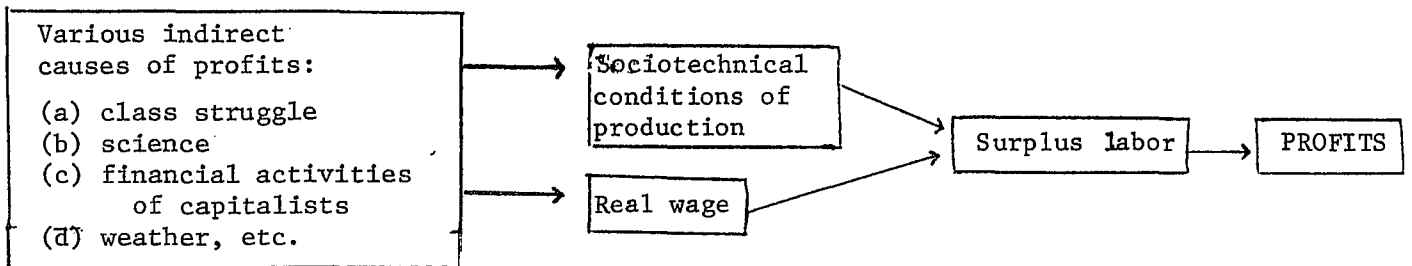


Figure 3. The Marxist Account of the Determination of Profits, Simple Version

For our immediate purposes, two modes of determination are particularly important:

1. Structural limitation, in which one structure or element systematically sets limits of possible variation on another structure or element. Within those limits, there is a variety of possible outcomes, but the limits themselves are determinate.

2. Selection of specific outcomes from a range of structurally limited possibilities. In a sense, this is a mode of determination which establishes limits within limits. Depending upon the specific process being investigated, there would be several nested layers of such selection processes.

The model of determination in Figure 3 can now be recast in terms of modes of determination. A first approximation of this more complex model appears in Figure 4. To keep this initial elaboration simple, I have limited the model to four elements: the real wage, the sociotechnical conditions of production, surplus labor, and profits. The sociotechnical conditions of production establish the basic limits on the performance of surplus labor. Since total labor performed in production is one aspect of the sociotechnical conditions of production, these conditions clearly specify the maximum possible amount of surplus labor (i.e., the maximum when the real wage was zero). Within these limits, the real wage specifies exactly what proportion of the total labor performed within production will be "surplus" labor, and thus real wages act as a selection determinant of surplus labor within the limits established by the technical conditions of production.

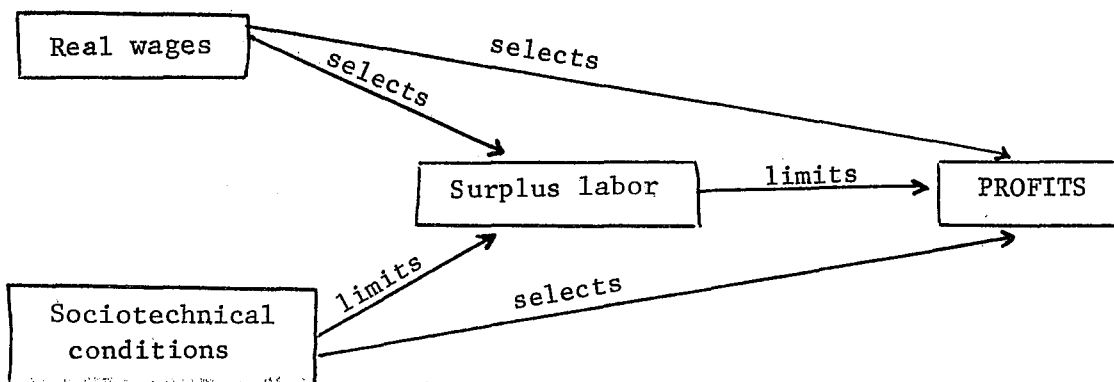


Figure 4. Modes of Determination in the Marxist Account of Profits, First Approximation

The interesting part of the model involves the mutual interdependence between surplus labor, real wages, technical conditions, and profits. As pictured in Figure 4, surplus labor establishes the fundamental limits on the range of possible profits. With a given quantity of surplus labor, there is an absolute ceiling on the possible quantity of profits. When surplus labor is zero, no profits at all are possible; as surplus labor increases, the possible maximum profit also increases monotonically.⁶ Within those limits, however, both the sociotechnical conditions of production and the real wage have a selection effect on profits. This means that if we were to hold constant the amount of surplus labor performed, and were to vary the techniques of production or the real wage (with the constraint that such variation would not affect the amount of surplus labor), we could in fact alter total profits, but only within determinate limits.⁷ Surplus labor, then, would remain the "origin" of profits, not in the sense that it is the only determinant of profits, but in the sense that the effectivity of all other determinants of profits occurs either by virtue of their effects on surplus labor or within limits established by surplus labor.

Figure 5 illustrates the outcome of this limiting process. For any given amount of surplus labor performed in production, there is an upper and lower bound on the amount of profits produced. The amount of surplus labor, then, constitutes the explanation of those levels of profits that are impossible; the sociotechnical conditions of production and the real wage explain--"predict"--which of the many possible levels of profits actually occurs.

This interpretation of surplus labor as setting the limits on possible profits may not, initially, seem very intuitive. How can it be, in the real

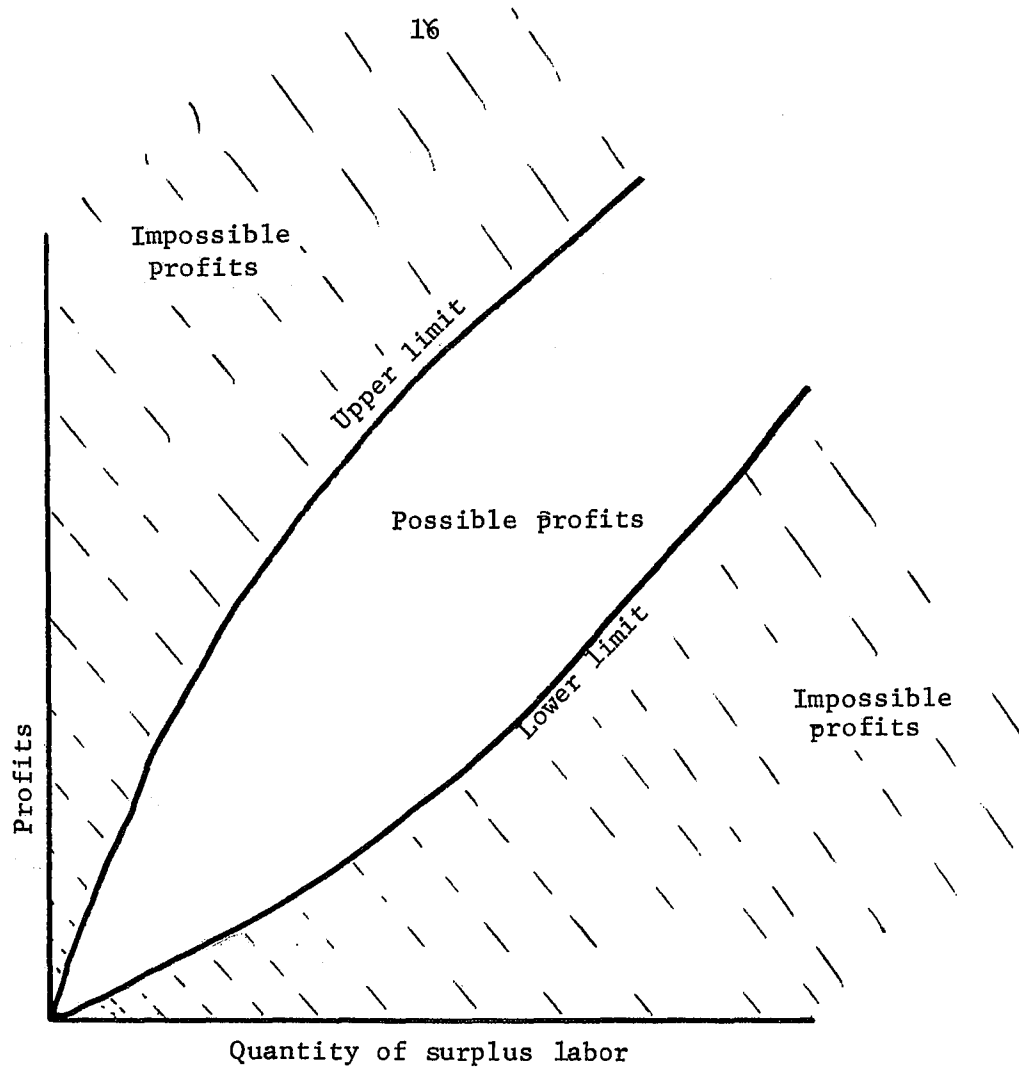


Figure 5. Surplus Labor and Possible vs. Impossible Profits

Note: The shape of the curves in this figure has been drawn arbitrarily, for I have seen no formal discussion of the character of the limiting conditions on profits that would make it possible to define it. Undoubtedly, there is a wide variety of possible shapes, depending upon the specific assumptions made in the analysis.

world (as opposed to in the mathematics) that the amount of surplus labor performed places bounds on possible profits? One way of looking at this is to see the range of possible profits within those bounds as a consequence of the social process by which values (labor times) are transformed into prices. It has often been remarked that under conditions where there is the same "organic composition of capital" in all economic sectors (i.e., where the technical conditions of production are the same, expressed in labor-value terms), then prices will be directly proportional to values and thus the upper and lower bound on profits will coincide. Under these conditions, Figure 4 is reduced to Figure 3, and the profit-surplus-labor relationship in Figure 5 collapses into a single line.

Under normal conditions, of course, the organic compositions of capital are not the same in all sectors, and thus there will be a systematic pattern of deviations of prices from values: In sectors with high organic compositions of capital (e.g., petrochemicals), prices will be above values; in sectors with low organic compositions (e.g., textiles), prices will be below values. Actual aggregate profits depend upon the specific distribution of such deviations. For any given amount of surplus labor performed in production, there is a given distribution (or set of distributions) of the organic compositions of capital across sectors which, when combined with the mix of commodities in the real wage of workers, will generate a maximum possible amount of profits. This situation can be seen as one in which the sectoral distribution of production and consumption allow capitalists to have an optimal conversion of surplus

value into profits. All other distributions, in effect, "waste" surplus labor (from the point of view of capital), and produce levels of profit lower than the maximum possible. In this way of posing the question, the transformation "problem" is understood as a real transformation "process" that occurs in the world and has real effects on the actual levels of profits. The total amount of surplus labor performed defines the limits of what can be converted into profits through the transformation process; the actual distribution of organic compositions of capital (i.e., the sociotechnical conditions and the real wage) determines how much surplus value will be "wasted" in that conversion process.⁸

Two major objections could be raised to the model of determination in Figure 4: (1) since surplus labor is itself determined by the sociotechnical conditions and the real wage, it plays no autonomous role in the process and is thus still "redundant"; (2) it is arbitrary to claim that surplus labor establishes the basic limits on the outcome, since if any "factor of production" is held constant, there will be an upper limit to profits.

The first objection basically misses the point of the model. The argument is not that surplus labor is an autonomous cause of profits or a primal cause, an "unmoved mover" in the profit determination process. On the contrary, it is precisely because surplus labor is an endogenous factor within that process that it can be viewed as a privileged determinant.

This point is much simpler if we look at Figure 3, the model of determination which would hold if organic compositions of capital were the same in all sectors of the economy. In this model, surplus labor is still seen as entirely a consequence of the sociotechnical conditions of

production and the real wage. But here we can see that these two factors have their effects on profits only by virtue of their effects on surplus labor. You could change the real wage and technical conditions as much as you like, but if those changes did not affect the performance of surplus labor, then the amount of profits would remain unchanged. Surplus labor, therefore, is the fundamental source of profits in Figure 3, in the sense that changes in surplus labor are the necessary and sufficient conditions for changes in profits.

The fact that the model becomes more complex in Figure 4 does not change this basic relationship. Changes in surplus labor are no longer sufficient conditions for changes in actual profits, but they remain necessary and sufficient conditions for changes in the limits on possible profits.

The second objection raises a different sort of problem. Certainly, given the actual availability of resources, if a particular input to production becomes severely restricted, then the maximum amount of profits that is possible in practice could be less than the maximum specified in Figure 5. Shortages of specific resources can therefore impose narrower real limits than the amount of surplus labor performed in production. Furthermore, absence of or restriction on a source of raw materials could make it impossible to increase actual productive labor and hence surplus labor, and profit. These observations may give rise to the argument that, from the point of view of the formal calculation of limits, it is arbitrary to base those limits in labor rather than in any other factor of production. In practical terms, nonlabor limits may have a more constraining effect on profits than labor limits (e.g., in an energy crisis).

Ultimately, to answer this objection we must move beyond the simple model represented in Figure 4. The reason for selecting surplus labor as the pivotal limiting process is not because in every situation surplus labor defines the actual limits to profits. It could well be that in some circumstances shortages of raw materials or energy or some other factor of production put a ceiling on profits that is more restrictive than the surplus labor limits. Rather, the central reason for selecting surplus labor as the key limiting process is because it enables us to construct a theory of the social determination of profits, in particular a theory of the systematic linkage between class structure, class struggle, and profits.

To understand the rationale behind this claim, we need briefly to examine the concept of classes in Marxist theory and see how the specific theory of profits plays a role in the general theory of classes. For our present purposes the key point is that classes are defined above all by positions within production relations, not by their positions within market relations or other aspects of social relations. The decisive aspect of those production relations centers on the ability of one class to force another class--the direct producers--to perform labor beyond what is needed for the reproduction of the direct producers themselves, and to appropriate the products of that "surplus labor." In all class modes of production, the dominant class is defined by those positions which appropriate surplus labor; the subordinate class by those positions which have their surplus labor appropriated.⁹

Different modes of production differ in the precise mechanisms through which this surplus labor is produced and appropriated. In feudalism, as

has often been pointed out, the mechanisms of appropriation are transparent: the feudal peasant is directly forced to perform surplus labor for the feudal lord in the form of labor dues. How, then, does it come to pass in capitalist society, where workers are not forced to perform labor dues, that the capitalist class manages to appropriate the labor of workers? The labor theory of value in general, and the theory of surplus value in particular, provide a framework for understanding this relationship, i.e., how it happens that capitalist profits--the monetized value of the surplus product--constitute a mechanism through which capitalists appropriate surplus labor from workers. The focus on surplus labor as the underlying process which establishes limits on profits, therefore, is itself derived from the class analysis of exploitation in general and of the specific forms of such exploitation in capitalism.

There is, therefore, an element of truth in the charge that the choice of surplus labor as a limiting condition is "arbitrary." It is arbitrary with respect to the specific problem of calculating profits, and if this was the only reason for a theory of profit determination then indeed there would be no grounds for choosing surplus labor over any other factor as a limiting condition (furthermore, one would want in principle to refuse any a priori claim about limiting conditions and would simply observe empirically which factor-scarcities tended to impinge most consistently on profits). But the choice is far from arbitrary with respect to a broader theoretical project--understanding classes and class struggle in terms of social relations of production, and linking such class struggles to the specific analysis of capitalist mechanisms of appropriating surplus

labor through surplus value and profits. It is because we are interested in understanding class relations and class struggle that we seek a model of determination of profits that allows us to link classes to profits, not because we have an autonomous interest in profits as such, independently of their social determinants and consequences. In these terms, the specific way in which one formalizes the model for the calculation of profits is conceptually subordinated to the qualitative theory of social relations within which profits acquire their social content.¹⁰ The theory of profit determination is an element in the theory of classes rather than vice versa.

Figure 4 does not, by itself, illustrate this broader theoretical structure. In the first place, class struggle does not explicitly appear in the model, and it must be formally reincorporated for this model to serve as a guide for research. Secondly, the model as it stands is rather undialectical, in the sense that the determinations all run in one direction and there is no mechanism internal to the model for restructuring the elements in the model themselves. A Marxist theory of profits must not simply be an account of the "variables" which determine profits, but of the total social process within which profit determination represents one particular aspect.

In order to make the model more dialectical in this sense, we need to introduce one additional mode of determination: transformation. This is a mode of determination in which the practices of individuals and classes act to restructure (transform) elements within a social process. The very

concept of "practice" within Marxist theory must be understood in terms of transformation as a relation of determination: practices are activities through which nature, social relations, and experiences are transformed. Like "selection," transformation relations occur within structurally defined limits; not every transformation is possible at any given moment in the history of a social structure. Transformations differ from selections in involving the conscious activities of classes and individuals rather than simply the relations between structural elements (see Wright, 1978, pp. 21-23 for a more extended discussion of transformation).

With this understanding of transformation, we can now further extend the model of determination to include class struggle and class structure. This model is presented in Figure 6. Within this model, forms of class struggle act as transformation determinants of real wages within limits established by the underlying sociotechnical conditions of production. Given those technical constraints, only certain transformations of real wages are possible. Similarly, class struggles transform the technical conditions of production themselves, in particular in the form of struggles over the labor process and technological change. And, of course, class struggle transforms class structure. Class struggle, in turn, is structurally limited by class structure and is influenced by the level of profits in a selection relationship: when profits are low, the capitalist class will attempt to engage in class practices which lower the real wage and transform the technical conditions of production in ways which increase surplus labor; when profit rates are high, the working class will be able more effectively to struggle for increases in real wages and to resist proletarianization within the labor process. In this sense, profits act

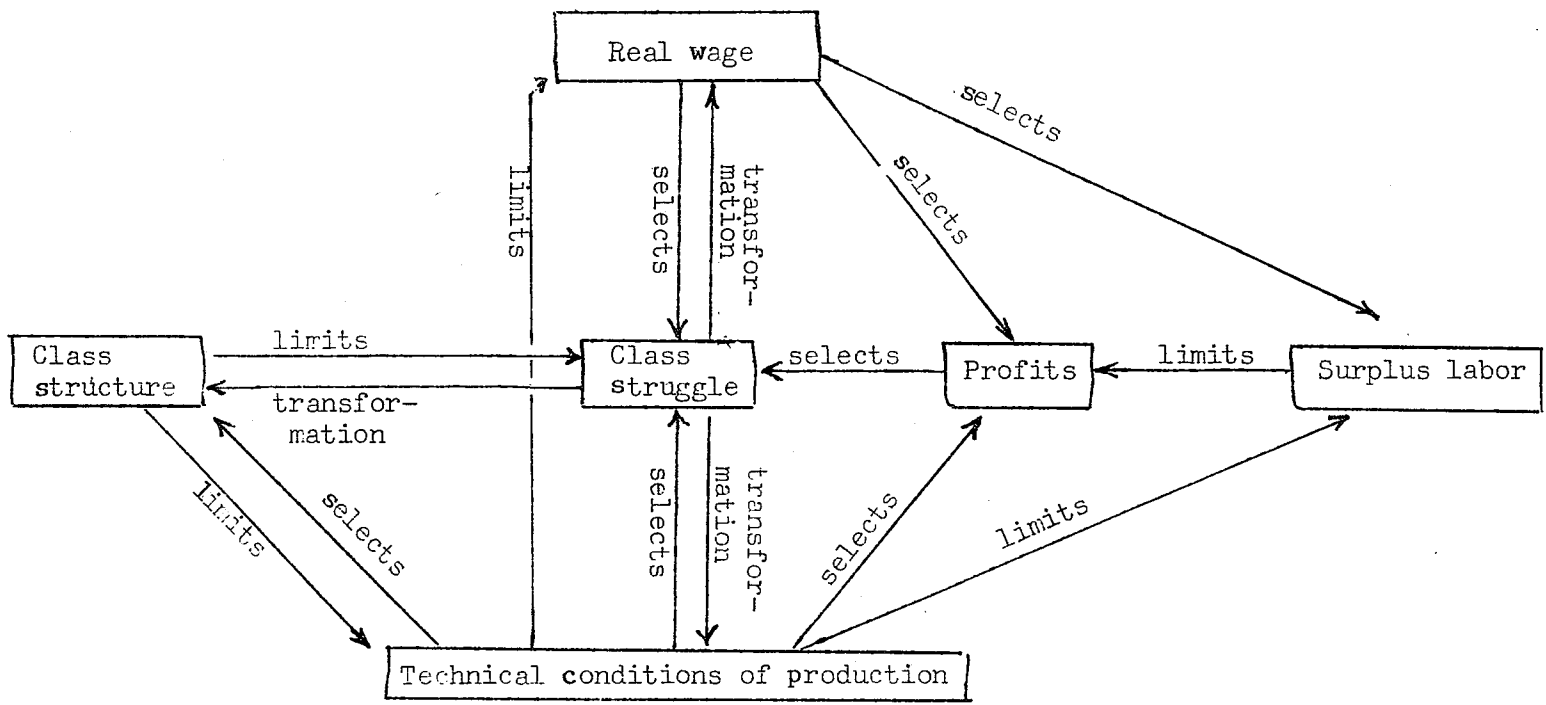


Figure 6: Modes of Determination in the Marxist Account of Profits, Complex Approximation

as a selective mechanism on class struggle, particularly on economic forms of class struggle. Real wages and the sociotechnical conditions of production also act as selection determinants of class struggle, within limits imposed by class structures.

One particular aspect of this model is especially worth noting. Class struggles do not directly affect surplus labor and exploitation, but operate through effects on the sociotechnical conditions of production (in particular on the total amount of labor performed, i.e., the length and the intensity of the working day) and on the real wage of workers. This is one of the distinctive features of capitalism. In precapitalist modes of production class struggles were directly struggles over surplus labor, i.e., over that portion of total social labor which was appropriated by the dominant class. This was particularly true when such appropriation took the form of forced labor. In capitalism, precisely because the performance of surplus labor is disguised through the exchange process and the organization of production as a capitalist labor process, class struggles are never over surplus labor as such.

If the model in Figure 6 is correct, however, it is still the case that class struggles have their most decisive impact on profits by virtue of their effects on surplus labor. As we shall see later on in this paper, this has very important implications for the kinds of empirical research agendas which this model generates.

The model as it stands is underdeveloped in a number of respects. First of all, there are critical elements which are totally absent from the model: the state, forms of class organization, ideology, etc. Particularly in assessing the relationship between class structure and

class struggle these additional elements play a central role (see Wright, 1978, Chapter 2). Secondly, there are a number of connections between the elements in the model which have not been specified. For example, profits probably have a selective effect on technical conditions of production even apart from their impact via class struggle, since a given level of profits make possible certain kinds of innovations and not others. The connections appearing in the model, therefore, do not exhaust the possible linkages between elements. Finally, the model itself does not put any concrete content on the various relations of determination, though it does indicate their general character. There is no indication, for example, of how narrow or broad the limits of profits imposed by surplus labor actually are. There is no specification of the actual range of possible real wages imposed by the sociotechnical conditions of production, nor of the range of forms of class struggle imposed by the underlying class structure. In order to add such concrete content it is necessary to transpose the model from the high level of abstraction at which we have discussed it so far and use it in the investigation of specific class structures, sociotechnical conditions of production, forms of struggle, etc. In these terms, the model should be seen as a road map for a research agenda rather than as a summary of the results of an investigation.

2. THEORETICAL ASSESSMENT

From the vantage point of the Marxist labor theory of value, both the causal-agnostic model and the Sraffian model of profit determination

are partially correct but incomplete. They are correct in that, in different ways and at different levels of abstraction, they do in fact specify real relations, real effects. They are incomplete in that they inadequately theorize the conditions under which they in fact represent the real process of profit determination.

In the case of the causal-agnostic account, the model can be viewed as a collapsed description of all of the processes which have determinate effects on profits. Figure 1 is a causal account at the lowest level of abstraction, a level in which it is impossible to order causes within any kind of systematic structure of determination. All one can do is give an account of the various "factors" which have effects.

The Sraffian account of profits is a considerable advance beyond this simple, descriptive model. It can be interpreted as specifying the determination of the level of profits at a middle level of abstraction. Given the basic limits on profits imposed by the underlying structure of class relations and balance of class forces, reflected in the level of surplus labor, the Sraffian model provides an account of the selection determinants of profits. If one's interest in studying profits is limited to calculating profits, then this level of abstraction is as far as one needs to go. As in any causal process, a complete prediction of the outcome is possible simply on the basis of the analysis of all of the selection processes.

A complete social explanation of the outcome, however, requires an understanding of the social determinants of structural limitation, and this requires moving to a higher level of abstraction. This is precisely what the Marxist model of profit determination attempts to do in the analysis of the relationship of surplus labor to profits. This analysis goes beyond

the Sraffian account in two critical aspects. First, it specifies the structural limits within which the Sraffian selection processes have their effects. Whereas the Sraffian account accurately calculates the level of specific profits, the Marxist account explains the social possibility of those profits. Second, the Marxist account embeds its analysis of the determination of profits in a larger theory of social relations and determinations, a theory in which profits themselves act as determinants, not just outcomes.

Such a broader theory has advantages over both the causal-agnostic and the Sraffian accounts. It enables us to go beyond a simple, positive account of societies as they are, and develop a critical theory of societies as they might become. In this context, the analysis of structural limitations as a mode of determination becomes very important, for it is by grasping the limits of possibility within a given social structure that we can begin to understand scientifically the changes in those possibilities that will result from the transformation of the social structures themselves.

This assessment of the causal-agnostic and Sraffian models, it must be stressed, assumes the adequacy of the Marxist account itself. From the point of the causal-agnostic theory advanced by Cutler et al., both the Marxist and Sraffian accounts make totally arbitrary claims about the ordering of various causal processes. In particular, Cutler et al. argue that the Marxist claim about the centrality of surplus labor is a purely ideological claim. The category of surplus labor is introduced into the analysis because it is necessary in order to analyze capitalism as a system of exploitation. But there is no scientific

basis, they insist, for arguing that exploitation or surplus labor have any particularly distinctive effects on any outcomes, including profits. And thus there is certainly no reason to elevate them to the status of "fundamental" determinants.

Similarly, those who espouse the Sraffian framework would reject the claim of its incompleteness. Since an account of determination and calculation are seen as equivalent, and since the mathematical thought-experiment demonstrates that the calculation of profits can be entirely derived from the technical conditions of production and the real wage, surplus labor can play no role in a model of determination of profits. To be redundant in a calculation implies having no real effects in the world. "Structural limits," therefore, are simply irrelevant.

If one accepts the methodological strictures of either the causal-agnostic or Sraffian stances, then the category "surplus labor" at most can be considered one of many causes (the first stance) or an irrelevant category (the second stance). But if we reject both of these methodological prescriptions and argue both that causes are structured in systematic ways and that certain causes establish limits within which other causes have their effects, then the possibility for surplus labor to play a pivotal role is reintroduced.

Rather than debate these methodological principles in the abstract, I would like to turn to the question of the empirical agendas which would flow from each of these models. In the end, the cogency of any defense of a particular methodological or epistemological stance within social science depends a great deal upon the richness of the research which it is capable

of stimulating and the power of the explanations of social processes which emerge from that research.

3. IMPLICATIONS FOR SOCIAL RESEARCH

Theoretical frameworks impinge on empirical investigations in four basic ways:

(1) Questions. Theory defines the range of possible questions that can be asked in an empirical investigation. As Althusser has stressed, this implies both a positive and negative process: certain questions are "unaskable" within a given theoretical framework. This is not to suggest that simply by knowing the broad theoretical framework we know precisely what questions will be asked. Theories impose limits on questioning, but there are many possible questions that can be posed within a given theory.

(2) Concepts. Theories also provide the conceptual categories used to answer a given question. They define the range of admissible categories which could potentially enter into an explanation or be used to formulate specific hypotheses within a general explanation. Concepts are always produced within theories; they are never somehow given by a neutral cognitive process "outside" of theory. Different theoretical frameworks, therefore, do not merely shape the questions we would ask of the world, but the categories we would use in framing an answer.

(3) Expectations. Theories also contain specific types of expectations about the alternative possible answers to a given question. Obviously, if there was only one possible answer, there would be no need to conduct research at all. The importance of empirical investigation stems precisely

from the fact that there are generally multiple possible answers to a particular question, given the conceptual tools available. But a theory generally does specify the relevant, interesting, alternative expectations; research then contributes to understanding the precise mechanisms or processes which lead to one alternative over another.

(4) Answers. To the extent that a theoretical framework has been used to ask questions, with specific concepts exploring specific sets of expectations, then gradually the theory also develops a set of received answers, a set of substantive theses which have been examined through various investigations. These answers constitute the body of knowledge within the theory which is augmented through research. Such answers are always, of course, provisional and are subject to transformation in light of new research, new investigation. As Althusser has stressed, there can be no final guarantee that an answer is "true," but only a methodology for adjudicating the cogency of contending answers.

All of these elements are constantly in a process of transformation. New questions are posed in the light of unexpected answers (anomalies, to use Kuhn's expression); new concepts are produced to explore new questions; new expectations are formulated in the light of conceptual breakthroughs. The relationship between theory and research cannot be a static one, any more than can the relationship between theory and practice.

In the discussion which follows I shall focus on the first aspects, the ways in which a theoretical structure defines the relevant range of questions. In many ways this is the most decisive, for the specific concepts one adopts and the range of alternative expectations one might entertain are themselves shaped by the particular objects of investigation.

In any event, the sharpest contrasts between the three perspectives we are examining center on the kinds of questions they generate, so it is on this level that we will concentrate.

Causal-Agnostic Models

A causal-agnostic model of profit determination begins with the presumption that there are multiple, pertinent, necessary conditions for the existence and magnitude of profits. A theoretical argument would then be used to elaborate a list of such necessary conditions; an empirical investigation would be used to establish their relative importance in the actual determination of profits.

One of the critical general questions which a causal-agnostic might ask in this context would be: Under what conditions does factor A or B become relatively more important in the determination of profits? For example, it could be argued that the more agriculture is mechanized, the less do the profits generated within the agricultural sector vary with the weather. Both mechanization and meteorology are pertinent causes of profits, but the development of the former reduces the effectivity of the latter. Another example would center on the relationship between scientific knowledge and profits. Cutler et al. (1977) argue, in passing, that as direct, living labor becomes a smaller portion of the total costs of production, scientific knowledge is likely to increase as a determinant of profits (pp. 43-44).

All such questions involve investigating the relative weight of different factors within a process of causation. Since there is no logical

ordering of causes possible, the only task of research is to establish relative empirical importance, and the conditions under which that relative importance itself varies.

Such a research agenda is likely to produce a rather rich descriptive picture of the principal sources of variation in profits. As Cutler et al. suggest, one of the outcomes of the research could be a systematic account of the various forms of the production process as a whole (not just the labor process as one aspect of that production), and of the relationship of these different general processes to different levels of profit and forms of distribution.

What such research would not do, however, is provide an account of how these sources of variation produce their effects. A causal-agnostic stance is incapable of generating theories of the actual mechanisms through which profits are generated, since it rejects the possibility of a structural ordering of determinations. To say that the entire process is the "mechanism" is to say no more than profits are the outcome of everything which determines them; it is not to specify the internal logic which generates that outcome.

Both the Sraffian and Marxist models of profit determination organize their research agendas around such mechanisms.

The Sraffian Model

The heart of the Sraffian model is the claim that the sociotechnical conditions of production and the real wage constitute the actual mechanisms which determine real profits. An empirical investigation of the determinants of these two processes, therefore, could be interpreted as an account of how the mechanisms which determine profits work in the

real world, i.e., what role they play in translating the decisions of actors, the weather, or the political conditions of social conflict into a specific kind of outcome, profits.

The pivotal research question which this model generates is thus: What are the determinants of the real wage and of the technical conditions of production? This leads immediately to two general objects of empirical study: the determinants of the market power of wage laborers and capitalists, and technological change. The first of these concerns would involve investigations of such things as the impact of trade unionism on the collective bargaining power of workers; the effects of monopoly concentration on the relative power of capital; the role of the state, particularly the welfare state, in regulating the market conflict between labor and capital and in guaranteeing a certain real wage for workers; or the role of imperialism in making possible higher real wages for workers in the imperialist centers. All of these empirical questions would contribute to understanding the process through which the real wage was concretely determined.

The study of technological change would be equally important within the Sraffian model of profit determination. Such an investigation would include such things as the role of competition in technical change, the relationship of changing market conditions (including changes in the real wage) to technical innovation, and the role of social conflict within the labor process itself in technical change.

Taken together, all of these factors would define the broad social determinants of actual profits. The specific theory of profit determination

within the Sraffian framework then provides an account of the structural mechanisms which link these determinants to the outcome.

The Marxist Model

All of the questions which are suggested by Sraffian model of profit determination can be asked within a Marxist framework as well, since the Sraffian model is in a sense contained within the Marxist model. The difference between the two models centers on the ways in which class struggle intervenes in the process.

In the Sraffian model as in the Marxist model class struggle within the market plays a critical role in the determination of the real wage. The real wage is conceptualized as zero-sum game between wage-earners and capitalists, in which every gain for workers is--at least in the short run--a loss for capital (a deduction from profits); thus the market conflict between labor and capital over the real wage is intrinsic to their very relationship.

But what about class struggle within production, within the labor process itself? In Sraffian theory, social conflict over the labor process is simply one of many influences on the technical conditions of production. Since the labor component of the technical conditions of production has no particularly salient role in the sociotechnical conditions of production, the social struggles within the labor process have no a priori importance. It may turn out, on examination, that such struggles are important, but there would be no particular reason for a Sraffian theorist to focus research on that aspect of the determination of the sociotechnical conditions of production over any other aspect.

It is quite otherwise within Marxist theory. Because surplus labor is seen as defining the absolute limits on profits, the central research question immediately becomes: what are the social processes which influence the amount of surplus labor performed? On the one hand, as in Sraffian theory, this directs our attention to the process by which real wages are determined. But unlike Sraffian theory, the Marxist model also directs our research efforts toward those transformations of the sociotechnical conditions of production that directly impinge on surplus labor. It is for this reason that the Marxist analysis of production revolves around the analysis of the labor process as such, and not simply the technical input-output matrices of production.

The distinctive questions that Marxists would ask in the investigation of the labor process all center on the relationship between the labor process and the performance of surplus labor: In what ways does technical change impinge on the struggles over control of labor within the labor process?¹¹ What is the relationship between the changing structure of skills within production and the problem of extracting surplus labor from the working class?¹² Do the imperatives of social control within production mean that different categories of employees perform different amounts of surplus labor?¹³

At first glance it might seem that the difference between the Marxist and the Sraffian accounts are not so drastic. After all, it is in principle possible for these questions to be asked by a Sraffian, even if they would play a less central role in the theory. Ian Steedman (1977) certainly insists on this point when he argues that all of the basic

Marxist questions about the labor process are compatible with the Sraffian account of the determination of profits.

On closer inspection, however, the centrality of surplus labor within the Marxist account produces certain fundamental differences from a Sraffian analysis. In particular, the concept of "class" and "class struggle" is different in the two frameworks. Within Sraffian theory, classes play a systematic role only in terms of the determination of the real wage, and the combatants in the class struggle are defined by their location within the market. All wage-earners, therefore, would be part of the working class, since the income of all wage-earners takes the form of a deduction from profits. The Sraffian account of the determination of profits is thus much more consistent with the Weberian definition of classes and class struggle than the Marxist conception.

In Marxist theory, the concept of class is closely linked to the question of surplus labor. Classes are defined by the social relations of production, not primarily by market relations. Within those social relations of production, the control over surplus labor is a particularly salient dimension. Not all wage-earners, in fact, fall into the working class, since not all wage-earners are excluded from control over surplus labor.¹⁴ The class struggle within production, therefore, is structured by class relations, defined in terms of the social relations of domination within the labor process. While both Marxists and Sraffian theorists might look at the impact of class struggle on technical change, the content of the categories used in such an investigation would be different.

There is, of course, one other alternative. A theorist could derive the categories of a class analysis from Marxist theory and the categories of the technical economic analysis from the Sraffian framework. This is very close to what Steedman, in fact, does. The advantage of such eclecticism is that it may enable a research project to draw on the theoretical strengths of different traditions; the limitation is that the categories drawn from the different traditions may cease to have any coherent theoretical relationship to each other. Given that surplus labor has no privileged status within Sraffian theory, it is hard to see why classes defined in terms of social relations of production should have any special role to play in the theory or its empirical applications.

The advantage of the developed Marxist model of determination in this respect is that it incorporates the predictive capacity of the Sraffian account while sustaining the theoretical centrality of surplus labor in the explanation of profits. Within this model, therefore, there is an internal basis for conceptualizing classes in terms of production relations and still empirically investigating the concrete determinants of profits in terms of the real wage and the technical conditions of production.

4. CONCLUSION

Four basic conclusions can be drawn from the arguments of this essay.

First, a developed Marxist model of the profit determination process is formally compatible with much of the Sraffian and causal-agnostic

accounts of profits. Most of the positive propositions within either perspective are consistent with a framework in which surplus labor acts as a basic limiting determinant of profits within which technical conditions and the real wage have selection effects, as illustrated in Figure 6.

Secondly, not only are all three models largely compatible, but we can also substantively incorporate the Sraffian and causal-agnostic models of profit determination within the Marxist model if they are viewed as representations of the process at lower levels of abstraction. Within the limiting process specified in the Marxist model, the Sraffian model defines the selection mechanisms for profits; and within the selection mechanisms specified in the Sraffian (and Marxist) accounts, the causal-agnostic model defines the range of concrete determinants of profits. What is incorrect about these models is not that they purport to represent real processes, but that they deny, in different ways, the more abstract levels at which these processes may be determined.

Third, the Marxist model provides us with a systematic way of introducing class struggle into the account of profit determination, at the level of circulation and of production both. Furthermore, it does so in a way that sustains a definition of classes in terms of the social relations of production. While classes, understood in these terms, can be used in analyzing the determinations in the Sraffian model as well, they play no organic role within that theory. In the absence of the Marxist model of determination, the classes within Sraffian theory could be no more than Weberian "market classes." If, on the other hand, we regard the

Sraffian model as a specification of the Marxist model at a middle level of abstraction, then there is no difficulty in using Marxist class concepts in the empirical investigation of the elements in the model.

Finally, the Marxist model of determination of profits makes it possible to embed the specific analysis of profits within a broader social theory of structural limitations, selections, and transformations. On this basis, the theory moves beyond a positive account of the concrete determination of profits, and becomes part of a critique of the very structure of possibilities in the existing society.

Notes

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¹Cutler et al. (1977) make this point well in their discussion of why the labor theory of value cannot be viewed simply as a scheme for the nominal measurement of commodities:

It might be argued as a form of defense of the category [value], that 'value' is merely a means of calculating exploitation. It might be considered as a necessary abstraction in order to make visible a phenomenon which would otherwise remain invisible. This position is untenable if it is to be articulated with the other concepts of Capital...Value is a concept which represents (in thought) a real effectivity, the determination of socially necessary labor-time. Value-relations are calculable because they are real...If these relations existed merely as assigned values (labour-times assigned thus could only be 'necessary' for the theoretical purposes in question not socially necessary) then they could not causally govern social relations. [p. 35-36]

²Cutler et al. do not refer to their position as a "causal-agnostic" position. Rather, they simply define it negatively as the rejection of all general causal doctrines: "What we are challenging is not merely the economic monist causality of Marxism, but the very pertinence of all such general categories of causality and the privilege they accord to certain orders of causes as against others" (p. 128). It would seem appropriate to designate their position a "causal-pluralist" account of

profits, but since causal-pluralism would itself count as a "general doctrine" of causation (i.e., the doctrine that there are never privileged determinants), it is more appropriate to designate their position as simply an agnostic one.

³Throughout this discussion I will use the expression "sociotechnical conditions" of production rather than simply "technical" or "physical" conditions. This is simply to emphasize that technical conditions can never be understood simply as physical input-output relations, but always have a social content. Above all, the length of the working day and the intensity of laboring activity within production are all "physical" properties of the production process from the point of view of a technical input-output analysis, even though these are in good part stamped directly by social relations. Even in the case of machines, the social content of the technical input may be just as "real" and significant as the narrowly technical content. Some theorists in the Sraffian tradition do in fact treat sociotechnical conditions as mere physical coefficients of production. Ian Steedman, the main theorist we will consider, is careful to avoid this technological reduction, and explicitly acknowledges that physical conditions of production have a social content.

⁴Steedman (1977) also argues that under certain circumstances (i.e., joint production and fixed capital) the attempt to calculate profits from values is not only unnecessary, but can give an incorrect answer. After demonstrating that values can give incorrect calculations of the profit rate, however, he then goes on to show that if values themselves are calculated in a somewhat more complex manner, as suggested by M. Morishima,

a correct calculation of the rate of profit again becomes possible. The heart of his critique, therefore, is that values are irrelevant for the calculation of profits.

⁵ Throughout this discussion I will use the expression "surplus labor" rather than "surplus value" in order to make the accounts of the determination of profits comparable across theories. Surplus labor is simply a physical quantity--the difference between the total amount of labor productively performed and the amount of labor performed and embodied in the products consumed by workers. If the Marxist account of the determination of profits is accepted, then this surplus labor becomes equivalent to "surplus value" (in effect, surplus labor is the substance of surplus value in the same sense that labor is the substance of value). The special problems which are introduced when the distinction between productive and unproductive labor enters the discussion will be ignored throughout this paper.

⁶ Steedman (1977) cites Morishima's analysis in support of the proposition that "the profit rate and growth rate are positive if and only if surplus labor, as newly defined by Morishima, is positive" (p. 204). Positive surplus labor, therefore, generates positive profits. It can also be shown fairly simply that any productive technology has a finite maximum possible profit, and therefore for a given level of surplus labor the maximum profit will be positive and finite. This implies that as surplus labor is increased, maximum possible profits also increase.

⁷ This argument does not concern the problem of how capitalists actually make their choices among techniques. Capitalists certainly do not in

any sense "hold constant" the amount of surplus labor. The argument here is about a structural constraint on the possible effects of various choices which capitalists make, regardless of how they actually make their decisions. That is, the maximum possible profit which a capitalist can obtain by trying to change techniques of production is limited by the amount of surplus labor generated in production.

⁸ It should be noted that this issue has nothing to do with the problem of "realization" of surplus value, i.e., of actually selling the commodities which embody that surplus value. Surplus value is being wasted in the present context since there is no necessary reason for the positive and negative deviations of prices from values to exactly balance each other out in the formation of an average rate of profit; thus the average price rate of profit may deviate from the value rate of profit.

⁹ It is impossible here to present a sustained justification for defining classes in terms of social relations of production, and in particular in terms of the social relations of domination over labor and surplus labor. This definition is not simply posed as an analytical convention on the part of the theorist, but rather as a way of understanding the real dynamics of social struggle and social change. For a more elaborate defense of the underlying logic of this conception of class, see Wright (1979a, Chapters 1 and 2; 1979b).

¹⁰ This answer to the objection that the focus on surplus labor as a limiting process is arbitrary comes perilously close to a Weberian methodological stance on theory construction, namely that the categories we choose are strictly subordinated to the subjective preferences of the

analyst. Because Marxists are subjectively committed to a certain set of values and thus have an interest in studying exploitation, then an ideal-type model revolving around surplus labor is appropriate. In fact, the argument does not rest simply on the value preferences of the theorist, but on the relativist claim that classes and class struggle, defined in terms of production relations, are the decisive social forces which shape social change. Classes are real, not simply analytical conventions. Surplus labor also establishes real limits on possible profits, not simply analytical limits (although actual profits may generally fall well within those limits). The model of profit determination in Figure 4, therefore, provides a way of linking these two categories within a theory of profit determination.

¹¹ See especially the work of Noble (1978) and Burawoy (1978) for empirical investigations of this issue.

¹² See Braverman (1974) for the relationship of degradation of work to exploitation.

¹³ See Wright and Perrone (1977), Wright (1978; 1979a) and Baudelot, Estabiet, and Malemort (1976) for discussions of income determination and social relations of production. The work of Baudelot et al. in particular attempts directly to examine value relations in studying the income of various privileged categories of wage-earners.

¹⁴ For a detailed discussion of the definition of the working class and the problem of domination/subordination within production with respect to control over surplus labor, see Wright (1978, Ch. 2; 1979b).

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