

Fujimori, Y.: *Modern Analysis of Value Theory*. (Lecture Notes in Economics and Mathematical Systems, Vol. 207.) X, 165 pp. Berlin—Heidelberg—New York: Springer-Verlag. 1982. Soft cover DM 30,—.

The “Modern Analysis of Value Theory” is a treatment of Marx’s Theory of Value.

Chapter I presents Marx’s labor theory of value in the most simple case of a linear productive system, in a Leontief economy. The equivalence of two concepts of value is established as the consequence of productiveness of the economy. It is used then to prove that the rates of surplus value and of surplus labor coincide. Both of these equivalences provide the basis for the proof of the “Fundamental Marxian Theorem”. It states that profitability of an economy is equivalent to positivity of surplus value together with existence of a positive value. In a subsequent section the theory of transformation is presented. Its qualitative and quantitative aspects are emphasized. The equality of price and value, being one of the transformational equalities, reflects Marx’s conviction that the price of society’s total production is independent of the market. The synthesis of qualitative and quantitative reasoning is referred to as the main content of Marx’s theory of value. The formal parts of the chapter contain clear definitions and rigorous proofs, always explicitly

related to notions and ideas as expressed originally by Marx. The formal part is followed by a section in which criticisms due to Steedman and Samuelson are first presented and then discussed by the author. Although the heuristic and partially philosophical discussion in the last section is helpful it is not on the same sound base as the formal parts are. The explanation of exchange in a market on page 30, for example, appears to me as a simple tautology. "Exchange is carried out between equivalents" obviously just explains the specific notion of equivalence. But then the conclusion that "the common factor can only be quantitative" is quite confusing because what they have in common is just that they can be exchanged. There is nothing really explained. I do not object to the use of money as a means of explanation in this context. Yet it is by no means a necessary consequence of the mere fact of actual exchange. Such kind of objectionable reasoning may be found at some few locations in those parts of the book where the formal results are discussed, interpreted and put into relation to original Marxian thoughts. It does not injure the analysis as a whole, however. And clearly, no formal analysis can be expected to help in a debate how the equivalence in the Fundamental Marxian Theorem is to be interpreted, i. e. which side has to be considered the explaining one. Nevertheless those discussions seem to be quite useful since all employed formal tools and concepts are associated with their counterparts in Marx's work.

Although the setup of the Leontief economy is particularly simple and at the same time highly adequate for explaining Marxian theory of value, it clearly has its limitations. Fujimori points out that "the validity of Marx's theory of value would soon be queried, if the conditions which stipulate the Leontief economy were removed one after another". Accordingly, during the course through the book the restrictions of the Leontief economy are gradually relaxed. The author continues to relate original ideas and statements of Marx's to the technical terms used in his analysis. He also carefully distinguishes between conceptions and ideas expressed by Marx which are not necessarily basic for the theory of value and those which are indispensable for this theory.

In Chapter II the original Leontief setup is weakened so as to permit the existence of fixed capital. But still general joint production is disregarded. The value theory is discussed in the case of constant efficiency of fixed capital irrespective of the capital's age.

Chapter III analyses to what extent Marx's major claims and conclusions remain valid in economies with alternative techniques, fixed capital and joint production, i. e. in von Neumann economies. The non-equivalence of the two concepts of value defined in Chapter I is accompanied by the non-equivalence of the rates of surplus value and of surplus labor. This requires more restrictive assumptions for a version of the Fundamental Marxian Theorem which can be stated in terms of the rate of surplus of labor. This theorem then is in some sense the germ of further generalization of Marx's theory of value. The fundamental message of Chapter III therefore can be summarized as saying

that values have to be positive and, for their explanatory value to be granted, must be related to the evaluation of the surplus rate.

In Chapter IV the difficulties of obtaining a theory of value on the basis of value equations in a von Neumann economy are taken into consideration. The restrictiveness of the additional conditions of Chapter III is emphasized. Consequently the problem is discussed of how the possibility that the rate of surplus labor reflects the volume of surplus can be taken care of, even in cases where the value equation is not solvable and, therefore, the rate of surplus value cannot be evaluated. This leads to Morishima's reconstruction of Marx's theory of value in terms of inequalities à la von Neumann. A generalized Fundamental Marxian Theorem in this context is discussed under the heading of Marx/von Neumann's theory of value. One of the main results of the analysis is the non-linearity of the optimum value and the true value. The true value, although satisfying three conditions of a value posed by Morishima, is not basic for Marx/von Neumann's theory of value. The importance of the optimal value as opposed to the true value is stressed by the author. Chapter IV results in a resurrection of the fundamental duality, broken down in Chapter III, as a consequence of the generalized Fundamental Marxian Theorem. The Marx/von Neumann theory of value is shown to extend the traditional value theory in maintaining its specific qualitative aspects. This reveals the von Neumann equilibrium theory according to Fujimori as "a truly economically meaningful theory if based on the Fundamental Marxian Theorem".

Chapter V deals extensively with the problem of heterogeneous labor. While because of equal profit rates heterogeneous labor does not cause distributional trouble for capital goods it is the labor theory of value with the dichotomy of necessary and surplus labor which makes heterogeneous labor a major problem.

Fujimori points out the incompleteness of Marx's treatment in the reduction of skilled labor to unskilled labor. He then gives an extensive complete treatment of this problem due to Hilferding. Again the analysis is performed on different levels of generality starting with a Leontief economy. The theory of value and of surplus value is followed again by the presentation of a version of the Fundamental Marxian Theorem. At the end of the chapter Fujimori gives an account of critical comments of other economists concerning the reduction problem. He carefully discusses ideas and criticisms of Steedman, Bowles, Gintis, Krause and Hollander. As in the previous chapters it turns out that the transition from the Leontief to the von Neumann economy requires a generalization of the analysis by using inequalities rather than equalities when the productivity of labor is maximized. Once more the Fundamental Marxian Theorem persists and with it the qualitative essence of Marx's value theory. Fujimori emphasizes the importance of Marxian value theory for understanding the capitalist economy and concludes the chapter with the remarkable statement that "any way, no one exploits capitalists in the capitalist economy".

In the final Chapter VI an analysis of differential rent is presented. Land property not being a product of labor the problem arises how to measure its economic value. This problem led Marx to his theory of differential rent, the basic ideas of which are presented and clarified in this chapter. Again, the author starts his analysis in the framework of a Leontief economy where he discusses Marx's first form of differential rent. Consideration of unequal productivities then leads to the second form of rent. The fundamental problems with differential rent are thoroughly discussed. Fujimori concludes this chapter and the whole analysis by discussing the dependence of differential rent on the concept of value. He compares "marginal" with "rent-yielding techniques" and comes to the following conclusion: "The relationship between rent and profit concerns the redistribution of surplus value between capitalist and landowner classes and hence has nothing to do with the creation of surplus value."

Fujimori's book contains an extensive clear treatment of Marxian value theory from a contemporary point of view. Careful discussions of basic concepts linked with the respective historical roots and contemporary criticisms provide the reader with a good background and enable him to fully grasp the consequence of the formal analysis. The latter one is careful and rigorous. The short mathematical appendix provides the necessities of duality and Perron-Frobenius theory. The book is a valuable source for all those who want to learn about Marxian theory in a mathematical economist's approach.

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