Econometrica, Vol. 28, 2 (April 1960)

MATHEMATICAL PROOFS OF THE BREAKDOWN OF CAPITALISM

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THE OLD MARXIST thesis that Capitalism shall break down of its own accord is all too familiar. We know also that among the converging arguments used to support this thesis a prominent place is occupied by the theme of the inadequacy of the accumulation process in the capitalist system. Of late, some Marxists have endeavored to add to this particular argument the prestige of the mathematical demonstration. Apparently, the first attempt in this direction was made by Otto Bauer in 1936, while the last word on the matter seems to be Sweezy's improved version of Bauer's proof.[1] This improved version, however, also starts out with serious mathematical errors which completely invalidate the proof. The presence of these errors has been pointed out by Domar.[2] Yet, even Domar does not seem to have realized precisely where the errors lie. Moreover, in his reworked solution he uses a schema of accumulation entirely different from that assumed by Marxist analysis. We are thus still confronted with the problem of whether or not the Bauer-Sweezy conclusions rigorously follow from the Marxist assumptions about the functioning of the capitalist system.[3] This fact alone would suffice to justify the interest in some probing of that argument, even if the problem of capital accumulation were not in the center of the current preoccupations of theoretical economists and policy advisers as well.

Such probing must ascertain, before anything else, whether the mathematical model used by the argument under scrutiny constitutes a *correct* translation of the Marxist scheme of expanded reproduction. It does not

[1] Paul M. Sweezy, *The Theory of Capitalist Development*, New York: Oxford University Press, 1942, Appendix to Chapter X, pp. 186–189.

[2] Evsey D. Domar, "The Problem of Capital Accumulation," *American Economic Review*, XXXVIII (1948), pp. 792f.

[3] In his "A Reply to Critics" (reprinted in Paul M. Sweezy, *The Present as History*, New York: Monthly Review Press, 1953, pp. 352–362) Sweezy rightly points out that in Domar's amended scheme the problem of underconsumption—i.e., the very basis of the Bauer-Sweezy analysis—"simply disappears." In the same article, Sweezy, reflecting upon the mathematical Appendix, states that it was a failure because he attempted to deal with the consumption factor without using Marx's departmental scheme (*ibid.*, pp. 354, 360). Undoubtedly, an aggregative model fails to reflect some problems that only a general equilibrium scheme—be it reduced to two departments—can reveal. But, as I hope to prove, that is not the reason why the argument of the Appendix misses its target. In blaming the aggregative model for this, Sweezy implicitly takes the position that his theory of underconsumption is nevertheless substantially correct.