

A Marxian Analysis of Inter-Industry Linkages and the Time Structure of Production

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In this paper we analyze and model the flows of capital in an interlinked economy exhibiting complete simple reproduction. Drawing heavily on Marx's description of circulation in volume 2 of *Capital*, we graphically and symbolically model the transfer of value between money, productive, and commodity capital. In addition, we allow for the creation of surplus value through production. Combining this with Marx's discussion of simple reproduction and the MELT (Monetary Expression of Labor Time), our model illustrates a capitalist economy in a state of general equilibrium. As a powerful descriptive tool, this mathematical and Maple-coded model combines the insights of volumes 1 and 2 of *Capital* to enable a more complete understanding of Marxian theory. This model will be usable both as a descriptive and teaching tool, as well as potentially being used to analyze the equalization of profit rates, and the related transformation problem.

Information about the Author:

Jeff Schatz is a Junior Economics, Mathematics, and Philosophy major. He was drawn to this project out of interest in theoretical economics research and out of a hope to learn about heterodox theories of economics.

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