TOWARDS AN INTEGRATION OF THE LEONTIEF AND SRAFFA SYSTEMS

Topic:
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The production equations of the Sraffa system have an agrarian point input point output character. This paper presents a generalisation of the Sraffa system that is applicable to continuous input continuous output production processes. The resulting system turns out to be identical with Leontief's dynamic price model in the steady state. It is shown that all the important properties of the usual Sraffa system such as the impossibility of devising a physical measure for capital, possibility of reswitching to techniques, existence and uniqueness of the standard system, etc. are possessed by the Leontief dynamic price model as well. A further generalization has been made to include fixed capital to show how the problems of joint utilization, transferability of fixed capital between industries and changing efficiency of machines over their lifetimes can be tackled. Some empirical observations on the general relationship between the rate of profit, the on-cost markup rate and the rate of capital turnover have been presented. These form the basis for a new formulation of the dynamic price and output systems that can facilitate their empirical application. A notable feature of this formulation is that it automatically incorporates imperfectly competitive industries alongside the competitive ones.