

Marx's Reproduction Schema and the Multisectoral Foundations of the Domar Growth Model

Dr Andrew B. Trigg
Lecturer in Economics
Faculty of Social Sciences
The Open University
Walton Hall
Milton Keynes, U.K.
MK7 6AA

Tel: 01908 654421

Email: A.B.Trigg@open.ac.uk

For submission to Conference, Old and New Growth Theories: An Assessment, Pisa, October 5-7, 2001

Abstract

One of the most important contributions of Marx's economics has been the reproduction schema developed in *Capital*, Volume 2. These have been widely acclaimed as providing the forerunner to modern growth theory, and in particular to the Harrod-Domar growth model. Like Harrod and Domar, Marx demonstrates the (unlikely) conditions under which a capitalist economy can follow a balanced growth path.

Despite the similarities, however, the Harrod-Domar model is usually presented as a one-good framework, in contrast to Marx's multisectoral reproduction schema. Lianos (1979), for example, examines the relationship between Domar's version of the model and one department from Marx's schema. Similarly, Samuelson and Wolfson (1986) use an aggregate, implicitly one-good, production function to examine Marxian growth models. Moreover, in relation to the post Harrod-Domar growth literature, Geoffrey Hodgson has pointed out that 'Versions of aggregate production functions abound and are central to recent fashionable developments such as real business cycle theory and endogenous growth theory' (Hodgson, 1997, p. 104).

The contribution of this paper will be to derive Domar's model from microfoundations that are consistent with Marx's multisectoral schema. Two main steps are required for this derivation. First, following Trigg (2001) a role can be identified for the Keynesian multiplier in Marx's reproduction schema, thereby providing an interface with the Domar model. Under Marx's assumption in *Capital*, Volume 2, that prices are equivalent to values, the reproduction schema are

interpreted as a Leontief input-output framework from which a Keynesian multiplier relationship can be established.

Second, by applying the so-called 'new solution' or 'new interpretation' of the transformation problem (Foley, 1982), Marx's economic categories can be expressed in macroeconomic terms that are valid when prices diverge from values. Using the 'value of money' as a way of translating between money and labour categories, a multisectoral multiplier can be developed that is nested in the reproduction schema but can also be re-expressed in aggregate terms. This aggregation procedure allows a transition between the reproduction schema and the aggregate Domar model. In contrast to much of neoclassical growth theory, Marx's reproduction schema can be used to derive a model of economic growth that is derived from multisectoral foundations.

References

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