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Harrod's instability principle and trade cycles

Roy Forbes Harrod (1900–78) was educated in Oxford, where he spent most of his teaching life at Christ Church College. He was, however, familiar with Cambridge economics, having spent a term under the guidance of J.M. Keynes in 1922, and having maintained exchanges with Cambridge economists. His contributions, often first-rate and innovative, ranged through a wide variety of topics, the most important of which are economic dynamics, international economics, imperfect competition, and monetary theory and policy. He also wrote the first official biography of Keynes. (For a partial bibliography see Eltis *et al.* 1970; for a biographical sketch, see Phelps Brown 1980).

Economic dynamics

On the subject of economic dynamics, Harrod maintained that the right approach to the subject consists in studying, as a first stage, a cross-section of an economy in moving equilibrium. The subsequent stages would examine the behavior of the system through time (cycles, growth and secular behavior), and finally would provide policy suggestions. Harrod's notion of dynamics never gained acceptance among orthodox students of growth and cycles. His methodological remarks passed unnoticed, and his contribution was regarded as providing an equation describing (or prescribing) a path of economic growth, characterized by extreme instability along the lines of the competing notion of dynamics propounded by Frisch (1933; for comment see Besomi 1995, 1996). In the 1950s and 1960s, when growth theory

was one of the hottest topics, the debates on Harrod's "growth model" mainly concentrated on the instability principle. None of the participants in these debates, however, attempted to place this principle in the context to which – according to Harrod – it belongs, namely, trade cycle theory.

Although Harrod never claimed to have gone with sufficient precision beyond the first stage of dynamics, his first systematic contribution to the subject was a trade cycle theory (Harrod 1936). This was largely based on an epistemological premise Harrod developed in 1934 as a criticism of the traditional line of attack to the problem of economic fluctuations. Trade cycle theory was approached with the supply and demand equations determining the equilibrium quantities and prices. Under the assumption of perfect competition, this equilibrium is stable and any deviation would set in motion forces tending to bring the system back to it.

However, in such a framework, in order to be able to interpret economic fluctuations as deviations from an otherwise stable equilibrium state, it is necessary to imagine that oscillations are kept alive by the permanent alternate movement of exogenous causes such as successions of periods of optimism and pessimism. Against Pigou, Harrod argued that this kind of approach cannot provide a good theory, because it simply turns some exogenous force into a *deus ex machina* on which the burden of the explanation is shifted (Harrod 1934; a similar criticism was put forward by Adolf Lowe, although Harrod was probably not aware of it).

Instability principle

Harrod maintained, instead, that a correct

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approach to the cycle should consider at the outset some destabilizing element granting the possibility of movement away from equilibrium. Harrod's instability principle thus originates from the epistemological necessity of dissociating equilibrium from rest, and is a premise rather than a result of Harrod's approach. His first attempt to apply the principle attributed instability to imperfect competition (Harrod 1934), but soon after, in *The Trade Cycle* (Harrod 1936), he succeeded in providing an integrated theory based on a twofold application of the instability principle.

Harrod accepted the traditional conclusion of the stabilizing power of some of the determinants of the entrepreneur's decisions to produce a certain level of output (e.g. the diminishing utility of goods and the increasing disutility of effort). He suggested, however, that appropriate changes in the price level could offset the combined effect of the stabilizing forces. In this case, entrepreneurs would still make rational decisions and maximize their returns, but such equilibrium would no longer be tied to a state of permanent rest (Harrod 1936: ch. 1). The first application of the instability principle to the system of static determinants (i.e. the forces determining the level of output) thus aimed at making movement theoretically conceivable.

At this stage, the causes of motion and the mechanism inducing prices to behave in such an accommodating way were left unexplained. In analogy with statics, Harrod next inquired into the forces making for movement, namely, the distribution of income and the propensity to save, which determine the magnitude of the multiplying effect; and the capital intensity, determining the value of the accelerating effect. If these dynamic determinants balanced each other, continuous and regular growth would result from the interaction of the multiplier and the accelerator. However, nothing ensures that the dynamic forces balance each other. Growth itself rather tends to bring about changes which inevitably, sooner or later, upset equilibrium. The cycle consists in cumulative divergences from such a steady state, which Harrod thought to be unstable. A failure of income

to keep rising would depress expectations of consumption, thus inducing, according to the accelerator, a diminishing rate of investment, and consequently – according to the multiplier – bringing forth an even larger fall in the rate of increase of income. The analogy with statics is precise: the instability principle was applied a second time to make the cycle possible, as a deviation from the equilibrium of dynamic forces (Harrod 1936: ch. 2).

In his later writings on dynamics (in particular, "An Essay in Dynamic Theory" (1939) and *Towards a Dynamic Economics* (1948)), Harrod provided a simple formula for growth rates in terms of the interaction of the multiplier and the accelerator. However, he was more concerned with his notion of dynamics than with the trade cycle: although clearly outlined, his cycle theory occupied little space in the subsequent versions.

Conclusion

In spite of Harrod's stress that instability is a condition for the trade cycle (1948: 91–3, 115), commentators interpreted the instability principle as a result to be proved or disproved, rather than as a premise of his reasoning (for a survey of the literature, see Hahn and Matthews 1964). In the earlier years, only a few authors, such as J.R. Hicks (1950) and R.M. Goodwin (1951), took up the challenge and attempted trade cycle modeling which introduced endogenous instability. The interest of Harrod's approach thus lies in the fact that it included at the outset an epistemological reflection on the possibility of trade cycle theorizing, which is lacking in the mathematically more refined models proposed since the 1930s and still prevailing today. A careful study of his original considerations could thus have saved us from the recent complaints (see, for example, Shaw 1992: 611) that modern growth theory explained growth on the grounds of exogenous causes only, and the consequent search for "endogenous" determinants of growth.

See also:

balance of payments constraint; business cycle theories; economic growth; equilibrium, disequilibrium and non-equilibrium; Goodwin cycle and predator-prey models;

Endogenous Growth Theory," *Economic Journal* 102(May): 611-21.

DANIELE BESOMI

Selected references

- Besomi, D. (1995) "From *The Trade Cycle* to the 'Essay in Dynamic Theory': The Harrod-Keynes Correspondence, 1937-1938," *History of Political Economy* 27(2).
- (1996) "Harrod's Dynamics in 1938: An Additional Note on the Harrod-Keynes Correspondence," *History of Political Economy* 28(2).
- Eltis, W.A., Scott, M. and Wolfe, J.N. (1970) *Induction, Growth and Trade: Essays in Honour of Sir Roy Harrod*, Oxford: Clarendon Press.
- Frisch, R. (1933) "Propagation Problems and Impulse Problems in Dynamic Economics," in *Economic Essays in Honour of Gustav Cassel*, London: Allen & Unwin, 171-205.
- Goodwin, R.M. (1951) "The Nonlinear Accelerator and the Persistence of the Business Cycle," *Econometrica* 19(1): 1-17.
- Hahn, F.H., and Matthews, R.C.O. (1964) "The Theory of Economic Growth: A Survey," *Economic Journal* 74(December): 779-902.
- Harrod, R.F. (1934) "Doctrines of Imperfect Competition," *Quarterly Journal of Economics* 48, (May):442-70.
- (1936) *The Trade Cycle*, Oxford: Oxford University Press.
- (1939) "An Essay in Dynamic Theory," *Economic Journal* 49 (March): 14-33.
- (1948) *Towards a Dynamic Economics*, London: Macmillan.
- Hicks, J.R. (1950) *A Contribution to the Theory of the Trade Cycle*, Oxford: Clarendon Press.
- Phelps Brown, H. (1980) "Sir Roy Harrod: A Biographical Memoir," *Economic Journal* 90(March): 1-33.
- Shaw, G.K. (1992) "Policy Implications of