The Harrod Model of Growth and Some Early Reactions to It (2006)*

Roy Harrod himself saw his 1939 article, ‘An essay in dynamic theory’, and his 1948 book, *Towards a Dynamic Economics*, as putting forward a new, exciting way of seeing and doing economics. It would, he wrote, make ‘the old static formulation of problems [seem] stale, flat and unprofitable’ (Harrod, 1939, p. 15). His primary purpose was to set out some fundamental relationships between rates of change of levels of key variables at a moment of time (instead of, as in static analysis, relationships between levels). He abstracted from lags between variables in key relationships – they could come in later – and from all but the necessary attention to the impact of certain expectations on economic behaviour and decision making. This led him to distinguish between four concepts of the rate of growth of economies: expected ($g_e$), actual ($g$), warranted ($g_w$) and natural ($g_n$). The first two are self-explanatory; the last two are very much his innovations. $g_w$ is rather inelegantly defined by Harrod (1939, p. 16) as ‘that rate of growth which, if it occurs, will leave all parties satisfied that they have produced neither more nor less than the right amount’. This would lead decision makers to repeat the rates of growth they had first planned and then subsequently achieved. The natural rate of growth ($g_n$) reflected the supply-side characteristics of the economy; it was determined by the rate of growth of the labour force and the rate at which through technical advances the labour force improved its productivity over time. Harrod supposed $g_n$ to be

independent of $g_v$, $g$ and $g_w$, on reflection, an unacceptable simplification once the embodiment of technical advances in the stock of capital goods by investment and the accompanying impact on productivity of the labour force are recognised.

Two questions then arose. First, if the economy does not immediately grow at $g_w$ as an aggregate outcome of the activities of individual business people, could the signals given out by the economy, in particular, the implications of the revealed discrepancies between what was initially expected and what was actually achieved, be such as to induce the decision makers to take such actions as to move $g_v$ and $g$ towards $g_w$? That is to say, is $g_w$ a stable or an unstable rate of growth? Second, even if $g_w$ were to be achieved, would it also necessarily coincide with $g_n$, so that both full employment of labour and normal capacity working of the stock of capital goods would be achieved?

In outline, this is how Harrod and his interpreters posed the questions. With hindsight we may see that his contributions fit into two major strands of the preceding literature. The first relates to Karl Marx’s schemes of reproduction, Marx (1885 [1978]), a link of which Harrod candidly admitted (to Joan Robinson who pointed it out to him) he was not aware when he wrote his two classics. Marx asked in effect what conditions must be fulfilled as between the three departments of the economy – wage, capital and luxury goods – in his two schema, simple and expanded reproduction, respectively, in order that, as we would say now, both aggregate demand and aggregate supply, and their respective compositions, would match? That is to say, each department could in effect take in its own washing and the appropriate portions of the other departments’ washing as well (see Sardoni, 1981). Having established the very special conditions implied, Marx conjectured that it would be a fluke if individual business people operating in a competitive environment and pursuing their own goals brought these conditions into being. He argued that if they did not, then instability and even crises would result. Harrod’s contribution was to provide a precise set of answers to such fundamental questions concerning the laws of motion of capitalism.

The second strand to which he contributed is, of course, the Keynesian revolution. Keynes (1936) had analysed the employment-creating effects of accumulation and argued that it was unlikely that, left to itself, a capitalist economy would even on average bring about a level of accumulation that would offset leakages into full employment saving. He had little systematically to say about the capacity-creating effects of current investment expenditure, especially if it were to be acted upon so as to