

Growth, cycles and instability in a Kaldorian framework

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Abstract

In his 1954 article dealing with the relation between economic growth and cyclical fluctuations, Kaldor complained about the conventional dichotomy between those phenomena; he however pointed out that the dichotomous view was not shared by “at least one distinguished author” – Joseph Schumpeter – [who] put forward a trade-cycle theory which makes the cycle itself simply a by-product of economic progress-booms and depressions being ‘the form which progress takes in a capitalist society’” (Kaldor, 1954, p.214). If, in his article, Kaldor referred to Schumpeter as an “exception”, it is necessary to recall that this is not the only exception. Another example of a cyclical growth theory has, in fact, been provided by ... Kaldor himself. We might notice that Kaldor did not even refer explicitly to a process of cyclical growth in his last writings. However, all the ingredients for building such a process were present in Kaldor’s approach if we consider it in retrospect. First, at the end of the fifties, Kaldor denies the logical possibility of distinguishing between the choice of techniques (within a production function) and technical progress (i.e. a shift of the production function). Kaldor considers that every kind of investment always incorporates technical progress and, even more, that investment is the main way to technical progress. Consequently, the rate of growth of labour productivity is not exogenous but increases in step with the capital/labor ratio. Second, following the tradition of Adam Smith and Allan Young, Kaldor reformulated the Verdoorn Law in a specific way to deal with dynamic increasing returns to scale.

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The absence of an explicit model in Kaldor's contributions permits the formulation of various modern interpretations of the Kaldorian message. It is not, therefore, surprising to find that two main different interpretations have emerged and coexist. The first consists in integrating some elements of Kaldor's theory into consistent models – outside endogenous growth theory –, whose objective is more to emphasise its originality than to investigate its compatibility with standard modern theory. The second approach takes the opposite view, that it focuses on those elements in Kaldor's theory that might help to advance mainstream dynamic analysis. In this paper, we will concentrate on this second approach, in order to show how the incorporation of Kaldor's ideas in an endogenous growth model might affect the usual analytical results.

In the first part of the paper, we discuss the elements of the Kaldorian approach that we will use in the model proposed in the second part.

- First, we discard with the optimisation of a social utility function. Instead the inter-temporal programme will be described here in terms of the maximisation of the net present value related to the investment decisions of a representative firm.

- Second, we replace the usual neo-classical production function with perfect factor substitutability with a production function in which production factors are complementary. Kaldor's criticism of the neo-classical principle of factor substitution, referring to the **creative** rather than to the **allocative** function of economic activity, is well known.

This analytical choice explains why we shall favour an AK type of endogenous growth model. In this context, it might be noted that our approach also has a "classical" flavour (Kurz, 1998).

- The learning mechanism we will retain also differs from standard endogenous growth models as will be explained in more detail. The main difference refers to the relation between capital accumulation and technical progress. Following Kaldor's as well as Schumpeter's views and in clear contrast to the Neo-Schumpeterian approach, we will assume that learning is closely related to firms' investment activities. In our view, in the absence of capital accumulation there is neither learning nor knowledge accumulation or technical change. This view is obviously strongly Kaldorian and derives from Smith's and Allyn Young's famous argument. (cf. Kaldor 1972/1989, p.381). The origin of technological change is not, therefore, related to an exogenous probability law governing the arrival rates of innovations (Aghion and Howitt, 1998). Technological change is here to a large extent a by-product of production and capital accumulation processes.

- Finally, in accordance with Kaldor's view, in our approach steady states are only benchmarks and the transition to a steady state is **highly** critical: Steady states can be **unstable** and **endogenous** growth cycles can appear. These results which we discuss in the last part of this contribution are indirectly related to Kaldor's distinction between "axiomatic" theories and those based on "stylised facts" (Kaldor, 1972/1989). Our approach is not based on axiomatic micro-foundations derived from the standard rationality assumptions but on "stylised micro-foundations related to the identification of "ideal-typical" entrepreneurial investment behaviour.

In the second part of the paper, we develop a model of endogenous cyclical growth models of the AK type based on the Kaldorian ideas we just discussed. Accordingly, our objective is to explore a Neo-Kaldorian approach to cyclical growth based on microeconomic foundations. Normally, models in this tradition favour a purely macroeconomic treatment of technical change and of the effect of learning. References to behaviour of individuals or groups only provide an implicit foundation for the representation of the economy at the aggregate level. Second, this type of cyclical growth model is usually entirely expressed in real terms. However, it is well known that financial factors play a central role in the process of diffusion and development of new technology. The framework developed in this paper attempts to address these issues. First, the modelling of investment decisions and of their financing is achieved by introducing internal and external adjustment costs. Second, the treatment of technical change through learning mechanisms is examined. Knowledge evolves in an endogenous way according to a global learning mechanism founded both on the Kaldorian tradition and on the more recent qualitative and empirical works devoted to the relation between learning mechanisms and investment within the endogenous growth framework. We demonstrate that the shape of the learning curve plays a crucial role, by showing that the long-term dynamics of the economy is not, in the general case, independent of the short-term paths it follows. Finally, the introduction of Kaldor's ideas in a modified AK type of model, shows that steady states are only benchmarks and that the prevailing situation is that of economic instability, indeterminacy or cyclical growth.

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