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Endogenous money, increasing returns and economic growth: Nicholas Kaldor's contribution

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ABSTRACT

Nicholas Kaldor's contribution to economic theory covers a wide range of topics, elaborated in different historical contexts, such as theories of economic growth and the balance of payments, studies on interregional divergences and monetary theory. In most cases, historians of economic thought have devoted their attention to single aspects of his contributions. This paper aims at integrating Kaldor's monetary theory and his view of the relevance of increasing returns. It will be shown that, in Kaldor's view, economic growth is driven by increasing effective demand which, in turn, positively affects the path of labour productivity, and that this mechanism is fully in operation on the condition that the banking sector does not restrict credit supply.

1. Introduction

Nicholas Kaldor's contribution to economic theory covers a wide range of topics, elaborated in different historical contexts, such as theories of economic growth and the balance of payments, studies on interregional divergences and monetary theory. Relatively little attention has been devoted to his contribution, and, in most cases, historians of economic thought have dealt with single aspects of his thinking.[1] This paper suggests that Kaldor's monetary theory and his belief that economic growth is driven by increasing returns can be integrated in a unified theory of capital reproduction. This theory is based on the following features: *i)* the banking sector can create credit-money *ex-nihilo*, i.e. without a previous collection of savings; *ii)* credit creation on the part of the banking sector allows firms to advance money wages and to invest, and the dynamics of effective demand affect labour productivity, via the operation of increasing returns. Accordingly, the rate of economic growth basically depends on the path of effective demand, mainly via the 'supply-side' effects deriving from its expansion. Importantly, the path of effective demand itself depends on the operation of the credit market.

As regards the first aspect, Kaldor's approach, as will be shown below, is very similar to the contemporary theory of the monetary circuit – also labelled monetary theory of production (hereafter MTP). Surprisingly, while contemporary circuit scholars consider Marx, Wicksell, Schumpeter and Keynes their "antecedents", they rarely mention Kaldor, who provided a more organic and consistent treatment of the endogenous money theory than the authors quoted above – Keynes included. Two reasons appear to be sufficient to explain why Kaldor's contribution to the endogenous money theory was more organic and internally consistent than that of Keynes.[2] First, Kaldor wrote on monetary issues in the period

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[1] For instance, in his influential book on the history of post-Keynesian economics, Harcourt (2006) deals with Kaldor's macroeconomics in relatively few pages, with particular reference to his theory of income distribution and economic growth and with relatively little attention to his monetary theory. Harcourt (2006, p. 6) observes that Kaldor's theory of distribution is "a good reference point [for the reconstruction of the post-Keynesian theory] because it has idiosyncratic features, not least that in a long-period, full-employment model, seemingly a most strange work to come from the pen of such an eminent Keynesian economist as Kaldor. This even led Paul Samuelson to dub him 'Jean Baptiste Kaldor'". A comprehensive, detailed reconstruction of Kaldor's work has been provided by Targetti (1992).

[2] On the conceptual problems deriving from inserting Keynes's monetary theory in the logic of the MTP, see, among others, Seccareccia (2004) and Forges Davanzati et al. (2015).

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when Monetarism tended to become the dominant paradigm in economics, and – from the standpoint of the post-Keynesian approach – he put considerable effort into opposing it[3]; second, he benefited from Keynes's reflections on the nature of money and its functions, as stated, in particular, in his *Treatise on money*.

The aim of this paper is twofold. First, it focuses on his monetary theory in order to find its affinities and divergences with that proposed by the contemporary MTP. Second, it aims at enriching the basic schema of the MTP by integrating Kaldor's theory of endogenous money with his theory of economic growth. This exercise will show that:

a) The basic assumption of the MTP that the production process starts with credit creation on the part of the banking sector holds only in a very specific condition where public intervention is absent and where the monetary circuit develops in static terms. Moreover, it is to be stressed that the basic model of the MTP produces the same results independently of firms' technology.

b) Kaldor's contribution cannot be confined to a theoretical development of the Keynesian theory, and many aspects of his work can be interpreted as radically different from Keynes's theory (in particular, from Keynes's *General Theory*). In particular, as will be shown, Kaldor shows that variations of effective demand produce their most important effects on the supply-side, and that the formation of an effective demand function is not independent from the functioning of the credit market.[4] In this sense, Targetti's (1992) interpretation that Kaldor's contribution falls within the sphere of "radical Keynesism" is convincing.[5]

The exposition is organized as follows. Section 2 deals with Kaldor's monetary theory and its affinities and divergences with the contemporary MTP. Section 3 gives a brief account of the historical development of the analysis of returns to scale, while Sections 4 and 5 focus on Kaldor's theory of increasing returns. The reconstruction provided here is based on the comparison between Kaldor's approach and that of other authors he took into consideration (with particular regard to Allyn A. Young's contributions). Section 6 sums up the main conclusions of our investigation.

2. Kaldor on endogenous money and the monetary theory of production

Kaldor's theory of enogenous money presents some links with the monetary theory of production (hereafter MTP) as well as some important differences.[6] The MTP describes the functioning of a sequential economy which involves three macro-agents: banks, firms and workers. The banking sector creates money *ex nihilo*, in accordance with the idea that loans make deposits; firms advance the money wage bill and produce commodities; workers supply labour power. The circular process of the monetary economy starts with bargaining in the money market between banks and firms. Banks supply firms with initial finance; firms need money in order to pay workers and to start production. For a given bargained money wage, they advance the money wage bill. After the production process has taken place the price level is determined so real wages are known ex-post. Income distribution among banks, firms and workers does not reflect the marginalist rules, depending on the relative market power and socio-political clout of the agents. The monetary circuit closes with the repayment of the initial finance to banks – the so-called "destruction of money" (see Graziani, 1990, 2003). Since firms can only recoup the total amount of the initial finance (in the best case of unitary propensity to consume on the part of workers), there is the problem of how they can make sufficient revenue not only to pay interest, but also to make a profit. The failure to attain a monetary surplus can be seen as a theoretical problem if one rejects the conviction – supported, among others, by Graziani (2003) – that a "normal" level of indebtedness by firms towards the banking system is a key feature of contemporary capitalist economies, or that firms reimburse their debt in kind, since profits are obtained in real terms. In this context, state intervention, mainly through fiscal policy, is required in order to increase effective demand and employment, both in the short and in the long run (see Graziani, 1990, 2003; Parguez, 2004; Poulon, 1982; Deleplace and Nell, 1996) and, importantly, expansionary fiscal policies are conceived as a fundamental device allowing capitalist monetary reproduction (and hence positive money profits for firms as a whole). This occurs both because public expenditure is an 'external' injection of liquidity which increases firms' money revenues and because fiscal policies act as an "anchor" for profits insofar as they modify entrepreneurs' expectations (cf. Parguez, 2004).

Kaldor's monetary theory is similar to that of the MTP on two grounds.

1) In opposition to the Monetarist view that money supply is exogenous, Kaldor stressed that the banking sector is not technically constrained in the creation of credit money (so that money supply is endogenous), and that the banking sector cannot manage money supply, being merely able to manipulate the interest rate. He emphasised that

> "A given stance of monetary policy is best expressed by a chosen interest rate, and not by a chosen quantity of credit money in existence; and, whether the elasticity of the demand for money be large or small, the elasticity of supply of money given the chosen interest rate, is infinite" (Kaldor, 1989 [1981], p.109) and "the elasticity of supply of money, given the chosen interest rate, is infinite" (Kaldor, 1989 [1981], p.109).

And even more clearly,

> "Credit money has no 'supply function' in the production sense (since its costs of production are insignificant if not actually zero); it comes into existence as a result of bank lending and is extinguished through the repayment of bank loans. At any one time the volume of bank lending or its rate of expansion is limited only by the availability of credit-worthy borrowers" (Kaldor, 1989, p.179).

Kaldor (1989, p.109, italics added) also clarifies that credit supply is demand-driven:

> "If a business decides to spend more whether on building up its stock of raw materials or components, or hiring more labour, or paying higher wages to its existing employees . . . there will be an *automatic* increase in the money supply for the simple reason that the additional expenditure will swell the bank deposits of the recipients"

Moreover, as Kaldor (1996, pp. 32–33) wrote in his second Mattioli lecture: "What [Keynes] denied was that there is a necessary equivalence between the costs incurred in production and the demand generated by the costs incurred. [. . .] the receipt

[3] This is not to say that Kaldor elaborated his theory of endogenous money in the 1970s. Musella and Panico (eds., 1995, pp.37 ff.) convincingly show that this theory was also present in his early writings.

[4] The idea that the operation of the credit market affects the dynamics of aggregate demand and of productivity (via variations of capital turnover) is also to be found in so-called old Institutionalism – in Thorstein Veblen above all (cf. Forges Davanzati and Pacella, 2014).

[5] Targetti and Thirwall (1989, pp.1–2) point out that "Kaldor identifies four major limitations of the aggregate Keynesian model: first, the competitive assumptions on which the model is based; secondly, the assumption of a closed economy; thirdly, the static nature of the model; and fourthly, the treatment of money as exogenously determined".

[6] A detailed reconstruction of Kaldor's changing ideas on monetary issues has been provided by Rochon (2000).