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ScienceDirect

EconomiA xxx (2016) xxx–xxx

EconomiA

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An alternative model to the open-economy "new consensus" for the analysis of inflation targeting

Ricardo Summa *

Professor Adjunto, Instituto de Economia, Federal University of Rio de Janeiro, Av. Pasteur, n° 250, Urca, CEP: 22290-902, Rio de Janeiro, RJ, Brazil

Received 25 November 2015; received in revised form 19 May 2016; accepted 9 September 2016

Abstract

In this paper we will discuss a demand-led growth model which is constrained by economic policy. In this way, we will incorporate an inflation targeting regime in the sraffian supermultiplier model in order to analyze how economic policy can influence the growth rate of productive capacity. We will analyze an open-economy were inflation is a cost-push phenomenon and the monetary authority can manage the nominal exchange rate through changes in interest rate differentials. As functional income distribution will depend on the evolution of nominal wages, exchange rate and interest rate, we will show that inflation target system, in addition of not being neutral in terms of long run growth, also can lead to different outcomes in terms of functional income distribution.

Keywords: Demand-led growth; Functional income distribution; Inflation target

1. Introduction

The new consensus or the "three equation" model was fully analyzed by Carlin and Soskice (2010), Romer (2000), Taylor (1997,2000) and now is becoming popular even in the undergraduate textbooks (Mankiw, 2010). The New Consensus model with inflation targeting is based on the following theoretical structure: (i) the effective output depends on the real interest rate (stimulating investment spending), (ii) the existence of an accelerationist Phillips curve and (iii) a Taylor rule, relating the Monetary Authority response via nominal interest rate to deviations of inflation from its target and output from its potential. The potential output is determined by the stocks of factors of production – capital and labor – and their productivity, according to the neoclassical theory of value and distribution.

In an open-economy context, the new consensus model postulates that the Real Interest Rate Parity holds (Romer, 2006). It is implicit on this assumption that that the Uncovered Interest Rate Parity holds in the short run and that the individuals operating in the exchange rate market have Rational Expectations and believe that the Purchasing Power Parity holds in the long run (Lavoie, 2000).

* Tel.: +55 21 3938 5237.
E-mail address: ricardo.summa@ie.ufrj.br
Peer review under responsibility of National Association of Postgraduate Centers in Economics, ANPEC.

http://dx.doi.org/10.1016/j.econ.2016.09.007

The main results of this model are well known. The long-run core inflation is related with demand shocks and does not depend on the exchange rate (open-economy long run neutrality); the inflation control mechanism involves the impact of the real interest rate on aggregate demand, targeting a null output gap. There is no trade-off between inflation and productive capacity, since the latter is independent of the effective output[1]; and inflation target can always be achieved, because the Monetary Authority can always set the real interest rate in line with the natural rate of interest.[2]

There are, however, a considerable number of works that evaluate critically the new consensus model in a closed-economy context. They show that by changing some of the hypotheses of this model (such as the accelerationist Phillps Curve), different results can emerge regarding output, productive capacity and inflation dynamics (Setterfield, 2004; Lavoie and Kriesler, 2007; Lavoie, 2006; Atesoglu and Smithin, 2006; Serrano, 2006; Aspromourgos, 2007; Setterfield, 2015). For open economy, we have few examples of alternative models, such as Cordero (2008) and Vera (2014).

In this paper we present a heterodox open-economy macroeconomic model that seeks to establish an alternative view to the "New Consensus" model and analyze the determinants of long-run inflation, the transmission channels of monetary policy, the costs of such policy and its limitations. The structure of the model intends to be simple, in order to be comparable to the new consensus model. We will analyze an open-economy were inflation is a cost-push phenomenon and the monetary authority can manage the nominal exchange rate through changes in interest rate differentials. In this model we will incorporate an explicit inflation target regime in the sraffian supermultiplier model[3] in order to analyze how economic policy can influence the growth rate of productive capacity and the Functional income distribution.

The structure of the paper is as follows. In the next section, the alternative model to the open-economy new consensus will be presented. In section 3, we will present the model closure and the analytical solution. In the fourth section, we sill present some numerical simulations. Concluding remarks will be made on the last section.

2. An alternative model to the open-economy "new consensus"

The alternative model presented here follows the same simplified scheme of the New Consensus model, but alters significantly some theoretical assumptions: (i) First, the potential output or productive capacity of the economy follows the long-run expected effective demand; we use the Sraffian supermultiplier to model the demand led growth of productive capacity. (ii) The output growth rate depends on the real interest rate (through the effect on autonomous spending) and the real exchange rate (through the effect on exports). (iii) The Phillips curve is non accelerationist (partial inertia hypothesis) and depends on the role of nominal exchange rate, on imported inflation and on the degree of distributive conflict, (iv) the nominal exchange rate depends on the interest rate differential and is subject to speculation, and (v) the Monetary Authority seeks to achieve a pre-defined inflation target, through changes in nominal interest rate.

2.1. The Sraffian Supermultiplier and of the growth rate of the autonomous components of effective demand

The first assumption of our model is that the potential output or productive capacity of the economy (Y^*) follows the long-run expected effective demand. We use the Sraffian supermultiplier (Serrano, 1995) to model the demand-led growth of productive capacity.

Following the tradition of Classical Political Economy, or the Surplus Approach, the potential output will be constrained by the scarcest factor, given the technical coefficients (Garegnani, 1962, 1990, 1992). Assuming that in a capitalist economy in general we have no labor scarcity, the productive capacity of this economy will be determined by the size of the capital stock and the technical capital-outpur ratio. This means that the potential output can be

[1] In fact, although not explicit, "new consensus" economists believe that there is a negative relationship between high inflation rates and productive capacity, in the sense that high inflation can create some inefficiencies, lowering the growth rates of potential output (See Taylor (1997) and Goodfriend (2004). Lavoie (2006) call this relationship "the hidden equation".

[2] Except when the MA reach the zero bound on interest rate policy (Goodfriend, 2004).

[3] See Serrano (1995), Cesaratto et al. (2003). Lavoie (2014) and Allain (2015), Freitas and Serrano (2015), Serrano and Freitas (2015) and Pariboni (2015).

Please cite this article in press as: Summa, R., An alternative model to the open-economy "new consensus" for the analysis of inflation targeting. EconomiA (2016), http://dx.doi.org/10.1016/j.econ.2016.09.007