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The role of the Taylor principle in the neo-Kaleckian model when applied to an endogenous market structure

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ABSTRACT

This study examines the effect of using the neo-Kaleckian model to target inflation. Here, we assume the following: a model with monopolistic competition, a symmetric economy, the inflation conflict theory and the target profit share of firms depends on the number of firms and free entry. Using the neo-Kaleckian model, we find the Taylor principle destabilizes the system, which means that an inelastic nominal interest monetary policy is a plausible way to ensure stability. In addition, we find that the Taylor principle is not compatible with the standard neo-Kaleckian results, including the effects of independent demand and income distribution in favour of workers.

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1. Introduction

This study investigates the relationship between a monetary policy that targets inflation and the stability of an economy, as well as the effects of various economic policies on the long-run growth rate of an economy. Here, we use the inflation-conflict theory with free entry, and find that the Taylor principle plays an important role in both the stability condition and various economic policies that aim to increase the growth rate of an economy.

As is well known, the neo-Kaleckian model assumes imperfect competition and treats capacity utilization and growth rate as endogenous variables (Dutt, 1984; Taylor, 1985).[1] The neo-Kaleckian model offers a number of benefits, including a wage-led growth regime and stagnationism, which contrast with the results of neoclassical economics. As a result, the neo-Kaleckian model has definite and strong political economy implications in that it provides a theoretical foundation for obtaining a higher growth rate by shifting the income distribution in favour of workers.

Furthermore, while many studies discuss the factors that affect the overall stability condition, the neo-Kaleckian models are based on the Keynesian stability condition. For example, Bhaduri (2008) and Dutt (1992) discuss the effect of profit squeeze caused by an imperfect labour market, and show the unstable case under a wage-led growth regime. Hein (2006) shows the financialization effect, and finds that the stability condition depends on the effect of the real interest rate on firms' investment and renters' consumption. Rowthorn (1977) and Cassetti (2003) construct models of the inflation conflict theory in which the markup ratio depends on the target markup ratios set by firms and labour. Both studies show that the stability condition depends on numerous parameters. Other studies show that

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[1] A constant degree of monopoly is a common assumption in the neo-Kaleckian model. In addition, following Kalecki (1971), we determine the markup ratio using the degree of industrial concentration and the relative bargaining power of firms and workers.

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path dependence causes instability through changes in the endogenous normal profit rate, normal capacity utilization rate (Lavoie, 1995), and animal spirits (Dutt, 1997). In Lavoie (2010), the markup ratio is endogenous, and is determined by both the goods market effect and the labour market effect.[2] Lavoie (2010) confirms that the stability condition depends on the aforementioned effects, but also depends on the combination of the Keynesian stability condition and the regime (i.e. stagnation regime or exhilaration regime). In addition, Ohno (2013) discusses the effect of free entry in the neo-Kaleckian model to incorporate an endogenous market structure, and finds that a wage-led growth regime (WG) is unstable, while a profit-led growth regime (PG) is stable with the Horizontalist view.[3] As shown above, many works discuss the unstable neo-Kaleckian model.

Various monetary policies, including inflation-targeting as a monetary policy[4] are discussed in terms of the neo-Kaleckian model.[5,6] As Dumenil and Levy (1999) point out, the monetary policy may be important to stability. Hein and Stockhammer (2011) show that the stabilizing effect of the inflation-targeting monetary policy depends on how the redistribution between firms and renters affects capacity utilization in the short term. However, Hein (2006) also shows the economy is unstable in the long term when the markup ratio depends on the interest rate. Therefore, an inflation-targeting monetary policy does not always have a stabilizing effect in the neo-Kaleckian model.

In this study, we examine the potential stabilizing role of targeting inflation in the neo-Kaleckian model, with free entry (Ohno, 2013). Here, the model has the same relationship between the real interest rate and profit share as in Hein and Stockhammer (2011).[7,8] Based on Ohno (2013) and an inflation-targeting policy, we assume that the target profit share set by firms is a function of the number of firms, and the nominal interest rate is a function of the inflation rate. Using this model, we find that the Taylor principle has a destabilizing effect on the stability condition.[9] Therefore, both the WG and part of the PG are unstable when the Taylor principle is satisfied. On the other hand, the PG and part of the WG are stable when the Taylor principle is not satisfied. Therefore, a nominal interest rate that is less sensitive to the inflation rate is a plausible way to widen the stable area.

Then, we obtained the following results in addition to those already described. An shift that increases the income distribution in favour of workers causes an increase (a decrease) in the growth rate under the PG and when the sensitivity of the nominal interest rate to the inflation rate is larger (smaller) than 1. On the other hand, the growth rate increases under the WG and when the sensitivity of the nominal interest rate to the inflation rate is smaller than 1. Then, an increase in independent demand causes an increase (a decrease) in the growth rate when the sensitivity of the nominal interest rate to the inflation rate is smaller (larger) than 1. The standard neo-Kaleckian model requires a shift in the income distribution in favour of workers (firms) and an increase in independent demand for a higher growth rate under the WG (PG). However, in this study, we show that these results need the sensitivity of the nominal interest rate to the inflation rate to be smaller than 1. In other words, the Taylor principle is not satisfied. Thus, we must pay close attention to the relationship between free entry and the monetary policy in the neo-Kaleckian model.

The remainder of this paper is organized as follows. Section 2 presents a neo-Kaleckian model with free entry, using the inflation-conflict theory. Section 3 discusses the long-run stability condition, and Section 4 discusses the economic policies that are able to achieve a higher growth rate. Then, Section 5 concludes the paper.

2. The model

For our neo-Kaleckian model with free entry in the long run, we make the following assumptions. We assume a monopolistically competitive economy with a continuum of firms from 0 to m. Each firm produces differentiated products that can be consumed and invested. Since each

[2] Many studies consider how changes in the markup ratio affect the growth rate and capacity utilization of firms. For example, Dutt (1984) shows how the growth rate has a positive effect on the markup ratio, while Flaschel and Skott (2006) allow the markup ratio to depend on the capacity utilization rate.

[3] The model is stable under both the stagnation regime and PG in Ohno (2013), although the Lavoie (2010) model is unstable when excess demand leads to a decrease in the markup ratio.

[4] Many countries, including the United Kingdom, adopt this policy, for which a theoretical foundation is provided by the New Consensus Model (see Taylor, 2000; Woodford, 2001; Gali, 2008).

[5] The Horizontalist view assumes that the interest rate is an exogenous variable for the assimilation process, whereas the quantities of credit and money are determined endogenously by economic activity (Moore, 1988). According to this view, the central bank controls the base interest rate. Commercial banks set the market interest rate by marking up the base rate, and then supply the credit demand of consumers and investors they consider creditworthy at this interest rate. The central bank accommodates the commercial banks by providing them with the necessary cash. On the other hand, the Structuralist view assumes the interest rate depends on economic activity. Here, a greater amount of economic activity means a higher interest rate. In addition, Smithin (2004) suggests that the real interest rate should be set to zero, or as close to zero as possible. Lavoie (2006) and Seccareccia (1998) are in favour of setting the real interest rate equal to the productivity growth rate.

[6] Some post-Keynesian works show the inflation-targeting monetary policy has a stabilizing effect when the Taylor principle is satisfied (Setterfield, 2006; Isaac, 2009; Proano et al., 2011).

[7] The relationship between the markup ratio and the interest rate in Hein (2006) is the same as in Ohno (2013), who considers free entry. Therefore, one of the motivations for this study is to discuss an alternative monetary policy to promote stability, in line with Hein (2006).

[8] Ohno (2013) finds that WG is conditionally stable, assuming a Structuralist view.

[9] According to the New Consensus Model, the Taylor principle assures the determinacy of a system. The Taylor principle proposes that the central bank stabilizes the macroeconomic system by adjusting its interest rate by more than one-for-one with the inflation rate. The reasoning is as follows. Excess demand leads to an increase in the inflation rate, and this leads to an increase in the real interest rate. An increase in the real interest rate decreases the effective demand in the goods market. Therefore, the model is stable.

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