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The timeless perspective vs. discretion: Theory and monetary policy implications for an open economy

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A B S T R A C T

Compared to the standard Phillips curve, an open-economy version that features a real exchange rate channel leads to a markedly different target rule in a New Keynesian optimizing framework. Under optimal policy from a timeless perspective (TP) the target rule involves additional history dependence in the form of lagged inflation. The target rule also depends on more parameters, notably the discount factor as well as two IS and two Phillips curve parameters. Stabilization policy in this open economy model is no longer isomorphic to policy in a closed economy. Because of the additional history dependence in an open economy target rule, price level targeting is no longer consistent with optimal policy. The gains from commitment are smaller in economies where the real exchange rate channel exerts a direct effect on inflation in the Phillips curve.

1. Introduction

For some time now central banks and academics have been preoccupied with the way monetary policy ought to be conducted in an era of relative price stability. Woodford (1999a) proposes that the course of monetary policy in a forward-looking New Keynesian framework be set from a timeless perspective (commitment). This form of policy has a number of desirable features. To begin with, policy from a timeless perspective introduces history dependence into the conduct of monetary policy because it is based on an optimal policy rule that depends on the *change* in the output gap. The policy instrument responds to a cost-push shock in the current and subsequent periods until the target

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variables return to their original targets. The gradual adjustment process gives rise to persistence in the behavior of the output gap and the rate of inflation. Because the conduct of policy is history-dependent under policy from a timeless perspective, this strategy dominates pure discretion under which the response of the target variables to the cost-push shock is confined to the current period. Moreover, since policy from a timeless perspective is a time-consistent form of optimal policy under commitment it serves as a standard of comparison for forms of discretionary policy that also inject an element of history dependence into policymaking such as price level targeting, a speed limit policy, nominal income growth targeting, average inflation targeting or money growth targeting. Jensen (2002), Néssen and Vestin (2005), Soederstroem (2005), Vestin (2006), and Walsh (2003) evaluate the aforementioned discretionary strategies in a closed economy setting and verify to what extent these policies achieve the optimal stabilization results under policy from a timeless perspective.

This paper focuses on two key differences between policy in an open and a closed economy. First, it analyzes optimal monetary policy from a timeless perspective in a simple forward-looking framework to show that the open-economy target rule is far more complex than its closed-economy counterpart. Optimal stabilization policy in this open economy model is no longer isomorphic to policy in a closed economy. Second, the paper examines the connection between optimal policy and price level targeting and finds that the latter is not synonymous with the former in the proposed open economy model. Central to our discussion of policy in an open economy is a Phillips curve that features a real exchange rate channel. This exchange rate channel appears in the aggregate Phillips curve because domestic firms are concerned about their competitiveness at home and in world markets where their products compete with those produced by foreign firms. Briefly, an important objective of the typical cost-minimizing domestic firm is to avoid fluctuations in its firm-specific terms of trade. Hence an incipient rise in the foreign price of the competing foreign good or a rise in the nominal exchange rate leads the typical domestic firm to raise the price of its output. Thus external factors induce a firm to alter the price of output, which it sets in domestic currency.

Earlier contributions that examine the implications of the existence of an exchange rate channel for the conduct of monetary policy are Ball (1999), Walsh (1999), Svensson (2000), and Guender (2006). Ball motivates the real exchange rate channel in the Phillips curve in a backward-looking framework by assuming that foreign producers are concerned only about receipts in their home currency. Any change in the nominal exchange rate is offset by adjusting the nominal price of the good in the foreign country. Positing a linear target rule, Ball finds that optimal policy requires a central bank to follow a monetary conditions index rather than a Taylor-type rule. Walsh (1999) derives an open-economy Phillips curve in a forward-looking model where the nominal wage demands are tied to the CPI. In a model that mixes elements of backward- and forward-looking behavior, Svensson (2000) introduces a Phillips curve where the expectation, formed in the past, of the change in the real exchange rate affects the current rate of inflation. He discusses a number of different policy strategies under discretion but does not derive the underlying endogenous target rules. Such an explicit target rule is derived in a forward-looking open economy model by Guender (2006) where firms are guided in their domestic pricing decisions by a benchmark price that is set in the world market. Such pricing behavior at the firm-level gives rise to an aggregate Phillips curve that depends on the real exchange rate and a target rule guiding optimal monetary policy that includes demand-side parameters. Guender considers only optimal policy under discretion.[1]

Other contributions downplay or dismiss the importance of a real exchange rate channel in the Phillips curve. Drawing on empirical evidence that shows only weak correlations between changes in the nominal exchange rates and inflation rates for a number of countries, McCallum and Nelson (2000, p. 89) are sceptical about the existence of a direct exchange rate channel and its relevance in policymaking. Moreover, in their theoretical set-up of an open economy the effect of the real exchange rate on the output gap is neutralized as it affects both the level of actual output and the level of potential

[1] The design of optimal monetary policy is sensitive to the degree of exchange rate pass-through. Monacelli (2005) argues that incomplete exchange rate pass-through drives a wedge between policymaking in open versus closed economies. He derives an open economy Phillips curve where the deviation of the world price from the domestic currency price of imports affects domestic and CPI inflation.