



Monetary regime choice in Singapore: Would a Taylor rule outperform exchange-rate management?



Hwee Kwan Chow^a, G.C. Lim^b, Paul D. McNelis^{c,*}

^a School of Economics, Singapore Management University, Singapore

^b Melbourne Institute of Applied Economic and Social Research, University of Melbourne, Australia

^c Department of Finance, Graduate School of Business Administration, Fordham University, New York 10019, United States

ARTICLE INFO

Article history:

Received 24 August 2012

Received in revised form 27 August 2013

Accepted 6 September 2013

Available online 16 September 2013

JEL classification:

E52

E62

F41

Keywords:

Inflation targeting

Taylor rule

Exchange-rate management

DSGE–VAR estimation

ABSTRACT

A DSGE–VAR approach was adopted to examine the managed exchange-rate system at work in Singapore and to ask if the country had any reason to fear floating the exchange rate and adopting a Taylor rule. The results showed that, in terms of overall inflation volatility, the exchange rate rule had a comparative advantage over the Taylor rule when export-price shocks were the major sources of real volatility while a Taylor rule was preferable when domestic productivity shocks were dominant. The exchange-rate rule also dominated the Taylor rule for reducing inflation persistence.

© 2013 Elsevier Inc. All rights reserved.

1. Introduction

Should Singapore fear floating its exchange rate by adopting a Taylor rule?¹ Calvo and Reinhart (2002) noted that many emerging markets retained a preference for a managed float with much less flexibility than is commonly assumed by official exchange-rate classification schemes. Lack of credibility of the monetary authority or liability dollarization, they noted, are major reasons emerging market countries have avoided floating and adopting a Taylor rule. However, there could be other reasons which may be more relevant for a small, highly open and fast growing economy such as Singapore.

Reflecting the small open nature of its economy, Singapore has adopted (effectively, but not officially) an inflation-targeting exchange rate centered monetary policy framework.² Given the open-economy trilemma, monetary policy can only achieve two of the following three dimensions: monetary policy independence, fixed exchange rates, and open capital accounts. As a major financial center, Singapore has chosen free capital mobility and could have chosen to target either the

* Corresponding author. Tel.: +1 2126366186.

E-mail addresses: hkchow@smu.edu.sg (H.K. Chow), g.lim@unimelb.edu.au (G.C. Lim), mcnelis@fordham.edu, PDMcNelis@gmail.com (P.D. McNelis).

¹ The interest-rate feedback rule for inflation targeting was extensively analyzed by Taylor (1993) and is commonly known as the Taylor rule.

² In practice, since 1981, the Monetary Authority of Singapore (MAS) adopts an intermediate exchange rate regime by targeting the Singapore dollar under a basket-band-crawl (BBC) system (Khor, Robinson, & Lee, 2004; Williamson, 1999). Under this managed float system, the Singapore dollar is related to a trade-weighted basket (termed TWI) of currencies of its major trading partners and competitors. Neither the component currencies, their assigned weights in the basket, the central rate, nor the band limits are disclosed by the MAS.

exchange rate or some other monetary variable, but not both. The Monetary Authority of Singapore (MAS) has opted to use the exchange rate as opposed to the more conventional benchmark policy interest rate as its policy operating tool (MAS, 2000).

This is not surprising as the exchange rate could be an effective tool for managing a highly open and trade-dependent economy. Singapore is highly dependent on external demand, which constitutes about 70% of aggregate demand. Moreover, domestic consumption has a high import content – out of every Singapore dollar spent domestically, about fifty cents goes to imports. Being a price-taker in international markets, it follows that Singapore is highly susceptible to imported inflation. It appears that Singapore is well served by an inflation-targeting managed exchange rate-centered monetary policy framework. This is a system with free capital mobility and with domestic short-term interest rates determined by foreign interest rates, including a time-varying risk premium.

Managing the exchange rate comes with a cost – the fear of speculative attacks. With the exception of the Asian crisis period in 1997, the MAS has successfully deterred speculators from attacking the domestic currency over the past three decades. But it has been argued that it is the flexibility accorded by the managed exchange rate system that had aided Singapore in escaping from the Asian crisis relatively unscathed. Singapore's acceptance of market driven depreciations in the wake of and amid the deepening of the Asian financial crisis deterred currency speculators from engineering over-depreciation in the domestic currency (Yip, 2005). In other words, it was as if the Singapore dollar was on a free float during that period.³

The Asian financial crisis raised awareness that pegged exchange rates and its attendant insurance effect exacerbated boom–bust cycles associated with capital flows, thereby contributing to the crisis (Corsetti, Pesenti, & Roubini, 1999). This prompted many central banks in East Asia to shift their focus from exchange rate stability to price stability. In particular, crisis-hit countries like Indonesia, (South) Korea, Philippines and Thailand announced the explicit adoption of inflation targeting and moved toward using interest rates as the key monetary policy instrument. However, unless capital controls are imposed, the open economy trilemma dictated that countries that adopted inflation targeting should necessarily have a freely floating exchange rate regime as well. Should Singapore follow suit?⁴

The MAS' stated objective for monetary policy is “to ensure low inflation as a sound basis for sustained economic growth”. In practice, then, the exchange rate became the policy instrument to stabilize inflation and output around their desired target levels while the interest rate was effectively tied to the foreign rate. An alternative set-up would have been to use the interest rate as the policy instrument, while the exchange rate adjusted to market forces. Should Singapore float its currency and adopt a Taylor rule?

The aim of the paper is to conduct counter-factual experiments and simulation analysis to determine whether the conduct of monetary policy would have been more welfare enhancing had the interest rate been used as the policy operating instrument instead of the exchange rate. In a VAR analysis of Singapore's monetary transmission mechanism, Chow (2005) found that the exchange rate was more influential than the interest rate as a source of macroeconomic fluctuations. However, the VAR methodology cannot be used to address the question of “what if” had Singapore adopted an alternative policy rule. This has to be examined in a framework where the estimated parameters were not intrinsically linked to the historical policy settings – and thus not subject to the so-called Lucas critique of policy analysis. Hence the framework adopted in this paper belongs to the class of models called dynamic stochastic general equilibrium (DSGE) New Keynesian models of the small open economy.

In the next section we specify a DSGE model of the Singapore economy with its current exchange-rate regime and with nominal and real frictions in the form of sticky wages and prices, habit persistence in consumption, and adjustment costs for investment. We then discuss the results of a Bayesian estimation of the model. Finally we undertake counterfactual simulations assuming a floating exchange rate system with a Taylor rule for the interest rate and perform welfare comparisons under the two monetary regimes. The last section concludes.

2. Model

The Singapore macro economy is modeled as the aggregate outcome of the interactions of four sectors. The first sector, the household, provides labor services, owns the capital stock, makes consumption and investment decisions, and holds domestic and foreign bonds. In supplying labor to the firms, the household sets its wage in a monopolistically competitive fashion. All financial interactions are subsumed into this sector. The second sector, the production sector, is mainly responsible for combining capital and labor to produce the goods. It sets the prices of domestic goods in a monopolistically competitive way. The third sector is the external sector. Singapore is a small open economy and takes world prices and interest rates as exogenous variables. Finally, the government sector buys domestic goods and services while collecting lump sum taxes from households, and implements the policies under consideration, namely exchange-rate management.

³ Of course, Singapore's substantial amount of foreign reserves played a critical role in deterring speculative attacks. Further, strong economic fundamentals such as consistent fiscal surplus, large current account surplus, maintenance of stable and consistent macroeconomic policies, and a robust financial system are important explanations why Singapore was relatively less affected by the Asian crisis.

⁴ Some market participants have advocated a move to greater flexibility in the exchange rate to guard against the risk of policymakers misjudging the level of Singapore's equilibrium exchange rate. However, others have pointed out that increasing flexibility in the TWI would increase the risk of the Singapore dollar overshooting and is thus, destabilizing.

متن کامل مقاله

دریافت فوری ←

ISIArticles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات