Pacific-Basin Finance Journal 9 (2001) 427–455

PACIFIC-BASIN FINANCE JOURNAL

www.elsevier.com/locate/econbase

The effects of monetary policy shocks on exchange rates: Evidence from New Zealand and Australia

Katherine J. Wilkinson [a], Martin R. Young [b,*], Shirley Young [c]

[a] *Texas Technical University, Lubbock, TX, USA*
[b] *Nanyang Business School, Division of Banking and Finance, Nanyang Technological University, S3-B1C-93 Nanyang Avenue, 639798, Singapore*
[c] *Massey University, Palmerston North, New Zealand*

Abstract

This study investigates the effect of monetary policy shocks in New Zealand and Australia on their respective exchange rates from 1985 to 1998 using vector autoregression methodology. The results show that monetary policy shocks do contribute to the variability of both exchange rates, but these movements are not always consistent with theory. In particular, there is little support for the overshooting hypothesis. Also the results show that the exchange rates do not always move in the direction normally anticipated, particularly for New Zealand. A contraction in monetary policy may lead to a depreciation of the domestic currency rather than an appreciation. © 2001 Elsevier Science B.V. All rights reserved.

JEL classification: E52; G19

Keywords: Monetary policy shocks; Vector autoregression; Impulse response functions

1. Introduction

The shift to floating exchange rate regimes by many nations has led to an increase in exchange rate volatility. This, in turn, has prompted numerous studies

* Corresponding author. Tel.: +65-790-6271; fax: +65-792-4217.
E-mail address: amryoung@ntu.edu.sg (M.R. Young).

PII: S0927-538X(01)00016-6

aimed at analyzing this volatility and its causes, and whether exchange rate movements can be forecast. Central Bankers have a particular interest in exchange rate volatility and its causes as this volatility can impact on inflationary pressures and hence influence monetary policy itself. Furthermore, monetary policy will influence exchange rates. This is particularly so in countries with large external sectors such as New Zealand and Australia.

This study examines the impact of New Zealand and Australian monetary policy on the value of their respective currencies. Following a similar approach to that adopted by Eichenbaum and Evans (1995), for the US market, three VAR models are estimated for each country. These models consider the impact of shifts in the monetary policy variables of short-term interest rates, interest rate differentials, and money supply on the exchange rate. Consideration is also given to the impact of production and consumer price levels on exchange rates.

Monetary shocks, by way of an increase in interest rates, or the interest rate differential, should lead to an inflow of funds and an appreciation of the currency, as long as there is no change in inflationary expectations. Should the monetary shock lead to an upward revision of inflationary expectations, however, the impact on the currency could be minor or there could even be a depreciation of the currency if the upward revision of inflationary expectations was large enough. Increases in the monetary base may have an impact on exchange rates if these are seen to be inflationary. These relationships are examined for New Zealand and Australia.

2. Literature review

There exists a number of different exchange rate models and theories but the most widely held view is that an expansion in monetary policy reduces interest rates for a given expected inflation rate and this will lead to a depreciation in the domestic currency. Conversely, an increase in interest rates leads to an appreciation of the currency. This section considers some of the models and the testing of them.

Dornbusch (1976) developed a theory of exchange rate movements with the assumptions of perfect capital mobility, a slow adjustment of goods markets relative to asset markets, and consistent expectations. If the economy is in equilibrium, an increase in the quantity of money will cause disequilibrium in both the goods and assets markets. To maintain asset market equilibrium, the increased quantity of money will have to be matched by a higher price level and/or a depreciation in the exchange rate. According to Dornbusch, this immediate depreciation of the spot exchange rate will exceed that of the long run equilibrium exchange rate, hence overshooting occurs. Dornbusch concluded that the effects of monetary expansions are entirely dominated by asset markets, more specifically by capital mobility and expectations.