The implementation of monetary policy in New Zealand: What factors affect the 90-day bank bill rate?

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Abstract

This paper discusses the implementation of monetary policy in New Zealand and its flow-on effects on the 90-day bank bill rate over the 1999–2005 period. The effects of external factors are considered as well. Our findings indicate that the maturity spectrum ratio exerted a positive effect on the 90-day bank bill rate while the allotment ratio did not. This interest rate had a tendency to revert to the level set by its Australian counterpart, though at a relatively slow speed. No such link exists between the NZ 90-day rate and the U.S. 90-day rate. Neither the maturity spectrum nor the allotment ratio contributed to the volatility of the most important short-term interest rate in New Zealand.

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1. Introduction

At present the majority of central banks in the industrialized world implement monetary policy by setting a short-term nominal interest rate. The interest rate in question is often an overnight rate. To steer the overnight rate, a central bank typically relies on both standing facilities and open-market operations. Standing facilities can be thought of as an automatic conduit through which liquidity enters or leaves the financial sector of the economy. Trading banks that need

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additional cash balances to cover their position can access the standing facility at a rate slightly higher than the overnight rate. Alternatively, trading banks that have surplus cash balances can park them overnight at a rate slightly below the prevailing interest rate. Standing facilities are not a new concept per se. They were widely used during the days of the operation of the gold standard. However, in those days the standing facilities were one-sided in the sense that the central bank would only provide liquid funds to trading banks in exchange for discountable securities.\(^1\) There were no arrangements whereby trading banks could deposit surplus reserves. In this set-up the discount rate played a key role in the implementation of monetary policy as it served as the benchmark for short-term interest rates in the financial market.\

Through discretionary open-market operations the central bank manages the liquidity of the financial sector of the economy. A central bank structures its open-market operations in such a way so as to keep the policy instrument at the target level. Open-market operations are central to the implementation of monetary policy in the Euro area, the United States, Australia, and New Zealand and many other countries. However, the frequency of use (daily vs. weekly operations), types of transactions (outright purchases and sales of securities vs. repurchase agreements, fixed vs. variable rate tenders) and purpose (signal of change in monetary policy) differ markedly amongst central banks. For instance, the Federal Reserve follows no fixed schedule in its operations and has a habit of purchasing securities outright from dealers. In contrast, the European Central Bank prefers to engage mainly in regular weekly reverse repurchase agreements to provide additional liquidity directly to the banking sector. Interestingly, the European Central Bank switched from fixed to variable rate tender auctions in June 2000 to relieve the overbidding problem.\(^2\) The Reserve Bank of New Zealand does not use open-market operations to signal a change in monetary policy while such operations are central to implementing a change in monetary policy in the United States.\

Until recently, daily open-market operations were the norm in New Zealand. The daily transactions provide the unique opportunity to study the day-to-day implementation of monetary policy in New Zealand. The central concern of this paper is to show how the daily conduct of monetary policy affected the behaviour of the 90-day bank bill rate over the March 1999–June 2005 period. Our empirical study aims to verify to what extent the structure of open-market operations affected the mean and the volatility of this market-determined interest rate over the sample period in a small, relatively open economy.\(^3\) Essentially, our aim is to determine whether the methods used by the Reserve Bank of New Zealand to provide adequate liquidity to the financial sector of the

\(^1\) Indeed to this day, the standing facility operated by the Federal Reserve System in the United States is one-sided. Trading banks can borrow reserves from the Fed but cannot deposit surplus funds and earn interest on them. Standing facilities were operated in a similar way by the German Bundesbank until 1999.\

\(^2\) For a study of the overbidding problem encountered by the European Central Bank, see Nautz and Oechssler (2003). Ayuso and Repullo (2003) argue that the extreme overbidding phenomenon associated with fixed rate tenders is consistent with an asymmetric loss function that punishes low interbank rates more severely than high interbank rates.\

\(^3\) A few recent empirical studies examine the behavior of interest rates in the larger economies of Europe and North America. Bartolini and Prati (2006) show that differences in the way central banks operate their standing facilities can account for the observed cross-country differences in the volatility of overnight interest rates. Looking at the German experience before and after the establishment of the EMU, Perez Quiros and Mendizabal (2006) find that a central bank that retains the right to impose reserve requirements over a maintenance period and offers borrowing and lending facilities exercises tight control over the overnight interest rate. Their model offers an explanation for why the overnight interest rate does not follow a martingale process. Nautz and Offermanns (2007) study the dynamic behavior of the European overnight interest rate and its response to policy and term spreads. A study similar in approach to ours is by Jordan and Kugler (2004). They examine the effect of allotment and maturity spectrum ratios on the 30-, 60-, and 90-day LIBOR in the daily implementation of monetary policy in Switzerland.
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