

# ECONOMIC NOTES

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*Abstracts from five recent discussion papers are presented.*

## **CAN A RESERVE BANK LENDER OF LAST RESORT ACHIEVE PRICE STABILITY?**

*Discussion Paper G92/5*

*Mark Toma*

*(Visiting Scholar and Associate Professor, University of Kentucky)*

The primary function of the Reserve Bank is to maintain price stability. One of the Bank's secondary functions is to act as a lender of last resort, if this is considered necessary to preserve the soundness of the financial system. At first it may appear that these two functions are incompatible, as injecting funds to preserve the banking system will loosen monetary policy, perhaps risking the achievement of price stability. This paper investigates more thoroughly whether the Bank's role as lender of last resort conflicts with its primary function of stabilising prices.

The paper first examines lender of last resort policies. The classic role of the lender of last resort is to lend to solvent banks which are suffering a run on their deposits. The banks will then be able to meet the demands of their customers for currency, which will assure customers that the bank is in fact solvent, so the run will soon cease. Another view related to the lender of last resort role emphasises the prevention of banking crises, rather than responding to crises when they arise. High interest rates increase the cost of holding reserves, encouraging banks to lend more and economise on reserves, making the banking system more fragile, and increasing the risk of a crisis. By smoothing interest rates, especially through seasonal fluctuations in credit demand, the central bank may then reduce the risk of crises.

The paper develops a simple rational expectations model of monetary policy as a framework for analysis. In the benchmark case of no uncertainty, price stability is perfectly compatible with a lender of last resort policy that increases money supply in response to a banking crisis. This is because during a crisis, increased money supply is required to meet the higher demand for currency. In the more realistic

case of the central bank having imperfect control over the price level, the same result arises, so long as the Bank recognises and reacts quickly to the crisis. Given the public nature of banking crises, recognition failure is unlikely, so a quick reaction can be expected.

The author notes that the Reserve Bank's policy of paying interest on settlement cash (currently set at 300 basis points below the interest rate on 7-day call loans), makes the cost to banks of holding reserves constant whatever the level of interest rates. This stability in the cost of reserves may make the banking system less susceptible to crises, and reduces significantly the need for smoothing interest rates.

## **WHY NOT A CONTESTABLE MARKET FOR THE RESERVE BANK?**

*Discussion Paper G92/6*

*Mark Toma*

*(Visiting Scholar and Associate Professor, University of Kentucky)*

The process of economic liberalisation in New Zealand has included the privatisation of some government agencies and the restructuring of others into profit-making enterprises. The aim of such reforms has been to enhance the efficiency of these agencies by exposing them to competition from private firms. This type of reform was, however, rejected in the case of the Reserve Bank. Rather, the Reserve Bank Act (1989) presented the Bank with a clear objective, price stability, and the operational independence to pursue that objective. This paper considers whether price stability could also be achieved by exposing the Reserve Bank to competition in the provision of currency and interbank settlement balances. It explores reasons why contestability in these markets, even if it achieves price stability, may not be preferable to the existing system of monetary policy governed by the 1989 Act.

After an overview of the literature on competition in the supply of money, the paper develops a theory describing contestable markets in money, to determine how contestability would constrain monetary policy. Contestability means that if the Reserve Bank made profits in the provision of currency, a competing supplier would offer currency that people preferred, because it appreciated in real value over time. The Reserve Bank would be forced to provide a currency just as attractive, or it would go out of business. Similar arguments apply to the Reserve Bank's provision of interbank settlement balances.

The author points out that for this type of argument to be valid, the private supplier of money must have the ability to produce money that transactors willingly accept, otherwise a contestable market will not arise. This requires that the private supplier be able to commit itself to control the supply of its money appropriately, or make its money redeemable for a real asset, perhaps gold. So under certain conditions, it may be possible to create an environment in which market forces act to ensure that money has a stable, or perhaps rising value.

However, while contestability may be conducive to long run price stability, it might not provide inflation stability in the short run. The reason being that competition would force the Reserve Bank to alter the inflation rate in response to shocks to the real interest rate. Also, a contestable money market may force the Reserve Bank to pursue a deflationary monetary policy, while the Government may prefer a different inflation target. The paper concludes by examining the Reserve Bank Act (1989) in the light of contestability theory.

## **A VECTOR ERROR CORRECTION MODEL OF THE RESERVE BANK PRICE SYSTEM**

*Discussion Paper G92/7*

*Dean Hyslop*

Within New Zealand's monetary policy framework, considerable importance is attached to the accuracy of the Reserve Bank's forecasts of inflationary pressures. This paper is part of a research agenda aimed at improving the accuracy of inflation forecasts. The main development in the paper is to estimate inflation in the indices for consumer prices, producer prices and unit labour costs as a unified system of equations, rather than as a series of separate regression equations as in Model XII. The systems approach has the advantage of being able to capture the equilibrium relationships between the various price indices.

Another development is to re-specify the model to more accurately reflect the causal direction between variables. In particular, Model XII allows producers' input prices to affect output prices but not vice versa. However, because many goods are intermediate goods in production, producers' output prices will also feed back into (measured) input prices. The re-specified model allows for these feedback effects.

The results suggest that models which allow long-run equilibrium relationships are superior to those which ignore them. However, the statistical adequacy of the re-specified model is rejected by a variety of diagnostic tests. This points to a more fundamental misspecification of the model than considered here. One possibility is that some important factors are missing from the model, implying possible deficiencies with the underlying "cost-plus" theory used to construct the model.

## **THE ROLE OF THE EXCHANGE RATE IN NEW ZEALAND MONETARY POLICY**

*Discussion Paper G92/8*

*Arthur Grimes and*

*Jason Wong*

In a small, open economy both the exchange rate and a monetary aggregate can act as a nominal anchor to achieve price stability. In theory, there is no single "best" choice of nominal anchor. A simple model is presented to demonstrate this result. Two policy regimes, money base targeting and exchange rate targeting, are combined with a variety of shocks to give a range of economic scenarios. These make it clear that the preferred regime depends on the nature of shocks hitting the economy. For example, with a money base target an increase in the demand for money causes a decrease in the price level, whilst an increase in real aggregate demand has no effect on the price level. On the other hand, with an exchange rate target the effects of the shocks on the price level are quite different; a shift in money demand has no effect on the price level over the long-run and an increase in real aggregate demand forces the price level to increase. Thus theory shows that an exchange rate is no better or worse than a money base target either from a price stability perspective or from a real economy perspective. The choice of policy target is instead an empirical matter.

Given this theoretical result the authors undertake two empirical tests. The first test assesses whether exchange rate targeting or monetary aggregate targeting would have been more effective in achieving price stability historically in New Zealand in the long run. The second test assesses the comparative merits of each target in the short run. The results suggest that both a simple exchange rate rule

and a simple monetary aggregate (M3) rule would deliver stable prices on average in the long run. But the results show that the exchange rate dominates the money base as a leading indicator of inflation over both the fixed and floating exchange rate periods.

The paper concludes by relating these results to the current practice of monetary policy implementation in New Zealand, with special emphasis on the role of the exchange rate.

## **· MODELLING HOUSEHOLD CONSUMPTION EXPENDITURE IN NEW ZEALAND**

*Discussion Paper G92/9*  
*Ian Corfield*

Consumption is a relatively uncontroversial area in macroeconomics. The small number of theories is evidence of this. Standard macro textbooks generally concentrate on three theories: Keynes' Absolute Income Hypothesis; Milton Friedman's Permanent Income Hypothesis; and the Life Cycle Hypothesis of Ando, Brumberg and Modigliani. In the late 1970s Robert Hall modified the latter two theories by incorporating rational expectations. In general, the empirical evidence seemed to favour the Permanent Income Hypothesis and Life Cycle Hypothesis, as consumption appeared to move in line with long-run considerations of income and wealth. However, recent tests of the rational expectations variant of these two theories suggest that liquidity constraints may also be significant. The importance of inflation as a determinant of consumption has been emphasized in the literature as well.

This paper builds forecasting equations for the three major components of household consumption expenditure: durables, non-durables, and services. The specification of each equation takes the theory and evidence into account. Consumption of durables is found to depend upon real disposable income, real house prices (house prices relative to the CPI) and the trading bank lending rate, where the nominal interest rate is assumed to represent liquidity constraints. Consumption of non-durables is found to depend upon real disposable income, real house prices and real M3. Consumption of services, in contrast with the other two equations, requires a shortening of the sample period to obtain sensible results. The shortened sample reveals that services is driven by real M3 alone.

Overall, the new equations appear to be an improvement on the equations used currently in the Reserve Bank's Model XII. Their performance in terms of statistics of fit and within sample forecasting is generally at least as good as that of the current equations, with the largest improvement coming from the services equation. Also, the investigation finds that inflation has no impact on any of the categories of real consumption, while the effects of liquidity constraints can only be found for durables consumption. ■