

**HOUSING, MONETARY POLICY  
AND ECONOMIC DEVELOPMENT  
IN A SMALL OPEN ECONOMY \***

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**Abstract**

New Zealand has recently experienced a year in which annual inflation rate on private housing was 25.0 per cent, while the interest rate on first mortgages *fell* from 7.8 to 7.1 per cent. Some commentators argue that the housing price boom was harmful for New Zealand's economic development, because it triggered a sustained period of tight monetary policy that has impacted primarily on the exporting sector. In contrast, this paper argues that the strong domestic housing market was itself the direct cause of the exchange rate appreciation, that such a rise in house prices can be self-financed by the banking system, and that the Reserve Bank's tightening of monetary policy was a response to, rather than a trigger of, these events. It suggests that the episode was an example of the 'booming sector and Dutch disease' problem. Further, it is plausible that the boom in property values is justified by real factors, and is a measure of the country's shift to a higher level of economic development in the last half decade.

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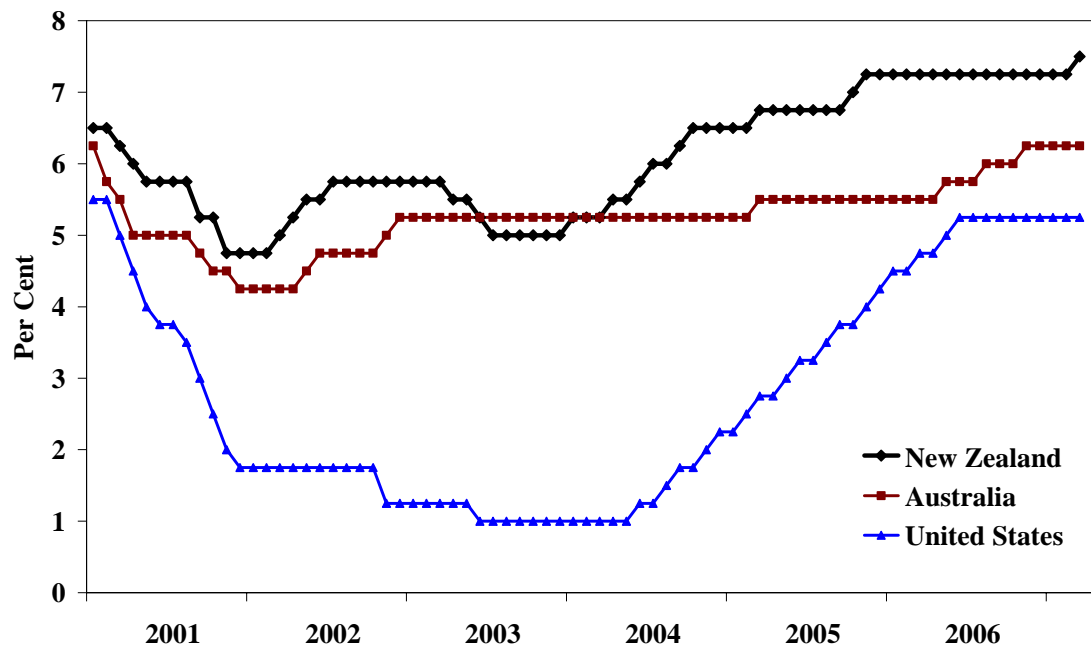
\* This paper is submitted to the NZAE 2007 conference organisers for consideration as a refereed paper for the conference. It was originally written as an invited contribution to an international symposium on 21<sup>st</sup> century housing issues held by the Centre for Economic Development and Research (CEDR) at the University of North Texas on 30 April 2007 in Denton, Texas, USA. I am grateful to the Associate Director, Professor Terry L. Clower, for his invitation, and to the CEDR for financial support to make my participation possible. I am also grateful to Sue Cummings at the Selwyn District Council for assisting with the data in Figure 5.

# HOUSING, MONETARY POLICY AND ECONOMIC DEVELOPMENT IN A SMALL OPEN ECONOMY

## 1. Introduction

This paper addresses a pressing policy issue concerning the economic development of New Zealand, a small country of 4.2 million people in the south-east Pacific. Since January 2004, the Reserve Bank of New Zealand has been progressively tightening monetary policy in response to domestic inflationary pressures that are generally attributed to a strong housing market. Sharply rising house prices feed directly into measured inflation (by encouraging higher construction costs, for example), and the resulting capital gains enjoyed by households support domestic credit growth and higher consumption spending (Reserve Bank of New Zealand, 2007, Box 2, pp. 8-9). Figure 1 presents the base interest rates set by the central banks of New Zealand, Australia and the United States of America from January 2001 to March 2007. It shows the large gap that emerged between New Zealand and the United States for most of that period, and the tightening of monetary policy in New Zealand compared to Australia, its closest neighbour in world markets.

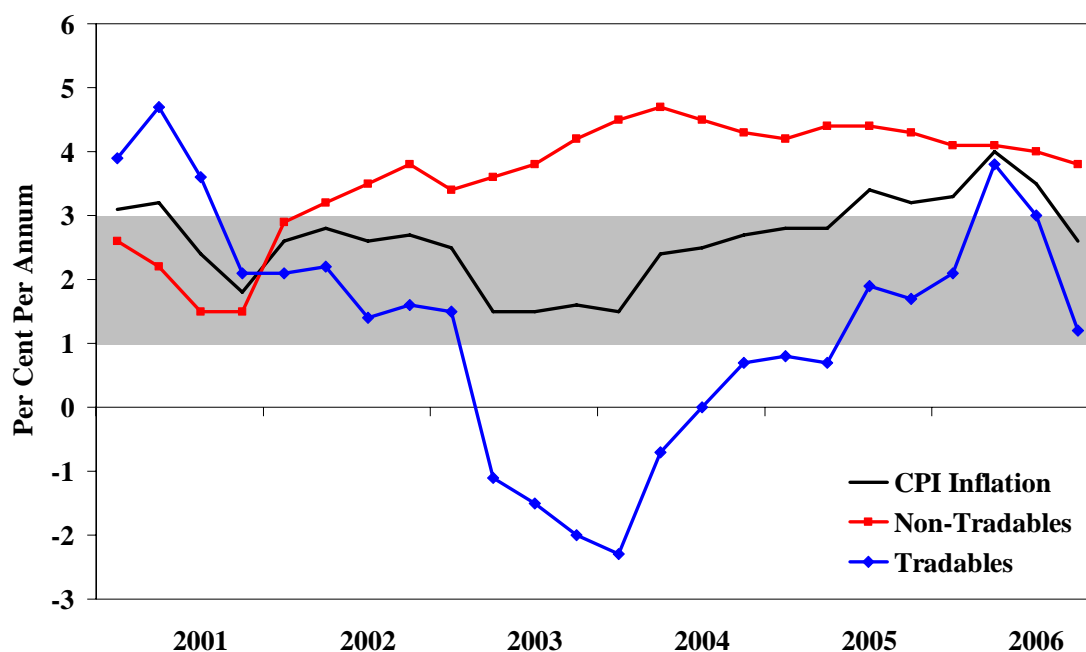
**Figure 1: Base Interest Rates in New Zealand, Australia and the United States, January 2001 – March 2007**



Source: Federal Reserve System, Reserve Bank of Australia, Reserve Bank of New Zealand.

Monetary policy in New Zealand has a single statutory objective of maintaining price stability, defined as annual consumer price index (CPI) inflation between 1 and 3 per cent. Figure 2 shows how inflation moved uncomfortably close to the target ceiling in 2004/05, and then passed through the ceiling in the third quarter of 2005. Thus the Reserve Bank was certainly justified in tightening monetary policy in 2004. Criticism, however, has focused on complaints that the monetary restraint has harmed New Zealand's exporters and domestic manufacturers competing against imported goods.

**Figure 2: Consumer Price Index Inflation in New Zealand, 2001 – 2006**



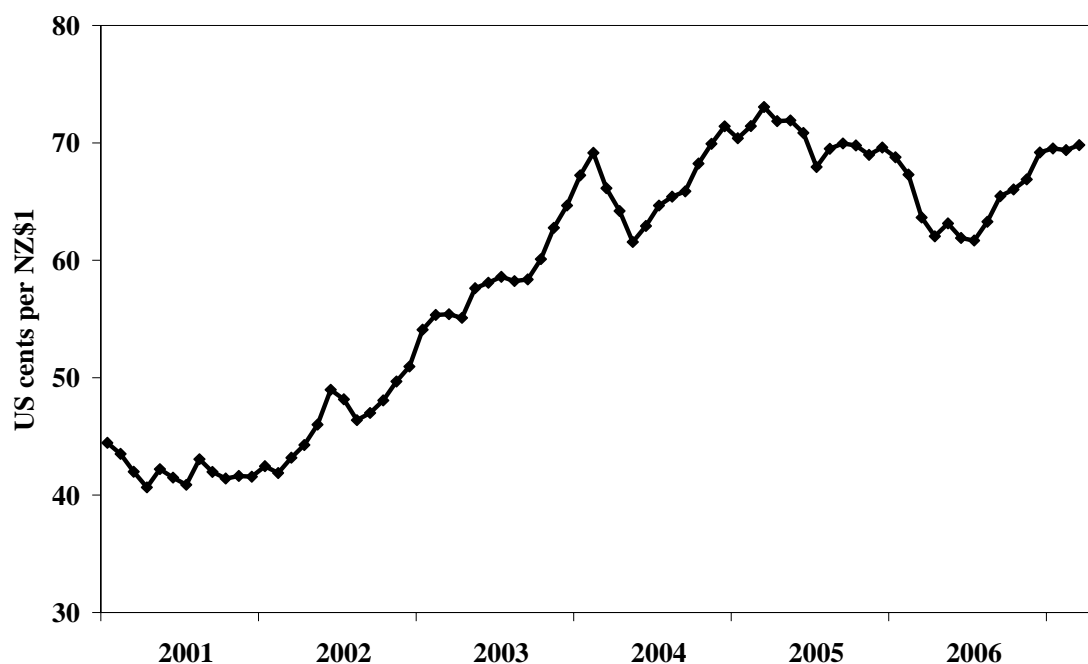
Source: Reserve Bank of New Zealand, [www.rbnz.govt.nz](http://www.rbnz.govt.nz).

The basis of this criticism is shown in the second and third series of Figure 2, which separate the aggregate consumer price series into two components: non-tradables inflation (that is, the average price movement of categories of goods and services that are neither exported nor imported); and tradables inflation (the remaining categories). During the period of monetary tightening, inflation in the tradables sector was generally well below the inflation target ceiling, while inflation in the non-tradables was consistently above it. Nevertheless, it is argued that exporters and domestic manufacturers have to bear the primary burden of monetary restraint, even though the source of the inflationary pressures is in the non-tradables sector. The Reserve Bank's instrument for tightening monetary policy is to raise domestic interest rates (by raising the Bank's official cash rate). Relatively high domestic interest rates attract inflows of speculative capital from the rest of the world. This increases the demand for local currency, causing the exchange rate to appreciate and hence the New Zealand price of tradable goods to fall.<sup>1</sup>

<sup>1</sup> Dalziel (1998) analyses this transmission channel for an earlier episode in New Zealand of tight monetary policy and a strongly appreciating currency.

Figure 3 presents monthly data for the United States – New Zealand exchange rate between January 2001 and March 2007. This does indeed show that the exchange rate has been at historically high values since January 2004 (the start of the monetary policy tightening) compared to the first half of the series. It also shows, however, that most of the appreciation took place during 2003, at a time when the Reserve Bank was *lowering* its official cash rate (see Figure 1). This calls into question whether monetary restraint really was responsible for the exchange rate appreciation, or whether the Reserve Bank was simply responding to events initiated elsewhere, particularly in New Zealand’s strong housing market.<sup>2</sup> The purpose of this paper is to explore that question.

**Figure 3: United States – New Zealand Exchange Rate, January 2001 – March 2007**



Source: Reserve Bank of New Zealand, [www.rbnz.govt.nz](http://www.rbnz.govt.nz).

To summarise, the policy criticism under review can be described in a series of seven bullet points.

1. The housing market in New Zealand has been extraordinarily strong in recent years, resulting in rapid growth in house prices by 78.8 per cent between June 2002 and June 2006 (Reserve Bank House Price Index; [www.rbnz.govt.nz](http://www.rbnz.govt.nz); this is drawn in Figure 6 below).
2. This is of policy concern, since it is making home ownership more difficult for New Zealand citizens. In January 2002 it took 40.3 per cent of the average take-home pay to afford a standard mortgage payment of a median-priced house, but in February 2007 that figure was 71.4 per cent (JDLJ Ltd, 2007).

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<sup>2</sup> Dalziel (2002) has previously argued that monetary policy changes cannot account for the size of movements New Zealand has experienced in its exchange rate.

3. The rapid growth in house prices puts pressure on the construction sector, where increased costs stemming from resource pressures in the sector have been one of the major contributors to non-tradables inflation (Reserve Bank, 2007, p. 16).
4. Inflation in the non-tradables sector has brought consumer price inflation close to and above the target ceiling of 3 per cent, and so the Reserve Bank has been obliged to respond by increasing the official cash rate (Reserve Bank, 2007, Box 1, p. 5).
5. The high base interest rate set by the Reserve Bank relative to the rest of the world triggers a capital inflow, which causes the New Zealand exchange rate to be high. This makes trading conditions more difficult for exporters and for domestic manufacturers competing with imported goods.
6. This is a matter of policy concern, since it means monetary policy is having its primary impact on the tradables sector, but the inflationary pressures are in the non-tradables sector.
7. It is also a matter of policy concern because export growth is widely regarded as essential for New Zealand's economic development; growing globally competitive firms, for example, is the first theme of the government's Economic Transformation Agenda (Cabinet Policy Committee, 2006, par. 12).

Taking these seven bullet points together, a strong housing market is said to be harmful for New Zealand's economic development, because it triggers a sustained period of tight monetary policy that impacts primarily on the exporting sector. There are differences of opinion about whether the fault lies primarily with monetary policy or with housing policies, but in either case the relationship between housing pressures and monetary policy responses has become crucial for policymakers concerned about New Zealand's future economic development.

The paper proceeds in four sections. In Section 2, the paper presents an example from New Zealand to explain how rising property prices can be a good indicator that economic development is taking place in a region. Section 3 presents aggregate data for house price inflation and domestic interest rates in New Zealand. At its peak in the final quarter of 2003, the annual inflation rate on private housing was 25.0 per cent, in a year when the interest rate on first mortgages *fell* from 7.8 to 7.1 per cent, following a reduction in the Reserve Bank's official cash rate. The remainder of the section draws out the implications of the housing price boom for variables such as the exchange rate, incentives to invest in housing, inflationary pressures and residents saving to purchase their first home. Section 4 draws on a model developed in Dalziel (2001) to analyse what role money might play in contributing to price inflation of housing. Its main point is to explain how a rise in house prices can be self-financed by the banking system. Section 5 concludes with the suggestion that the difficulty being experienced by New Zealand's tradables sector is an example of the well-known 'booming sector and Dutch disease' problem in economics. Further, it is plausible that the recent boom in property values is justified by real factors, and is a measure of the country's shift to a higher level of economic development in the last half decade.

## 2. Economic Development and Property Values

Discussion on this paper's topic in the current policy environment could give an impression that rising property values are always and everywhere bad for economic development, but this is not necessarily so. Indeed, rising property prices can be a good indicator that economic development is taking place. A district's total quantity of land is in fixed supply; consequently, if a district develops new economic opportunities, or if it is attractive to new businesses and households, this will be reflected in rising land values. Conversely, a district experiencing population loss and economic downturn can expect land values to weaken.

This point can be illustrated by an example. Selwyn District is located in the middle of New Zealand's South Island. It is comprised of 649,000 hectares of land, framed by the Southern Alps to its west, by the Waimakariri River to its north, by the Rakaia river to its south and by Christchurch city to its east (see Figure 4). Nearly half the main income earners in the district commute to Christchurch for work. The 2006 New Zealand Census recorded 34,200 residents in Selwyn, with population growth being particularly strong in the commuter belt around Christchurch. The region is governed by the Selwyn District Council, which like all of New Zealand's territorial authorities has a statutory responsibility for promoting the social, economic, environmental and cultural well-being of its communities. It is far too small, however, to feature in official disaggregated statistics of economic production; so how can Selwyn District monitor its economic development over the medium-term?

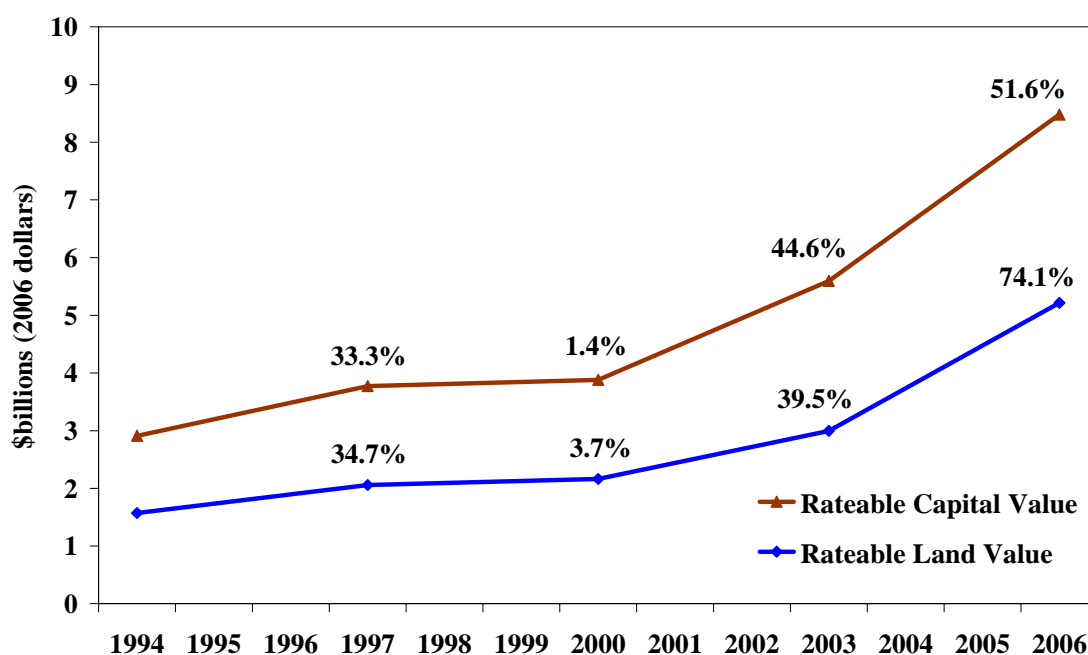
**Figure 4: The Selwyn District in New Zealand**



Source: Selwyn District Council, [www.selwyn.govt.nz](http://www.selwyn.govt.nz).

Two readily available indicators are the district's total rateable land value and its total rateable capital value. In New Zealand, local government services are financed by rates on property, and so the land value and the capital value (where the latter includes the market value of buildings and other improvements) of every property in a regional government district properties are officially reassessed every three years for this purpose. Local governments typically allow some exceptions from rates. Summing the rateable properties produces the total rateable land value and the total rateable capital value for the region. Figure 5 shows these values for the Selwyn District (measured in 2006 dollars) at its last five revaluations, and also shows the percentage change in Selwyn District values between each revaluation.

**Figure 5: Selwyn District Council Total Rateable Values, 1994-2006, Measured in June 2006 Dollars**



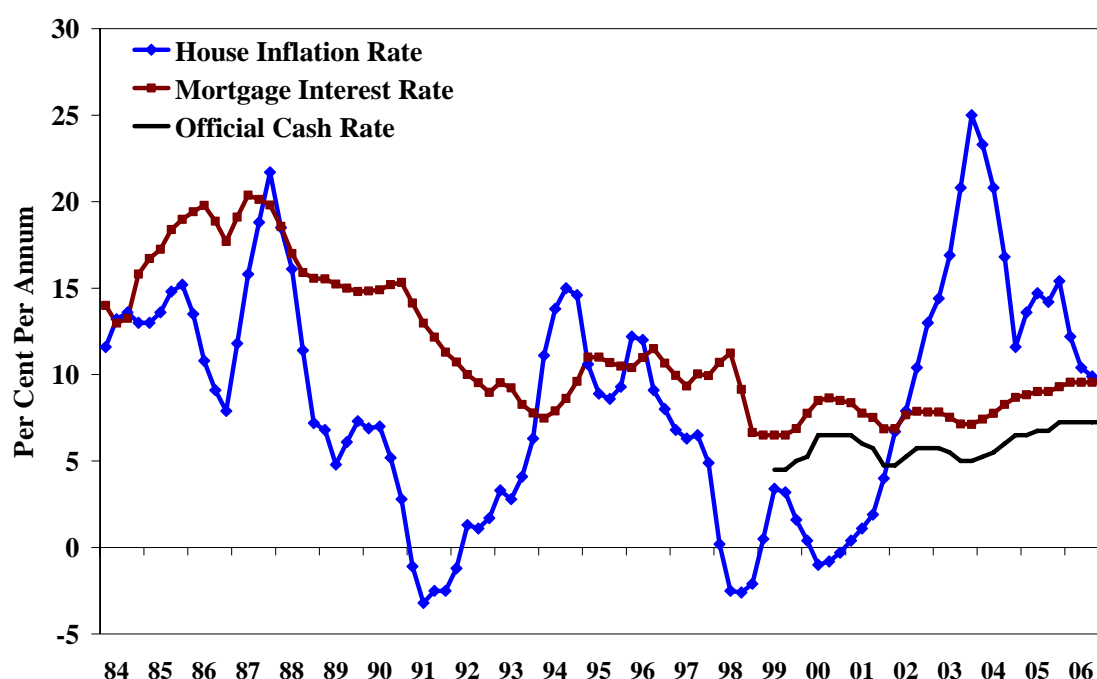
Source: Selwyn District Council Annual Reports, with nominal values deflated by the value of New Zealand's Consumers Price Index for June each year.

Between 1994 and 2003, total rateable capital values and total rateable land values in the Selwyn District increased by a healthy 7.5 and 7.4 per cent per annum respectively. Within that nine-year period, the downturn between 1997 and 2000 is evident in the series (associated with serious domestic drought and an adverse international economy shock after the Asian currency crisis in July 1997), as is the quick recovery between 2000 and 2003. The most recent period, however, saw rateable land values increase by almost 75 per cent in three years. This was extraordinarily strong growth, reflecting national trends that are described in the following section.

### 3. Housing Prices and Mortgage Interest Rates

Figure 6 presents three series of national New Zealand data from March 1984 to December 2006. The first series (marked with diamonds) shows the rate of change in the average price of private house sales over the previous year. The second series (marked with squares) is the average interest rate set by banks on flexible first mortgages each quarter. It follows closely the official cash rate, which is the monetary policy instrument of the Reserve Bank of New Zealand and the third series in Figure 6. For four years, from 2002(3) to 2006(2) the rate of inflation in house prices was above the interest rate on first mortgages, substantially so in some quarters. At its peak in the final quarter of 2003, the annual inflation rate on private housing was 25.0 per cent, in a year when the interest rate on first mortgages *fell* from 7.8 per cent to 7.1 per cent.

**Figure 6: New Zealand House Inflation and Interest Rates, 1984 - 2006**



Source: Reserve Bank of New Zealand, [www.rbnz.govt.nz](http://www.rbnz.govt.nz), incorporating Quotable Value New Zealand private housing price data and Reserve Bank of New Zealand interest rate data.

Based on this last observation some commentators argue that the Reserve Bank made a policy error in 2003 when it reduced the official cash rate from 5.75 per cent to 5.0 per cent, despite the strong housing market (see, for example, O'Donovan and Stephens, 2007). It is not hard, however, to understand the Bank's actions at the time. In 2003, the consumer price index rate of inflation was well below the midpoint of the target range, and the exchange rate was already appreciating strongly.<sup>3</sup> The Reserve Bank Governor would have found it very difficult to justify an increase in domestic interest rates under those circumstances. Nevertheless, the subsequent sharp increase in the average price of private dwellings has a number of significant implications.

<sup>3</sup> See Figures 2 and 3 earlier in this paper. These two events were related, of course, since the rising exchange rate contributed to negative inflation in the tradables sector.



First, any economy with an asset offering a real rate of return of 25 per cent when the domestic interest rate is less than 8 per cent will attract an inflow of capital as overseas fund managers buy domestic currency to purchase shares in that asset (using the forward exchange market to hedge against the risk of an adverse exchange rate movement).

This can be demonstrated in a few lines of algebra. Consider the situation of a foreign investor thinking about whether to borrow money in the foreign country (which imposes a rate of interest denoted by  $r$ ) in order to buy money in the domestic country (one unit of the overseas currency purchases  $1/s$  units of the domestic rate, where  $s$  denotes the spot exchange rate) to invest in the domestic banking system (where the investment earns the domestic rate of interest, denoted  $i$ ). The investor can arrange to exchange the principal and interest back into overseas currency at the current forward exchange rate, denoted  $f$ . Thus the net value of this transaction is given by:

$$(1/s)(1+i)f - 1 - r \quad (1)$$

Arbitrage in financial markets ensures that the expected value of (1) is zero, which produces the covered interest parity condition:

$$f = s(1+r)/(1+i) \quad (2)$$

Now suppose that there exists a domestic asset (housing) where the expected rate of inflation is higher than the domestic interest rate. Denote the expected rate of inflation of houses as  $z$ , with  $z > i$ . Then one unit of foreign currency exchanged into domestic currency and invested in housing, taking into account the covered interest parity condition to determine the value of  $f$  is expected to become:<sup>4</sup>

$$(1/s)(1+z)f = (1+r)(1+z)/(1+i) > (1+r) \quad (3)$$

This excess return to the foreign investor in equation (3) will trigger a capital inflow until the price of housing assets increases sufficiently to reduce  $z$  to  $i$ . The central bank might also intervene to raise  $i$ , but this would be in response to the conditions producing the capital inflow (see the discussion of Figure 7 below).

Second, if the expected rate of inflation for houses is higher than the domestic interest rate, there is an incentive for domestic residents to borrow mortgage finance to make highly geared purchases of real estate. Further, as long as the rise in house prices is not an example of an unsustainable financial bubble, banks will be able to meet this increased demand for mortgage finance, since the loans are backed by real assets rising in value.

Third, if the expected rate of inflation for houses is higher than the domestic interest rate, there is an incentive for new savings to be invested in new houses rather than in other forms of investment. Firms wanting new capital to expand their business have to compete with the high return available on investing in new housing stock. If the elasticity of supply of new houses is low, this will contribute to domestic inflationary pressures.

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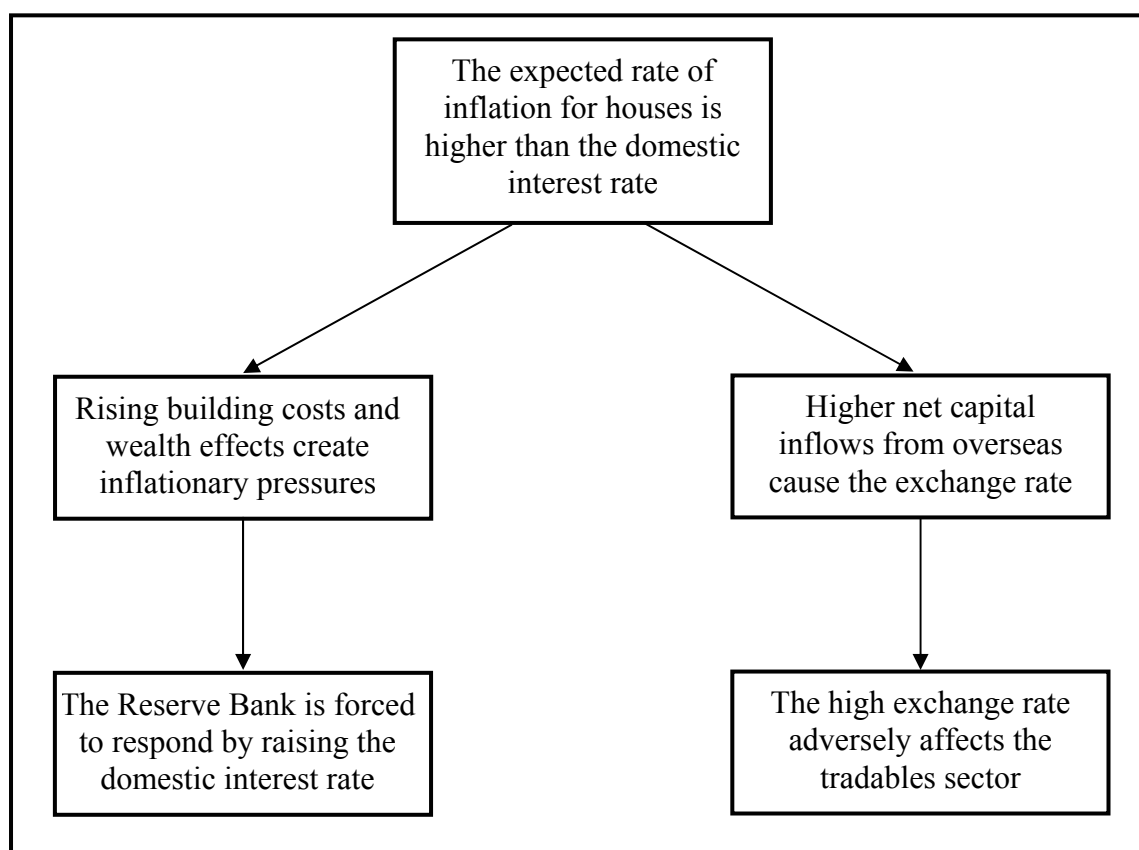
<sup>4</sup> The non-price returns on housing, such as after tax rental income, are excluded for simplicity, but could be easily incorporated into the analysis.

Fourth, if the rate of inflation for houses is indeed higher than the domestic interest rate, this provides a substantial wealth windfall for homeowners. It is entirely rational for homeowners to choose to spend some of that windfall on higher consumption, further contributing to domestic inflationary pressures.

Fifth, if the rate of inflation for houses is higher than the domestic interest rate, the main losers are people saving to buy their first home. The value of their savings at the beginning of the year rises by the rate of interest, but the price of their intended purchase rises at a faster rate.

Sixth, to the extent that the domestic inflationary pressures in points three and four are accommodated by the Reserve Bank, people on fixed incomes unable to hedge against inflation will also be losers in this scenario.

**Figure 7: Two Independent Transmission Mechanisms**



Compared to the criticisms recorded earlier in this paper, the above analysis casts a different light on the role of the Reserve Bank. In this analysis, the Bank is not the catalyst for a high value of the exchange rate, which is caused instead by a high capital inflow attracted by high returns in the housing market. The true relationship between monetary policy and difficult business conditions in the tradables sector is shown in Figure 7. If the expected rate of inflation for houses is higher than the domestic interest rate, two independent transmission mechanisms are initiated. On the one hand, rising building costs and the wealth effect create inflationary pressures, which force the Reserve Bank to respond by raising the domestic interest rate. On the other hand, higher

net capital inflows from overseas, attracted by the high returns *in the housing market*, cause the exchange rate to rise, and this is what adversely affects the tradables sector, independent of the policy response by the Reserve Bank. Under these circumstances, it is tempting but wrong for exporters and domestic manufacturers to blame the Reserve Bank for their difficulties. The cause of the difficulties is to be found in whatever is causing expected high inflation in the housing market, and the Reserve Bank is simply performing its statutory function of ensuring the same factors do not feed into ongoing consumer price inflation.

Note that this theory is entirely consistent with this paper's earlier observation that most of New Zealand's recent exchange rate appreciation took place during 2003, at a time when the inflation for housing was at its peak but *before* the Reserve Bank began tightening monetary policy in 2004. The next section presents an analytical model to explain in more detail the relationship between money and the price inflation of houses.

#### **4. An Analytical Model of Money and Housing**

This section draws on a model developed in Dalziel (2001) to analyse what role money might play in contributing to price inflation of housing. Its starting point is recognition that the major medium of exchange in modern market economies is essentially bank deposits subject to cheque or electronic transfers ('credit-money'). Banknotes and coins play a minor role in market transactions (certainly in the buying and selling of houses).<sup>5</sup> Credit-money is created by the banking system when it makes loans to its customers (who offer real assets as collateral) and the loans are redeposited into the system.

This idea that the banking system allows real assets to be transformed into medium of exchange goes back at least to Knut Wicksell's (1898) *Geldzins und Guterpreise*, although this was not available in English translation until 1936. Irving Fisher's (1911) book, *The Purchasing Power of Money*, described the mechanism as follows (p. 41):

Through banking, he who possesses wealth difficult to exchange can create a circulating medium. He has only to give to a bank his note – for which, of course, his property is liable – get in return the right to draw, and lo! his comparatively unexchangeable wealth becomes liquid currency. To put it crudely, banking is a device for coining into dollars land, stoves, and other wealth not generally exchangeable.

More recent significant contributions to the finance theory of the medium of exchange have been made by Gurley and Shaw (1960), Black (1970), and Freeman and Huffman (1991).

To simplify the analysis, the model of this paper assumes that housing is the only real asset and that bank deposits are the only form of money. The real quantity of housing at the beginning of a period is denoted by  $K_0$ , and the average price of housing is denoted by  $P_0$ . Thus the nominal wealth in the model at the beginning of the period is  $P_0K_0$ . Assume that this nominal wealth is financed by bank loans, denoted  $L_0$ , and house equity,  $P_0K_0 - L_0$ . This is shown in the balance sheet of Figure 8.

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<sup>5</sup> In December 2006, the value in New Zealand of the M2 measure of the money supply (which includes bank deposits subject to cheque or electronic transfers) was \$71.2 billion, of which only 4.1 per cent was notes and coins held by the public (\$2.9 billion).

**Figure 8: Balance Sheet Showing the Financing of the Housing Stock**

<i>Assets</i>		<i>Liabilities</i>	
Houses	$P_0K_0$	Bank Loans	$L_0$
		House Equity	$P_0K_0 - L_0$

Now consider the net worth of households. Since housing is the only real asset, the net worth of households must equal  $P_0K_0$ . This is comprised of bank deposits, denoted  $D_0$ , and equity in the housing stock,  $P_0K_0 - D_0$ . This is shown in the balance sheet of Figure 9. The balance sheets in Figures 8 and 9 are consistent with each other since by definition bank deposits must equal bank loans; that is,  $D_0 \equiv L_0$ , where  $L_0$  is backed by the remaining value of the houses acting as collateral. Adopting Freeman and Huffman's (1991, p. 646) useful phrase, the credit-money in this model can therefore be thought of as 'intermediated capital'.

**Figure 9: Balance Sheet Showing the Net Worth of Households**

<i>Assets</i>		<i>Liabilities</i>	
Bank Deposits	$D_0$	Net Worth	$P_0K_0$
House Equity	$P_0K_0 - D_0$		

During the period, new houses are built. Let the quantity of new houses be denoted by  $\Delta K$ . The nominal value of these new houses,  $P_0\Delta K$ , have to be financed by a combination of new bank loans and new equity; let the new bank loans be denoted by  $\Delta L$ . It is convenient to give the ratio of these two variables its own symbol,  $d$ , which in Dalziel (2001) is termed the marginal debt-capital ratio:

$$d \equiv \Delta L / P_0\Delta K \quad (4)$$

The value of  $d$  will be determined by either the banking system or their borrowing customers, depending on which chooses the lower value for  $d$  as a matter of commercial practice. The new loans that are offered and accepted become new bank deposits. Substituting  $\Delta D = \Delta L$  in equation (4) and rearranging then yields:

$$\Delta D \equiv dP_0\Delta K \quad (5)$$

There is nothing in the model so far to suggest that these deposits will be held willingly. Assume, therefore, that households choose to hold deposits in a fixed proportion of their net worth. Given that bank deposits are the only form of money in the model, this proportion can be termed the household's desired money-wealth ratio, denoted  $h$ :

$$D_0 \equiv hP_0K_0 \quad (6)$$

The increase in net worth after the investment in new houses makes households willing to hold more deposits, but only to the value of  $hP_0\Delta K$ . If  $d > h$ , households have

excess liquidity, which they use to bid for more housing. This increases the price of houses by  $\Delta P$ , which raises nominal net worth until the deposits come to be willingly held. The change in the demand for deposits is found by differentiating (6):

$$\Delta D \equiv h\Delta PK + hP_0\Delta K \quad (7)$$

Set (7) equal to (5) to solve for the rate of inflation in house prices:

$$\begin{aligned} & h\Delta PK + hP_0\Delta K = dP_0\Delta K \\ \Rightarrow & \\ & \Delta P/P_0 + \Delta K/K_0 = (d/h)\Delta K/K_0 \\ \Rightarrow & \\ & \Delta P/P_0 = [(d-h)/h]\Delta K/K_0 \end{aligned} \quad (8)$$

If the rate of inflation is denoted by  $p$  and the rate of growth in the housing stock by  $g$ , then equation (8) can be rewritten as:

$$p = \frac{d-h}{h} g \quad (9)$$

Inflation in the housing market is caused if the marginal debt-capital ratio chosen to finance new housing is greater than the desired money-wealth ratio of households. The intuition is straightforward. If  $d > h$ , the finance decisions for new housing create a greater supply of bank deposits than are willingly held. This creates an excess demand for equities, increasing the nominal value of the capital stock until the desired money-wealth ratio prevails.

To understand why borrowers (or the banking system when the economy is credit constrained) might choose  $d > h$ , note that the inflation has a beneficial impact on the value of house equity, which increases from  $(1-h)P_0K_0$  at the beginning of the period to  $(1-h)PK$  at the end. In real terms, this involves two components (where the final transformation in the derivation is obtained using equations 6 and 9):

$$\begin{aligned} \{(1-h)PK/(1+p)\} - (1-h)P_0K_0 &= (1-h)P_0(K - K_0) \\ &= (1-d)P_0\Delta K + (d-h)P_0\Delta K \\ &= (1-d)P_0\Delta K + pD_0 \end{aligned} \quad (10)$$

The first component,  $(1-d)P_0\Delta K$ , is the direct house equity created during the period, reflecting the increase in the real capital stock due to investment. The second component measures the reduction in the real value of the beginning-of-period credit-money,  $D_0$ , brought about by inflation,  $p$ . This is exactly analogous to the inflation tax on nominal cash balances in a fiat money economy (see, for example, Auernheimer, 1974; Friedman, 1971; Keynes, 1923, pp. 37-53; and Phelps, 1973). It represents a real transfer of resources from deposit holders (who are obliged to devote a portion of current saving to restoring the real value of their liquid balances) to house owners (who benefit from the reduced real value of their bank loans). The deposit holders include people saving to buy their first home, whose real purchasing power is reduced by the inflation in house prices.

The offsetting mechanism, of course, is the rate of interest paid by bank borrowers to bank depositors (intermediated through the banking system). This reintroduces the

central bank into the analysis, since modern central banks implement monetary policy by adjusting the banking system's base interest rate (see, for example, Figure 6 earlier in this paper). *Ceteris paribus*, increasing the base interest rate will raise the interest rate paid by borrowers and will raise the interest rate received by depositors. Again *ceteris paribus*, this will reduce the return on loans (and so lower  $d$ ) and reduce the opportunity cost of holding credit-money (and so raise  $h$ ). This would close the gap in equation (9) and so reduce inflation in the price of housing.

## **5. Conclusion**

This paper was written in response to criticisms of the Reserve Bank of New Zealand in which some commentators complain that recent tight monetary policy in response to a strong domestic housing market has caused the exchange rate to become overvalued, creating difficult business conditions for the tradables sector and putting the country's future economic development at risk. In contrast, this paper has argued that the strong domestic housing market was itself the direct cause of the exchange rate appreciation, that such a rise in house prices can be self-financed by the banking system, and that the Reserve Bank's tightening of monetary policy was a response to, rather than a trigger of, these events.

In short, this paper suggests that the current difficulty being experienced by the New Zealand tradables sector is an example of the well-known 'booming sector and Dutch disease' problem in economics (Corden, 1984). In the New Zealand example, the domestic housing market is the booming sector, and the financial inflows attracted by the housing market boom are the cause of the recent exchange rate appreciation. This is not a problem that monetary policy can address; instead attention needs to focus on the underlying causes of recent trends in the housing market.

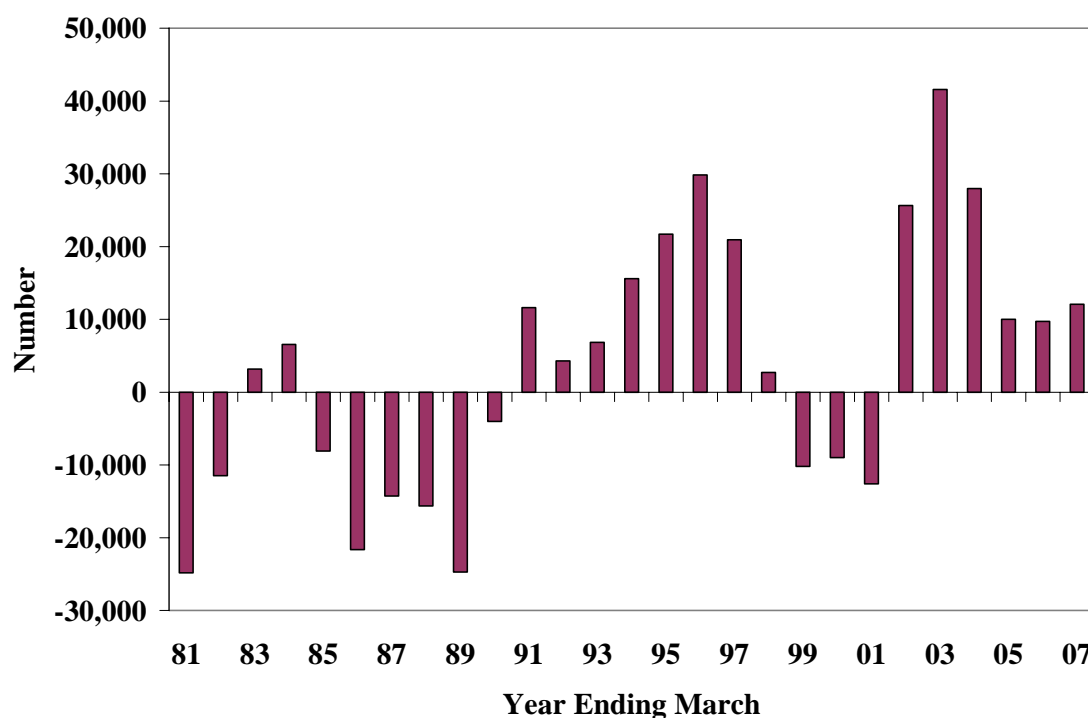
This may involve the Reserve Bank. It is possible, for example, that the banking sector itself can exacerbate cycles in house prices, by reducing equity requirements for new mortgages during good times and raising equity requirements during bad times (Minsky, 1986). In terms of the model in section 5 of this paper, this would occur if the banking system raised  $d$  when house price inflation is high and lowered  $d$  if house prices begin to fall, with pro-cyclical consequences. The Reserve Bank of New Zealand (2007, p. 4) has noted that 'in recent times, households have had unprecedented access to credit, which is being fuelled by intense competition amongst banks'. Consequently, the Bank has sought to identify policy options for dampening the housing cycle and so reduce the current pressure on monetary policy to contain inflation (Reserve Bank of New Zealand, 2007, p. 7):

On the fiscal side, potential measures include greater emphasis on the enforcement of existing tax laws regarding capital gains made on investment properties and changes to the tax rules around investor housing. Development of these options with the relevant agencies is progressing. Also, in the area of mortgage credit growth, we are considering the scope for changes to banks' capital adequacy requirements on housing lending aimed at moderating the credit amplifier effect on the housing market, while at the same time ensuring that banks have an adequate buffer against a possible housing downturn.

There is, however, an alternative explanation to be considered by policymakers. Recall the discussion in section 2 of this paper about economic development and property values. That discussion argued that rising property prices can be a good indicator that economic development is taking place. If a district is developing new

economic opportunities, or if it is attractive to new businesses and households, this will be reflected in rising land values. The same observation is true at the national level.

**Figure 10: Net Migration to New Zealand, 1997 - 2007**



Source: Statistics New Zealand INFOS series EMI.S3E.

The new millennium has been good for the New Zealand economy. There has been no recession (defined as two quarters in a row of negative growth in seasonally adjusted real gross domestic product) since March 1998. Real economic growth averaged 3.6 per cent per annum between 1998/99 and 2005/06 (March years). The seasonally adjusted rate of unemployment in December 2006 was 3.7 per cent nationally, down from 7.6 per cent in December 1998, and no region in New Zealand had unemployment above 4.7 per cent. The number of enterprises in Statistics New Zealand's Business Frame (which generally includes all employing units, and those with GST turnover greater than \$30,000 per year, excluding businesses involved in farming) increased from 250,056 in February 1999 to 346,091 in February 2006 – an annual growth rate of 4.75 per cent per annum. These trends make New Zealand a more attractive place to live and do business, reflected in the positive net migration figures since 2001/02 (March years) shown in Figure 10. Under these circumstances, it is plausible that the recent boom in property values in Figure 6 is justified by real factors, and is a measure of the country's shift to a higher level of economic development in the last half decade.

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