

Monetary policy in New Zealand

Monetary policy refers to the use of financial instruments to influence variables such as the quantity of money in the economy, interest rates and the exchange rate. These variables, in turn, affect spending, saving and investment decisions.

Inflation targeting

Under the Reserve Bank Act 1989 New Zealand's monetary policy has been required to be aimed solely at producing price stability. By specifying a single objective and giving the Reserve Bank political independence to pursue it, the Reserve Bank Act minimises the likelihood that price stability might be sacrificed for other policy objectives. Provisions in the Act requiring transparency and accountability also enhance the Bank's credibility.

Inflation target: The inflation rate (or range of rates) specified as a price stability policy target.

Price stability, in this context, means maintaining a rate of inflation between 1% and 3% over the medium term. This is called the **inflation target**. Price stability is believed to provide an environment for positive and sustainable economic growth by reducing the uncertainty and risk associated with inflation, as discussed in Chapter 12. Figure 22.1 (in Chapter 22) shows that the extent of the inflation of the 1970s and 1980s is unusual in the historical context, which even includes periods of deflation in the nineteenth century and in the early 1930s.

Price stability within the policy-stipulated inflation target (which itself was modified slightly from the original 0–2% to 0–3% in 1996, and to 1–3% in 2002) has been a feature of the New Zealand economy since the early 1990s (see Figure 16.11), although it is not clear to what extent monetary policy can be said to have caused price stability. Other countries which practised monetary policy differently had similar inflation rates to that of New Zealand.

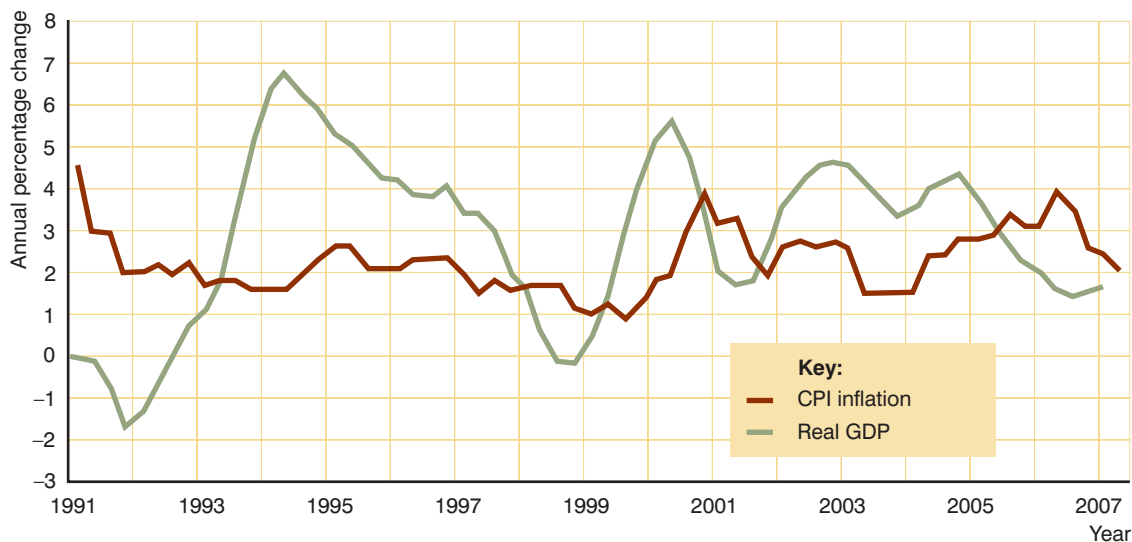


Figure 16.11 Inflation and economic growth in New Zealand

Source: Reserve Bank of New Zealand

The Policy Targets Agreement (PTA)

The inflation target is decided on by the government of the day, and specified in the Policy Targets Agreement (PTA) signed by the Minister of Finance and the Governor of the Reserve Bank. Details of the PTA are given in Box 16.2. While the Reserve Bank Act allows for the PTA to be overridden, this must be done publicly and for a limited period only. Accountability of the Bank is provided by the possibility that the Governor may be dismissed if the targets in the PTA are not achieved. Six-monthly monetary policy statements are required and the Governor must make regular appearances at the Parliamentary Select Committee on Finance and Expenditure.

Box 16.2

What is the Policy Targets Agreement?

The Reserve Bank of New Zealand Act 1989 specifies that the primary function of the Reserve Bank shall be to deliver 'stability in the general level of prices.' Section 9 of the Act then says that the Minister of Finance and the Governor of the Reserve Bank shall together have a separate agreement setting out specific targets for achieving and maintaining price stability. This is known as the Policy Targets Agreement (PTA).

A new PTA must be negotiated every time a Governor is appointed or re-appointed, but it does not have to be renegotiated when a new Minister of Finance is appointed. The Act requires that the PTA should set out specific price stability targets and that the agreement, or any changes to it, must be made public. The PTA can only be changed by agreement between the Governor and the Minister of Finance (section 9(4)). Thus, neither side can impose unilateral changes.

Note, however, that under the Reserve Bank Act, the government has the power (section 12) to override the PTA. It can do this by directing the Reserve Bank to use monetary policy for a different economic objective altogether for a 12-month period, though again it must make the instruction public. A new PTA must then be negotiated to cover the override period and another PTA must be negotiated when the override ends. In either case, if a new PTA cannot be negotiated, the Governor can be dismissed. So far, this override section has not been used.

There have been seven PTAs so far since the passage of the 1989 Act. Dr Alan Bollard and Finance Minister Michael Cullen signed the current PTA on 24 May 2007.

The PTA has four sections. The first confirms that 'The Reserve Bank is required to conduct monetary policy with the goal of maintaining a stable general level in prices.' It also summarises the government's overall economic objectives.

The second section says that the Bank's inflation target shall be 1 to 3 per cent on average over the medium term, defined in terms of the All Groups Consumers Price Index (CPI), as published by Statistics New Zealand.

Section 3 says that when external events push inflation above or below its medium-term trend, 'the Bank will respond consistent with meeting its medium-term target.' This means that in that circumstance the Reserve Bank is required to get inflation back to '1 to 3 per cent on average over the medium term'.

The final section describes how the Reserve Bank shall implement and be accountable for its decisions. This includes providing explanations for any inflation breaches, or projected breaches, in the Bank's quarterly *Monetary Policy Statements*. The last section also says that, as it implements monetary policy to achieve price stability, the Bank 'shall seek to avoid unnecessary instability in output, interest rates and the exchange rate'.

Perhaps the most important feature of the PTA is that it is a public document. As a result, any attempt by a government to use monetary policy to create a temporary surge in economic activity for electoral advantage would probably fail. This is because a public announcement that inflation was going to be higher would immediately trigger higher interest rates, offsetting the temporary stimulatory effect of any induced inflation. Prior to the 1989 Act, a government could secretly direct that monetary policy follow a particular path.

By contrast, price stability, as required by the Act and the PTA, protects the value of people's incomes and savings. Monetary policy, in itself, can't generate faster sustainable economic growth, but, by delivering price stability, it helps set a predictable background against which businesses and households can make the most effective decisions, and by that contribute to maximising sustainable economic growth for New Zealand. As well, monetary policy aimed at price stability helps reduce boom-bust business cycles. This means that when the economy falters, inflationary pressures fall and monetary conditions can be eased, which encourages the economy and employment to grow again.

Source: Reserve Bank of New Zealand, *Fact Sheet*, May 2007

Official Cash Rate (OCR):

The principal interest rate set by the Reserve Bank. It defines a band around which the registered banks can borrow and lend from the Reserve Bank and therefore influences short-term market interest rates.

The Official Cash Rate (OCR)

The Reserve Bank cannot directly control the money supply, whether it is measured as M1, M2 or M3. There are no compulsory reserve ratios applied to financial institutions in New Zealand. Since March 1999 the tool of monetary policy has been the **Official Cash Rate (OCR)**. Under this approach, the Reserve Bank has significant influence over short-term interest rates, and hence can affect credit creation in the economy. Instead of fixing reserves (as happened under the previous system) the Reserve Bank allows the reserves to adjust to whatever is the desired OCR.

The OCR is the interest rate around which banks can borrow overnight from the Reserve Bank should they run short of settlement cash, and the interest rate they will earn on settlement cash balances overnight. Settlement cash is then allowed to adjust to achieve the announced rates. In turn, the OCR affects the 90-day bill rate and other longer-term interest rates in the economy. Thus, a change in the OCR can be expected to produce a broadly corresponding change in the entire interest rate structure of the economy, which impacts on savings, spending, investment and borrowing decisions, and, ultimately, on inflation. Note that when we talk about ‘the interest rate’ we are primarily interested in the banks’ lending rates when we are looking at the impact on AD. This is because we are particularly interested in the impact of a change in the OCR on things such as spending and investment in the economy. When we discuss the effect of interest rates on the exchange rate, we focus more on the deposit side. But both deposit and lending rates move in the same direction, so, in general, we can simply state that an increase or decrease in the OCR will raise or lower (respectively) all other interest rates.

In terms of Figure 16.9, a decrease in the OCR signals an easing (or ‘loosening’) of monetary policy and the money supply is allowed to grow (the money supply curve shifts to the right). A rise in the OCR signals a tightening of monetary policy as the money supply curve shifts to the left.

Under the OCR policy, the Reserve Bank looks at a range of indicators, including a range of interest rates and the exchange rate. In Chapter 21 we will look in more detail at the exchange rate. For now, we note that higher interest rates will generally attract foreign investors to New Zealand who are looking for a good rate of return on their investments in financial assets. They bid for New Zealand dollars (NZ\$) with their foreign currency in the foreign exchange market, driving up the price of New Zealand dollar (i.e. the exchange rate appreciates).

Box 16.3 gives a more detailed explanation of the OCR while Box 16.4 gives a historical view of OCR rates and changes since its introduction in 1999. The Reserve Bank reviews the OCR rate every six weeks (approximately eight times per year). Box 16.4 outline some of the other activities the Reserve Bank undertakes to influence monetary conditions.

Box 16.3**What is the Official Cash Rate?**

The Official Cash Rate (OCR) is the interest rate set by the Reserve Bank to meet the inflation target specified in the Policy Targets Agreement. The agreement signed in May 2007, between the Minister of Finance and the Governor of the Reserve Bank, requires the Reserve Bank to keep inflation, on average over the medium term, at between 1% and 3% per annum.

The OCR was introduced in March 1999 and is reviewed eight times a year by the Bank. Monetary Policy Statements are issued with the OCR on four of those occasions. Unscheduled adjustments to the OCR may occur at other times in response to unexpected or sudden developments, but to date this has occurred only once, following the 11 September 2001 attacks on the World Trade Centre in New York.

What the OCR does

The OCR influences the price of borrowing money in New Zealand and provides the Reserve Bank with a means of influencing the level of economic activity and inflation. An OCR is a fairly conventional tool by international standards. In the past, the Reserve Bank used a variety of tools to influence inflation, including influencing the supply of money and signalling desired monetary conditions to the financial markets. Such mechanisms were more indirect, more difficult to understand, and less conventional.

How the OCR works

Most registered banks hold settlement accounts at the Reserve Bank, which are used to settle obligations with one another at the end of the day. For example, if you write out a cheque or make an EFTPOS payment, the money is paid by your bank to the bank of the recipient. Many hundreds of thousands of such transactions are made every day. The Bank pays interest on settlement account balances, and charges interest on overnight borrowing, at rates related to the OCR. These rates are reviewed from time to time, as is the OCR. The most crucial part of the system is the fact that the Reserve Bank sets no limit on the amount of cash it will borrow or lend at rates related to the OCR.

As a result, market interest rates are generally held around the Reserve Bank's OCR level. The practical result, over time, is that when market interest rates increase, people are inclined to spend less on goods and services. This is because their savings get a higher rate of interest and there is an incentive to save; and conversely, people with mortgages and other loans may experience higher interest payments.

When people save more or spend less, there is less pressure on prices to rise, and therefore inflation pressures tend to reduce. Although the OCR influences New Zealand's market interest rates, it is not the only factor doing so. Market interest rates – particularly for longer terms – are also affected by the interest rates prevailing offshore since New Zealand financial institutions are net borrowers in overseas financial markets. Movements in overseas rates can lead to changes in interest rates even if the OCR has not changed.

Source: Reserve Bank of New Zealand
<http://www.rbnz.govt.nz/monpol/about/0072140.html>
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Box 16.4

Official Cash Rate (OCR) changes

Date	Change in OCR	OCR rate	Date	Change in OCR	OCR rate
17 March 1999	OCR introduced	4.50	4 September 2003	No change	5.00
21 April 1999	No change	4.50	23 October 2003	No change	5.00
19 May 1999	No change	4.50	4 December 2003	No change	5.25
30 June 1999	No change	4.50	29 January 2004	+0.25	5.25
18 August 1999	No change	4.50	11 March 2004	No change	5.50
29 September 1999	No change	4.50	29 April 2004	+0.25	5.75
17 November 1999	+0.50	5.00	10 June 2004	+0.25	6.00
19 January 2000	+0.25	5.25	29 July 2004	+0.25	6.25
15 March 2000	+0.50	5.75	9 September 2004	+0.25	6.50
19 April 2000	+0.25	6.00	28 October 2004	+0.25	6.50
17 May 2000	+0.50	6.50	9 December 2004	No change	6.50
5 July 2000	No change	6.50	27 January 2005	No change	6.75
16 August 2000	No change	6.50	10 March 2005	+0.25	6.75
4 October 2000	No change	6.50	28 April 2005	No change	6.75
6 December 2000	No change	6.50	9 June 2005	No change	6.75
24 January 2001	No change	6.50	28 July 2005	No change	6.75
14 March 2001	-0.25	6.25	15 September 2005	No change	7.00
19 April 2001	-0.25	6.00	27 October 2005	+0.25	7.25
16 May 2001	-0.25	5.75	8 December 2005	+0.25	7.25
4 July 2001	No change	5.75	26 January 2006	No change	7.25
15 August 2001	No change	5.75	9 March 2006	No change	7.25
19 September 2001	-0.50	5.25	27 April 2006	No change	7.25
3 October 2001	No change	5.25	8 June 2006	No change	7.25
14 November 2001	-0.50	4.75	27 July 2006	No change	7.25
23 January 2002	No change	4.75	14 September 2006	No change	7.25
20 March 2002	+0.25	5.00	26 October 2006	No change	7.25
17 April 2002	+0.25	5.25	7 December 2006	No change	7.25
15 May 2002	+0.25	5.50	25 January 2007	No change	7.25
3 July 2002	+0.25	5.75	8 March 2007	+0.25	7.50
14 August 2002	No change	5.75	26 April 2007	+0.25	7.75
2 October 2002	No change	5.75	7 June 2007	+0.25	8.00
20 November 2002	No change	5.75	26 July 2007	+0.25	8.25
23 January 2003	No change	5.75	13 September 2007	No change	8.25
6 March 2003	No change	5.75	25 October 2007	No change	8.25
24 April 2003	-0.25	5.50	6 December 2007	No change	8.25
5 June 2003	-0.25	5.25	24 January 2008	No change	8.25
24 July 2003	-0.25	5.00			

Source: Reserve Bank of New Zealand (January 2008)

Primary liquidity: The reserves of the banking system, comprising settlement cash and liquid assets that can be used to obtain settlement cash.

Box 16.5**Monetary management techniques**

Most of the day-to-day activities of the Reserve Bank are designed to maintain monetary conditions rather than alter them. Seasonal and other factors can alter primary liquidity and its cash component sometimes quite dramatically, on a day-to-day basis.

- *Liquidity management.* A major goal of liquidity management is to remove these influences so that they do not obscure the longer-term policy stance. The major cause of short-term changes arises from the government budget activities where there is a mismatch in timing between government spending and revenue.
- *Open-market operations* take place on a daily basis and are sales or purchases of government securities and other financial assets by the Reserve Bank, which alter monetary conditions and are used to smooth out short-term fluctuations.
- *Daily float tenders.* The Reserve Bank lends part of the government's net cash receipts back to the banks as a daily flow. Suppose that on a particular day the Reserve Bank forecasts that the government flows will mean a net withdrawal from the banks. It will try to inject this cash back into the system either by buying government securities outright in the market or by a 'sell-back' arrangement.
- *Issue of government bonds and Treasury Bills.* The Reserve Bank acts as the government's agent in organising the sale of government securities for the government's financing requirements.

Transmission mechanisms

Monetary policy is forward looking, meaning that decisions are made based on expected inflation, not past or actual inflation. There is a lag of at least a year¹ for the effects of a change in monetary policy to eventuate. Figure 16.12 shows the **transmission channels** through which decisions relating to the OCR are transmitted through the economy, ultimately impacting on the inflation rate, the primary objective. The link between monetary policy, the exchange rate and the balance of payments is examined in Chapter 23. The most important channel relates to the effects changes in interest rates have on expenditure.

Transmission channels: Pathways or links by which a policy change indirectly affects its target variable.

¹Possibly up to five years. See article, 'Lags in the effect of monetary policy: foreign country experiences' in *Reserve Bank of New Zealand Bulletin* (November 1985), Vol. 48(11): 620–5. (http://www.rbnz.govt.nz/research/bulletin/1980_1986/1985nov48_11lagsintheeffectofmonetarypolicy.pdf)

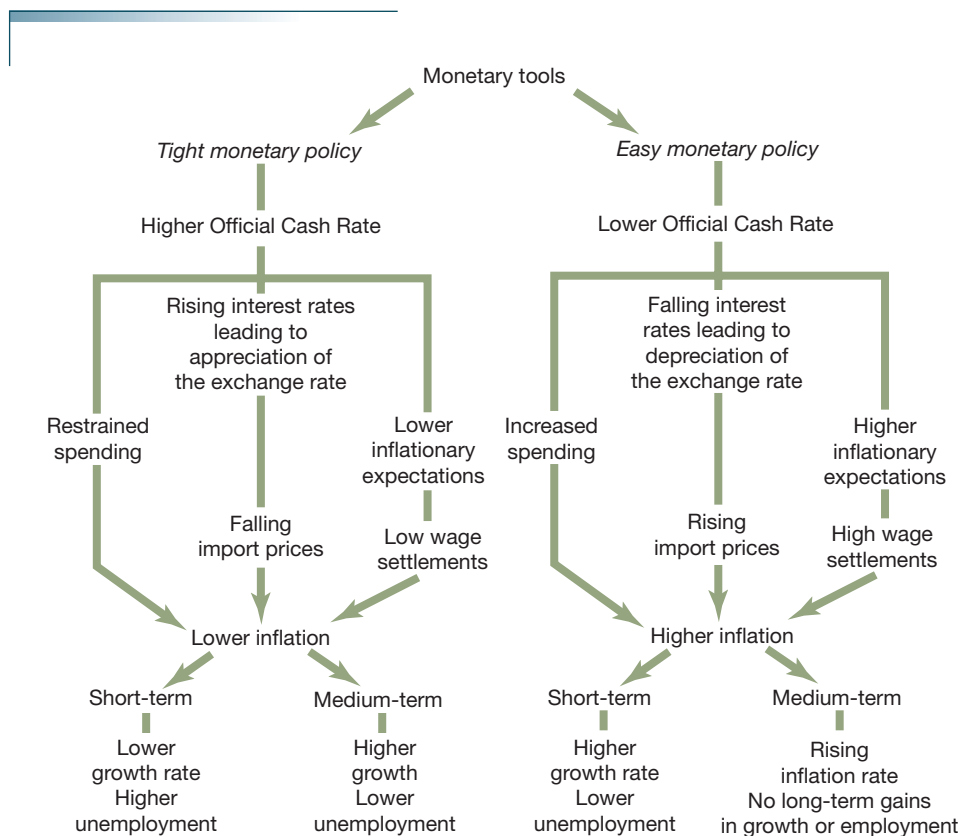


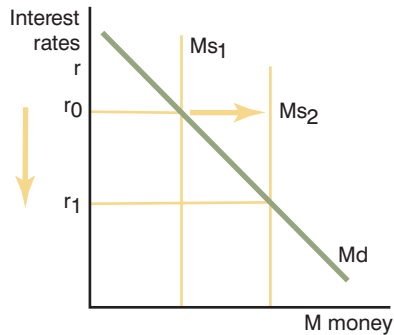
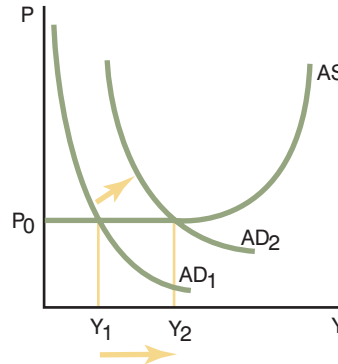
Figure 16.12 Monetary policy

An easing of monetary policy

Suppose the Reserve Bank believes that high interest rates are unduly depressing business investment and confidence. If the Reserve Bank decides to reduce the OCR, the money supply will increase; that is, it will be higher than it otherwise would have been. Banks will create more money in the economy through more credit creation, and as interest rates fall, there will be changes in the quantity of money demanded.

- This shift in the supply of money is shown as a rightward movement of the M_s curve in Figure 16.13(a) from M_{s_1} to M_{s_2} .
- The rate of interest falls until people are happy to hold the higher stock of money; that is, the rate falls from r_0 to r_1 .
- Lower rates of interest will encourage investment and consumer spending.
- Increased spending will increase real output at any given price level.
- Thus, as shown in Figures 16.13(b) and 16.13(c), the AD curve moves to the right, from AD_1 to AD_2 .

(a) Effect of a reduction in OCR on market for money

(b) Effect of an increase in aggregate demand along the flattish section of the AS curve due to lower r 

(c) Effect of an increase in aggregate demand with a rising AS curve

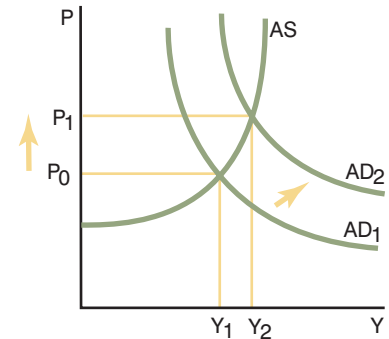


Figure 16.13

The fall in interest rates may have the desired impact, which is to increase business investment. Consumer spending may also increase because credit is less expensive. The net impact will be to shift the aggregate demand curve to the right. The impact on the price level and output will depend on aggregate supply, and on the position of the economy in the business cycle, as shown in Figures 16.13(b) and 16.13(c). If the aggregate supply curve is in its perfectly flat region, the shift in aggregate demand caused by this expansionary monetary policy should result in more real output and no price increases, as shown by the movement from Y_1 to Y_2 in Figure 16.13(b). If, however, the aggregate demand curve moves out in the steep portion of the aggregate supply curve, there may be little real growth in output and a substantial rise in prices from P_0 to P_1 , as shown in Figure 16.13(c).

Further, a lower rate of interest will mean that New Zealand is a less attractive place for foreign investors. Everything else remaining constant, the demand for New Zealand dollars falls and the exchange rate will depreciate. The effect of the currency depreciation is to encourage exporting and the increase in exports also tends to shift the aggregate demand curve to the right; however, the depreciation also contributes to inflation. There will also be impacts on the balance of payments current account deficit. These effects are discussed in Part Seven.

Box 16.6

Monetary policy

CONCEPTS TO DISCUSS

- economic outlook
- inflation pressures
- price/wage setting behaviour
- expectations

OCR unchanged at 8.25%

The Official Cash Rate (OCR) will remain unchanged at 8.25%.

Reserve Bank Governor Alan Bollard said: 'The outlook for economic activity and inflation has become more uncertain since we reviewed the OCR in July. Credit concerns and heightened risk aversion have led to significant turbulence in global financial markets. This development increases the likelihood of a weaker economic outlook for the United States and New Zealand's other key trading partners than in recent forecasts.'

'The consequences of this financial market turmoil for New Zealand remain unclear at this stage. However, we continue to expect a significant boost to the economy over the next two years from the sharp rise in world prices for dairy products and some other commodities that has occurred over the past year. A sharp decline in the New Zealand dollar since July, if sustained, will act to reinforce the effects of higher world prices on export sector revenues.'

'Recent inflation outcomes have highlighted widespread inflation pressures but indicators in recent weeks suggest that previous increases in the OCR are starting to dampen domestic spending, which will help to reduce those pressures. In particular, household borrowing growth is beginning

to slow and turnover in the housing market continues to fall.

'We expect the effects of stronger export revenues on activity and inflation to be broadly offset by a further braking effect from the interest rate increases undertaken earlier this year. However, in the short term, CPI inflation is likely to rise due to the effects of a lower exchange rate and higher food prices. It is important that this temporary increase in inflation does not affect price- or wage-setting behaviour in the medium term.'

'The recent collapse of a number of finance companies and reduced liquidity within the non-bank lending institution sector generally could further act to dampen activity in some areas of the economy, such as property development or consumer financing. However, we currently expect those negative effects to be relatively contained.'

'At this point, we believe that the current level of the OCR is consistent with future inflation outcomes of 1 to 3 per cent on average over the medium term. However, given greater than usual uncertainty at present, we will be watching to see how the upside and downside risks to the outlook are developing.'

Source: Reserve Bank of New Zealand, 13 September 2007

More information on the Reserve Bank and current approaches to monetary policy is available from the website, www.rbnz.govt.nz.

A tightening of monetary policy

The Reserve Bank tightens its monetary policy when it believes that aggregate demand is rising too quickly. When the economy reaches full capacity, additional spending will raise prices with little, if any, gains in real GDP. The effects are generally the opposite of those shown in Figure 16.13.

Monetary policy in New Zealand since the introduction of the OCR in 1999 has, more often than not, been in a tightening phase (see Box 16.4). By

August 2007 the OCR had reached 8.25%, well above its level of 4.50% when it was introduced in 1999. The generally tight stance has been due to rates of price increase, especially for prices of domestic items such as housing, being at or above the 3% upper limit for inflation specified by the Policy Targets Agreement since 1996.

In addition, monetary policy has been used, much as fiscal policy was used in the 1950s and 1960s, as a means of smoothing out the business cycle. With unemployment rates generally below 5% during the 2000s' decade, and with house prices rising much faster than per-capita GDP, the Reserve Bank has concluded that there is no cyclical unemployment in New Zealand, and that therefore the New Zealand economy has, for the most part since 1999, been operating at full capacity. Put another way, equilibrium output has been equal to potential GDP, with the AD and SAS curves intersecting at the LRAS output level. Under these conditions, any increase in aggregate demand over and above the 2% per year allowance for labour productivity growth and the 1% allowance for increased labour supply represents a high risk of unacceptable inflation. The rise in the OCR is intended to prevent such an unsustainable growth of aggregate demand.

The period of tightening monetary policy that began in 2004 continued through to 2007, with a brief pause in 2006. Domestic 'non-tradable' inflation, however, has stuck stubbornly to the 4% rate that gave the Reserve Bank concern in the first place (see Figure 16.14), despite the repeated raising of the OCR. In the June quarter of 2007, the 'all groups' CPI increased by 1%, which equates to more than 4% on an annual basis. On the news of such unexpectedly high inflation, the market rate of interest increased on the anticipation that the Reserve Bank would raise the OCR to 8.25%.

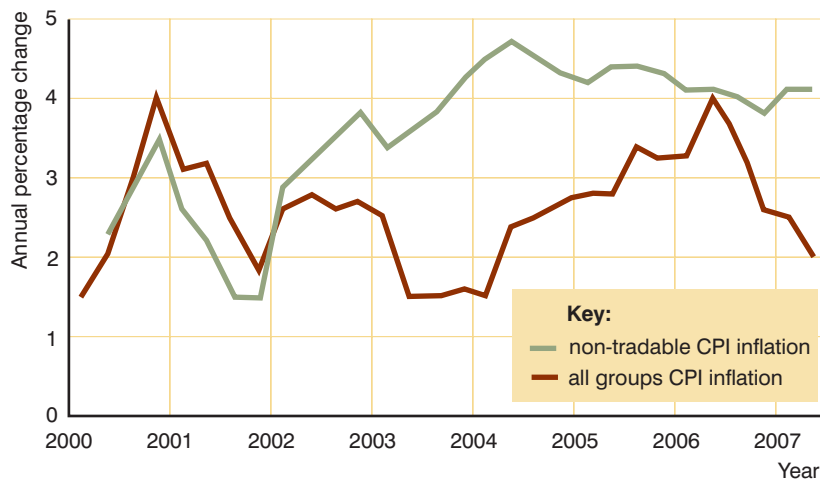


Figure 16.14 New Zealand inflation since 2000: non-tradable items

Controversies over monetary policy

A complete evaluation of monetary policy must wait until after we have studied the international economic environment within which national economies such as New Zealand's must operate (see Chapter 21). In particular we note that the transmission mechanism for monetary policy includes the exchange rate of New Zealand's and other countries' currencies.

While New Zealand's inflation-targeting approach has been followed by many other countries, some critics believe that the focus on interest rates as the means by which inflation is subdued has reduced investment and created serious imbalances in New Zealand's balance of payments.

Box 16.7

Monetary policy

CONCEPTS TO DISCUSS

- OCR
- inflation target
- objectives

Cullen must review monetary policy

In the wake of the 0.25% increase in the OCR to 7.5%, the Wood Processors Association is urging the Minister of Finance to review the Reserve Bank's narrow focus on inflation and fast-track the introduction of additional monetary policy tools currently being examined.

'Alternative methodologies have been proposed which will manage the over-inflated housing market and promote savings and we seek robust and consultative evaluation of these by the Reserve Bank' says Wood Processors Association Chairman, Dave Anderson.

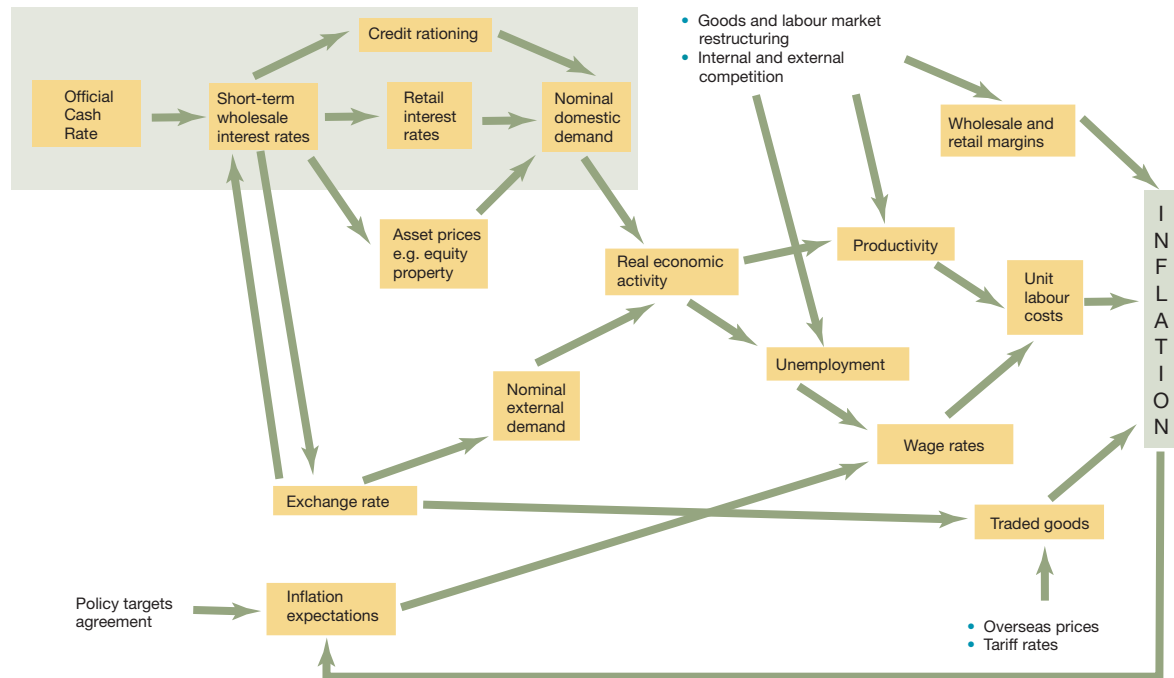
'The Reserve Bank desperately needs an overhaul. Its narrow focus on inflation is crippling strategic export industries, particularly the timber industry. High interest rates are attracting massive inflows

of foreign capital, which has fuelled the inflation of property values over which the Reserve Bank agonises. Thus, we have the situation where these perverse outcomes are the exact opposite of those the Reserve Bank wants, says Anderson.'

The timber industry is one of New Zealand's strategic export industries being steadily choked by current monetary policy. The long-term viability of the wood-processing sector, which includes sawmillers, panel manufacturers and the pulp and paper sector, is in serious jeopardy thanks to a terminal recipe of painfully high exchange and interest rates. Recent estimates conclude that the industry sector is losing \$300m per year due to the high value of the New Zealand dollar which is artificially propped up by current monetary policy.

Source: Press Release (Wood Processors Association), published in *Scoop*, 9 March 2007

Much of the debate about monetary policy can be understood in terms of different views of the transmission mechanism(s) through which monetary policy is supposed to affect inflation. Figure 16.15 shows how the Reserve Bank sees the monetary policy framework and the transmission paths.



Source: Reserve Bank of New Zealand (2003)

Figure 16.15 Monetary policy framework and transmission paths

The different paths through which monetary policy takes effect are given different weightings by different economists. Those supportive of the New Zealand monetary policy framework argue that the adverse impact on the real economy (through lower investment and exports) is likely to be temporary only. They stress the need for consistency in policy so that everyone knows there will be no softening of the intent to produce low inflation. Thus, with lower inflationary expectations and hence lower inflation there is little cost to output and employment. A review of the operation of monetary policy in New Zealand was commissioned by the government and undertaken by a Swedish monetary policy expert in 2001. The review concluded that:

... monetary policy in New Zealand is currently entirely consistent with the best international practice of flexible inflation targeting, with a medium-term inflation target that avoids unnecessary variability in output, interest rates and the exchange rate. (Svensson, 2001: 2)

However, in mid-2007 controversy over monetary policy reached new heights as the rising OCR – used as a weapon to discourage inflationary investment in housing – combined with a falling US\$ led to rapid and unsustainable rises in

the exchange rate of the New Zealand dollar (NZ\$). There were calls for the Reserve Bank to shift its focus away from inflation prevention, to take heed of macroeconomic performance targets other than the CPI price level, and to not overreact to actual or predicted inflation rates in the 3% to 5% range. A further source of disquiet was the fact that the tighter policy settings had, from early 2004 to mid-2007, shown no sign of achieving lower inflation rates.

In May 2007, the government set up a Select Committee 'Inquiry into the Future Monetary Policy Framework'. This government committee can be expected to recommend a number of changes to the conduct of monetary policy in New Zealand.

KEY CONCEPTS

- | | |
|--------------------------------|---------------------------------|
| • asset demand for money | • quantity theory of money |
| • demand for money | • rate of interest |
| • equation of exchange | • rate of return |
| • inflationary expectations | • real rate of interest |
| • money supply | • supply of money |
| • policy transmission channels | • transactions demand for money |

Exercises

- 1 Suppose that the Reserve Bank purchases bonds on the open market to increase the money supply.
 - a Beginning with Figure 1 at right, show the impact on the price of bonds.
 - b Explain the relationship between the price of bonds and interest rates.



Figure 1

- 2 a Beginning with Figure 2 at right, show the impact of expansionary monetary policy on the money supply and interest rates.
- b Explain briefly the impact of expansionary monetary policy on GDP and the price level.

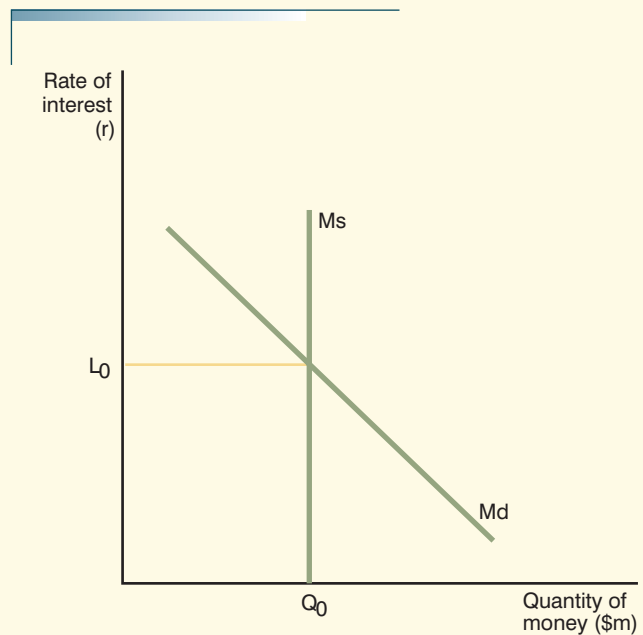


Figure 2

- 3 Refer to Figure 3 and answer the questions that follow.
- a Explain why the supply-of-money curve is vertical.
- b Explain why the demand-for-money curve is downward sloping.
- c Describe how the following would affect the money demand curves:
- a rise in the general price level
 - a fall in real incomes
 - a rise in interest rates.
- d Explain and illustrate how monetary policy affects the supply-of-money curve.
- e Distinguish between an increase in real money supply and an increase in nominal money supply.

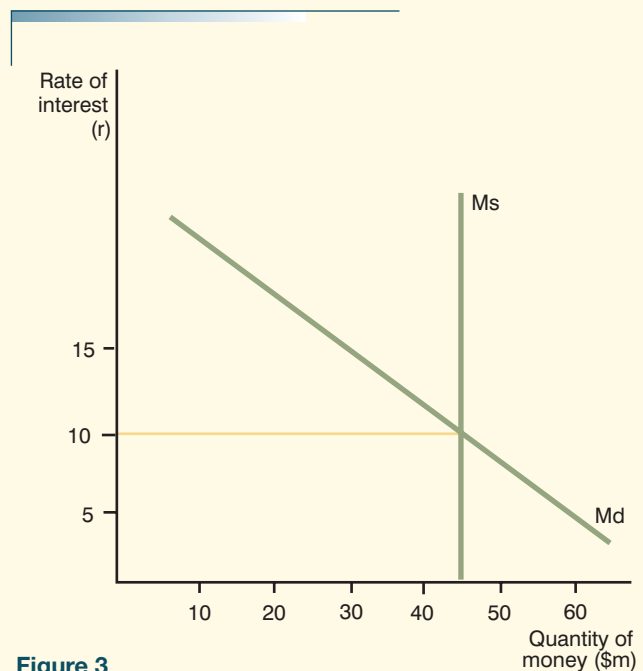


Figure 3

- 4 The aim of monetary policy is to try to push demand closer to the economy's long-term capacity to supply. Because the output gap constantly changes, depending on the position of the business cycle, monetary policy settings require constant adjustment. The ultimate aim is to smooth out otherwise destructive boom-and-bust cycles.

The graph below displays the principle of the business cycle and the output gap. In this graph, the straight blue line AB is the capacity of the economy to supply goods and services, over the medium term, without inflation increasing. The wavy red line CDE is demand. Where demand exceeds supply, at point D, the output gap is positive and there is pressure for prices to rise. Where supply exceeds demand, at points C and E, the output gap is negative, and there is pressure for prices to fall.

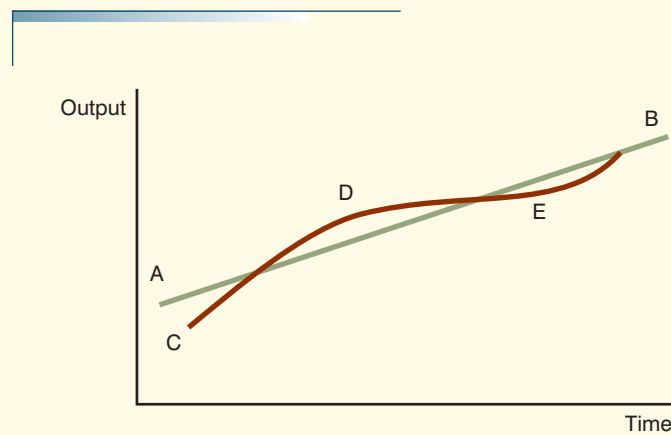


Figure 4

Source: www.rbnz.govt.nz/monpol/about/bus_cycle.pdf

Using the above information, demonstrate the implementation of monetary policy by applying the aggregate demand and aggregate supply model to the economy at:

- a point D
- b points C and E.