
Monetary policy and economic performance: the experience of New Zealand

Dr Alan Bollard, Governor and Dr Chris Hunt, Economics Department

This article is an abridged version of a paper prepared for a conference commemorating the 80th anniversary of the Bank of Mexico held on 14–15 November. The theme of the conference was ‘Stability and Economic Growth: The Role of the Central Bank’. The article reviews New Zealand’s economic performance, which has improved significantly since the early 1990s. The article suggests that New Zealand’s monetary policy framework is likely to have played a role in lifting economic performance, along with many other factors, most notably the widespread economic reforms. The article discusses the ways in which inflation may affect economic growth and briefly summarises some empirical literature. It also ponders the benefits of business cycle stabilisation – which may be a by product of inflation targeting – a subject of some controversy in the economic literature. A full version of the paper can be accessed at www.rbnz.govt.nz.

1 Introduction

New Zealand’s economic experience over the past 40 years or so, shows how small changes in annual growth rates can compound over time to produce large differences in income levels, and hence living standards. In 1960 New Zealand was the sixth richest country in the world, today we are ranked 21st in the OECD. In the intervening period, many other economies grew faster, overtaking New Zealand in the per capita rankings. New Zealand suffered more than most in the turbulent period of the 1970s, particularly with Britain’s entry into the European Community, which effectively closed off a key market for our primary exports. Policy reform and economic restructuring that followed in the 1980s and early 1990s only exacerbated our relative economic decline as New Zealanders struggled with the financial challenges posed by deregulated markets.

However, changes to economic policy settings and institutional reform laid in this earlier period have started to bear fruit. New Zealand has experienced a marked improvement in the rate of real economic growth over the last decade, growing above the OECD average for most of this period. However, there are long lags associated with structural reform, and, as the New Zealand Treasury notes, the “full effects of these changes are likely to be still emerging” (2004, p. 5).

Monetary policy also has a role in shaping economic growth. The 1970s and 1980s taught us that high and

variable inflation has adverse consequences for both welfare and growth. The legislated goal of price stability, couched within an evolving inflation targeting regime is an explicit recognition of the lessons of this period. The creation of a low and stable inflation environment is the first and foremost contribution that a central bank can make to long-run living standards. In addition, a central bank which is concerned with the short-run volatility of economic variables such as real output and the real exchange rate, can also contribute to economic welfare by creating a stable and more certain environment for the decision making of private agents.

This article provides an overview of New Zealand’s recent economic performance, presenting various stylised facts and summarising the broader policy agenda to increase our sustainable growth rate. This sets the scene for a discussion of monetary policy’s contribution to the recent improvement in New Zealand’s growth rate. The role of price stability as the main contribution to improved long-run growth is highlighted in section 3. This is followed in section 4 by the way the pursuit of price stability impacts short-run economic activity. Regard for short run volatility in output, interest rates, and the exchange rate is dictated by the Policy Targets Agreement. Section 5 brings together the insights from the preceding two sections and speculates whether smoother cycles contribute to higher average growth rates.

2 New Zealand's recent economic performance

Over the past five years, New Zealand has been a standout performer among the advanced industrialised economies of the OECD. Real Gross Domestic Product (GDP) growth has averaged 3.9 per cent on an annual basis, compared to 2.7 and 3.3 per cent for the United States and Australia respectively, and 2.4 per cent for the OECD as a whole (see table 1).¹ Driving this strength, at least initially, was a low exchange rate over 2000–01 and favourable climatic conditions which boosted the incomes of New Zealand's primary exporters. And while the exchange rate has appreciated considerably over the past few years, exporters have received an additional fillip from rising world commodity prices, reflecting strong global demand and tight global supplies for key exports such as beef, lamb and dairy products.² In addition, a surge in net migration since 2001 has added to domestic demand, reflected in robust growth in private consumption and a booming housing market.

Table 1
Comparative real economic growth

(annual average percent change)

	US	Australia	OECD	NZ
1970s	3.3	3.5	3.9	2.7
1980s	3.0	3.3	3.0	1.8
1990s	3.1	3.3	2.6	2.3
2000-	2.7	3.3	2.4	3.9

The immediate benefits of this macroeconomic strength have been manifested in one of the lowest rates³ of unemployment in the OECD at 3.4 per cent, rising household incomes, strong growth in company profits and sustained fiscal surpluses. A corollary to this prosperity has been nascent inflationary pressures associated particularly with the non-tradable sector. A booming housing sector has been key in adding to demand pressures, as will an expected fiscal expansion resulting from recent election promises. High oil

prices are another key risk to the inflation outlook, and the Bank is watching closely for signs that higher energy prices will start to impact core measures of inflation.

The other major feature of New Zealand's recent economic performance has been a widening current account deficit (CAD) that reached 8 per cent of GDP in the June quarter. This has both a cyclical and structural dimension. Strong domestic demand for imports has outstripped the growth in exports, while the rising income of foreign-owned New Zealand firms and returns to foreign direct investment have widened the investment income deficit component of the CAD.⁴ While the CAD partly reflects strong investment in New Zealand's productive resources (financed by the 'surplus savings' of the rest of the world), the flip side in the equation is significant and unprecedented dis-saving by New Zealand households.

Leaving aside the current economic situation and concomitant policy challenges, it is worthwhile situating the recent step-up in economic growth within a longer timeframe. The trials and tribulations of the New Zealand economy are reasonably well known to an international audience, given the radical and wide ranging set of economic reforms embarked upon in 1984. These reforms have generally resulted in a more competitive environment in the product and labour markets. The changes to monetary policy during this period were instituted to overcome the classic time inconsistency problem, or politicisation of policy, by conferring independence to the central bank with the passing of the Reserve Bank of New Zealand Act in 1989. As figure 1 (overleaf) shows, this institutional change, and the inflation targeting framework with which it has become synonymous, coincided with the achievement of price stability in the early 1990s.

Complementing the new monetary framework was the passing of the Fiscal Responsibility Act 1994. The *raison d'être* of this Act has been to direct government spending and taxation policy within a medium-term planning horizon, while avoiding the volatility associated with short-term attempts to 'pump prime' the economy.

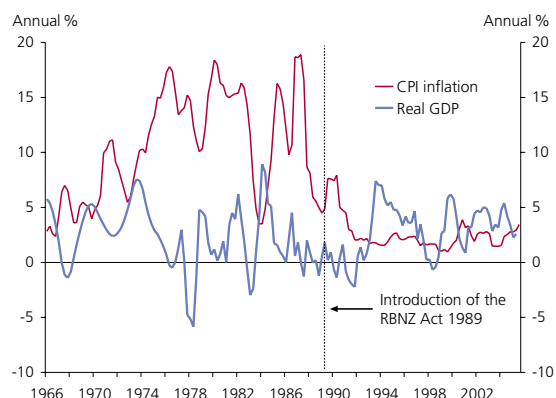
¹ Up to the June quarter 2005.

² As a consequence of the low exchange rate period and the boost to incomes, many exporting firms were able to improve their balance sheets and position themselves well to weather the subsequent strength in the New Zealand dollar. Moreover, the large-scale prevalence of currency hedging has enabled firms to smooth incomes over this period. See Briggs (2004).

³ New Zealand has the lowest unemployment rate among those OECD countries with a standardised measure.

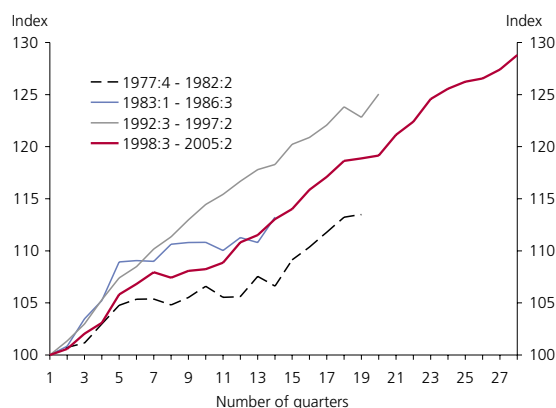
⁴ New Zealand's CADs are traditionally driven by deficits in investment income as opposed to trade deficits - the later becoming important only over the last few years.

Figure 1
Real GDP growth & Inflation
(annual per cent change)



The product and labour market reforms, together with more stable macroeconomic policies, broadly explain the improved performance of the New Zealand economy over the past decade or so, while exogenous factors such as favourable commodity prices and migration have driven the current cyclical upturn (Bollard 2005). Following the economic maelstrom of the late 1980s and early 1990s, average rates of real economic growth have steadily improved. Growth over the past decade has averaged 3.3 percent per annum, compared to 1.5 per cent for the preceding decade. In cyclical terms, New Zealand's GDP growth has become less volatile – a global phenomenon partly explained by the shift to more stable macroeconomic policy, better inventory management, lower volatility of the components of GDP, and smaller and

Figure 2
Economic expansions – trough to peak⁵



⁵ An expansion here is defined as at least two consecutive quarterly expansions in the level of GDP following a contraction (at least two consecutive quarterly declines in GDP).

less frequent shocks. The suggestion that monetary policy may be complicit in lower output volatility is reassuring and deserves fuller discussion.

Along with the lower volatility of economic growth there have been fewer contractions together with longer expansions. Indeed, the current expansion is the longest in recent New Zealand history (see figure 2). Again this phenomenon is not unique to New Zealand, as the propensity for longer growth cycles over time is a general feature of the OECD economies (Cotis and Coppel 2005). The lesson here is that structural reform not only improves an economy's potential output growth – the primary reason for undertaking such reform in the first place – but that the interaction between deregulated product and labour markets and macroeconomic policy can significantly influence the trajectory of short-run economic growth.

Of course, raising long-term economic growth is the key to materially increasing New Zealand living standards, as opposed to cyclical economic activity that will affect welfare over the short run. In this regard there is a concerted effort from various economic policy institutions in New Zealand to examine the determinants of economic growth, and devise appropriate government policies to foster a higher and sustainable growth rate.⁶ The New Zealand Treasury and Ministry of Economic Development (MED), among others, are working to implement the current government's Growth and Innovation Framework, with the stated objective of returning New Zealand per capita GDP to the top half of the OECD.⁷

The 2005 Economic Development Indicators produced by the New Zealand Ministry of Economic Development and The Treasury provide a useful way of summarising the growth agenda that is currently directed at improving our relative standard of living. GDP per capita can be decomposed into labour productivity and labour utilisation. These proximate drivers of growth are in turn influenced by a number of deeper determinants, summarised in the report as: investment,

⁶ See The Treasury (2004) for a comprehensive review of New Zealand's economic performance and policy issues. For a more succinct overview see Whitehead (2004).

⁷ See MED and The Treasury (2005) for a 'report card' on achieving the government's growth objectives.

innovation, enterprise, international connections, skills and talents, and economic fundamentals.

New Zealand scores very well on the labour utilisation measure, with low unemployment and labour participation high relative to the OECD mean. Indeed, the trend increase in real GDP per capita growth has been primarily driven by labour utilisation, as opposed to increases in labour productivity where New Zealand scores poorly (see figure 3). The low level of labour productivity is particularly disappointing given the pervasive product and labour market reforms since 1984. Indeed, the suspicion is that the reforms may have had the perverse impact of changing the relative price of capital and labour such that firms have found it more profitable to source from cheaper labour as opposed to investing in capital (The Treasury 2004, p. 25). Nevertheless, there is ample scope to increase labour productivity via some of the deeper determinants such as skill-enhancing innovation, greater physical capital per worker and improved educational achievement.

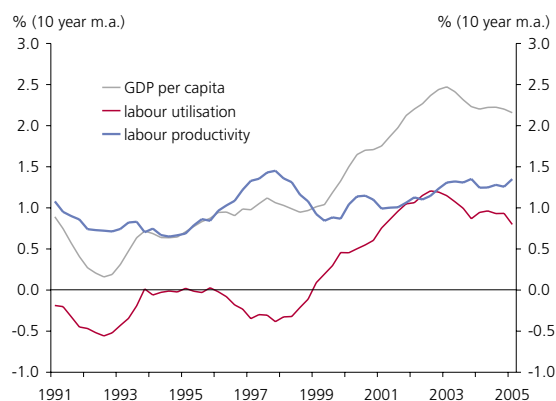
New Zealand does score highly, however, on enterprise - the degree of firm entry and exit. A recent OECD study also concludes that New Zealand markets are well exposed to competition (Mourougane and Wise 2005). New Zealand's macroeconomic policy foundations are also very strong. The Economic Indicators report card highlights the role that low and stable inflation contributes to economic growth – a point few would argue with. A slightly more contentious issue, however, is their inclusion of lower GDP volatility

as integral to better economic growth. This connection is also emphasised in the broad ranging Treasury overview of economic growth (2004, p. 35). The relationship between economic cycles and long run economic growth is a natural connection to make, and it is a peculiarity of the economics profession that for so long the two phenomena have been treated separately. However, economic theory has not been very helpful in establishing whether the relationship between business cycle volatility and trend growth is positive or negative.

3 Monetary policy and long run economic growth

The Reserve Bank of New Zealand operates monetary policy within the confines of the Policy Targets Agreement (PTA). The PTA is a formal agreement between the Governor and the Minister of Finance that operationalises the pursuit of price stability, as required by the Reserve Bank of New Zealand Act 1989 (the Act).⁸ The Act and the PTA framework were motivated by the negative experiences of high and variable inflation from the 1970s onwards.⁹ The experience of the 1970s and 1980s showed how high and variable inflation can impair efficient resource allocation, create uncertainty, and adversely impact economic growth. Given the arbitrary redistribution of wealth between borrowers and savers that high and variable inflation entails, the intergenerational and distributional impacts of inflation have important consequences for economic welfare.

Figure 3
Growth accounting decomposition of real GDP per capita growth



⁸ Section 9 of the 1989 Act requires that the PTA sets out specific price stability targets and that the agreement, or any changes to it, must be made public. 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 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. The Act can be browsed online at <http://www.legislation.govt.nz/>.

⁹ The Act and the PTA framework can also be viewed in the context of the broader public sector reforms that occurred during the late 1980s. An underlying philosophy guiding these reforms was the need to establish clear, achievable policy objectives, while assigning appropriate responsibilities and the necessary delegated authority.

The first PTA was signed in 1990, and the six successive PTAs have continued to operationalise the objective of price stability in terms of stabilising consumer price inflation within a specified target band. This inflation targeting framework provides an anchor for changes in the general price level, and to the extent that it delivers the intended outcomes, for expectations of future price changes. Section 2 of the most recent PTA signed in 2002 stipulates that the Bank's inflation target shall be inflation outcomes between 1 and 3 per cent on average, over the medium term.

By maintaining price stability as the primary goal of monetary policy, the Bank believes that it is making the best contribution it can to sustainable long-term growth.¹⁰ This policy prescription arises from theoretical reasons substantiating inflation's negative growth consequences, and empirical evidence supporting the benefits of a low and stable inflation environment

There are two channels through which inflation can impede long-run growth – via its negative effect on the rate of growth in the capital stock, and through its negative effect on productivity growth. Inflation can be considered a 'tax on investment' (OECD 2003, p. 64). Where there are nominally denominated allowances in the tax system for example, high inflation reduces tax credits and the effective cost of investment increases. In addition, if money is used to purchase capital goods, the effective cost of capital rises with the inflation rate. This decreases the accumulation of physical capital that is one of the key drivers of growth. In addition to the level of inflation, the variability of inflation might affect capital accumulation since it acts to induce more 'noise' in the price signalling mechanism. In a relatively more uncertain environment, planning horizons are shortened and longer-term commitments avoided. In this context the introduction of new technology becomes riskier given volatility in factor prices and more tenuous relationships with suppliers.

It can be argued that the introduction of new capital may facilitate better organisation within firms, or help them to learn how to produce more efficiently. The growth of labour

productivity is therefore probably related to investment in new technologies. This insight from the endogenous growth literature suggests that there may be externalities from capital accumulation which feed through to growth, particularly if one broadens the notion of capital accumulation to include investment in education (human capital) and research and development (knowledge capital).

Over and above the effect on investment, inflation affects the general environment for private sector decisions and hence distorts the efficient allocation of society's resources. Transaction costs or 'shoe leather costs' rise as economic agents attempt to economise on the use of money holdings (since inflation reduces the real purchasing power of money balances). In addition, inflation's interaction with the tax system may also produce distortionary effects on the allocation of resources owing to the compositional effects.¹¹

In the 1970s, policymakers attempted to engineer a permanent trade-off between the growth rate of output and the level of inflation and ultimately failed. What originally was specified as a statistical relationship between nominal wages and unemployment by Bill Phillips in the 1950s, was trumpeted as the holy grail of Keynesian macroeconomic policymaking during the 1960s. This short-run relationship seduced policy makers into thinking they could permanently increase output and reduce unemployment at the expense of permanently higher long-run inflation. Alas the events of the 1970s confounded the Keynesians, and the positive long-run relationship between inflation and output proved illusory.

The consensus view that emerged was that the Phillips curve was in fact vertical: in the long run there is no relationship between nominal and real variables, and monetary policy has no effect on long run economic growth.

In practice, inflation may well have a deleterious effect on 'long-run' growth. Over the past decade or so there has

¹⁰ The Bank's view on the relationship between monetary policy and long-run growth is summarised in Smith (2004).

¹¹ Inflation is associated with a heavier tax burden and lower non-residential investment. Inflation may therefore affect the composition of investment by raising the cost of physical capital relative to housing for example (Temple 2000, p. 399). This induces a shift into housing investment.

been a boom in research on the relationship between economic growth and a host of variables including macroeconomic policies. Macroeconomic stability has been increasingly identified by international organisations such as the OECD and the International Monetary Fund (IMF) as a key prerequisite for sustained economic growth for both developed and developing economies. This has been borne out empirically by the cross-country growth literature. The majority of studies find a negative relationship between inflation and growth (Haslag 1997, p. 17). Thus by reducing inflation, a central bank can positively contribute to increasing long-run growth.

There are a number of econometric issues related to this cross-country growth literature.¹² One is the possible non-linearity of the relationship between inflation and growth. In general, the negative correlation identified in cross-country regressions clearly holds for inflation above some threshold level. Below this level the relationship may in fact be positive. That said, the threshold studies do not provide a definitive guide as to the precise level of average inflation that may be 'growth enhancing'.¹³ According to their review of the literature, Brook, Karagedikli and Scrimgeour note that this threshold level could be 1, 3 or 8 per cent. It is not clear therefore, whether there would be any significant long run growth differences from average inflation outcomes that were 1 percent, as opposed to say 3 per cent.

Another issue is that high-inflation economies also tend to experience highly volatile inflation rates. If only the average level of inflation is included in a regression equation, then it is difficult to determine whether the negative relationship stems from inflation per se, or the uncertainty associated with variable inflation. That said, Khan and Senhadji (2001, p. 2) conclude that most empirical studies find that the level of inflation is more important than its variance in explaining the negative correlation.

The empirical inflation growth literature described above should provide comfort for central bankers. The pursuit of price stability is legitimate because it bears some relationship

to economic growth. Whether this relationship holds over a 'long run' of 30 years, or out to an abstract steady state is debatable. Furthermore, the fact that no central bank targets negative or zero rates of inflation – despite such rates being optimal in some theoretical models – is consistent with the importance of non-linearities in macroeconomic relationships.¹⁴

4 Flexible inflation targeting – price stability and short-run economic growth

Section 2 of the PTA operationalises the pursuit of price stability with the aim of achieving inflation outcomes between 1 and 3 per cent on average over the medium term. To achieve this end monetary policy typically influences real variables such as output and the (real) exchange rate in the short run. These real effects arise principally because of the sluggishness of prices and expectations due to a variety of frictions and transaction costs in an economy. These include informational costs arising from uncertainty about the economy, and the cost of continuously changing one's prices, or continuously renegotiating labour contracts.

A central bank can therefore affect both real interest rates and the real exchange rate via its monetary policy lever – the Official Cash Rate (OCR) in the case of New Zealand. This in turn affects real economic activity. Changes in the real interest rate affect the intertemporal price of borrowing and spending, while changes in the real exchange rate affect the relative cost of buying another country's output. The lag from the real interest rate and exchange rate channel to aggregate demand is typically around a year, with a further lag to domestic inflation. For a small open economy there is also a more direct nominal exchange rate channel to inflation, since import prices enter the domestic CPI basket. This channel works faster than the aggregate demand-to-inflation channel, although it is dependent on the extent

¹² See Brook, Karagedikli and Scrimgeour (2002) for a summary.

¹³ This can be described as the 'grease effects' of inflation (Gosh and Phillips, 1998, p. 673).

¹⁴ A positive inflation target also acts as a buffer against the zero-bound on nominal interest rates and the deflation trap.

and speed of pass-through from the exchange rate to the domestic price of imports.¹⁵

One way to think about the monetary policy transmission mechanism and associated inflation pressures is via the price pressures induced by the intensity of resource use in an economy. The bank uses the output gap to assess this degree of pressure. An output gap is the difference between current output used to satisfy demand and an economy's trend or potential output. Positive output gaps typically imply increasing pressure on resources given excess demand – firms are able to raise prices in response to strong demand and workers are in a better position to demand wage and salary compensation as labour becomes in short supply. To meet the medium-term price stability requirements of the Act and the PTA, the Bank would be expected to respond to positive output gaps by raising the OCR.

The essence of a flexible inflation targeting approach to monetary policy rests on the decision a central bank must make on how to appropriately respond to positive or negative output gaps to order to achieve price stability. This choice is affected by the nature of the trade-offs involved between price stability and the variability of output, interest rates and the exchange rate. For instance, in New Zealand we think that monetary policy affects inflation mainly with a lag of up to six to eight quarters. If we wanted to affect inflation say within a six-month time frame, this would require very large changes in the Official Cash Rate. It is likely that a negative output gap would open up over successive months. This policy-induced recession would then require the policy rate to be lowered if the impending fall in inflation were to be similarly managed within a 6 month time frame. This 'instrument instability' associated with a lag mismatch would involve considerable variability in real GDP growth.

So, one element of a flexible approach to inflation targeting is to match up the policy horizon to the output gap-to-inflation lag. Another characteristic of flexibility is shaping the

policy response to match the nature of the macroeconomic disturbance. Consider a temporary oil price shock not unlike the one the global economy is currently experiencing. We could respond to this effective supply shock to the New Zealand economy by responding aggressively to the increase in headline inflation. Aided by the direct exchange rate channel, inflation would return to target quite quickly. Alternatively, we could adopt a more cautious approach and look through the shock, or not respond as aggressively. This would have a smaller negative effect on output, with less instability in interest rates and the exchange rate. The cost, however, would be higher short-term inflation. The key policy judgement would rest on a view as to how temporary the supply-side shock might be, and any implications for inflationary expectations.

Note, no such variability trade offs arise from aggregate demand shocks since demand pressures move prices and output in the same direction. A positive demand shock opens up a positive output gap necessitating a policy response given anticipated inflationary pressures 6-8 quarters in the future. Controlling inflation results in less inflation variability, and a more stable path for output around its trend. This does assume, however, a match between the policy horizon and the output gap-inflation relationship. A lag mismatch would again cause a variability trade-off even in the face of a demand shock which moved prices and output in the same direction.

Over time central banks have faced a more favourable trade-off between inflation and output variability. Possible explanations include a better understanding of the lags involved in monetary policy and a better match between these lags and the policy targets horizon. Monetary policy has also become less of a shock to the economy itself, as central banks have taken on board lessons from the 1970s. Finally, inflation expectations have become anchored at a low level of inflation following disinflation policies of banks around the world. Economic agents are able to divest themselves of the costly process of forming inflation expectations, if they believe actual inflation outcomes consistently cohere with a central bank's stated inflation goals.

If inflation expectations are stable, then monetary policy has more degrees of freedom in conducting policy. As Lars

¹⁵ Over time however, this channel has become more muted (Hampton 2001). This may reflect a change in behaviour of firms as they have tended to absorb exchange rate related changes in costs in margins, rather than risk market share by changing prices. This in turn reflects recognition that exchange rate fluctuations are temporary, and inflation expectations are now perhaps better anchored.

Svensson notes, “a gradual move towards more flexible and medium-term inflation targeting [in New Zealand] is to a large extent a natural consequence” of increased credibility and well-anchored expectations (p. 38).¹⁶

This evolution of New Zealand’s flexible inflation targeting regime is reflected in the various changes to successive PTAs since the first was signed in March 1990.¹⁷

March 1990

Initially, the Government and Reserve Bank agreed to a phased move towards the initial inflation target of 0–2 per cent, with the original target date being December 1992.

December 1990

The target date was extended to December 1993.

December 1996

The target band was widened to 0–3 per cent in December 1996 to enable a somewhat greater degree of inflation variability.

December 1999

A clause 4(c) was included requiring the Reserve Bank to have regard for ‘unnecessary volatility’ in interest rates, output and the exchange rate in the course of conducting monetary policy.

September 2002

The lower bound of the inflation target was raised to 1 per cent, on the grounds that at extremely low or negative rates of inflation, the volatility trade-off probably worsens. In addition, clause 2(b), specifying the inflation target, was amended from ‘12-monthly increases in the CPI’ to keeping future CPI inflation outcomes within the target band ‘on average over the medium term’. This change made explicit the medium-term focus for price stability, further enhancing monetary policy flexibility. Clause 4(c) was retained with modified wording, as clause 4(b).

Clause 4(b) is an explicit recognition that unnecessary volatility in output, interest rates, and the exchange rate is detrimental to economic welfare, and may even have adverse

consequences for economic growth.¹⁸ Smoother output cycles may be beneficial for trend growth, since output volatility amplifies the cost of recessions, while unsustainable expansions generate inflation with attendant consequences for welfare and growth. Similarly, large swings in interest rates are probably unhelpful for businesses and households from a longer-term planning point of view. Uncertainty regarding the cost of borrowing may cause investment decisions to be deferred, or worse still, the wrong decision to be made.

For a small open economy with a floating exchange rate, large fluctuations in the relative value of one’s currency puts pressure on a key sector of the economy. When the exchange rate is high, profits in the traded goods sector are squeezed and firms that may be profitable and leading edge over the longer haul are forced to shut down. Conversely, when the exchange rate is low, marginal businesses may be wrongly encouraged to enter into foreign markets – resources that could have been better employed elsewhere over the longer run. So a natural question to ask is whether we should be trying to explicitly stabilise the exchange rate.

Overall, the literature tends to find that there is little to be gained in terms of improving the inflation–real economy variance trade-off from an explicit response to exchange rate movements, over and above the response that will result from standard flexible inflation targeting.¹⁹ This question has also been specifically looked at within the Reserve Bank recently.²⁰ West (2003) examined what would happen if interest rates were used to attempt to stabilise the exchange rate in a model of the New Zealand economy. He found that reducing quarter-to-quarter exchange rate variance would result in greater output, interest rate, and inflation variance. West’s results have also been supported by Reserve Bank research.

¹⁶ Svensson (2001). Svensson’s comments are drawn from his review into the operation of monetary policy in New Zealand, initiated by the Government in 2000.

¹⁷ See RBNZ (2000b) for a fuller discussion of successive PTAs.

¹⁸ For a discussion on the relationship between clause 4(b) of the PTA and the primary goal of price stability see Hunt (2004).

¹⁹ See Dennis (2001) for an overview. Standard inflation targeting in this sense implies some weight on the output gap along with inflation deviations from target.

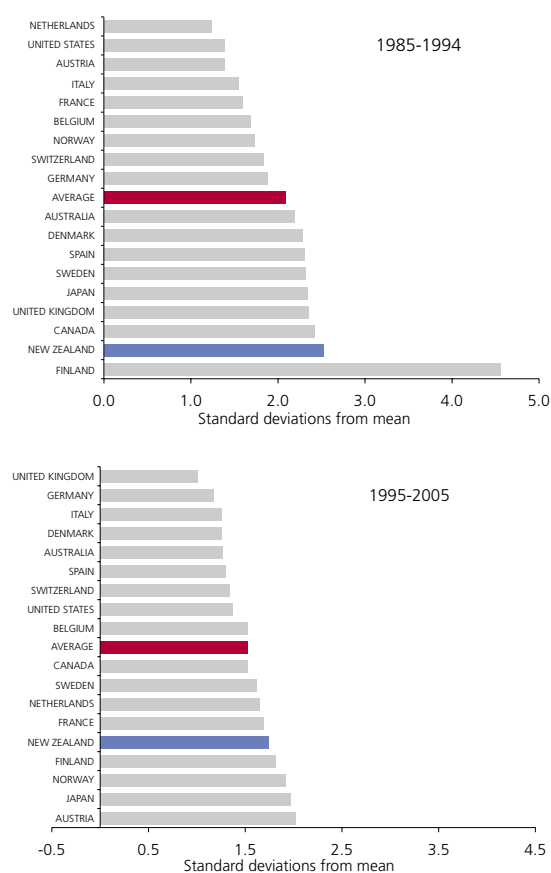
²⁰ See Hampton, Hargreaves and Twaddle (2003); and West (2003).

The evidence clearly suggests inflation targeting has reduced both the level and variability of inflation. This is likely to have occurred largely through lower and more anchored inflation expectations. However, other factors have also contributed to New Zealand's low and stable inflation environment, over and above the role of inflation expectations. These include the more muted response of prices to exchange rate fluctuations, global disinflation, lower imported inflation (the China effect), structural change increasing the degree of product market competition, and a weakening of the traditional wage-cost dynamic in the inflation process (Hodgetts 2005).²¹

Figure 4 highlights the more stable GDP growth New Zealand has enjoyed of late, compared to the 1970s. The volatility of output, as measured by the standard deviation from mean growth rates was 3.1 per cent in the 1970s and 2.6 per cent in the 1980s, compared to 1.7 per cent for the past ten years. This improvement comes in spite of major shocks to the New Zealand economy associated with the Asian financial crisis 1997-98, back-to-back droughts in 1997 and 1998, and the global stock market downturn 2001.

However, as discussed in section 2, there has been a more general global improvement in business cycle stability, and in relative terms New Zealand remains a volatile economy owing to our size and degree of openness (RBNZ 2000a). The international literature suggests more stable macroeconomic policy is partly responsible for this global improvement. To date, evidence distinguishing the possible causes in New Zealand is scant. One study that has examined the issue highlights lower industrial sector output variance, especially in services and manufacturing (Buckle, Haugh and Thomson, 2001). In relation to monetary policy, Treasury research has found that, on the whole, monetary policy has been counter-cyclical, and improved the output-inflation variance trade-off.²² At the very least, monetary policy in New Zealand appears not to have aggravated output variability.

Figure 4
Comparative GDP volatility rankings
(annual change)



5 Are there long run benefits to business cycle stabilisation?

In sections 2 and 4 we noted that New Zealand's business cycle has become more stable since the 1970s, and one candidate explanation for this lower output volatility is 'better' monetary policy. 'Better' in this sense refers to monetary policy acting less as a shock itself to aggregate demand, but rather acting as a more effective counter-cyclical stabilisation tool, in the course of achieving price stability. A flexible approach to inflation targeting explicitly enhances this property by placing some weight on output gap stabilisation in the 'loss function' of the monetary policy decision maker.

Associated with the more stable macroeconomic environment (exchange rate movements aside), has been higher average growth rates, at least since the early 1990s. The question that immediately arises is whether this stabilisation imparted

²¹ These explanations are not mutually exclusive, since lower pass through and a breakdown of wage-push inflation may be themselves a consequence of lower inflation expectations.

²² Buckle, Kim, and McLellen (2003).

by monetary policy is entirely independent of the evolution of economic growth over the medium-to-long run. Can monetary policy in fact increase potential output via its stabilisation role? A small but growing body of work suggests that this might be the case since cycle and trend are interwoven and inextricably linked via the process of capital accumulation. This position contrasts with the dominant view that suggests that cyclical fluctuations around some trend can be considered analytically separate from the determinants of trend growth.²³

On the one hand there are those that argue that recessions and the volatility of the business cycle are detrimental to economic growth.²⁴ Recessions are essentially lost opportunities for acquiring experience or improving productivity. There are a variety of channels for this cycle-trend link including 'learning-by-doing', uncertainty and a direct investment mechanism.

That macroeconomic instability, as manifest by output volatility, has detrimental growth effects seems plausible. However, there is also a strand of thinking that suggests that there might be 'virtue to bad times'.²⁵ Recessions are periods where less productive firms are eliminated; where the opportunity cost of productivity improving activities such as reorganisations or training is lower; and where the heightened threat of bankruptcy induces a disciplinary effect of firm activity. So recessions become integral to the subsequent expansion and hence potential output over the longer run.

If this view were to hold, then there would be little or no role for stabilisation policy to positively affect potential output. Indeed, stabilising the business cycle may actually depress

long-run growth. By contrast, those endogenous growth theories which rely on some sort of pro-cyclical learning-by-doing propagation mechanism do foresee a positive relationship between macroeconomic stability and potential growth. Mitigating downturns as much as possible, *ceteris paribus*, will have growth enhancing implications. As Martin and Rogers (2000) state, "if the amplitude of the business cycle has a negative impact on long-run growth, this has important policy implications because it gives counter-cyclical stabilization policies a new strong role" (p. 360).

In practice monetary policy decisions are never made *ceteris paribus*, central banks inevitably face trade-offs since macroeconomic shocks affect both inflation and output variability. But as long as medium-term inflation remains well contained and expectations well anchored, tolerating short-run deviations from the inflation target can reduce output fluctuations and as a consequence possibly increase the long-run level of output, if not its growth rate.

6 Conclusion

New Zealand has significantly improved its economic performance over the past decade, both in terms of higher average real GDP growth, and reductions in broader macroeconomic volatility. Following a long and painful period of socio-economic restructuring from the mid-1980s to the early 1990s, New Zealand has started to claw back the gap in relative per capita living standards that opened between ourselves and the rest of the OECD. However, if we are to achieve the current government's objective of climbing back into the top half of the OECD, this recent good growth performance must continue for a sustained length of time.

What lessons can we take from all this? New Zealand's growth performance reaffirms the now conventional view that a low and stable inflation environment is conducive to improved growth outcomes. If economic agents are able to undertake saving and investment decisions with the knowledge that money will retain its value, then the effects of any microeconomic reform can be fully realised. This general lesson about the relationship between inflation and economic growth holds for any economy, be it developed or developing.

²³ A related point is the debate around the welfare costs of business cycle volatility initiated by Lucas in the mid-1980s. From a household consumption perspective, he argued that the cost of US post-WWII output volatility was trivial compared to the benefits of long run growth. Hence stabilisation policy did not merit the high priority accorded to it from legislation such as the Full Employment and Balanced Growth Act 1978. See Barlevy (2005) for a survey of critiques of Lucas, where the volatility-output growth link is but one element involved in assessing the costs of business cycles.

²⁴ See, for example Fatás (2000 and 2002); Martin and Rogers (1997 and 2000); Ramey and Ramey (1995); Stadler (1990); and Stiglitz (1993).

²⁵ See, for example, Aghion and Howitt (1999); Blackburn and Galindez (2003); and Li (1998).

The nature of the evolving inflation targeting regime and the learning that has accompanied it, suggests that a flexible approach to the pursuit of price stability is appropriate. However, flexibility is predicated on well anchored inflation expectations, so the extent to which this flexibility can be exploited by the policymaker is limited.

Although the adoption of inflation targeting seems to have contributed to better economic performance, it can only be part of the story. New Zealand's experience serves as a reminder that monetary policy is only a small part of what determines a country's economic fortune. In our case, we have seen the benefits of product and labour market reform, which have helped make the economy more flexible and resilient to economic shocks. Ultimately it is the accumulation of physical and human capital, together with how efficiently these resources are used, that determines long-run per capita growth.

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