

# **Reflections on 25 years of Inflation Targeting**

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*By Graeme Wheeler, Governor*

It is now 25 years since the Reserve Bank of New Zealand Act came into force. The Act established the operational independence of the Reserve Bank (Bank) in respect of monetary policy, and specified price stability as the single monetary policy objective. A month later, the Minister of Finance and the Governor signed the first Policy Targets Agreement, which specified an annual inflation target of 0 to 2 percent.

Through this reform New Zealand became the first country to formally adopt inflation targeting as its monetary policy regime – that is, setting the Reserve Bank the explicit goal of maintaining inflation in a range consistent with overall price stability, giving the Bank the independence to pursue that goal, and holding it – through its Governor in New Zealand’s case – accountable for reaching the price stability objective.

In the lead up to this reform there was extensive debate within the Bank over the goals and transmission of monetary policy. Consistent with emerging international thinking, the concept of a long-run Philips Curve trade-off was rejected, as were policy rules around monetary aggregates, and targeting nominal GDP. The literature on policy credibility and time consistency was explored in depth, along with insights from writings on corporate governance. On the design front, considerable effort went into defining price stability, agreeing a target range for inflation (as price level targeting was ruled out), and establishing caveats whereby it might be acceptable for inflation to be outside the target range for short periods<sup>1</sup>.

At the time, these developments were highly controversial. The reforms were viewed by many here and overseas, as ambitious yet desirable. They were in line with efforts being pursued in many countries to rein in high inflation, and were consistent with domestic reforms under way to strengthen public sector performance by holding public agencies accountable for reaching clear contractual objectives. But others questioned whether it was appropriate, or even feasible, to have the Bank pursue price stability as its primary responsibility, and to hold the Governor accountable for an outcome not directly under the Bank’s control.

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<sup>1</sup> For a full discussion of these issues see Grimes, A September 2013 “Inflation Targeting: 25 years’ Experience for the Pioneer”. NZ-UK Link Visiting Professorship Lectures at the Bank of England.

Twenty-five years on, a new generation has grown up with low and stable inflation as the norm. Much the same has occurred elsewhere in the world, with all of the major central banks viewing low inflation as their main objective. But, beginning in the US in 2007, and spreading globally during 2008, we saw the worst financial meltdown since the Great Depression. The Global Financial Crisis (GFC) presented major challenges to policy makers and raised important questions about the conduct and focus of monetary and financial policies.

This then is an appropriate time to take stock of our experience with inflation targeting: how have monetary and financial policies moved forward over the last 25 years, including in the aftermath of the GFC; and what issues and challenges lie ahead? I will offer some insights from the past 25 years.

**i) Inflation targeting has delivered price stability without reducing our long term growth rate**

The Bank continues to hold firmly to the view that the most important contribution monetary policy can make to promoting efficiency and the long-run growth of incomes, output, and employment is the pursuit of price stability. Price stability preserves the purchasing power of the currency and enables producers and consumers to plan with greater certainty for longer periods, including by responding to relative price changes that would otherwise be obscured during times of high inflation. Price stability also reduces the inflation risk premium in interest rates, facilitates long-term borrowing, lending and contracting, and reduces the need for speculative investments designed to protect against inflation risks.

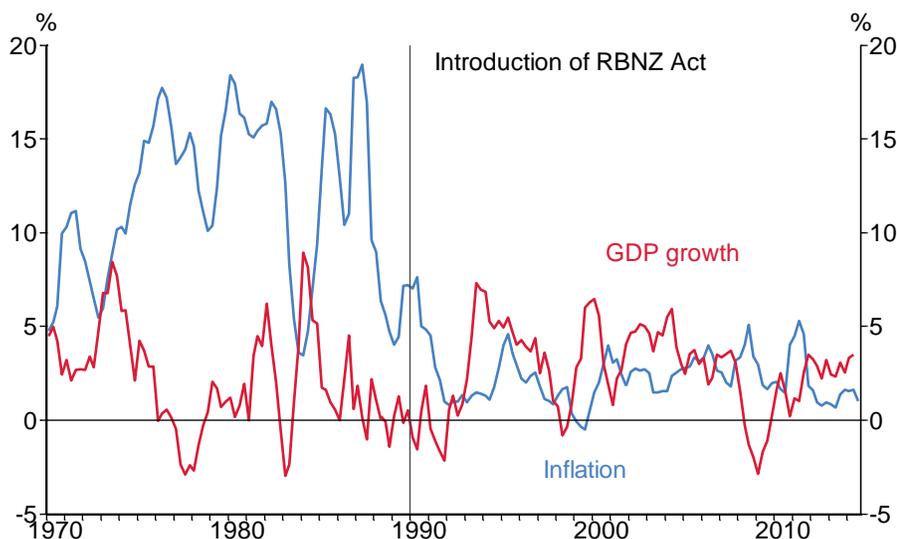
It is uncertainty around the long run price level that generates the costs associated with inflation. Inflation, particularly unexpected inflation, is a hidden tax, affecting most severely those with fixed incomes and holders of cash rather than inflation-protected assets. Price stability cannot by itself resolve concerns about inequality,

but it does reduce the insidious toll that inflation exacts on the more vulnerable and less financially sophisticated.

Unwinding deeply engrained inflation expectations and transitioning to the target band for inflation involved difficult adjustment costs. This adjustment contributed to the depth of the 1991 recession, which was also due to a marked slowdown in global growth. New Zealand's annual inflation rate fell from 7.4 percent at the start of 1990 to 2 percent two years later. Real GDP declined by 1.6 percent in 1991 and the unemployment rate increased from just over 7 percent in 1990 to 11 percent at the start of 1992.

Nevertheless, New Zealand's macroeconomic record before and after the Reserve Bank Act came into effect indicates that its price stability objective has been met without any diminution in our economy's long term growth rate. In the 20 years before the Act, annual real GDP growth averaged 2.2 percent while annual inflation was volatile around an average of 11.4 percent. Since 1990, annual inflation and real GDP growth have averaged 2.3 and 2.6 percent respectively and there has been a marked decline in inflation variability.

Figure 1: Inflation and GDP growth (annual)



International experience points in the same direction. We see this, for example, in the number of countries that now place the maintenance of low inflation at the core of their overall policy framework<sup>2</sup>. Even in countries where central banks face multiple statutory objectives, the importance of the price stability goal as a precondition for reaching broader objectives is well accepted.

## **ii) Low and stable inflation expectations increase monetary policy's effectiveness**

Like other central banks, the Reserve Bank pursues *flexible* inflation targeting. This approach has been reflected more explicitly through time in the Policy Targets Agreements – notably by emphasising that, in pursuing its price stability objective, the Bank “*should seek to avoid unnecessary instability in output, interest rates and the exchange rate*” (included as of the 1999 PTA), and in specifying the inflation target as one to be met “*on average over the medium term*” (included as of the 2002 PTA.)

The effectiveness of monetary policy measures in influencing the short-term path of variables in the real economy is linked closely to policy credibility, which is reflected in the Central Bank's record in achieving inflation goals and shaping expectations as to future inflation outcomes. Stabilising and anchoring inflation expectations close to the price stability objective provides the Central Bank with greater freedom in addressing inflation shocks and scope to take policy actions that influence output and employment growth in the short term. This means that if economic shocks or a monetary policy action result in inflation moving outside its target range, wage and price setters will expect it to return to its target band within an acceptable period. Without this credibility, such shocks and policy actions would lead mainly to variations in the rate of inflation – as we tended to see in New Zealand in the past.

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<sup>2</sup> Jahan states that in 2010, 28 countries were inflation targeting, using the consumer price index as their monetary policy goal. He reports that several other central banks have adopted the main elements of inflation targeting, and many others are moving towards it. Jahan, S.2012 “Inflation Targeting: Holding the Line,” Finance and Development

This flexible, medium-term approach to policy was drawn on at the onset of the GFC, when the Bank lowered the Official Cash Rate (OCR) by 575 points in 2008-2009, even though headline inflation was initially well above the target band. By focusing on the medium-term inflation outlook, the policy stance was able to cushion the impact of the crisis. In a similar vein, the Bank 'looked through' the October 2010 increase in the Goods and Services Tax rate (from 12.5% to 15%) because it believed it would have limited impact on medium-term inflation expectations.

### **iii) The long term path of the real exchange rate is unaffected by the monetary policy and exchange rate regimes**

Monetary policy affects consumer and investor behaviour through many channels including: the cost of borrowing; the tolerance for risk taking (which affects asset prices and borrowing capacity); expectations about future inflation; and movements in the exchange rate. In a small open economy like New Zealand, the exchange rate is a particularly important monetary policy transmission mechanism - albeit one that is often stronger and less predictable than we would wish. In recent years, New Zealand and many other economies have experienced an appreciation in their real effective exchange rate, driven in part by spillovers from the stimulative monetary policies pursued by the major central banks<sup>3</sup>. Despite a recent decline in the nominal rate, the high level of New Zealand's real effective exchange rate remains unjustified and unsustainable.

Real exchange rate appreciations produce mixed results. They benefit consumers by lowering inflation in the tradables sector; make it cheaper for firms to import capital goods and new technologies; and can thereby support growth in innovation and productivity. But real appreciation can make life difficult for exporting and import-competing firms, especially if they have little ability to adjust their prices to compensate for exchange rate changes. And exchange rate fluctuations impose

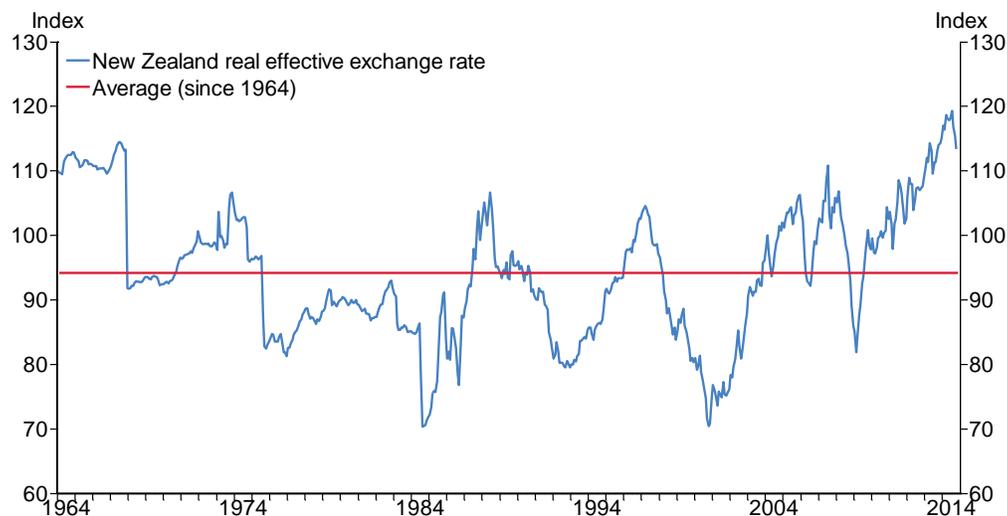
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<sup>3</sup> The real effective (or trade weighted) exchange rate is a better measure of overall competitiveness than the nominal exchange rate. It corrects the nominal effective exchange rate for differences in relative prices (or relative unit labour costs) between New Zealand and its major trading partners.

significant uncertainties and costs on firms when they are forced to exit and re-enter markets due to changes in their competitiveness.

Since the float of the New Zealand dollar in 1985, New Zealand has experienced four major exchange rate cycles, including the current cycle. Each cycle has been characterised by a significantly over-valued exchange rate, followed by an initial correction, then a rapid depreciation.

Figure 2: New Zealand's real effective exchange rate



While we recognise the pressures associated with exchange rate overshooting, there is little the Bank can do to sustainably alleviate an overvalued real exchange rate, whether through monetary policy actions or the choice of exchange rate regime. New Zealand has tried various exchange rate regimes over the past 40 years, including a fixed rate, crawling peg, and now a floating rate. We have found, however, that the choice of regime has had little impact on the medium-term level of the real effective exchange rate. Past policy attempts to give the exchange rate more weight in monetary policy decisions tended to generate more interest rate volatility, with little lasting effect on the real exchange rate.

Instead, the appropriate policy response often lies elsewhere – for example, through measures to improve domestic saving, boost competitiveness, and raise the growth rate of potential output. I will take up these points next.

**iv) There are limits to what monetary policy can do: supportive structural and fiscal policies are also needed**

Monetary policy can complement but not substitute for other policies that influence long-term economic performance, including growth, employment, and the real exchange rate. Long-term growth is primarily a function of the economy's structural characteristics and policies, including the quality and quantity of labour and capital inputs available to the economy, coupled with the productivity and innovation associated with their deployment. Similarly, the level of employment over the long run reflects the characteristics of the labour market, including skill levels, productivity, and institutional practices.

Monetary policy cannot substitute for structural adjustment policies, nor can it deliver 'desired' long term social equity, or distributional outcomes. Such policy considerations often arise in respect of the housing market. By influencing mortgage rates and the demand for credit, monetary policy can affect the demand for housing and thereby help ease imbalances in the market while housing supply is increased. But monetary policy cannot free up more land constrained by zoning regulations, address procedural and pricing issues around planning consents, or raise productivity in the construction sector.

Fiscal policy also plays an important role in the economy's long-term performance. For example, a constrained fiscal stance can help increase private saving, take pressure off interest rates and the exchange rate; and provide the economy with a buffer against shocks by restraining the build-up of public debt. The stance of fiscal policy also affects inflation expectations and investor judgements as to the degree of coordination among policy makers over macroeconomic policy.

New Zealand's varied economic experiences over the last 40 years illustrate how policy choices interact to either hold back or support long-term growth. The prolonged period of weak growth that the economy experienced in the 1970s and 1980s was partly triggered by terms of trade shocks, and especially the rapid rise in international oil prices in the early 1970s and the decline in commodity export prices. But the inflexibility of the New Zealand economy, including its wage and price setting practices and external trade constraints, hindered its capacity to counter these external pressures. In these circumstances, fiscal and monetary policies were relatively ineffective in preventing the slowdown. Instead, the main macroeconomic legacy was a substantial rise in public debt and double-digit inflation for most of the period from the mid-1970s to late 1980s<sup>4</sup>.

In contrast, reforms pursued since the mid-1980s – directed in particular at macroeconomic stabilisation and wide-ranging market deregulation – increased the capacity of the economy to adjust and grow in response to changing external and domestic conditions. For example, the economy has responded well to the growing importance of East and South Asia in international trade and investment, and in recent years has withstood shocks such as the GFC, the Christchurch earthquakes, drought, and the shifting global demand for our dairy products and other commodities.

**v) Monetary policy independence requires a high level of accountability and transparency**

The widespread move towards inflation targeting around the world has been accompanied by reforms to increase central bank independence. To counterbalance their greater independence, central banks faced stronger demands for transparency and accountability – to government, markets, and the public in general – over their policy performance.

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<sup>4</sup> Over 1974-84, gross public debt increased from 40 to close to 60 percent of GDP, and net debt rose from 4½ to 30 percent of GDP.

Transparency has two main dimensions. It enables governments and the public to assess whether the Bank has met its objectives and to hold it to account.

Transparency also increases the efficiency and effectiveness of monetary policy by boosting its predictability. Transparency is enhanced through regular publications such as the Monetary Policy Statement and Financial Stability Report, publication of research and policy pieces, and through extensive communications outreach. A recent international survey ranked New Zealand second among 120 central banks for transparency<sup>5</sup>.

Multiple checks and balances are in place to monitor the performance of the Bank and hold the Governor accountable. The Reserve Bank Board meets 9 times a year to monitor and provide oversight on the Bank's operations and policy decisions, and the Bank's Governors appear before the Finance and Expenditure Committee 7 times a year. There are numerous other accountability measures: for example, the Board can recommend that the Minister of Finance remove the Governor due to inadequate performance; the Bank must have regard to any policy direction issued by the Minister in relation to government policies; the Bank places considerable weight on communications; and, as part of these, publishes full economic projections, and since 1997, indicates an endogenous interest rate path.

The Bank has a broader set of responsibilities than most central banks, and although it has a single decision maker model, a Governing Committee was established in 2013 to make major policy decisions. The committee comprises the four governors, and it reviews all major monetary and financial policy matters falling under the Bank's responsibilities, including decisions on monetary policy, foreign exchange intervention, liquidity management policy, prudential policy (both micro and macro) and other regulatory policies. The Governor retains a casting vote and, to date, formally retains sole decision making power. Several policy committees, each chaired by a governor, provide advice to the Governing Committee.

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<sup>5</sup> Dincer N, and B Eichengreen 2014 "Central Bank Transparency and Independence: Updates and New Measures" International Journal of Central Banking

The decision to establish a Governing Committee follows similar moves by the Bank of Canada, which also has a single decision maker model for monetary policy under its legislation. There is no evidence of the performance of the RBNZ, or other central banks where the Governor is formally accountable for policy decisions, being any weaker or more volatile than that of central banks where accountability rests with a committee. However, the Governing Committee functions very effectively and the case for decision making by committee rather than individuals is premised on the relative strengths afforded by groups and the possible risk-reducing attributes of group decision making.

**vi) Monetary policy needs to be supported by sound prudential policies**

With the onset of the GFC the world again witnessed the destructive power of dysfunctional financial markets. Financial sector instability can arise from many sources, including unrealistic expectations as to the sustainability of future yields on financial assets, excessive risk taking by investors, poorly designed macro-economic and regulatory policies, and through regional or global contagion associated with failures in offshore financial systems.

The GFC showed how negative externalities can arise when financial institutions take on excessive leverage and do not bear the full cost of their activities. These externalities can have huge economic and policy consequences. For example, more than 6 years after the onset of the GFC most of the advanced economies have policy rates close to zero and the major central banks have undertaken around USD7 trillion of quantitative easing. Although the Federal Reserve has discontinued its bond purchase programme, global quantitative easing in 2015 is expected to be greater than at any time since 2011. Bank bail-outs during the GFC have imposed enormous costs on taxpayers (close to 30% of GDP in the case of Ireland) and at home we saw the large fiscal costs associated with the support for South Canterbury Finance.

Sound prudential policies relating to capital adequacy, liquidity management, core funding, disclosure requirements, and stress testing of balance sheets cannot always prevent financial crises and the need for unconventional monetary policy, but they can lower the risk of systemic failure.

#### **vii) The emergence of macro-prudential policy**

One of the insights from the GFC was how rapidly instability could develop even though an economy might be growing close to its potential, and be experiencing sound fiscal policy and price stability.

An environment of low interest rates, rising leverage, aggressive competition among lending institutions, and a widespread search for yield by investors usually translates quickly into rising asset prices – especially when the global economy is growing at a rapid rate, as was the case during 2003-07. When financial crises occur, asset valuations decline and the lower asset prices may be unable to support the debt that financed their acquisition.

We are currently seeing considerable appreciation in asset prices (including fixed income securities, equities, and real estate) in many countries as a result of extensive monetary accommodation and investors aggressively searching for yield. Many central banks and regulatory agencies have turned to macro-prudential policies in an attempt to reduce risks to financial stability, including those associated with an overheated housing market.

In view of these concerns, the Reserve Bank introduced macro-prudential policy in the form of speed limits on high loan-to-value ratio (LVR) lending for existing residential property on 1 October 2013. House prices were already significantly overvalued based on historical and international indicators and were accelerating rapidly in Auckland and Christchurch (which account for around half of the national market) and gaining considerable momentum in several other regions. In addition, the ratio of household debt to household disposable income at 156 percent was

high, and banks were competing aggressively to provide mortgages to borrowers with small deposits.

Macro-prudential policy requires policy makers to be clear about its goals, the duration of the measures, and how such measures might interact with monetary policy. These measures often complement monetary policy when the real and financial cycles are in sync (i.e. with a strong outlook for inflationary pressures and the asset and credit cycle, or the opposite)<sup>6</sup>. Although LVR speed limits were introduced for financial stability purposes, they have been an important consideration in our monetary policy assessment. We believe the dampening impact of LVRs on house price inflation and credit, and the diminished 'wealth effects' have reduced consumer price inflation pressures by an amount similar to a 25-50 basis point increase in the OCR. The introduction of LVR restrictions moderated excesses in the housing market, thereby enabling the Bank to delay tightening interest rates, and reducing the incentive for further capital inflows into the New Zealand dollar in search of higher returns.

The impact of LVRs will weaken over time and they will be eased when housing pressures moderate and the Bank is confident that there will not be a resurgence in house price inflation. But the Bank cannot prevent or control housing cycles. It can only hope to influence the demand for mortgage lending and the availability of credit, and buy time for the housing supply to increase. In the end, the challenge of rising house prices needs to be met through increases in housing supply. But, this often requires other issues to be addressed such as the approval procedures around land use decisions and building consents, and other matters such as the tax treatment of savings, the taxation of investment in real estate, and ways to increase productivity and reduce costs in the building sector<sup>7</sup>.

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<sup>6</sup> See Spencer G, March 2014. 'Coordination of Monetary Policy and Macro prudential Policy'. Speech delivered to Credit Suisse Asian Investment Conference in Hong Kong.

<sup>7</sup> Because investor's mortgage interest payments are tax deductible and those of an owner occupier are not, investors face a lower cost of capital than owner occupiers.

## viii) Future Challenges

Considerable progress has been made in reducing inflation and lowering inflation expectations since the introduction of the RBNZ Act. However, the implementation of monetary policy continues to pose many challenges. These relate to the difficulties in fully understanding economic linkages and assessing the need for and scale of policy change. These policy judgements are particularly sensitive in light of the significance of cross-border financial flows, and their impact on exchange rates and long term interest rates.

As with many other central banks, the Reserve Bank developed a quantitative structural model (a dynamic stochastic equilibrium model) for forecasting purposes. However, irrespective of the complexity of their models, all central bank models are at best rudimentary in their capacity to model the financial sector and integrate it into the real economy.

Policy judgements involve assessments of the rate of growth of potential output and the output gap, and the extent to which the current policy rate differs from the neutral rate (or the policy rate that is neither stimulatory nor contractionary). Although the 'rate of potential output growth' and 'the neutral interest rate' are critical for evaluating the need for policy adjustment, they are model-based concepts and neither are observable. This means that policy makers often need to 'feel their way' through an interest rate tightening phase, especially given uncertainties around the lags before policy adjustments affect inflation and output.

Global forces can have an enormous influence on inflation and other relative prices such as exchange rates and interest rates. Inflation pressures have been moderated by structural changes in the global economy such as: the absorption of low cost producers into the global trading system; the dramatic reductions in the costs of processing, storing and transmitting information; falling capital goods prices; new forms of competition (e.g. associated with on-line selling); and cost reductions associated with global supply chains. Productivity growth tends also to be higher

among producers serving regional or global markets rather than domestic consumers only.

With integrated global capital markets, currency volatility and movements in long-term interest rates can be heavily influenced by cross-border transaction flows around capital movements, trade financing, remittances and price arbitrage, and risk transfer instruments. Empirical studies show changes in long-term interest rates are highly correlated across countries. This means that central banks operating in floating exchange rate regimes, particularly in smaller countries, are significantly constrained in their ability to run independent monetary policies. They can influence short-term rates but cannot set their own long-term rates. Instead, international investor activity has a greater influence over long-term rates.<sup>8</sup> We see this at present. The Reserve Bank raised short-term rates during the period March to July 2014 but longer-term mortgage rates have fallen as a result of the decline in long rates in the major economies.

This means that macro-prudential policies may need to be called on to help prevent asset price booms and complement monetary policy. But there is still much to be explored around the nature of the interaction of monetary and macro-prudential policies, the costs and benefits of such interventions, and the circumstances where such policy initiatives are likely to be successful. Particularly important in this regard will be considerations as to how best to coordinate monetary policy and macro-prudential policy decisions when economic and financial cycles are out of sync and the policies are not complementary.

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<sup>8</sup> For excellent discussions on this see Rey H. 2014 “Dilemma not Trilemma: The Global Financial Cycle and Monetary Policy Independence”, and Turner P. 2014 “The macroeconomics of macro prudential policies” presentation at the Conference on “Effective Macro-prudential Instruments”, The University of Nottingham Centre for Finance, Credit and Macroeconomics.

## Concluding Comments

Monetary policy's focus on price stability has played a vital role in the more stable and responsive economic climate that has emerged in New Zealand over the last 25 years. Under this climate, the economy has been able to take advantage of new trading opportunities in Asia and elsewhere; there has been strong growth in new sectors of activity – including in the information technology area; and the economy has been resilient in the face of severe external and domestic shocks, notably from the GFC and the Christchurch earthquakes. Moreover, the ability of monetary policy to help offset short-term shocks to output and employment has grown as inflation expectations have stabilised at a low level and as policy credibility and transparency have increased. New Zealand is not alone in these experiences: all major central banks now see price stability as their main objective and the most important contribution they can make to stronger long-term economic performance.

While much has been achieved in these first 25 years of the Reserve Bank Act, important issues and challenges remain. The global economic environment remains difficult, we have experienced rapid increases in house prices, and we face the longer-term need to improve domestic productivity and savings and rein in the economy's external imbalances.

These global and domestic challenges serve as a reminder of what can and cannot be achieved through monetary policy to counter the sorts of pressures the economy may face in the years ahead. For example, monetary policy is relatively powerless to offset the spillovers that global economic and policy developments can impose on our exchange rate and commodity export prices. But, monetary policy can complement structural and fiscal policies in supporting the economy's flexibility and adaptability, and help counter short-term economic fluctuations. Moreover, recent financial sector reforms, including the new macro-prudential policy framework, have given the Bank additional tools for containing systemic risks and promoting macroeconomic stability. There is still much to learn in this area, including in the interactions between prudential

and monetary policies, but the Reserve Bank is now much better equipped to help build a stronger and more resilient economy than we were prior to 1991.