Macroeconomic Policy in New Zealand: From the Great Inflation to the Global Financial Crisis

Bruce White

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Abstract

This paper surveys the evolution of macroeconomic policy, in the New Zealand context, from the beginning of the end of the Great Inflation of the 1970s/1980s, through to the current recovery from the Great Recession brought on by the Global Financial Crisis. The 30 or so years since the late 1970s is divided into four periods: the run-up to the mid-1984 currency crisis; the period of reform from that point until the early 1990s; the subsequent extended period of non-inflationary growth in the 1990s and into the 2000s (punctuated by the Asian Financial Crisis in 1997/98); and the GFC and the years since. The paper reviews macroeconomic policy and developments across each of these periods in relation to fiscal policy, monetary policy, exchange rate policy and prudential supervision, all of which at various times have been used with macroeconomic objectives in mind. The paper concludes with some observations on where macro policy appears to be headed, suggesting that is towards achieving some re-integration of its individual components.

JEL CLASSIFICATION	E52 - Monetary Policy E62 - Fiscal Policy E63 - Comparative or Joint Analysis of Fiscal and Monetary Policy; Stabilisation; Treasury Policy
KEYWORDS	Macroeconomy; fiscal policy; monetary policy; exchange rate policy; macro-prudential policy; prudential supervision

Executive Summary

This paper surveys the evolution of macroeconomic policy, in the New Zealand context, from the beginning of the end of the Great Inflation of the 1970s/1980s, through the Great Moderation, and to the current recovery from the Great Recession that was brought about by the Global Financial Crisis. It takes the scope of macroeconomic policy as comprising four elements: fiscal policy, monetary policy, exchange rate policy and prudential supervision, all of which at various times have been used with macroeconomic objectives in mind.

In terms of the evolution of macro policy and of the macro economy, the 30 or so years since the late 1970s can be divided into four periods: the run-up to the mid-1984 currency crisis; the period of reform from that point until the early 1990s; the subsequent extended period of non-inflationary growth through the 1990s and into the 2000s (punctuated by the 1997/98 Asian Financial Crisis); and the GFC and the years since.

The run-up to 1984

The late 1970s and early 1980s was a period of flux and of emerging new directions in macroeconomic policy in most advanced countries. Led by the Volcker Federal Reserve, central banks began to break the back of the Great Inflation (by allowing interest rates to rise to what by historical standards were exceptional levels); there were the beginnings of a shift to a more medium-term, less activist, approach to fiscal policy (for example the inception of a medium-term financial strategy by the Thatcher Government in the UK), and the beginnings of an international approach to prudential supervision (the Basel Concordat was agreed in 1983). Meanwhile, the world's major currencies since the breakdown of the Bretton Woods regime in 1973, mostly, had been freely floating, although those of most smaller advanced economies continued to be managed in one way or another.

The evolution of policy in New Zealand lagged these developments. In particular, inflation remained high and monetary policy was constrained by impediments to interest rate flexibility; fiscal policy became, if anything, more activist, and increasingly a prop for the economy; and the exchange rate was pegged, but a soft one at that. From June 1982, a comprehensive freeze of wages and prices was imposed, along with controls over interest rates and an attempt to put an exchange rate peg in the ground. Ensuing macroeconomic imbalances resulted in a currency crisis and forced devaluation in mid-1984; whereupon a newly elected government set underway a major programme of economic, including comprehensive macroeconomic, reform.

Macroeconomic reform: 1984 to the early 1990s

Over the next half dozen or so years, New Zealand macroeconomic policy caught up to and, in a some respects, led the world. The inflation-targeting approach to monetary policy was invented and the Reserve Bank was given operational independence to implement it; the fiscal policy framework was transformed, including through a shift from annual cash-book to multi-year budgeting and fiscal accounting; the exchange rate was floated; and the financial system was deregulated. These reforms unleashed strong macroeconomic cross-currents, in particular from fiscal restructuring and consolidation on the one hand, and from financial liberalisation on the other. The latter was associated with massive financial expansion, which initially at least offset many of the countervailing currents.

But the financial expansion increasingly was confronted by tight monetary policy targeted at achieving disinflation, which had been embedded at double digit rates for over a decade. Following the share market crash of October 1987, the "boom" turned to "bust," financial crisis, and into an extended and relatively deep recession. The financial crisis prompted some extension of the role of the Reserve Bank as a prudential supervisor from that envisaged when the financial system was deregulated in the mid 1980s. But subsequently some of that was rolled back, with the Reserve Bank shifting in the early 1990s to a predominantly disclosure-based approach to supervision which emphasised market discipline.

The Great Moderation: From the early 1990s to the GFC

From the early to mid-1990s, recovery got underway, assisted by global tail winds, less tight monetary policy (with inflation by 1992 down to around 2%), and strengthened financial foundations. Government finances were well on the way to being put on a sound footing, as was the financial system following the damage caused in the wake of the post-1987 bust.

The ensuing recovery proved to be remarkably durable — not only in New Zealand, but across most advanced economies. While it was punctuated by the Asian Financial Crisis in 1997/98, during which New Zealand experienced a short recession, and by the collapse of the “dotcom” bubble in 2001 (which had less impact on New Zealand), the New Zealand economy experienced around a decade and half of non-inflationary growth. The era came to be known as The Great Moderation.

In terms of New Zealand-specific macroeconomic developments, key features of the period included average CPI inflation under 2½% and average GDP growth over 3½%, and fiscal surpluses in every year from 1995 to 2008, resulting in the near-elimination of government net debt. However, by 2005, fiscal policy became more expansionary, at a time when the macroeconomy was still on the upswing. This pro-cyclicality complicated the task of monetary policy, something that has since been addressed by way of amendment to the Public Finance Act to make it a requirement that governments have regard to the interaction between fiscal and monetary policy when formulating fiscal strategy.

It was also a period during which large, multi-year, swings in the exchange rate (upwards during the mid-1990s and mid-2000s, and downwards during the late 1990s and early 2000s) became a source of policy discomfort and complication. From the mid-1990s, the Reserve Bank began taking movements in the exchange rate more explicitly into account in calibrating its monetary policy, culminating in the construction and use of a monetary conditions index (a weighted average measure of the short-term interest rate and the TWI exchange rate) for communicating its monetary policy. This, however, ended up providing a wrong steer, which resulted in interest rates increasing during the early stages of the Asian Financial Crisis. The MCI soon after was abandoned, to be replaced with the introduction of the official cash rate mechanism. Later, when the exchange rate was again on a strong upswing in the mid-2000s, there was a shift in policy from maintaining an entirely “clean” float to one that entertains exchange market intervention to influence the rate in an, albeit narrow, range of circumstances.

From the GFC to the present

The final period covered by the paper runs from the commencement of the Global Financial Crisis in 2007 through to the present. The New Zealand economy by 2007 was already slowing, including as the result of steady tightening of monetary policy in the preceding

three-to-four years. Also, by then, weaknesses in the finance company sector were becoming apparent, with the first of what became a long list of failures occurring in 2006.

But the full impact of the GFC was not felt until after the failure in the United States of Lehman Brothers investment bank in September 2008. As the result of impacts from both an exceptional downturn in world trade, and a seizing-up of world financial markets that resulted in heightened risk aversion, and deleveraging by firms and households, the New Zealand economy contracted for a year and a half from late 2008. Also, by 2009, the fiscal balance had swung into deficit, where it has remained since.

Policy responses to, and following, the GFC have been mostly in the financial sphere, ie, in relation to monetary policy and prudential policy. Monetary policy was eased aggressively in all advanced economies. In New Zealand, the OCR was slashed from 8.25% to 2.5% in less than 12 months, and the Reserve Bank made available an expanded range of credit facilities for banks in the face of much restricted access to global funding markets.

In the period since, a number of policy steps have been taken with a view to better maintaining financial stability. These have included the introduction of requirements for banks relating to the structure of their funding (a minimum core funding ratio) and liquidity; capital (adoption of the new Basel 3 capital standard); and establishment of a framework for adjusting prudential ratios in response to macroeconomic developments.

In the latter connection, in October 2013, restrictions were placed on the amount of high loan-to-collateral-value new lending that banks can undertake, in response to house-price inflation pressures. This financial stability-related measure has been used instead of increasing the policy interest rate, and thus putting upward pressure on the exchange rate. While the exchange rate fell sharply in late 2008, and helped to buffer the impact of the GFC, by the end of 2009 it had bounced back to approaching pre-GFC levels and in 2013, in real TWI terms, was at a level higher than at any time in the preceding 30 years.

Some concluding observations: Putting macroeconomic policy back together again

So where does macroeconomic policy appear to be headed from here? Overall, the macroeconomic policy issues coming out of the GFC appear largely to be about how better to achieve macro policy integration and coordination; about working out how to manage the individual parts — monetary, fiscal and prudential policies — in a way that engenders greater stability of the whole. (The exchange rate ceased being a regarded as a policy instrument when it was floated in 1985.) This contrasts with the thrust of macroeconomic policy design in the 1980s and 1990s, when the emphasis was on establishing clarity of individual policy assignments, hierarchies and accountabilities.

The severity of the GFC has already forced responses that have seen some breaking down of policy silos. Within central banks, prudential and monetary policy came together, first in the role of lender of last resort, and thereafter in the (re)emergence of the macro-prudential role. The role of fiscal policy as a macro stabilisation instrument was brought out of the tool-box. And the fiscal authorities found themselves standing alongside central banks in maintaining financial stability, as the “guarantor of last resort.” It was a case of “all hands on deck.” Which leaves the challenge: if effective coordination and integration of macroeconomic policy was part of the solution, how best to maintain that going forward to avoid a repeat of the problem?

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1 Introduction

The past three decades have been eventful for macroeconomic policy. The era has spanned the latter stages of the Great Inflation of the 1970s-80s; the ensuing Great Moderation, which ran from the early/mid-1990s until the outbreak of the Global Financial Crisis in 2007/08; and the Great Recession that has afflicted most western economies since. Policy frameworks for maintaining macroeconomic stability, correspondingly, have evolved, as one set of circumstances and challenges has given way to the next.

This paper reviews the course of those developments since the early 1980s, in the New Zealand context. It takes macroeconomic policy to include fiscal policy, monetary policy, financial regulation and supervision, and policy with respect to the exchange rate. Over the 30 or so year period, all these have been employed, one way or another, with macro stabilisation objectives in mind.[1]

For the purpose of organisation of the paper, the era since the early 1980s is divided into four parts:

- The early 1980s to mid-1984: a period during which, in New Zealand, there was high inflation and mounting macroeconomic imbalance, which culminated in a forced devaluation of the exchange rate in July 1984
- From mid-1984 to the early 1990s: a period during which there was:
  - rapid and extensive reform of New Zealand's macroeconomic policy frameworks, and policy settings, alongside extensive structural adjustment, and
  - a bubble in asset, mainly equity and commercial real estate, prices. These asset markets inflated rapidly from 1984 to 1987 and then collapsed following the October 1987 share market crash.

[1] During the 1970s and, in New Zealand, into the 1980s, incomes policies (including wage and price controls, and government-mandated general wage adjustments) also had a significant role. But they have not featured since and hence are not included in the scope of the macroeconomic policies covered by this paper.

- From the early 1990s to about 2007: a period of recovery and then sustained non-inflationary growth, punctuated by a short recession in late 1997/early 1998, at the time of the Asian financial crisis. Internationally this era came to be known as the Great Moderation.

- From 2007 onwards: a period during which the GFC has been centre-piece.

The paper reviews the conduct of macro-economic policy during each of these periods using essentially a common template covering the four elements of policy mentioned above, ie, fiscal, monetary, exchange rate and prudential policy. The period-by-period approach is adopted for ease of reference for the reader interested in specific aspects of policy at a particular time, and also with a view to identifying how the evolution of macro policy has involved shifts in emphasis, and in the relationships, amongst its individual components. Although circumstances and policy evolved continually over the years, significant developments at certain points — the reforms commencing mid-1984, the recovery from recession in the early 1990s, and the beginning of the GFC in 2007 — serve as markers of transitions from one period to another. An overview of the era as a whole, from the late 1970s up to the present, is provided by way of a statistical and graphical appendix.

2 The run-up to 1984

During the 1970s New Zealand experienced unfavourable external developments, including the United Kingdom's entry into the EEC in 1973 and the international oil crises of 1973 and 1979. These events resulted in a fall in New Zealand's external terms of trade (Figure 6). Initially, it was unclear for how long these developments would persist and the macro policy response, accordingly, was accommodative. That was in keeping with international thinking at the time regarding the recycling of petro-dollars, and the need for flexibility in macro policy. But by the early 1980s, in most OECD economies, macro policy was evolving toward frameworks focussed more on medium- to long-term sustainability, and less on short-run stabilisation.[2] By contrast, in New Zealand imbalances continued to accumulate and as macroeconomic stability came under growing strain, increasingly "interventionist" policy responses were invoked. A comprehensive freeze of wages and prices, and also of interest rates and the exchange rate, was imposed in June 1982. However, this only suppressed, rather than addressed, the underlying imbalances, which culminated in a foreign exchange crisis in July 1984.[3]

Activist fiscal policy . . .

Fiscal policy in the early 1980s became more expansionary, shifting from approximately budget balance in the second half of the 1970s to a deficit equivalent to 4% of GDP in 1979 and 6.2% in 1984.[4] Moreover, the government took a leading role in promoting a programme of industrial development projects — known as the "think big" programme. As promoter and/or guarantor of those projects, the government took on substantial off-balance sheet exposures. These later ended up as obligations to be added to the government's debt, which reached the equivalent of 74.8% of GDP in 1987 (Figure 2).[5]

In these ways, fiscal policy in the 1980s became more of a "structural prop" for the macro economy than an instrument of stabilisation policy. The resulting accumulation of government debt, to a level approaching that which raised questions about fiscal sustainability, saw New Zealand's sovereign credit rating downgraded from AAA to AA+ in 1983 and to AA in 1986.[6]

These developments occurred in an institutional environment for fiscal policy which included few of the features of the policy framework now in place. Fiscal accounting, internationally, was on a "cash-book" rather than accruals basis, and macro-fiscal analysis focussed mostly on the extent to which the government's activities were adding to, or detracting from, aggregate demand in the short-term (Deane and Smith, 1980). A feature of fiscal policy in New Zealand the 1970s had been mini-budgets. These were packages of fiscal measures introduced on occasion between the government's annual budgets, to provide a short-term expansionary or contractionary impulse to the macro economy.

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[2] For example, the Thatcher government, which in the 1980s embarked on a medium-term financial strategy, was elected in the UK and Volcker was appointed chairman of the US Federal Reserve in 1979.

[3] For an overview of macro-economic developments and responses leading up to 1984, see Singleton (2006), Chapter 2, and McAloon (2010).

[4] Source: http://www.treasury.govt.nz/government/data accessed on 31/10/2013. Note that these data are on the basis of today's measure of the government's operating balance, rather than on the basis of the "table 2" measure of the time. As such, they exclude net lending by the government which at the time was considerable. McAloon (2010) provides fiscal deficit data from 1974 to 1983 on the Budget table 2 basis.

[5] Source: http://www.treasury.govt.nz/government/data accessed on 31/10/2013. Note that this is a measure of gross debt.

[6] S&P foreign currency rating. Source: http://www.nzdmo.govt.nz/sovereigncreditratings 14/12/2012.

These reflected a “stop-go” approach to fiscal policy, with correspondingly less focus on the medium- to long-run effectiveness of government programmes, or on the stewardship and sustainability of the Crown balance sheet.

. . . and monetary policy by regulation

Monetary policy in the late 1970s and into the first part of the 1980s also operated within a policy framework quite different from that of today. The intellectual basis for monetary policy was founded on the role of money and credit in the economy. Indicative of policy thinking of the time was the following:

> The principal objective of monetary policy is to influence spending decisions. Through this the ultimate targets of economic policy — employment, stability and external equilibrium — will be influenced. Monetary policy endeavours to achieve these aims by having an appropriate influence on the availability of money and credit (Deane, 1979, emphasis added).

Theoretical frameworks of the time also catered for a range of approaches to the conduct of monetary policy. These ranged from Keynesian approaches, which assumed sticky prices and envisaged monetary policy (along with fiscal policy) playing an active role in stabilising the real economy, to the new classical view that emphasised how agents’ forward-looking expectations rendered stabilisation policy ineffective, with monetary policy having no affect other than on inflation.[7]

Another theoretical dimension concerned the balance of payments. With exchange rates generally pegged, at least amongst small- to medium-sized economies, monetary policy was concerned as much with the balance of payments as with inflation.[8] Under the monetary approach to the balance of payments, the policy objective was to keep domestic credit expansion to a rate consistent with maintaining balance of payments equilibrium with exchange rate stability, rather than on achieving an inflation objective directly.[9] The underlying thesis was that controlling the rate of expansion of the money and credit aggregates would deliver, over the medium- to long-term, external and nominal exchange rate stability, and thus, ultimately, control of inflation to a rate in line with trading partner inflation.

The Bank focussed mainly on the M3 aggregate (comprising the monetary liabilities of the Reserve Bank and the commercial bank and near-bank institutions), but with a tendency to focus as much on the credit as on the liability side of the balance sheet, ie, the Private Sector Credit (PSC) and Domestic Credit (DC) aggregates. This approach recognised how excessive growth in domestic credit (to government and/or the private sector) could be masked in the monetary aggregates by balance of payments deficits, which ended up as inflation as the result of exchange rate depreciation. The IMF's financial programming framework — at the centre of which is the concept of domestic credit — is founded on these interrelationships between credit to the government (fiscal policy), credit to the private sector (monetary policy) and the balance of payments/exchange rate. Having drawn on IMF Oil, and Compensatory Financing, facilities in 1974-76, New Zealand in the

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[7] See Deane, Nicholl, and Smith (1983, pp. 286-289); also Silber (2012, pp. 134-135), for discussion of the competing theories in an applied US-policy context.

[8] The breakdown of the Bretton-Woods system of pegged but adjustable exchange rates in the early 1970s saw the major industrial countries commence moving to floating exchange rates, but the smaller industrial economies in Europe and in Scandinavia and Australasia continued to peg their currencies (to the deutsche mark in Europe, in other cases, generally to a basket of currencies).

[9] See Dornbusch (1980) for elaboration on the monetary approach to the balance of payments.

latter part of the 1970s was subject to monitoring by the IMF within this kind of framework. That is something that may also have influenced the shaping of New Zealand's own macroeconomic, and in particular money and credit, policy frameworks.

The Reserve Bank of New Zealand Act 1964 reflected an eclectic approach to monetary and financial sector policy. Section 8 of the Act stated the primary functions of the Reserve Bank as being:

a) to act as the central bank for New Zealand

b) to ensure that the availability and conditions of credit provided by financial institutions are not inconsistent with the sovereign right of the Crown to control money and credit in the public interest

c) to advise the government on matters relating to monetary policy, banking, credit, and overseas exchange, and

d) within the limits of its powers, to give effect to the monetary policy of the government as communicated in writing to the Bank (by the Minister of Finance) and to any resolution of Parliament in relation to that monetary policy.

The Act also made it clear that the government's monetary policy should be directed to "the maintenance and promotion of economic and social welfare in New Zealand," which was considered to span the multiple objectives of external balance, price stability, and growth in output and employment (Deane, *et al.*, 1983, pp. 16-17, p. 23).

Operationally, however, it was a time when:

- the Reserve Bank did not have control of its own balance sheet. For the most part, the transactions across its accounts were on terms determined by the government (Minister of Finance)
- the other policy levers available for exerting monetary control, which mostly involved the regulation of commercial banks' balance sheets, were also in the hands of the government, not the Reserve Bank (the Reserve Bank did not have regulation-making powers),[10] and
- most market interest rates were subject to government influence or direct control, more comprehensively so from June 1982 as part of the comprehensive freeze on wages, prices, and interest rates already mentioned.[11]

In these circumstances, the Reserve Bank was constrained to playing an essentially accommodative role with respect to its own balance sheet. The interest rate at, and assets against, which the Reserve Bank issued its own liabilities — today known as the OCR mechanism — were scarcely considered as monetary policy matters, let alone as being at the very centre. Rather, monetary policy took the form of the Reserve Bank acting as the government's agent in regulating the balance sheets of the commercial banks. The main instrument was reserve asset, principally government security investment, ratio requirements, applied to the four "trading banks" and to a range of near-bank financial institutions.[12] An increase in the percentage of assets required to be held as reserve assets was seen as constraining banks in their capacity to lend to the private sector, and

[10] Throughout this paper, unless otherwise stated, the term "banks" is used to refer to all those commercial financial institutions whose liabilities can be regarded as being monetary in character.

[11] Although for a period from 1976-1981, a range of interest rate controls were relaxed or removed. For a summary of interest rate policy in the 1970s up to 1982, see Reserve Bank of New Zealand (1983, pp. 309-312).

[12] For a description of the various ratio requirements, see Reserve Bank of New Zealand (1979, Chapters 15 and 16).

enabling the funding of government deficits, thus avoiding excessive growth in the money and credit aggregates.

But this approach proved ineffective. There were a number of reasons for that. For one thing, with interest rates often controlled at below market-clearing levels, loanable funds found their way around the regulated institutions, to the less regulated parts of the financial system, something that came to be known as "disintermediation."[13] Also, in the case of the trading banks, the ratios were adjusted monthly to accommodate seasonal movements in liquidity. These emanated mainly from seasonal fluctuations in the balance of payments (which, with a fixed exchange rate, flowed through to banking system liquidity) and in the fiscal balance (which, with the government banking at the Reserve Bank, similarly flowed through to banks' liquidity). With it being difficult to isolate those seasonal influences from the effects of underlying domestic credit expansion, and the government reluctant to see interest rates rise, ratio adjustments tended also to be accommodative of, rather than a constraint on, banks' lending.

With those approaches proving ineffective, the focus of monetary policy increasingly shifted to the role of public debt policy in absorbing banking system liquidity. The underlying problem was that, with government securities counting as liquid reserve assets (liquefiable on demand at the Reserve Bank) and bearing below-market rates of interest, uptake by banks of those securities was only one (small) step removed from direct monetary financing of the fiscal deficit. For the banks, government securities were not an attractive investment to hold, but instead a source of liquidity from which to fund higher-yielding lending.

In effect, fiscal deficits, rather than being financed by private sector saving, provided the liquidity from which banks were able to fund borrowing (dissaving) by the private sector. With a fixed exchange rate, the spending financed by that lending tended to end up in imports. Banks in turn purchased from the Reserve Bank (at the fixed exchange rate) the foreign exchange required by their customers to pay for those imports, thus requiring official overseas borrowing to replenish official reserves. That was a cycle that fitted closely with the monetary approach to the balance of payments, and with the concept of "twin" deficits (fiscal and balance of payments).

The policy approach to these problems — given the government's unwillingness to allow interest rates to adjust — was to direct the government's debt sales as much as possible away from the banking system. The main way in which that was done was by introducing large-scale retail government debt offers, in which the government pitched various forms of government securities direct to the retail investing public. For periods in the early 1980s, these retail investments offered terms that were at least as attractive as, if not more than, those offered by the banks (which were constrained from competing owing to their interest rates being subject to government control). This resulted in a sizeable proportion of the fiscal deficits being financed other than through the financial system, and correspondingly less growth in the measured monetary aggregates. But seeking to maintain monetary control by way of a regulated competitive (interest rate) advantage for public sector debt was not a sustainable approach.

[13] See Deane (1975) for discussion of the limitations of the effectiveness of monetary policy with interest rates subject to regulatory control.

In these respects, the New Zealand approach to monetary policy lagged international developments. By the early 1980s, most OECD countries were moving in the direction of allowing a greater role for interest rates in achieving monetary aggregate targets and, through those, sizeable reductions in inflation from the double-digit rates reached during the 1970s. This shift in policy focus commenced in late 1979, shortly following the appointment of Chairman Volcker at the US Federal Reserve (Silber, 2012, Chapter 9). Under Volcker, the Federal Reserve introduced new operating procedures where the interest rate at which it issued its liabilities in its operations kept being adjusted until its monetary target was achieved.

This shift in policy focus meant that interest rates ceased to be bound by historical norms of what constituted "high" or "low" rates. It recognised that *nominal* interest rate norms established when inflation had been low were no longer relevant in circumstances where inflation was becoming embedded at double-digit levels and inflation expectations were both elevated and uncertain. It came to be considered no longer possible to form a reliable view on what level of interest rates was required, and that monetary/credit aggregate targets provided a better guidepost. Following this approach, short-term interest rates in the United States rose to over 20%, which saw inflation fall from nearly 15% in early 1980 to under 3% by mid-1983.[14] Other OECD economies followed this lead and by the mid-1980s, inflation across those economies also had fallen considerably.

New Zealand's different approach during the early to mid-1980s can be understood in a number of contexts. Despite the developments in other countries just outlined, frameworks for monetary policy remained, internationally, much less settled than we have become used to. Thus the extent to which New Zealand was moving out of step from international practice may not have seemed all that extreme. Moreover, the antecedents of monetary policy in New Zealand mostly came from the UK, where the evolution of policy had its own distinctive characteristics.[15] Also, financial markets were much less globally integrated than has since become the case. For example, New Zealand retained capital controls up until late 1984. Those afforded New Zealand more latitude to adopt an "idiosyncratic" approach to monetary policy, without running as rapidly into the constraints imposed by global capital markets as would be the case today.

But the New Zealand policy approach, in the late 1970s and early 1980s, of seeking to achieve quantitative control of money and credit aggregates without interest rates being allowed to adjust to clear the market, was not sustainable. Money and credit expansion, often at double-digit rates of growth, continued well into the 1980s, along with a dynamic of correspondingly rapid (double-digit) inflation and depreciation of the (pegged) currency (Figure 6). That dynamic was further sustained by various indexation mechanisms that

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[14] Mishkin (2000) provides a review of the monetary targeting policies of the major industrial countries during the 1970s and 1980s, including of the Volcker Fed from October 1979. In relation to the latter, Mishkin proffers that "it appears . . . that controlling monetary aggregates was never the intent of the 1979 policy shift, but rather was a smokescreen to obscure the need of the Fed to raise interest rates to very high levels to reduce inflation" (p. 3).

[15] The monetary policy framework in the UK remained unsettled until as late as 1992. Benati (2006), drawing on Cairncross and Eichengreen (2003, pp. 12-13), summarises the course of developments from 1972 (when sterling was floated) until October 1992 (when an inflation targeting regime was adopted) as follows:

> [H]ow to formulate monetary policy in these (1972) circumstances was never clear. Not only did British policymakers lack the constraint imposed by an exchange rate commitment, but they failed to develop another reliable means of orientation. Sterling M3 turned out to be unworkable: controlling it was too difficult, and the link to inflation was too loose. Narrow money (M0) worked no better. Exchange rate volatility only compounded the problems associated with monetary targeting, thus laying the ground for the United Kingdom's entry into the exchange rate mechanism (ERM) of the European Monetary System. The United Kingdom joined the ERM on 8 October 1990, and suspended ERM membership on "Black Wednesday," 16 September 1992, following a massive wave of currency speculation. Three weeks after suspension of ERM membership, on 8 October 1992, the Conservative government established the first direct inflation target.

institutionalised inflation, for example, wage indexation including in the form of government-regulated "general wage orders." In effect, the economy lost its nominal anchor and inflation processes were driving, more than they were being arrested by, its monetary arrangements.

. . . with an exchange rate that was neither a nominal anchor nor floating

Neither did the exchange rate provide an effective monetary anchor. For that to have been the case, the liquidity pressures consequent upon the balance of payments deficits would have needed not to have been offset by accommodative fiscal policy, and the real exchange rate appreciation consequent upon high inflation needed to be accepted as part of the disinflation process. Instead, fiscal policy became increasingly expansionary and, from June 1979 to June 1982, a "crawling peg" exchange rate regime was adopted. Under the latter, the exchange rate was devalued — in effect index adjusted — each month by the amount by which New Zealand's inflation rate exceeded the average for its trading partners.

It was also a time when, because of capital controls, the "impossible trinity" — of a pegged exchange rate, an independent monetary policy and international openness — seemed not so impossible.[16] In this setting, the exchange rate was considered to be more a policy lever, separate from, rather than reflective of, monetary policy. The policy priority with respect to the exchange rate was maintenance, or restoration, of external competitiveness in the face of high inflation and movements in the external terms of trade.

Analytically, exchange rate management was approached to a large extent on the basis of the expected elasticities of imports and exports to shifts in the real rate. Within this framework, the connection between exchange rate policy and monetary policy mostly was viewed in terms of a need for exchange rate depreciations (to improve external competitiveness) to be supported by firm monetary policy (to prevent the nominal depreciation being eroded by domestic inflation). But during the late 1970s and early 1980s, the inherent tension in trying to achieve, simultaneously, a competitive external value for the currency, and a firm monetary policy, became more evident.[17] The exchange rate peg became an increasingly "soft" peg, one that increasingly gave way to the policy objective of preserving external competitiveness and external (current account) sustainability, rather than serving as a bulwark against inflation.

. . . and financial rather than prudential regulation

While the monetary policy approach of the period, involving extensive use of financial controls, had some of the characteristics of what today is called "macro-financial" policy, it was scarcely a "prudential" approach. Indeed, prudential policy was notable by its absence. The closest there was to a prudential policy was the reserve-asset ratio requirements mentioned above. These bore some semblance to prudential liquidity ratios, but were administered entirely as a macro policy instrument with little focus on prudential considerations. Invariably, the macro policy imperative was to restrain banks' lending.

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[16] For discussion of this "impossible trinity," see Moreno (2012).

[17] Boughton (2001) refers to the lack of an agreed objective for the exchange rate in macroeconomic policy during this period in the following terms:

> Was the exchange rate to be an instrument for external adjustment, a nominal anchor for financial stability, or a real anchor for maintaining international competitiveness? Both inside the [International Monetary] Fund and more widely, views on how to define and rank such goals varied between countries and over time. Although a degree of eclecticism and flexibility was no doubt necessary, the absence of an objective model or framework inevitably led to arbitrary judgements and prolonged disputes (p.70).

Hence, reserve-asset ratios mostly were applied as a means of squeezing banks' liquidity, not to require them to hold a prudent buffer of liquidity.

Nonetheless, it was a period of financial stability. That stability can be attributed to a number of things. One was that the banks comprising the banking system, principally the four trading banks, but also including various categories of savings banks (mostly publicly- or trading bank-owned) were sheltered from competition.[18] The trading banks were more of a club than a group of enterprises competing vigorously amongst themselves. For instance, the chief executives met monthly as a group with the governors of the Reserve Bank, including collectively to compare notes on market conditions.[19]

Moreover, the economic environment itself was a comparatively sheltered one for banks: farming was subsidised and underpinned by minimum price schemes; manufacturing was protected by import licensing and tariffs; the exchange rate was managed; inflation underpinned collateral values (particularly real estate values); and the government played an active economic stabilisation role. In this environment, implicitly, there was seen to be little prospect of the solvency of banks ever being other than undoubted.[20]

While there had been some episodes of financial instability during the previous decade or so, those had been on the edges rather than towards the centre of the financial system, for example, the failure of the Cornish and JBL groups in the early 1970s and of Securitibank in 1976.[21] Following these events, the Securities Act 1978 was enacted, creating a regulatory regime governing the raising of investment funds from the public. This regime was based on the responsibilities of issuers' directors to investors, including with respect to disclosures required to be made by way of a prospectus (although the regulations bringing into force the prospectus requirements were not made until 1983). Deposit-taking by banks, however, was exempt from these requirements.

A period ending in macroeconomic crisis

Overall, macro policy in the late 1970s and into the 1980s lacked the organising and institutional frameworks of today. Correspondingly, policy operated in a relatively *ad hoc* and discretionary manner, and not always consistently. Over time, the macroeconomic priorities were prone to change, as one pressure point gave way to another, and the inherent connections between different elements of macro-management, for example, between monetary policy and the exchange rate, were not as well understood as they now are. Also, macro policy, particularly monetary policy, involved greater use of administrative interventions than we are now used to.

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[18] The savings banks comprised "private" savings banks owned by the trading banks, trustee savings banks, which were "community owned" (and government-guaranteed), and the government-owned Post Office Savings Bank. The other main categories of financial institution were building societies, finance companies, and merchant banks.

[19] Similar to the kind of relationship the Bank of England traditionally maintained with banks in the City of London; another manifestation of the UK antecedents of New Zealand's monetary arrangements.

[20] Some of the smaller and least established of the regional trustee savings banks (some went back many decades, but others were established only in the 1960s) were recognised as weakly capitalised. They were, however, quite tightly constrained in the business they could do, and were government-guaranteed, making them a Crown rather than a banking-system risk.

[21] Securitibank was not a licensed bank, but was able to trade under the name, owing to gaps at the time in the legal restrictions on use of the term "bank."

By the early 1980s, it was becoming increasingly evident that macroeconomic strains, as evident in high inflation and rising unemployment, and in both fiscal and external imbalances, were mounting and that reforms would be needed to avoid the emergence of more serious instabilities. Also, as touched on above, by the early 1980s macroeconomic policy internationally was moving in directions that were leaving New Zealand's approach out of step. Instead of similarly shifting to policy approaches based more on achieving financial (monetary and fiscal) targets over the medium-term, New Zealand had resorted to greater use of administrative interventions, with wage, price, and interest rate controls being applied in June 1982. While, internationally, measures of this kind were not unusual in the early 1970s (eg, various forms of price and wage controls were applied by the Nixon administration in 1971, by the Heath government in the UK in 1972, and by the Carter administration in 1978), by the 1980s such approaches had been abandoned in favour of policies that worked through, rather than sought to thwart, market processes. New Zealand's attempts in the first part of the 1980s to suppress underlying financial imbalances culminated in the forced devaluation that occurred in mid-1984.[22]

[22] See Singleton (2006, pp. 64-67) for an account of the devaluation.

3 Macroeconomic reform: 1984 to the early 1990s

The half dozen or so years from mid-1984 saw a transformation in New Zealand's economic policy frameworks. That transformation covered most aspects of economic policy, both macroeconomic and microeconomic. This Section focuses on the former, although the boundary between what was macro policy and what was micro policy, in what was a very comprehensive reform programme, was not always precise (Reserve Bank of New Zealand, 1986, p 13).

Fiscal policy — from short-term fiscal activism, to medium-term sustainability

One area where greater integration of macro and micro policy was evident was in the government's financial management. From a macro standpoint, the priority shifted to bringing the fiscal deficit better under control. This was to achieve more sustainable levels of public, and external, debt, and to help ease pressures on aggregate demand and inflation. The measures taken to achieve those outcomes, however, were focussed as much on structural reform to lift public sector performance and micro efficiency as on achieving macroeconomic stability. They included:

- commercialising, and in a number of cases, in due course, privatising, state trading operations. Generally these had been generating poor, or negative, returns on the capital invested in them
- a major reconfiguration of the tax system, with GST being introduced, various income tax exemptions and tax breaks removed, and the scale of tax rates flattened considerably
- clear specification, in "purchase contracts" between ministers and their departments' chief executives, of what government programmes were to deliver and the resources to be made available for those purposes, and
- the introduction of multi-year budgeting and accrual accounting frameworks.

This shift in approach to public sector financial management was legislated by way of the Public Finance Act 1989. That Act also adopted a more medium-term approach, which, correspondingly, placed greater constraint on the scope for short-term fiscal initiatives driven by macro stabilisation objectives.

The statutory framework for, and medium-term orientation of, fiscal policy was further formalised with the enactment of the Fiscal Responsibility Act in 1994. This legislation added principles relating to fiscal transparency and sustainability, and created statutory responsibilities for keeping government debt to a prudent level. The principles for fiscal responsibility enunciated in the Act related to:

- reducing total government debt to, and then maintaining it at, prudent levels
- achieving and maintaining levels of net worth to protect against shocks
- managing the government's fiscal risks in a prudent manner, and
- pursuing consistent policies to give predictability in levels of taxation.

Neither the Public Finance Act nor the Fiscal Responsibility Act set quantitative targets or limits for fiscal policy, but rather put in place a series of reporting requirements so as to require a high level of transparency. These included publication annually by the government of its fiscal strategy and by the Treasury, independent of political control, of half-yearly Economic and Fiscal Updates. This configuration was designed to reconcile the role of the Treasury as an expert, professional and independent adviser with democratic mandates. An approach based on quantitative targets or constraints was not adopted so as to leave some scope for flexible responses to unanticipated developments (shocks). These, however, would have to be reported on, and explained. It was also thought that imposition of hard boundaries could engender gaming of the regime (Janssen, 2001).

This shift in emphasis, toward maintaining stability and sustainability in fiscal policy over the medium term, reflected a number of overlapping considerations. To a large extent, it was a response to fiscal policies over the preceding decade or two. These had come widely to be regarded as having been ineffective, both in terms of the management of public finances, and in terms of macroeconomic management. Use of fiscal policy as a prop for the macroeconomy had resulted in accumulation of high levels of public debt that left little, if any, scope for absorbing future shocks, and short-termism compromised the effectiveness and efficiency of government programmes.

Also, the efficacy of fiscal policy as a stabilisation instrument was coming into question in more fundamental respects. One factor was the possibility that people offset fiscal adjustments with changes in their own level of saving, because they recognise the implications of those adjustments for future taxes, often referred to as Ricardian equivalence (Seater, 1993). Another was a concern about how expansionary fiscal policy, as a result of the increased government borrowing required to finance it, could crowd out private investment. Both pointed to the possibility that shifts in fiscal policy could end up making little difference to the overall level of aggregate demand, and hence activity, in the economy; or even that a contractionary fiscal policy could be expansionary for the macroeconomy.[23]

Against this backdrop, by the early 1990s, the stabilisation role of fiscal policy had fallen into the background. For instance, despite that by end of 1990 the economy had not fully recovered from the recession that followed the 1987 share market crash (discussed further below), the focus of the December 1990 mini-budget and the 1991 Budget, brought down by the new government elected in late 1990, was firmly on fiscal consolidation. That likely will have had a further contractionary effect in the short run (the economy fell back into negative growth in 1992), but was also seen as establishing a foundation, through restoration of sound public finances, from which sustained recovery would be possible.

[23] A proposition sometimes associated with the new supply-side economics and the Laffer curve, a school of thought that held that a combination of liberalisation of markets and a reduction in the size of government would enable private sector activity to expand rapidly and fill the vacuum left by contractionary fiscal policy. Boughton (2001) refers to the proposition as a “faddish theory” of the 1980s which failed owing to the adoption of long-run neutrality assumptions as being relevant to the horizon over which macroeconomic policy is actually conducted (p. 27). Dunstan, Hargreaves and Karagedikli (2007) in reviewing the issues in the New Zealand context, conclude that in the long run, shifts in fiscal policy may be reasonably neutral in their effect on aggregate demand, but that in the short to medium term, the demand effects can be significant. Prebble and Rebstock (1992), on the other hand, identify positive effects on aggregate supply from changes to the design of New Zealand's tax and benefit schemes in the early 1990s for labour market supply responses, which may have mitigated their contractionary effect on aggregate demand.

The advent of inflation targeting

The second half of the 1980s and early 1990s was also transformational for monetary policy. The policy objective narrowed from being broadly defined in terms of a range of macro-variables (spanning inflation, employment, and external balance) to the singular objective of achieving low and stable CPI inflation. Also, implementation of monetary policy shifted from administrative regulation of commercial bank balance sheets, to market operations using the Reserve Bank's balance sheet. Controls over market interest rates were removed almost immediately following the July 1984 change of government.

The narrowing of the monetary policy objective to a singular focus on inflation commenced soon after the 1984 election. This was against a backdrop of CPI inflation in mid-1985, following removal of wage and price controls, of nearly 17%, and double-digit inflation during most of the preceding decade. Initially, the objective was to achieve inflation rates well into the single-digit range, but that soon gave way to the goal of achieving and maintaining price stability; a goal first mentioned publicly by the Minister of Finance in 1988 (Reddell, 1999). While at the time these were seen, in the New Zealand context, as ambitious goals, that mostly reflected how New Zealand had come later than other countries to the task of achieving disinflation and to recognising that inflation, ultimately, is a monetary policy problem. Most other OECD countries by the late 1980s had already broken the back of the "great inflation." The average rate of inflation in the G7 countries, by 1986, was not much over 2%.[24]

Another influence on post-1984 monetary policy was developments in thinking about effective management of public-sector institutions. A central tenet to emerge was a need for greater clarity in the roles and responsibilities of government agencies, and for measures of performance against which they could be held accountable. As mentioned above, one of the institutional arrangements developed for that purpose was the establishment of purchase agreements between government ministers and the agencies for which they are responsible. These provided for ministers to be responsible for setting objectives, or desired outcomes, and for government agencies to be contracted to deliver the outputs that contribute to achieving those outcomes.

This approach was incorporated into a new statutory framework for monetary policy, the Reserve Bank of New Zealand Act 1989. The Act prescribes that monetary policy must be directed to maintaining stability in the general level of prices, requires that there be a Policy Targets Agreement (PTA) between the Minister of Finance and the Governor of the Bank, and provides the Reserve Bank with autonomy in the conduct of its operations to achieve the agreed target. It is a formulation that parallels the purchase agreement approach, with the notable exceptions that the Bank is made responsible for an outcome rather than an output, and has autonomy in how it conducts its operations to achieve the agreed policy target (see Singleton, *et al.*, 2006, Chapter 5, for discussion).[25]

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[24] Although this was partly the result of falling oil prices in first half of the 1980s. During the next six-to-seven years, G7 inflation averaged about 3% (source: http://www.oecd.org/dataoecd/40/26/42503918.pdf). New Zealand CPI inflation in 1986/87 was nearly 19% and did not fall below 4% until 1991.

[25] The Treasury favoured basing the contract on a target rate of growth in the amount of the Reserve Bank's liabilities on issue (an M0-type monetary aggregate). This was viewed as fitting better with a framework within which the Minister specifies the outcome (price stability) and the Bank delivers the output (an appropriate rate of monetary growth). However, that approach was rejected given the lack of a sufficiently close link between M0 and inflation, the desired outcome variable. Instead, inflation itself was adopted as the policy target. Note that implicit in the new formulation also was a shift from monetary policy by regulation to monetary policy operations through the use by the Reserve Bank of its own balance sheet. The Reserve Bank Act 1989 gave the Reserve Bank no regulation-making powers although, as discussed below, it later acquired what, in effect, are such powers as part of its banking supervision function

There has been a succession of Policy Targets Agreements. The initial agreement was specified more tightly than those that were to follow — in a manner that could be seen as "strict" inflation-targeting (Svensson, 2001). The initial agreement, for example, did not provide for shocks that could justify inflation outcomes away from the target. However, within a year or so, the PTA was revised in a way that accommodated greater flexibility, but with obligations on the Bank to account for the exercise of the policy discretion that the increased flexibility afforded.[26]

By the mid-1980s, most OECD central banks had moved away from using money and credit aggregates as intermediate policy targets. This shift stemmed in large part from financial deregulation having rendered money and credit aggregates less reliable in that role.[27] In place of monetary aggregate targets, most adopted a check-list approach: a list of indicators spanning financial aggregates, financial market prices, and macroeconomic variables, to guide policy decision-making. The policy objective, in effect, came to be specified as a loosely defined, multi-faceted, conception of what might be thought of as "monetary stability." It was only in the early to mid-1990s that other countries joined New Zealand in targeting the inflation objective directly. In this respect, New Zealand was a world leader.

In another respect, however, New Zealand, if anything, lagged. Most central banks when moving away from monetary aggregate-targeting also adapted the calibration and conduct of the market operations by which they gave effect to monetary policy. That entailed moving from operations calibrated on the basis of monetary quantities, to calibrating directly the interest rate in those operations. While the change from one modus operandi to the other typically was a matter of evolution that spanned some years, by the early to-mid-1990s most central banks were setting a policy interest rate.[28]

The evolution of the Reserve Bank of New Zealand's *modus operandi* followed a different path. While New Zealand was a leader in completing the transition from setting its policy objective in terms of a monetary aggregate target to setting it in terms of an inflation target, it continued to frame its market operations on the basis of a monetary quantity[29] for almost another decade (something that, as discussed in Section 4 below, became a source of complications).

One factor that contributed to the Reserve Bank persisting with a monetary aggregate framework in its operations, despite having moved to setting the policy objective in terms of an inflation target, was the lateness with which New Zealand commenced the disinflation process (not until the second half of the 1980s). Without the cover that monetary targeting regimes had provided other central banks when achieving their disinflations in the early 1980s (Mishkin, 2000), there was some attraction for retaining

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[26] In the early 1990s when there were two small breaches of the then 0%-2% annual target band, there was a formal exchange of (open) letters between the Board of the Bank and the Minister of Finance regarding the adequacy of the Governor's performance.

[27] This shift of focus away from monetary aggregates was described by the Governor Bouey of the Bank of Canada in 1982 in the following terms: "[W]e didn't abandon monetary aggregates, they abandoned us" (Dodge, 2006).

[28] For example, in the case of the Federal Reserve, the focus shifted only gradually during the 1980s toward attaining a specified level of the federal funds rate, albeit with the process largely complete by the end of the decade. But even then the Federal Open Market Committee did not begin actually to announce changes in its policy stance until 1994, or the fed funds rate, until 1995. Source: http://www.federalreserve.gov/monetarypolicy/openmarket.htm. The RBA commenced announcing its cash rate from 1990.

[29] For a period, a target level of primary liquidity, which comprised banks' balances at the Reserve Bank (settlement cash) plus government securities liquefiable at the Bank on demand, and later just settlement cash. Monetary policy was tightened by the Bank undertaking market operations that reduced the stock of liquidity available to the banking system, and vice versa.

operating procedures under which the sizeable hikes in interest rates required could be passed-off as being market-determined rather than set by the Reserve Bank (Reserve Bank of New Zealand, 2000, para. 14). There may also have been some aversion to moving back into an interest rate-setting role, given the earlier troubled experience with interest rate controls.

. . . and the floating of the exchange rate

As discussed in Section 2, until the mid-1980s, monetary policy and exchange rate policy were less integrated than nowadays. Then the monetary policy problem was seen mostly in terms of insufficient constraint on banks expanding credit, and the exchange rate problem mostly in terms of high inflation resulting in real exchange rate appreciation and erosion of external competitiveness. The possible role of the exchange rate in anchoring inflation did not receive a lot of attention.

This disconnect between monetary and exchange rate policy became increasingly evident following the deregulation and reforms set in train from mid-1984. In particular, removal of exchange controls in late 1984 opened up the external capital account and resulted in monetary policy and exchange rate policy becoming much more "joined at the hip."[30] From that point, the scope to operate an independent monetary policy, with a still pegged exchange rate, became much more limited, given the greater scope for capital to flow across the border in response to discrepancies between New Zealand dollar and foreign currency interest rates (the "impossible trinity," Moreno, 2012). The tighter monetary policy (increases in interest rates) needed to bear down on inflation resulted in capital inflows which, with the exchange rate pegged, ended up as liquidity in the banking system. That undercut what monetary policy was trying to achieve.

Floating the exchange rate in March 1985 resolved this tension between monetary and exchange rate policy, in favour of monetary policy. More than that, however, it was also envisaged that floating the currency would better deliver an exchange rate consistent with maintenance of external competitiveness and balance of payments equilibrium. The Reserve Bank in its 1985 Annual Report, for example, stated that:

> The float should ensure that the exchange rate does not again depart from its equilibrium level for lengthy periods, thus making a valuable contribution to the restoration, and maintenance, of overall external balance in the medium term; and also improving resource allocation since the market value of foreign exchange, rather than an administratively determined value, is now used in private sector decision-making. Changes in international competitiveness and in the terms of trade, for example, should be signalled more rapidly to domestic producers; and exporters' profitability should not be adversely affected by the long-term maintenance of an inappropriate rate.

As discussed below, those are outcomes that have turned out not to have been realised to anywhere near the extent initially envisaged.

[30] Even before exchange controls were removed, the influence of changing interest rate differentials and, more particularly, of expectations of exchange rate adjustment, on the timing of export receipts and import payments were sufficient to have a disruptive influence on monetary policy.

Prudential supervision, in the beginning . . .

The Reserve Bank's role as a prudential supervisor also had its origins in this period of reform, with the enactment of the Reserve Bank of New Zealand Amendment Act 1986. This Amendment to the Reserve Bank Act 1964 both opened up the banking market by providing for the registration of new banks, and introduced some limited arrangements for prudential supervision.

The supervision arrangements provided for in the 1986 legislation were developed against a backdrop of the programme of financial deregulation that had commenced in mid-1984. The comprehensive removal of regulatory controls, albeit controls intended mostly for monetary policy purposes, left a question about whether some form of alternative, supervisory, oversight was needed. Moreover, at the time there were growing international expectations regarding the supervision of international banks. The Basel Concordat, an international convention on the supervision of banks with international operations, required such banks to be subject to adequate supervision by the respective home and host authorities. Continued absence of supervision of banks in New Zealand would have raised issues in relation to the ability of New Zealand banks to operate in other countries, as well as the possibility of constraints being imposed by overseas authorities on banks from abroad operating in New Zealand. This was at a time when New Zealand was looking to open-up its banking system to an increased presence by, and competition from, foreign-owned banks, and also a time when some New Zealand institutions were looking to establish a foreign presence.[31]

On the other hand, having deregulated the financial system, there was little appetite for re-regulating under the guise of prudential supervision.

The result was a supervisory regime limited, essentially, to requirements that banks report prudential information to the Reserve Bank, and powers of intervention that could be invoked if an institution was considered to be insolvent, close to insolvency, or acting in a reckless manner. Application of required minimum prudential standards was eschewed (Doughty, 1986).[32] The 1986 Amendment Act also provided that non-bank institutions could be "specified" by the Reserve Bank as being of importance to the financial system and also to be supervised. But not being registered, there was no ability to apply conditions of registration to these institutions.

A further general principle was that there should be a level playing field between banks and other firms raising funds from the public. Hence, a previous exemption for banks from the Securities Act, in respect of their deposit-taking activities, was removed. In effect, banks were put on the same footing as other issuers of debt securities to the public, both in respect of the "investment risk" facing depositors and in respect of the obligations of directors of banks with respect to disclosure of information to depositors. Correspondingly, non-bank organisations were not excluded from undertaking "banking business". The only thing that banks could do that other institutions could not was to include the word "bank" (or its derivatives) in their name.

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[31] At the time the operations of New Zealand banks abroad were limited, mainly, to the BNZ in Australia, but it and some other New Zealand banking institutions had aspirations to expand their international presence. For example, NZI Bank, which was registered under the provisions of Reserve Bank Amendment Act 1886, acquired a banking operation in London.

[32] Although, since registration of new banks commenced in the latter part of 1987, those were being made conditional on the bank maintaining an adequate level of capital. The standard of capital adequacy applied was the just-emerging Basel 1 capital standard. The four trading banks, which were deemed to have been registered, were requested to maintain the same standard on a voluntary basis.

Consistent with this policy approach, deposit insurance arrangements were not favoured or adopted. The purpose of prudential supervision was to be confined to maintaining the stability of the financial system as a whole, as distinct from protecting depositors' funds, or limiting the exposure of a deposit insurance scheme that underwrote those funds. Policy emphasis was given to avoiding moral hazard, and to the role of competitive, and competitively neutral, markets, rather than to the role of prudential supervision in promoting financial stability. This represented a significant departure from emerging international norms being developed at the time by the Basel Committee on Banking Supervision.

. . . but with financial instability . . .

In New Zealand, the period from mid-1984 to early 1987 was a period of exceptional financial expansion (Figure 5). With the shackles of financial regulation having been removed in 1984/85, and the prospect of new banks, including some of the world's largest, entering the New Zealand market, lending institutions embarked on intense competition. Credit growth, particularly for commercial real estate and corporate (M&A, and IPO) activity, was especially rapid, and the economy as a whole became considerably more leveraged.

The fragilities inherent in these developments were sharply exposed following the global "correction" in share markets in October 1987, a correction which in New Zealand (and Australia) turned into a crash. Over the next two to three years, the New Zealand share market, and CBD real estate values, fell from their peaks by as much as 60%.[33] A number of large investment and property conglomerates failed which resulted in substantial loan losses for the lending institutions that had funded their expansion (Figure 8). Within a few years, six of the 10 largest New Zealand listed companies by market capitalisation had failed. Some banks avoided insolvency only as the result of being recapitalised by their shareholders, and a number of other financial institutions failed.[34] The consequential losses of wealth, and tightening in credit conditions, were significant contributors to an extended period of economic recession which commenced from late 1987.

. . . leading to further prudential policy development

The severity of the financial instability following October 1987 prompted a re-look at the prudential policy regime in the run-up to the enactment of the new Reserve Bank of New Zealand Act 1989. This resulted in the new Act providing the Reserve Bank with extended powers to apply conditions of registration to banks as a means by which it could apply some minimum prudential standards.

Another modification was to reinstate the exemption for banks' deposit-taking activities from the requirements of the Securities Act, and in its place to prescribe new disclosure requirements for banks, to be administered by the Reserve Bank. Also, the "specified institution" category of supervised institution was dispensed with, given that by 1989 most of those institutions either had already registered as a bank, or had failed. This left essentially two categories of regulated financial institution: registered banks supervised by the Reserve Bank, and (other) issuers of debt securities to the public, the latter being subject to the requirements of the Securities Act as administered by the Securities Commission.

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[33] That the adjustment following the October 1987 crash – a relatively sharp shock – was drawn out over two-to-three years can be attributed to slowness by firms and their bankers to recognise the initial falls in market values, or at least to recognise that they were not going to be offset by on-going high inflation, and to write down asset values and loans accordingly.

[34] Those that required recapitalisation included the BNZ, and NZI Corporation; those that failed included the DFC and RSL. There was also a major run on the United Building Society.

Under the new 1989 legislation, the Reserve Bank proceeded to apply some minimum prudential standards (in addition to the Basel 1 capital standard, see note 32 above). These addressed connected lending, large exposures, foreign exchange positions, and internal control systems.[35]

However, before these were fully implemented, a further review of prudential policy was instituted, to reassess whether the right balance was being struck. This turned into a fundamental review of the Bank's banking supervision function, from first principles (Ledingham, 1995; Brash, 1996a; Singleton, *et al.*, 2006). The outcome on this occasion was to roll back the introduction some of the extensions to prudential standard-setting provided for the 1989 Act, while leaving in place the Basel 1 capital requirements, and associated constraints on connected lending. Also decided was a bolstering of the new disclosure requirements then under development for banks, including strengthening of the requirements for banks' directors to attest to the information disclosed.

The prudential supervision regime, correspondingly, became more centred on banks' public disclosure requirements. In keeping with this, the Reserve Bank adopted a principle that it should confine its own prudential surveillance to publicly available information. This was to underscore, and to avoid undercutting, the role of market disciplines in maintaining a prudentially sound banking system. These adaptations to the banking supervision function were implemented in the mid-part of the 1990s.

Bringing to a conclusion the era of "the reforms"

The period from the mid-1980s to the early 1990s was especially eventful for macroeconomic policy in New Zealand. In the space of a few years, the economy, including the monetary/financial system, was substantially deregulated; exchange controls were removed and the exchange rate was floated; a new medium-term framework for government financial management was put in place (which saw the tax system fundamentally restructured, government trading operations corporatised/privatised, and substantial fiscal consolidation); and prudential supervision was introduced, revised, and revised again. The macro-economic outcomes were no less eventful: "boom," followed by "bust" and financial instability. But out of all of that emerged an economy soundly placed for the commencement of a period of sustained non-inflationary growth.

[35] See Chapter 3.3 of Reserve Bank of New Zealand (1992) for an outline of the prudential supervision arrangements subsequent to the passage of the Reserve Bank Act 1989.

4 The Great Moderation: From the early 1990s to the GFC

The period from the early 1990s to the beginnings of the Global Financial Crisis in 2007 was a period of exceptional macroeconomic stability in the advanced world. Despite the period being punctuated by what, at the time, seemed significant episodes of financial and asset price instability — the Asian financial crisis in 1997/98 and the dotcom bubble in the early 2000s — GDP and consumer price inflation outcomes across most developed economies remained consistently, even remarkably, stable. By the late 1990s, the era was being referred to as the Great Moderation, and the Governor of the Bank of England referred to the era as NICE — non-inflationary, consistently expansionary (King, 2004).

From fiscal deficit to sustained surplus . . .

Fiscal outcomes in New Zealand throughout the period were correspondingly favourable. Following fiscal deficits, and increasing accumulation of government debt up until the early 1990s, a fiscal surplus was recorded in 1993 (or 1994, depending on the measure used), and throughout the next decade and a half. Those fiscal outcomes can be attributed to both the framework of policy disciplines established under the Public Finance and Fiscal Responsibility Acts, and to an extended period during which the automatic stabilisers were consistently delivering positive fiscal surprises.

In recognition of both the likely cyclical nature of the surpluses, and prospective medium-term budgetary pressures related to population ageing, governments applied the surpluses, initially, to paying down government debt and, from 2003, into the newly established New Zealand Superannuation Fund. In 2004 the Public Finance Act was amended to include a requirement that the Treasury publish at least every four years a statement on the long-term fiscal outlook, covering at least the next 40 years.[36] Taken together, these measures put fiscal policy on what seemed a comparatively solid long-term footing.

However, by about 2005/2006 — just about corresponding with the end of the "golden weather" — the long-term focus gave way to underlying pressures for expansion of government spending, and tax cuts. From 2006, these resulted in the fiscal surplus beginning to shrink (Parkyn, 2010, Figure 1), a year or so ahead of the macro economy beginning to turn down. At the time, it was thought that the preceding run of years of fiscal surpluses indicated an underlying structural surplus, such that some fiscal expansion was consistent with maintaining sustainability over the medium to long run. However, as discussed in Section 5 below, subsequent developments turned out differently. As the Great Moderation gave way to the Great Recession, what had been thought to be structural surpluses turned into deficits of unexpectedly large proportions.

[36] This amending legislation also consolidated the Fiscal Responsibility Act into the Public Finance Act.

From a macro stabilisation standpoint, the timing of the commencement of the fiscal expansion in 2005, when the economy was still at an expansionary point in the cycle, was less than ideal (Brook, 2011). It will have added to aggregate demand and inflation pressures towards the tail-end of the expansion, and also resulted in a less strong underlying structural position going into the Great Recession that followed. In the light of this experience, the Government recently introduced some additional principles to the Public Finance Act for setting fiscal policy. The additions require governments to:

- have regard to the interaction between fiscal and monetary policy when formulating fiscal strategy
- have regard to the likely impact on current and future generations, and
- ensure that the Crown's resources are managed effectively and efficiently.

These provisions were enacted by way of the Public Finance (Fiscal Responsibility) Act 2013.

Monetary policy tames the business cycle . . .

Over this period, the monetary policy framework established by the Reserve Bank Act 1989 performed creditably in terms of what it was set up to achieve. During the decade and a half to end-2008, annual CPI inflation outcomes ranged from -0.5% to 4.6%, and averaged about 2.4% The corresponding figures for real output growth were -0.9% (at the time of the Asian crisis) to 6.9% (the bounce-back from the early 1990s recession), and averaged 3.7% per annum.

While there were still business cycles, with expansions running from the early/mid-1990s until the Asian financial crisis, and again from the late 1990s until the GFC, these were well-contained compared with previous New Zealand business cycles. The inflation targeting framework for monetary policy, combined with the floating exchange rate, contributed significantly to what was nearly a decade and a half of relative macroeconomic stability.

Nonetheless, the inflation-targeting regime, as formalised by the Reserve Bank Act 1989, was not without some settling-in issues. One concerned the inflation target itself. Initially this was set at 0%-2% per annum, a range thought to be consistent with price stability, assuming measurement bias in the CPI equivalent to about 1% per annum.[37] This range was widened to 0%-3% annually in 1997, and in 2002 was adjusted further to 1%-3% annually, on average over the medium term.[38] These adjustments resulted in tolerance of some upward creep in the price level over the longer run, as well as increased tolerance of inflation outcomes spanning, and on occasion breaching, the target range. In the decade of the 2000s, CPI inflation averaged 2.7%, and was above 3% nearly one-third of the time (and above the initial 2% upper limit nearly two-thirds of the time), with few questions arising about whether the Bank was failing to adhere to the Policy Targets Agreement, or the Act. This contrasts with the initial conception of the Policy Targets Agreement in 1990, when it was expected that any departure of inflation from the target range would trigger a formal process of review of the Governor's performance.

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[37] The main elements of that bias are substitution bias and difficulties in accounting for quality improvements. The former stems from the weights used in the CPI regimen being household expenditure-based and adjusted only every three years, resulting in some lag in the taking account of changes in household spending away from items rising in price and toward those falling in price. The latter results in price increases being attributed to inflation when they actually reflect "real" improvements in quality.

[38] This brought the specification of the inflation target in New Zealand more into line with that in Australia.

With these aspects of the PTA bedded in, the formulation of monetary policy settled into a routine, with, from the mid-1990s, the forward policy stance updated quarterly on the basis of two-to-three years ahead macroeconomic projections. These projections were based on what, broadly speaking, was a forward-looking Taylor-rule formulation — that is, they provided forward projections of the short-term interest rate needed to achieve the inflation target, and stabilise the real economy at its potential level of output, two or so years ahead.[39]

. . . but not without some operational complications

As discussed above, in the immediate post-1984 reform period, the framework for monetary policy transitioned from one based on intermediate monetary aggregate targets, to an inflation target, but with the Reserve Bank being slower to adapt its operating procedures. Reasons given that slowness included public presentation advantages in the Reserve Bank not being seen directly to be setting the high interest rates needed to achieve disinflation, and also discomfort about playing a direct interest rate-setting role given the difficulties that had been encountered with interest rate controls in the 1970s and 1980s.

Despite those perceived advantages of quantity-based operating procedures, they were not without their own difficulties. Shifts in the operating target, initially the quantity of primary liquidity and later, of settlement cash, were found to have no stable or predictable connection with macroeconomic variables.[40] In those circumstances the Reserve Bank, internally, looked instead to financial market prices, initially, in particular, the slope of the interest rate yield curve to inform its judgements on the stance to adopt in its policy operations.[41] This disconnect between the basis on which operating judgements were being informed, and implemented, muddied the communication of the Bank's policy operations.

By the mid-1990s, another consideration had entered the frame — the exchange rate. This was at a time when tighter monetary policy was being found to be required to maintain price stability as the recovery from the recession of the early 1990s gathered momentum, and the New Zealand dollar was appreciating strongly. That currency appreciation made an important contribution to maintaining price stability, both directly in terms of the prices of imports and exportables, and indirectly as the result of lower activity, and hence less pressure on and wages and prices, in the tradables sector of the economy. But whereas the currency strength through the earlier period of disinflation and reform could be attributed to what was a unique (one-off) set of circumstances, renewed currency strength in the mid-1990s, and associated pressure on the tradables sector of the economy, was not so easily justified.

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[39] For the seminal paper on the Taylor rule, see Taylor (1993).

[40] Primary liquidity comprised cash held by the banks at the Reserve Bank plus government securities discountable on demand for cash; settlement cash comprised just cash balances (following a substantial tightening up of the terms on which banks could access the discount window).

[41] The slope of the interest rate yield curve, rather than the level of the short term interest rate itself, was adopted in this role because it was still considered too difficult to make sense of the absolute level of interest rates (Reserve Bank of New Zealand, 2000, para 6). The idea behind the slope of the yield curve was that a downward sloping yield curve indicated a tight policy stance, on the basis that long-term rates lower than short-term rates reflected a market expectation of future reductions in the short rate, and vice versa.

The MCI episode . . .

In these circumstances, the Bank increasingly took account of the exchange rate in informing its policy stance and on the calibration of the operations required to give effect to that. For a period, the Bank operated on the basis of two principal indicators, the trade-weighted index of the exchange rate (TWI) and the 90-day/5-year yield gap. This reflected an understanding that interest rates and exchange rates were the main channels through which monetary policy were transmitted to the macro economy. Subsequently, these two indicators were combined into a monetary conditions index (MCI), comprising a weighted combination of the short-term (90-day) interest rate and the TWI exchange rate. The MCI was used as a ready-reckoner for determining the equivalence of interest and exchange rate movements in terms of their influence on future inflation.[42]

Meanwhile, the Reserve Bank's still quantitatively-based operating procedures were becoming increasingly difficult to manage. Steering financial market prices by making adjustments to the quantity of settlement cash available to the banks was not something that could be done with any precision, and public statements, sometimes referred to as "open mouth operations," increasingly became the operating instrument of choice.[43] Initially these "open mouth operations" were framed in general language, but these too were less than precise in their effect on market rates and often needed to be followed up with further "clarifying" statements. A possible way to address these issues was to move to setting the interest rate at which the Bank would operate. This was considered in early 1997, but, following market consultation, it was decided to retain quantity-based operations and to move to explicit MCI-based communication of the Bank's policy intentions.[44, 45]

It was not long, however, before these arrangements were tested, and reviewed, again. At the time of the Asian crisis, in late 1997 and the early part of 1998, the exchange rate fell very abruptly, indicating, on an MCI basis, a substantial easing in "monetary conditions." While, given the crisis conditions, the Reserve Bank considered that there was a need for some easing of monetary policy, the extent of the fall in the exchange rate was such that the Bank concluded, using the MCI framework, that an *increase* in interest rates was appropriate. However, it soon became apparent that the MCI was giving a wrong steer, and a considerable further easing in policy, to lower interest rates, was implemented. From that point, the MCI was effectively abandoned and the Reserve Bank commenced calibrating monetary policy with reference to the short term interest rate. Shortly after, in early 1999, the Bank proceeded to set directly the interest rate at which it operates in the financial markets, that is, the official cash rate (OCR).

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42 For background on the construction and use of a Monetary Conditions Index, see Reserve Bank of New Zealand Economics Department (1996).

43 A mere statement from the Reserve Bank would move market interest rates because market participants knew that the Reserve Bank could always back up its statements with actual operations in the markets.

44 The discussion paper released to the market is available at http://www.rbnz.govt.nz/research/bulletin/1997_2001/1997jun60_2rbnz.pdf

45 For example, a press release issued on 26 August 1998 read:

Reserve Bank Governor Don Brash today said: "Monetary conditions have eased too far, too fast since we released the *Monetary Policy Statement* last week.

"Only last Thursday, we indicated a desired MCI of zero. Since completing our projections, nothing has happened to change our assessment.

"Accordingly, in the absence of new information, we will be looking to see conditions tracking a good deal closer to the levels that we indicated as appropriate."

. . . but exchange rate discomfort persists

In principle, a floating exchange rate provides the monetary authorities with monetary policy independence (in the sense of independence from the policies of other central banks, as distinct from political influence). Yet, for most of the period since the float of the New Zealand dollar, the exchange rate has been a matter of on-going attention and, often-times, policy discomfort. From as early as the mid-1990s, a sense emerged that the exchange rate was bearing a disproportionate share of the effect of monetary policy responses to internal inflation pressures, and was damaging the tradables sector of the economy (Brash, 1996b).

Those concerns were reflected in an amendment to the PTA in 1999, by way of addition of reference to the Bank being required to "avoid unnecessary instability in output, interest rates *and the exchange rate*" (emphasis added). While exchange rate concerns fell away during the period of exchange rate weakness following the Asian crisis, they re-emerged when the exchange rate appreciated strongly to reach post-float highs in the mid-2000s (Figure 6).

The recurrence of that exchange rate strength prompted a review by the Reserve Bank of policy regarding intervention in the foreign exchange market. The Bank's policy since the New Zealand dollar was floated in 1985 had been to eschew intervention other than in a currency crisis, and then only to maintain the functioning of the foreign exchange market. In shorthand, the Reserve Bank's role had been confined to supporting "the market," not "the rate," and at no stage in the 20 years since the float had the Bank found it necessary to step in to do that.

As a result of the review, however, the Bank, in agreement with the government of the day, moved to a position where it would seek to moderate exchange rate movements, if only at the margin, where:

- the exchange rate was exceptionally high or low
- the rate had reached a level unjustified by economic fundamentals
- intervention could be considered consistent with the PTA, and
- conditions in markets could be judged opportune and allow intervention a reasonable chance of success.[46]

Some years following adoption of the new policy on intervention in 2004, the Bank intervened for a short period in mid-2007, in an attempt to lower the exchange rate. How much effect it had is difficult to gauge. After reaching post-float highs (on a TWI basis) a month or so later, the currency edged lower over the next year, before falling sharply in late 2008 during the height of the GFC (Figure 6).

[46] Source: http://www.rbnz.govt.nz/research/bulletin/2002_2006/2005mar68_1eckholdhunt.pdf

A period of financial as well as macro-stability

Following the prudential policy review undertaken and implemented in the first half of the 1990s, bank supervision remained relatively settled for the next decade or so. It was also a period of stability and consolidation within the financial sector.[47] By the mid-2000s, the banking system had become at least as concentrated as it was before entry was opened-up in the mid-1980s, and had become substantially Australian-owned.

The main policy development in bank supervision during this period was the introduction of requirements for "systemically-important" banks to maintain operational capabilities that would enable them to "stand alone" in a crisis. This has involved requirements that systemically-important banks must be locally-incorporated (and governed and managed); and that, where business-critical functions are outsourced or off-shored, continuity of those functions must be resilient to the failure of the service-provider.[48]

Around the same time as the Reserve Bank was progressing these initiatives, to achieve a degree of insulation of banks in New Zealand from their (predominantly Australian) owners, the Australian authorities proposed that the supervision of New Zealand subsidiaries and branches of Australian-headquartered banks should come under the supervision of the Australian Prudential Regulation Authority (APRA).[49] This proposal, however, was not favoured by New Zealand. Instead, supervisory arrangements providing for national autonomy but with enhanced harmonisation and collaboration, including through the establishment of a Trans-Tasman Council on Banking Supervision, were agreed. The Trans-Tasman Council is charged with progressing supervisory co-operation based on an enhanced "home-host" model for supervision of Australian banks' operations in New Zealand.[50] A significant step in this connection was the enactment of provisions in the prudential supervision legislation of each country that require the respective supervisors (the Reserve Bank in New Zealand and the Prudential Regulation Authority in Australia), when exercising their prudential regulation powers, to support each other in meeting their statutory responsibilities and, where reasonably practicable, to avoid actions that would be likely to have a detrimental effect on financial system stability in the other country.

Other developments included the adoption and implementation of the Basel II capital adequacy standard for banks,[51] and dropping of the principle that the Reserve Bank should confine its prudential surveillance to only publicly disclosed information. By the mid-2000s, the Reserve Bank's supervisory policies and practices had evolved to a point where they were more compatible with international practice.

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47 Between 1992 and 2007, the following acquisitions and mergers occurred: National Australia Bank acquired BNZ and merged NAB(NZ) Ltd with BNZ; Commonwealth Bank of Australia acquired ASB; ANZ acquired PostBank and The National Bank (with the National Bank having already acquired the Rural Bank, as well as Countrywide Bank and United Bank); and Westpac acquired Trust Bank. Also, by 2007, a number of the wholesale banks that had entered the New Zealand market in the late 1980s had withdrawn, including Barclays, Natwest, Indosuez, Security Pacific, and CIBC.

48 Systemically-important banks for these purposes are those whose New Zealand liabilities, net of amounts due to related parties, exceed NZ$15 billion (in relation to the local incorporation requirement) and NZ$10 billion (in relation to the resiliency of out-sourcing).

49 Along with extension to New Zealand of provisions in Australian law that provide a preference, in the winding-up of a bank in Australia, for depositors in Australia.

50 Under the Basel Concordat, which sets out the responsibilities across countries for the supervision of international banks, the jurisdiction of the parent bank is responsible for the supervision of the global group on a consolidated basis, and the jurisdictions where it operates (through branches or subsidiaries) are responsible for supervision of each of those operations.

51 The Basel II capital accord is an internationally-agreed framework for establishing capital requirements for banks. It updated the initial capital accord, established in 1988, with a framework that was designed to be more risk-sensitive, and also made provision for banks to be able to determine their capital requirements on the basis of their own internal risk models. Basel II has since been further updated and extended to Basel III, in the light of the experience from the GFC.

The Reserve Bank in the mid-2000s also commenced broadening the scope of its financial stability surveillance, with the publication of half-yearly *Financial Stability Reports.* These include review of macro-financial conditions as well as of the soundness of the financial system, covering its institutions (banks and non-banks), markets and infrastructure. Publication of this report became a statutory requirement from 2008. However, like the financial stability reports of other central banks, it commenced as, and remains, essentially, a surveillance report — unlike the Bank's *Monetary Policy Statements* which are clearly focussed on the Bank's OCR policy decisions. That said, the surveillance set out in *Financial Stability Reports*, from an early stage, has fed into prudential policy developments.

But overall, a false dawn . . .

By the turn of the millennium, most indications were that macro-economic management, finally, had been mastered.[52] To be sure, the Asian Financial Crisis had been a significant disturbance, but was largely confined to that region. And, for the most part, it was regarded as a crisis resulting from failure by the affected countries to adhere to established principles of good macroeconomic policy, not a failure of the policy frameworks themselves. Accordingly, the international policy response to that crisis was a call for better application, rather than revision, of the established principles of good policy. This was reflected in the subsequent development of a range of international codes and standards, particularly in relation to financial sector policies, and the inception of monitoring of compliance with those codes by the IMF and World Bank, under a newly created Financial Sector Assessment Programme (FSAP).

Similarly, the dotcom crash in the early 2000s left comparatively little imprint on macro-economic policy frameworks. New Zealand, not being a large producer of information and communication technologies (ICTs), was little affected by the collapse in the value of technology companies. Neither was the world economy. A very substantial easing of monetary policy, globally, and in particular in the US, resulted in what, internationally, was only a shallow downturn.

These policy "successes" bolstered confidence in the macroeconomic policy consensus of the time. That consensus included that the primary focus of central banks should be on maintaining the stability of prices — that is, of the prices of consumer goods and services, not of asset prices which it was accepted are inherently prone to greater volatility — with financial stability a secondary consideration. This configuration largely reflected a view that market disciplines (ie, counterparty scrutiny) could be relied on to anchor the financial system (Greenspan, 2009). It was also considered inherently difficult to determine whether fluctuations in asset prices are driven by fundamentals, which should be accommodated, or by bubble-type phenomena that market disciplines and well-anchored goods and services prices could be relied upon to deliver an eventual self-correction. On this basis, it was thought that attempts proactively to moderate asset-price fluctuations would turn out to be more costly than allowing them to run their own course. The appropriate policy stance was considered to be for central banks to stand ready rapidly to ease monetary policy if or when an asset bubble burst, so as to offset the possibility of that resulting in recession and deflation in consumer prices. The asymmetry embedded in that approach, however, is now thought to have contributed to the next episode of macro- and financial instability, the Global Financial Crisis.

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[52] For instance, in 2003, Robert Lucas, one of the leading macroeconomists since the 1970s, stated that the "central problem of depression-prevention has been solved, for all practical purposes, and has in fact been solved for many decades" (*The New York Times*, 4 January 2009).

Another feature of the period was a massive build-up in foreign exchange reserves in East Asia. As the region recovered from the Asian Financial Crisis, it, in effect, embarked on a strategy of self-insuring against future crises. The counterpart was an influx of savings, and of cheap consumer goods, to the western world. These flows of capital and goods "from east to west" added to downward pressure on interest rates and consumer goods prices in the latter economies (Bernanke, 2005). While not obvious at the time, it is now apparent that these developments masked what in the first half of the 2000s in the western world was a period of considerable financial expansion.

New Zealand, while in some respects only on the margins of these developments, was also bound up with them. For instance, New Zealand shared in the inflows of capital from Asia (Drage, *et al.,* 2005). These contributed to appreciation of the New Zealand dollar and helped to contain CPI inflation, thus constraining the Reserve Bank in raising interest rates. Although the Reserve Bank in the five years or so leading up to 2007 did raise its policy rate a number of times, and by more than most other central banks, New Zealand too experienced a period of rapid financial expansion, which showed up in asset price inflation, particularly in the residential and rural real estate markets.

5 From the GFC to the present

The GFC has been the largest macroeconomic shock, globally, since the Great Depression of the 1930s. It can be dated as having commenced in August 2007 when BNP Paribas suspended payment on some of its funds under management, and turned into near collapse of the global financial system in late 2008, following the failure of Lehman Brothers investment bank in the United States. Financial seizure in late 2008 was followed by recession and in 2009 an unprecedented collapse in world trade. The volume of world trade in 2009 was 10% down on that in 2008 (and by considerably more on an intra-year peak-to-trough basis) and the prices of most primary commodities (oil, minerals, and food) fell sharply.

Most OECD economies four-to-five years on are still struggling to shake off the legacy of the GFC. Financial systems have taken time to repair and most OECD countries have ended up with over-extended public finances, the result of recession, active fiscal stimulus and financial sector bail-outs. However, Asia, whilst initially hit hard by the downturn in global trade, from 2010 bounced back strongly. As a rapidly developing part of the world, focused on the manufacture of goods, Asia contributed to a resurgence in demand for, and in the international prices of, primary commodities.

The GFC commenced at a time when the New Zealand economy was already slowing, including as the result of steady tightening of monetary policy in the preceding three-to-four years (Figures 1 and 4). Difficulties in New Zealand's own finance company sector also had begun to emerge by 2007. Yet New Zealand has weathered the GFC comparatively well. There are a number of possible reasons for that. One is that less accommodative financial conditions in New Zealand leading up to the GFC may have helped contain the preceding expansion better than in some countries. New Zealand's trade exposure to Asia, and to primary commodities in particular, is another. New Zealand has also benefited from its exposure to Australia, which has also been buoyed by its trading links with Asia. Additionally, the Australian institutions that own the bulk of the New Zealand financial system remained sound, and a source of strength for their New Zealand branches and subsidiaries throughout the GFC.

All hands to the pump –the return of fiscal stimulus

Since the GFC — and the Canterbury earthquakes in 2010-11[53] — there has been dramatic change in New Zealand's fiscal circumstances. Following more a decade and a half of fiscal surpluses up to 2008, fiscal deficits have been recorded each year since (deficits equivalent to 2.1% of GDP in 2009, 3.3% in 2010, 9.3% in 2011, and 4.5% in 2012).[54] These have resulted in an increase in net government debt, from 9.3% of GDP in 2009 to 24.8% of GDP in 2012[55] (Figure 2). While increases in expenditure and tax reductions set in train prior to the GFC were important contributors to this shift from fiscal surplus to deficit, the main underlying factor has been extent to which the GFC-induced recession put the economy, and hence the tax revenue base, on a path well below that which had been expected pre-the GFC.

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[53] The Canterbury region was struck by severe earthquakes in September 2010 and March 2011. The latter resulted in 181 fatalities and substantial damage to property in the city of Christchurch.

[54] On an operating balance excluding gains and losses (OBEGAL) basis. The large increase in the deficit in 2011 reflects mostly costs arising from the Canterbury earthquakes.

[55] On a core Crown net debt basis (new measure). See http://www.treasury.govt.nz/government/data.

These developments have revealed both strengths and weaknesses in the New Zealand fiscal policy framework put in place in, and maintained largely unchanged, since, the early 1990s. The strength of that framework is reflected in the way it preserved a reasonable degree of fiscal discipline through the preceding decade and a half, at least up until about 2006. That put New Zealand in a position of having little (net) public debt at the onset of the GFC, and enabled fiscal policy, through both discretionary measures and the operation of automatic fiscal stabilisers, to turn highly expansionary in 2008-2010. In other words, by saving during the run of years preceding the GFC, the government was in a position of being able to dissave in 2008-2012 and fill a large part of the gap in aggregate demand that would otherwise have emerged as the private sector deleveraged.

At the same time, however, providing fiscal stimulus involved compromising longer-run fiscal sustainability goals. Budget 2009 envisaged net debt increasing from 0% of GDP in 2008 to 35% of GDP by 2015 and, additionally, contributions to the New Zealand Superannuation Fund were suspended. While subsequent Budgets have resulted in some paring back of forecast deficits and the projected increase in debt,[56] the GFC has had the effect of throwing long-term fiscal policy significantly off the previously charted course for preparing for population ageing.

Internationally, tensions have emerged between short-term and long-term fiscal policy objectives (IMF, 2010). On the one hand, there is a mounting need — especially in the US and some European countries (including the UK) — to re-establish policies that will deliver fiscal sustainability over the longer term. On the other, there is also a need not to front load excessively the fiscal adjustment, whilst recovery from the GFC remains subdued.

New Zealand is facing the same kind of trade-off, between short-term stabilisation and long-term fiscal sustainability objectives, but from a much less acute starting point than those facing some other developed countries. Government debt relative to GDP is lower, and GDP growth, whilst sluggish, has become reasonably re-established in New Zealand. In these circumstances, the focus of fiscal policy in New Zealand has shifted comparatively more to achieving the fiscal surpluses required for sustainability over the longer run. For instance, Budget 2012 included fiscal adjustments in 2013 and 2014 which will result in negative fiscal impulses equivalent to about 1% and 2% of GDP, respectively. These are seeing fiscal policy acting as a headwind at a time when macroeconomic performance remains patchy. In these circumstances, monetary policy has been seen as having an on-going accommodative role to play.

. . . and aggressive monetary easing

Central banks, globally, reacted to the GFC forcefully, including by resorting to "unconventional measures." Policy interest rates were cut very aggressively around the time of the Lehman Brothers failure in late 2008. In the US, UK and euro area, rates soon approached the zero bound, and most other central banks, to varying degrees, followed their lead.[57]

[56] Budget 2012 projected net debt peaking at no more than 30% of GDP, and tracking downwards from there.

[57] Indeed, Denmark's central bank has since has reduced the interest rate at which it takes funds from banks to below zero, something found necessary to maintain the peg of the Danish kroner to the euro.

Financial systems in many countries also have been furnished with exceptional amounts of central bank liquidity. Notable features of those central bank operations, apart from their magnitude, have included:

- adaptation of discount window facilities (for banks facing liquidity shortfalls) to auction facilities, so as to avoid banks eschewing access to avoid the risk of "stigma"

- provision of liquidity in those auctions on extended terms (out to around, for example, 12 months, compared with usual over-night funding), and

- extension of the range of securities eligible as collateral in those operations to include commercial paper and residential-backed securities –described by the Chairman of the Federal Reserve as a "credit easing" as distinct from an easing of monetary policy (Bernanke, 2009).

At the height of the GFC, the priority was to preserve the functioning of the financial system and to ward of a collapse of output, more than to achieve inflation targets, *per se*. That said, it was not as though financial stability, output, and price stability objectives conflicted. On the contrary, the risk of financial collapse and contraction of output carried with it a risk of deflation. In that sense, aggressive monetary accommodation was at least as consistent with maintaining price stability as it was with maintaining real economy and financial stability objectives. However, the exigencies of the situation meant that setting the policy rate gave way to emergency operations driven by the immediate priority of avoiding the break-down of the financial system, and avoiding the massive monetary contraction that would have come with that.

At the height of the GFC, the Reserve Bank of New Zealand responded in essentially the same way as other central banks although, with circumstances in New Zealand not as dire as in North America and Europe, not to quite the same degree. Its policy rate, the OCR, was aggressively cut from 8.25% in June 2008 to an historic low of 2.5% by April 2009; a term liquidity facility was introduced to underpin banks' assuredness of access to funding at a time when access to offshore funding was restricted, or unavailable; and the collateral against which the Bank was prepared to provide funding was extended to include residential mortgage-backed securities.

In some respects during the height of the crisis, the monetary policy operations of central banks, including in New Zealand, took on more of the character of lender-of-last-resort operations than monetary policy business as usual. What hitherto had been regarded as quite separate monetary policy and financial stability functions, of necessity, became much more joined-up (Bollard and Cassino, 2011).

That has remained the case since. One of the legacies of the GFC has been greater recognition of how adjustments by central banks to the interest rate terms on which they issue their liabilities (such as the OCR) can be amplified, or counter-acted, by shifts in commercial banks' appetite for, and pricing of, risk (White, 2009). Some now suggest that fluctuations in banks' credit policies are one of the main drivers of the business cycle (*The Economist*, 2013; Borio, 2012). These developments are now being reflected in new-found efforts to incorporate credit transmission channels, from the commercial financial sector to firms and households, into the models central banks use for monetary policy purposes.[58]

[58] Noteworthy is that the early econometric models built by the Reserve Bank of New Zealand in the 1970s included a financial sector, with fluctuations in credit playing a significant role as a driver of macroeconomic outcomes (see Brooks and Gibbs, 1991). This was at a time when commercial banks' balance sheets were much more at the centre of monetary analysis and policy than was the case during the 1990s and 2000s (as discussed in Section 2).

They are also reflected in complementary steps to bring a more macro overlay to prudential supervision, in the form of macro-prudential policy (discussed further below).

The GFC has also resulted in some significant extensions of inflation-targeting regimes, particularly in the UK and the US. In the face of high levels of unemployment that have persisted since 2009, the central banks of both countries in 2013 announced levels below which unemployment must fall before they will increase their policy interest rate (subject to inflation remaining contained and inflation expectations well-anchored).[59] New Zealand has not responded similarly: unemployment in New Zealand during the recession did not increase by as much as in the UK and US, and economic recovery, while initially patchy, by 2012 was beginning to take reasonable hold. Nonetheless, the Reserve Bank has provided more "forward guidance" than previously on for how long it has expected to leave the OCR at the historic low of 2.5%.[60]

The exchange rate — up, down and up again

The New Zealand dollar exchange rate during the GFC moved over a wide range. From near post-float highs in early 2008, the currency fell, initially at a measured rate, but from October 2008, very sharply, to reach near post-float lows in early 2009; only to rebound equally sharply over the next few months. By mid-2010 the exchange rate was back to levels prevailing prior to the commencement of the crisis (Figure 6).

Throughout this roller-coaster ride, however, the foreign exchange market functioned in what, in the circumstances, was an orderly manner. There appears to have been no Reserve Bank intervention to support the functioning of the *market*. The financial markets to fail, rather, were the international bank funding markets, in response to which the Reserve Bank did intervene by making available additional funding facilities for banks, as referred to above.

Neither did the Reserve Bank at any stage during the crisis appear to intervene in an attempt to moderate movements in the exchange *rate.* On the contrary, the sharp fall in the exchange rate in late 2008 and into 2009, itself in part the result of curtailment of banks' access to international funding markets, was seen as having been helpful. The fall in the exchange rate offset what was a sharp fall in international commodity prices and, in terms of New Zealand banks' foreign funding requirements, lessened the foreign currency amount that needed to be raised to cover a given New Zealand dollar funding requirement (Bollard and Ng, 2009).

But the low exchange rate and fall in commodity prices were short-lived, with both by end-2009 having regained most of the ground lost during the preceding year or so. This was at a time when the major OECD economies — the US, the UK, much of the rest of Europe, and Japan — were all experiencing macroeconomic weakness with interest rates still at or near the zero bound. In these circumstances, it is not surprising that commodity-exporting countries in reasonably sound macro-financial condition experienced upward pressure on their currencies. Still, by mid-2013 the New Zealand dollar, on most assessments, was over-valued by a significant margin and the Reserve Bank intervened, albeit only in small

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[59] Arguably the Federal Reserve is not an inflation-targeting central bank, although in 2012 it did announce an annual inflation target of 2%, while still maintaining dual inflation/employment objectives. See http://www.reuters.com/article/2012/01/25/us-usa-fed-inflation-target-idUSTRE80O25C20120125.

[60] The term "forward guidance" was invented by the Bank of Canada in April 2009. This was at a time when the Bank of Canada judged that further monetary stimulus was called for when its policy rate was already near the zero bound. In this circumstance, it "substituted duration and greater certainty regarding the interest rate outlook for the negative interest rate setting that would have been warranted but could not be achieved" (Carney, 2012).

amounts.[61] The more limited scale of intervention than in 2007 is against a backdrop of external terms of trade in 2013 that were stronger (Figure 6), and also the strength of global forces behind the post-GFC configuration of exchange rates. In the face of those, intervention by the RBNZ was much less likely to be effective and the intervention undertaken appears to have been little more than a "testing of the water."[62]

Thus, the policy to maintain a freely floating exchange rate has come through the GFC virtually unaffected. There have been only limited forays with exchange market intervention. These appear not to have resulted in a shift in appetite toward more active management of the exchange rate, despite the policy discomfort caused by recurring and extended episodes of exchange rate misalignment.

Prudential policy — the fault-lines . . .

The GFC has brought prudential policy, through its role in anchoring the financial system, back within the scope of macro policy. This is not surprising given that the GFC has been a *financial* crisis.

For New Zealand, financial stresses manifest themselves in a number of ways, including:

- the almost complete failure of the finance company sector, comprising more than 20 small lending institutions
- curtailment of banks' access to, and a significant increase in the cost of offshore funds, and
- a period of deleveraging by firms and households. This stemmed from both tighter credit standards applied by lenders and less appetite for debt from borrowers.

Each of these is discussed briefly in turn.

The failure of finance companies was a "home-grown" problem, rather than something that had its origins in global crisis developments. During the 1990s and into the 2000s, this group of institutions expanded rapidly. They operated mainly as financiers of property development, funded by issuing debentures to the public.[63] From a small base, they grew, in aggregate, into a significant, although still small, part of the financial system, accounting for approximately 5% of the system's total assets. Although no single institution accounted for much more than a fifth of that aggregate share, commonalities in business models and credit exposure (to property development) meant that once weaknesses emerged, most of these institutions were vulnerable to a loss of investor confidence and subsequently failed.[64]

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[61] The most recent, 2012, annual assessment of the New Zealand economy by the IMF put the exchange rate in May 2012 at 10%-20% above its equilibrium value.

[62] Even though intervention to achieve currency depreciation can always be effective, in a way that intervention to maintain a currency's value may not be, it is still not without financial risk (or cost). It involves accumulating foreign currency reserves, and thus a holding cost if the foreign currency interest rate is lower than the home country interest rate, and a risk of outright loss if the reserve currencies become permanently weakened. In the case of Switzerland, which adopted a policy in September 2011 of intervening to prevent the Swiss franc from appreciating above 1.2 euro, the Swiss National Bank has accumulated foreign exchange reserves equivalent to 60% of GDP, with attendant risk exposure (see Cassino and Lewis, 2012, for elaboration).

[63] A small number of other finance companies which financed mainly business plant and equipment and motor vehicles, funded mainly from wholesale sources, did not encounter difficulties.

[64] The largest, South Canterbury Finance, had total assets of about $1.7 billion, less than a fifth of finance companies' total assets and less than 1% of the total assets of the banking system.

While the failure of the New Zealand finance company sector had its origins within New Zealand, it also had elements in common with the sub-prime crisis in the United States. Both involved what Kindleberger and Aliber (2011) refer to as "speculative" and "ponzi" lending; that is, lending based more on rising values for collateral (and the borrower's ability to realise or refinance against those) than on the borrower's capacity to service the debt (ie, pay interest and amortisation of principal) from cash flow. Much of the finance-company lending in New Zealand, particularly to property developers, involved capitalisation of interest, in anticipation of completed developments being realised for amounts sufficient to cover both principal and accumulated interest. As such, this lending was of essentially the same "asset-based" character as sub-prime residential mortgage lending in the United States, much of which was for an initial term at a "teaser" interest rate, and was expected to be capable of being refinanced at the conclusion of that initial term, assuming rising house prices. In both cases, lenders relied on collateral values, rather than the borrowers' ability to service debt from cash flow, to provide the underpinning required for loans to be refinanced. That was the inherent weakness.

The failure of New Zealand's finance company failures has also been attributed to market and governance disciplines that failed to identify, or address, the risks embedded in the type of lending being undertaken. The regulatory regime was one that relied on a combination of finance company directors providing the market with full disclosure of risk, and investors bringing their scrutiny to bear on that information.65 However, those processes clearly did not operate as intended. Many investors clearly did not understand the risks they were exposed to and a number of finance company directors have been convicted on charges relating to the inadequacy of disclosures made. In some cases, investment securities were — and were permitted to be — marketed as "deposits," and appear to have received little more scrutiny from the investing public than tends to be given to bank deposits.

The second area of stress within the New Zealand financial system during the GFC was curtailment of banks' access to offshore wholesale funding markets. In the years running up to the crisis, New Zealand banks had raised increasingly large amounts of wholesale funding from offshore. That stemmed, over a run of years, from the interaction of strong domestic demand for borrowing, low domestic saving, and an offshore investor appetite for comparatively high New Zealand interest rates.[66] But the latter came to an abrupt halt in late 2008 when international wholesale funding markets became seriously impaired, leaving New Zealand's banks facing funding shortfalls.[67]

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[65] In addition, finance companies raising funds from the public were required to execute a trust deed, with a trustee company responsible monitoring compliance with the deed. However, there was no regulatory prescription of prudential standards required to be included in the deed, making the regime, essentially, a form of "self-regulation."

[66] For an account of the channels by which banks accessed offshore funding, see Eckhold (1998) and Drage, *et al.* (2005).

[67] The Australian parents of New Zealand's banks similarly faced curtailed access to global funding markets. However, the New Zealand banks will have faced an additional barrier insofar as it is the parent banks that have primary group access to international markets, but are subject to prudential limits on the amounts they can on-lend to subsidiaries, including those in New Zealand.

The curtailment of banks' access to offshore funding carried the potential for severe monetary contraction. The Reserve Bank stepped in with the expanded funding facilities already referred to, in what was a classical "lender of last resort" role. Additionally, the government in late 2008 made available Crown guarantees for bank (and other deposit-taker) obligations. Initially guarantee cover was available only to domestic retail obligations, but soon after was extended to wholesale funding as well, mainly to assist banks in accessing offshore markets. By late 2010, new deposits and borrowings were no longer being covered by these guarantees, although a handful of retail institutions took advantage of an extension to their availability to late 2011.[68]

The introduction of these guarantee arrangements in New Zealand followed the announcement of similar arrangements in Australia. It was an environment within which access to funding was uncertain and public confidence was fragile. While central banks were responding with provision of ample *liquidity*, that did not lessen possible public uncertainties and concerns about the *solvency* of financial institutions. Indeed, the liquidity operations being undertaken by the Reserve Bank were soaking up a good proportion of the system's high quality collateral, and thus relegating unsecured retail and wholesale depositors in terms of their ranking in point of security and if anything, increasing their exposure to (in)solvency risk.[69]

Third, the GFC was the catalyst for a sharp slowing in credit expansion. In the run-up to the crisis, credit had expanded rapidly as lending institutions sought to grow their businesses and borrowers borrowed against rising asset values, in New Zealand mainly against residential and rural real estate. However, unlike in the countries at the centre of the GFC, most of that credit expansion — with the notable exception of that by the finance company sector — remained reasonably underpinned by cash flows. This is indicated by how the proportion of New Zealand banks' total assets that were to become impaired increased in 2008-10 by only a relatively small amount, to no more than 1.5%, compared with, for example, nearly 10% during the financial crisis that occurred in New Zealand following the 1987 share-market crash (Figure 8).[70]

Demand for credit also fell away as firms and households sought to strengthen balance sheets. For all these reasons, the New Zealand financial system overall, and the banks in particular, weathered well the adjustments set in train by the GFC.

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[68] In the event, calls were made on the guarantee only in respect of failed finance companies, and then only by a proportion of those that failed; a number of finance company failures had occurred before November 2008.

[69] On this point, *The Economist* (2007), reported on how, in the case of the Northern Rock bank run in the UK, ". . . only when the Bank of England said that it would stand by the stricken Northern Rock did depositors start to run for the exit; (and that) the run did not stop until (the Government) gave a taxpayer-backed guarantee." See White (2008) for a wider discussion of the potential ramifications of last resort lending for banks' continued access to unsecured funding markets.

[70] Much of the increase in the assets that were to become impaired in 2009/10 were in banks' rural and commercial/SME loan portfolios (less in corporate and housing loan portfolios). Since 2010, the level of impaired assets has fallen by about a third, with recoveries having been significant in the rural and commercial lending sectors, the former doubtless stemming from the strength of the post-GFC bounce-back in primary commodity, particularly dairy, prices. (See Reserve Bank of New Zealand 2013, Figure 5.3.)

. . . and prudential strengthening measures

Measures have been taken in response to each of the three matters outlined immediately above.

With respect to finance companies, and other "non-bank deposit-takers," regulated minimum prudential standards have been introduced.[71] These standards are prescribed by the Reserve Bank, but with compliance still monitored by a trustee corporation, albeit now under the oversight of the Reserve Bank. They are in addition to prospectus disclosure requirements, which remain as prescribed by the Securities Act, and administered by the Financial Markets Authority.[72]

Second, the funding difficulties experienced by banks during the height of the GFC have seen the Reserve Bank introduce new prudential liquidity requirements for banks. These limit asset-liability maturity mis-matches, and the proportion of banks' funding that can be raised from non-core (ie, short-term and/or wholesale) sources. The latter initially was set at 35%, with reductions to 25% foreshadowed to occur over the next two or so years (where the ratio has been since January 2013).[73] Further, the Reserve Bank of New Zealand has marked out the core funding ratio as one of the candidate instruments for use in a macro-prudential context (discussed further below).

A further development has been the commencement by New Zealand banks of raising funds by way of covered bonds. Covered bonds are a form of secured borrowing, long-established in Europe, where the lender takes security over a designated pool of the borrowing bank's assets, as well as a *pari passu* interest in its total assets. Traditionally, New Zealand banks have raised funding on, essentially, an unsecured basis, such that all depositors and creditors have ranked equally.[74]

Being able to raise funding by way of covered bonds has enhanced New Zealand banks' ability to access offshore funding during times of stress in international markets. This is because covered bond markets tend to stay open when other markets are shut, given the high level of security covered bonds afford funding providers. But covered bonds also raise policy issues about protection for, and in a crisis maintaining the confidence of, unsecured depositors, given that they are in effect subordinated to the covered bond holders.[75] The policy response on this issue has been to limit the proportion of a bank's total funding that can be raised by way of covered bonds, currently to 10% of its total assets.

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[71] New Zealand remains unusual in that non-bank institutions can take deposits.

[72] The policy decision to strengthen the regulation of finance companies was announced in June 2007, ahead of the GFC. However, the necessary legislation and regulations were enacted and have been implemented only incrementally between 2007 and 2012. The Financial Markets Authority itself is a new body, resulting from consolidation of financial regulatory functions which previously were located in the Ministry of Economic Development and NZX with those of the former Securities Commission. In addition, in 2013, the Securities Act was superseded by the Financial Markets Conduct Act 2013.

[73] These adjustments in the regulated structure of banks' funding were broadly in line with market forces that pushed banks toward longer-term and more retail funding, such that the regulated minimum ratios have put a floor under increases in the proportion of total funding from these sources that had already occurred more than they were instrumental in bringing about the shift in funding structure.

[74] Although the practice of banks managing short-term liquidity in the money market by way of repurchase agreements can be viewed as an exception to this general principle. In a repurchase agreement, the bank raises funding by selling an asset (typically a government bond) subject to an obligation to repurchase at a designated future date (generally a few days, or weeks hence). In economic substance, this is no different from raising short-term funding secured by the assets in question, and is accounted for as secured borrowing.

[75] Particularly given the absence, in New Zealand, of any deposit insurance or compensation arrangements. The issue here is similar to that touched on above regarding provision of secured last resort funding by central banks.

The GFC has also sparked major and rapid reform of the bank supervision standards promulgated by the Basel Committee on Banking Supervision. These standards are applied by bank supervisors internationally, including by the Reserve Bank of New Zealand.[76] By late 2010, the Committee had finalised a new Basel III Accord, in a less than a two year period of development, compared with the seven-to-eight years spent developing its Basel II predecessor. The new Basel III Accord re-worked numerous aspects of the previous accord, with major reforms including:

- reconstitution of what counts as capital for banks, with a considerable shift in emphasis toward common equity, and away from “quasi-capital,” ie, redeemable preference shares, perpetual debt and term-subordinated debt

- the introduction of a “conservation” buffer of capital. This is capital that is required to be held over and above the minimum requirement, but can be drawn down without breaching the minimum requirement, subject to restrictions on distributions being made to shareholders

- the introduction of an additional "counter-cyclical" capital buffer. This is a buffer of capital that supervisors can increase during periods of financial expansion, when risk is likely to be accumulating, and run down during periods of diminishing risk appetite and tightening credit conditions. This introduces a macro dimension to the setting of capital requirements

- the introduction of a leverage ratio. This is a simple ratio of capital to total exposures (before risk-weighting), as a backstop to the regime. It is to guard against failure of the risk estimation methodologies used by banks adequately to capture their actual risk exposures, and

- the introduction of minimum liquidity standards, similar to those already introduced for New Zealand by the Reserve Bank of New Zealand.

The Reserve Bank has indicated that it will be substantively applying all these revisions, except for the leverage ratio, and generally sooner than provided for in the Basel Committee implementation schedule, which stretches out to 2018.

The Reserve Bank of New Zealand also envisages in future using prudential ratios as macro policy instruments.[77] In addition to the possibility of making counter-cyclical adjustments to minimum capital requirements for banks (either overall, or in relation to specific sectoral categories of lending), the Reserve Bank has identified the core funding ratio and residential mortgage loan-to-value ratios as possible instruments for use in this role. A memorandum of understanding (MOU) between the Reserve Bank and the Government was agreed in May 2013 which sets out the framework within which the Bank will adjust these prudential ratios in response to macro-financial developments.

[76] New Zealand is not a member of the Basel Committee, but applies most of the standards it has developed, albeit with some adjustments the Reserve Bank considers necessary to take account of New Zealand-specific circumstances. Australia, which is a member of the Basel Committee, also applies the Basel standards to Australia's banks, which encapsulate the subsidiaries and branches of Australian banks in New Zealand.

[77] For elaboration on the evolving macro role of prudential policy, see IMF (2011, 2012, and 2013).

6 Some concluding observations: Putting macroeconomic policy back together again

The macroeconomic policy frameworks in place in New Zealand during the 1990s and 2000s were largely the result of policy reforms undertaken in the second half of the 1980s. The core elements have been fiscal policy focussed on medium- to long- term fiscal sustainability objectives, and a monetary policy framework within which inflation targeting and a floating exchange rate have been centre-piece. Although during the ensuing two-three decades numerous adjustments have been made to the fiscal and monetary policy regimes, those have all been refinements rather than root and branch reforms. They have included adding flexibility to the inflation target; the addition of periodic long-term forecasts to the fiscal reporting framework; adoption of a framework for intervening in the foreign exchange market, albeit one that confines intervention to a narrow range of circumstances; and, most recently, the re-introduction of macro-financial instruments.

The fiscal policy framework has performed well in so far as one of the purposes of adopting a medium-long run regime was to have in place a buffer that could be used in the event of a major shock. A decade and a half of fiscal surpluses running up to 2007 meant that New Zealand went into the GFC with a fiscal position stronger than most OECD countries. That enabled fiscal policy to play a sizeable buffering role throughout the GFC period, without running into debt constraints.

But that has also involved significant slippage against the long-run fiscal sustainability objectives. The challenge now is restore fiscal settings that re-establish long-run sustainability, which may not be easy. While New Zealand is in not nearly as strained a position as some other countries, the GFC has resulted in a significant set-back to building a fiscal buffer ahead of the population ageing that will occur over the next two-three decades. Compared with the pre-GFC fiscal scenario, the government's net worth is equivalent to at least 20-30 percentage points of GDP down on where it was expected to be at this stage, ie, by the equivalent of two-to-three times the current value of the New Zealand Superannuation Fund.

Taking these two observations — on the role of fiscal policy as a buffer against shocks, and in relation to achieving fiscal sustainability over the long-term — together suggests that New Zealand's current institutional arrangements for fiscal policy may be reasonably attuned to achieving the former but insufficiently strong to achieve tougher goals relating to long-term sustainability.

The inflation-targeting framework for monetary policy has come through the GFC intact, with the inflation rate and inflation-expectations well-anchored. But questions have also arisen. One is whether looseness of monetary policy, globally, in the years preceding the GFC, when CPI inflation was low, was one of the contributing causes of the GFC.[78] It was a period of rapid financial expansion and escalation in asset prices, in particular, house prices, which monetary policy accommodated more than it resisted, although less so in New Zealand. Against this backdrop, the consensus view, internationally, has shifted from one where credit growth and asset prices can mostly be ignored, to one where monetary policy should be supportive of prudential authorities in seeking to maintain financial

[78] This was in the wake of the bursting of the dotcom bubble in the early 2000s, when major central banks cut their policy rates to very low levels, and there was an influx of cheap goods and capital from Asia, which held inflation and capital importers' exchange rates down.

stability. One characterisation of this shift in view is captured by White (2009) in terms of a need for central banks in setting their policy interest rate to play a greater role in leaning against credit expansions and asset price inflation, rather than merely standing by to clean up after those turn negative.

Post the height of the crisis, inflation-targeting also has proved less effective in contributing to the recovery phase than might have been expected. The Federal Reserve, the Bank of England, and the ECB, despite having reduced their policy rates to the zero bound, and having resorted to extraordinary quantitative monetary expansion, have struggled to reflate their economies. Some of the expansionary measures taken by these central banks, such as the "Funding for Lending" scheme in the UK, have taken on a quasi-fiscal character which is resulting in a blurring of the monetary-fiscal boundary.[79]

In New Zealand, apart from the emergency bank funding measures put in place at the height of the GFC, similar measures have not been taken. The OCR has remained above zero by a reasonable margin (at 2.5% for most of the period since April 2009), thus leaving some room to provide further monetary accommodation if required. Still, as in other countries, notwithstanding that the policy rate (OCR) has been at a historic low for an extended period, the recovery has been tepid, with both inflation and real output growth outcomes for some years mostly having come in below what had been expected.

The area of greatest policy development in the wake of the GFC, globally as well as in New Zealand, has been in prudential policy. This is not surprising given that the crisis has been a *financial* crisis: aspects of monetary, fiscal and exchange rate arrangements may have been contributing factors but, at its core, the GFC was the result of a failure adequately to anchor the financial system.

Fundamentally, what anchors the financial system, of course, is the solvency constraint — the requirement faced by banks to maintain undoubted ability to pay their obligations in central bank money at all times. Prudential policy is about seeing to the effective operation of the disciplines needed to reasonably ensure the effectiveness of that anchor. Whereas monetary policy, as contemporarily understood, is focussed on anchoring the value of central bank money to goods and services, prudential, or financial stability, policy is about anchoring the money actually used by firms and households (commercial bank liabilities) to central bank money.

While it has been long-recognised that a central bank's interest rate policy is transmitted via the banking system, recognition of the way in which that policy can be amplified, or muted, by shifts in commercial banks' credit policies[80] faded as money and credit disappeared from most macroeconomic analytical frameworks. By the mid-1990s, the workhorse models used by central banks for monetary policy assumed, implicitly if not explicitly, that commercial banks were no more than passive intermediaries in the transmission of the central bank's interest rate policy to firms and households.

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[79] The "Funding for Lending" scheme works by allowing banks to borrow from the Bank of England for up to four years, collateralised by business or mortgage loans. Banks have an incentive to boost lending, since the more that they lend, the more they can borrow from the Bank of England and the lower the fees. The scheme is underwritten by HM Treasury.

[80] Encompassing both banks' credit terms and the interest margins they apply to price credit risk.

The years running up to the GFC was also a period during which, within the central banking fraternity, views shifted toward market disciplines as being the most effective means of anchoring the financial system.81 The supervisory role of central banks took on a secondary role. In commercial bank speak, central banks increasingly did "pricing," less so "credit." Monetary policy was the primary function and that was about setting the policy rate (pricing); the supervisory (credit) function was assigned a secondary role, with a micro, or individual institution, focus, involving mainly accounting and legal disciplines. Hyun Shun (2011) characterises the state of the art of central banking pre-GFC in the following terms:

> A central bank is just that — a bank. It borrows and lends, and uses its balance sheet to influence risk premiums and liquidity conditions and hence the degree of risk-taking in the economy. But in the decade or two before the global crisis, this role of the central bank was down-played by central banks themselves, which preferred to see their role as nudging (or more accurately, pronouncing upon) overnight interest rates....
>
> Meanwhile, the messy and unglamorous business of financial stability was hived off to a separate micro-prudential regulator. Even for those central banks where banking regulation was kept in-house, the financial stability function was relegated to the basement, metaphorically, away from the core monetary policy function.

This bifurcation of central banking was reflected in an international trend during the 1990s for the banking supervision function to be shifted into a separate regulatory agency or, where it was retained within the central bank, to operate as a separate function with limited connection, and subordinate, to monetary policy. As summed up by Avindash Persaud (2011):

> The guards in the twin towers of monetary policy and regulatory policy surveyed their compounds as if the other did not exist. Over time there was greater specialisation, which made it is harder to see the blurred boundaries. Monetary policy was deliberately oblivious to the asset price boom — that was somebody else's problem. Regulatory policy was oblivious to macro risks — that was (monetary policy's) job.

The GFC has shaken the foundations of those pre-GFC institutional arrangements. It is now evident, in a way that it was not before, that unconstrained shifts in the credit policies and practices of the commercial banks can swamp the interest rate policies of the central bank; that the resulting fluctuations in bank credit can show up in asset prices more than in the prices of consumer goods and services; and that the macroeconomic implications of that can be considerable. From the GFC, it has become evident that when credit-fuelled, asset-price inflation runs into the solvency constraint — in effect the fixed exchange rate between central bank and commercial bank liabilities — the macro-economic stop can be abrupt and severely disruptive, nothing like the "flexible" in flexible inflation targeting.

This has raised questions about how more stably to anchor the financial system. The emerging direction of thinking is toward a re-integration of the interest-rate setting and prudential roles of central banks. That should not entail a conflation of the two roles, but rather recognition of how the monetary conditions facing firms and households are a combination of the pricing and credit policies of *both* the central and the commercial banks, and the tailoring by central banks of their interest rate setting and prudential policy responses accordingly.

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[81] See for example, Greenspan (2008, pp. 372-373), and Singleton, *et al.* (2006, p. 226).

That points, specifically, to a need when considering whether adjustment to macro policy settings is required for diagnosis of the source of the underlying imbalance — to what extent is it a case of the central bank needing to adjust its pricing, or a case of the credit policies of the commercial banks having become less stably anchored? It also points to a need for the bank supervision function — which of necessity operates on an individual bank basis — regularly to "lift its head from the page," so as to take account of what is happening at the level of the system as a whole. Experience has taught that banks travelling in convoy can appear individually safe, even though the convoy is seriously off course. (Understood this way, macro-prudential policy remains grounded in the prudential role, much more than it involves using prudential instruments to manage macroeconomic aggregates.)

Operationally, these considerations may point to the desirability of a shift toward decisions in respect of central banks' decisions in respect of their interest rate, and in relation to the prudential anchor, to more be jointly made than hitherto. (It is perhaps instructive in this regard that in commercial banking this happens as a matter of course — indeed, thinking that pricing and credit decisions can be made independently of each other would not be regarded as remotely sensible.)

This re-integration of central banking appears already to be occurring, at least to some extent. For example, in the UK, the prudential supervision role, which in 1997 had been moved out of the Bank of England to the Financial Services Authority, has been brought back within the Bank of England, and a statutory Financial Policy Committee has been established to overlap with its Monetary Policy Committee. At the Reserve Bank of New Zealand, where bank supervision had remained a central bank function throughout, a similar reintegration of monetary and prudential policy appears to be taking place. Even prior to the Global Financial Crisis, the Reserve Bank was stepping up its supervisory role, in the context of operating as a full-service central bank, ie, one that saw monetary policy and bank supervision as belonging together in the central bank. And in its Annual Report for 2013, the Reserve Bank describes how it is developing a more integrated approach to its policy functions and is expanding its research to enhance its understanding of the interface between monetary and macro-prudential policy (Reserve Bank of New Zealand, 2013).

Overall, therefore, the macroeconomic policy issues coming out of the GFC appear largely to be about how better to achieve greater macro policy integration and coordination; that is, about working out how to manage the individual parts — monetary, fiscal and prudential policies — in a way that engenders greater stability of the whole. (The exchange rate ceased being a regarded as a policy instrument when it was floated in 1985.) This contrasts with the thrust of macroeconomic policy design in the 1980s and 1990s, when the emphasis was on establishing clarity of individual policy assignments, hierarchies and accountabilities.

The severity of the GFC has already forced some breaking down of the policy silos. Within central banks, prudential and monetary policy came together, first in the role of lender of last resort, and thereafter in the (re-)emergence of the macro-prudential role. The role of fiscal policy as a macro stabilisation instrument was brought out of the tool-box. And the fiscal authorities found themselves standing alongside central banks in maintaining financial stability, as the guarantor of last resort. It was a case of all hands on deck. Which leaves the challenge: if effective coordination and integration of macroeconomic policy was part of the solution, how best to maintain that going forward to avoid a repeat of the problem?

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Statistical Annex

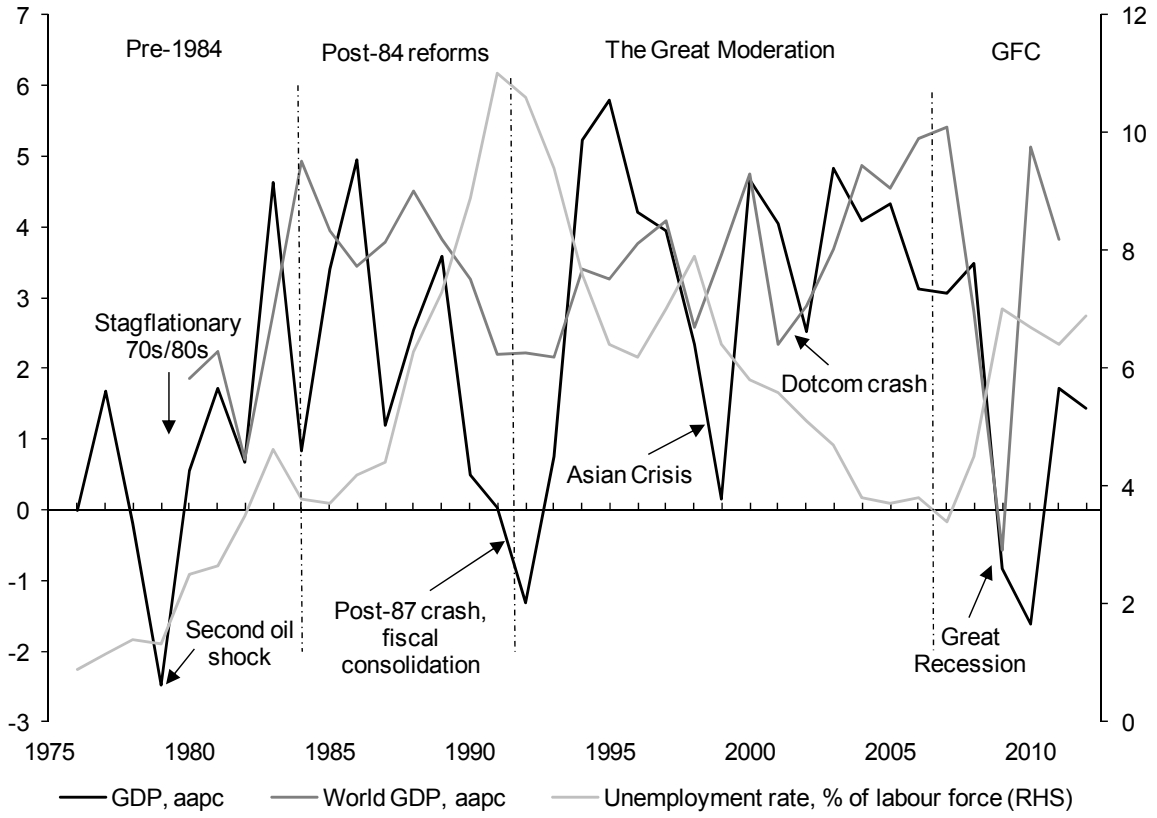
Table 1 — From the Great Inflation to the Great Recession

	Run-up to 1984 (1978-1984)	Reform period (1985-1992)	Great Moderation (1993-2007)	Global Financial Crisis (2008-2012)	Whole period (1978-2012)
Unemployment rate (% of labour force)	2.8	7.1	5.8	6.2	5.6
CPI Inflation rate (% per annum)	12.2	6.3	2.4	2.4	5.6
Misery index (Inflation+unemploy rate)	15.0	13.4	8.2	8.6	11.2
Current account deficit (% of GDP)	-5.1	-4.3	-5.2	-4.7	-4.9
Fiscal deficit (% of GDP)	-3.9	-2.7	2.4	-3.4	-3.0
GDP growth, real (% per annum)	2.2	1.2	3.7	0.8	2.4

Source: Reserve Bank of New Zealand, New Zealand Treasury

Four periods in eight figures

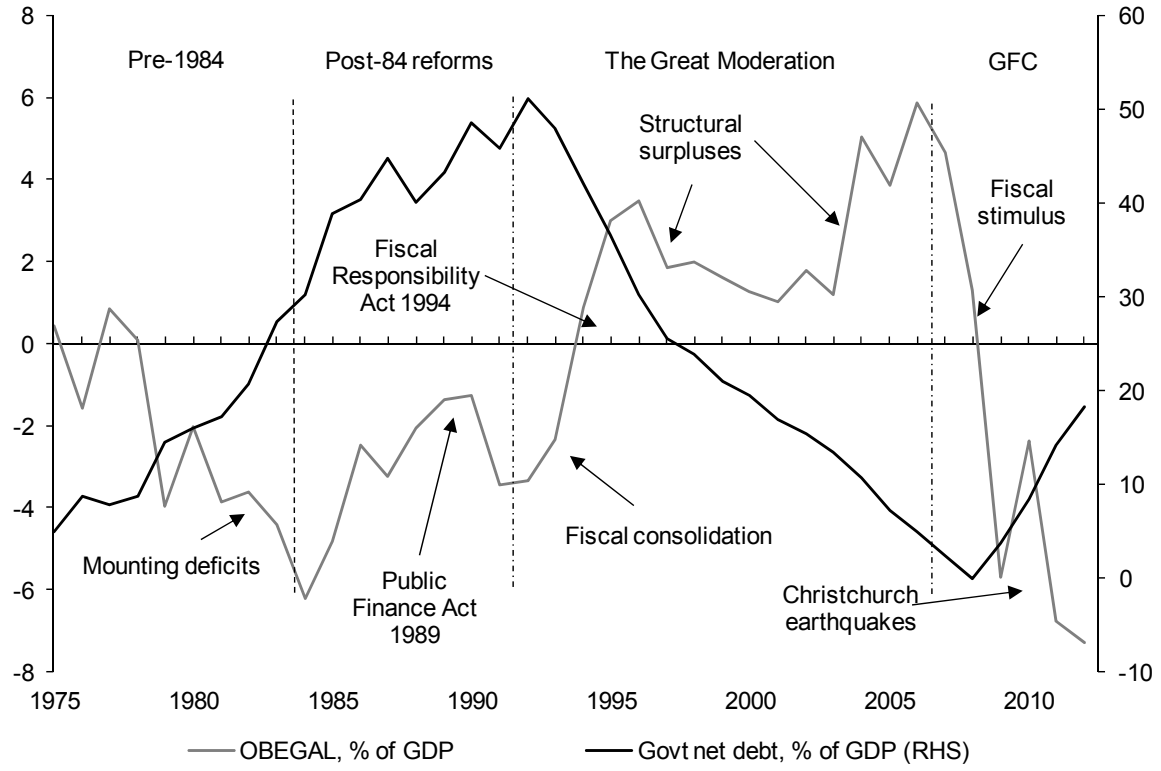
Figure 1 — The business cycle



Four eras running from the stagflationary 1970s, into post-1984 adjustment, a period of adjustment, boom and bust, followed by the Great Moderation — more than a decade of stability, only briefly punctuated by the Asian Financial Crisis, with all the appearances of the business cycle having been tamed, only to have run into the Global Financial Crisis, and the Canterbury earthquakes — the perfect storm following the big calm.

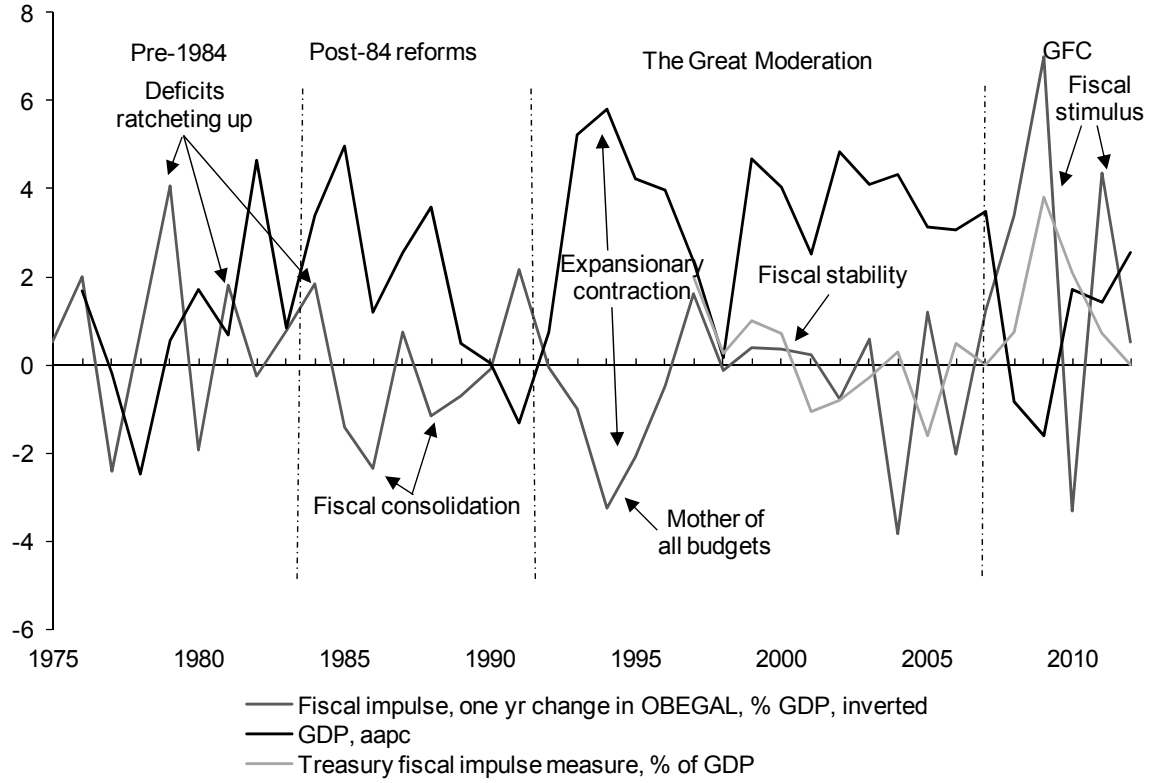
Fiscal policy — The structural and the cyclical

Figure 2 — The structural



From structural deficit (1980s) to surplus (mid-1990s to mid-2000s) and back again (since 2009) with government debt, correspondingly, running up, running down and turning up again

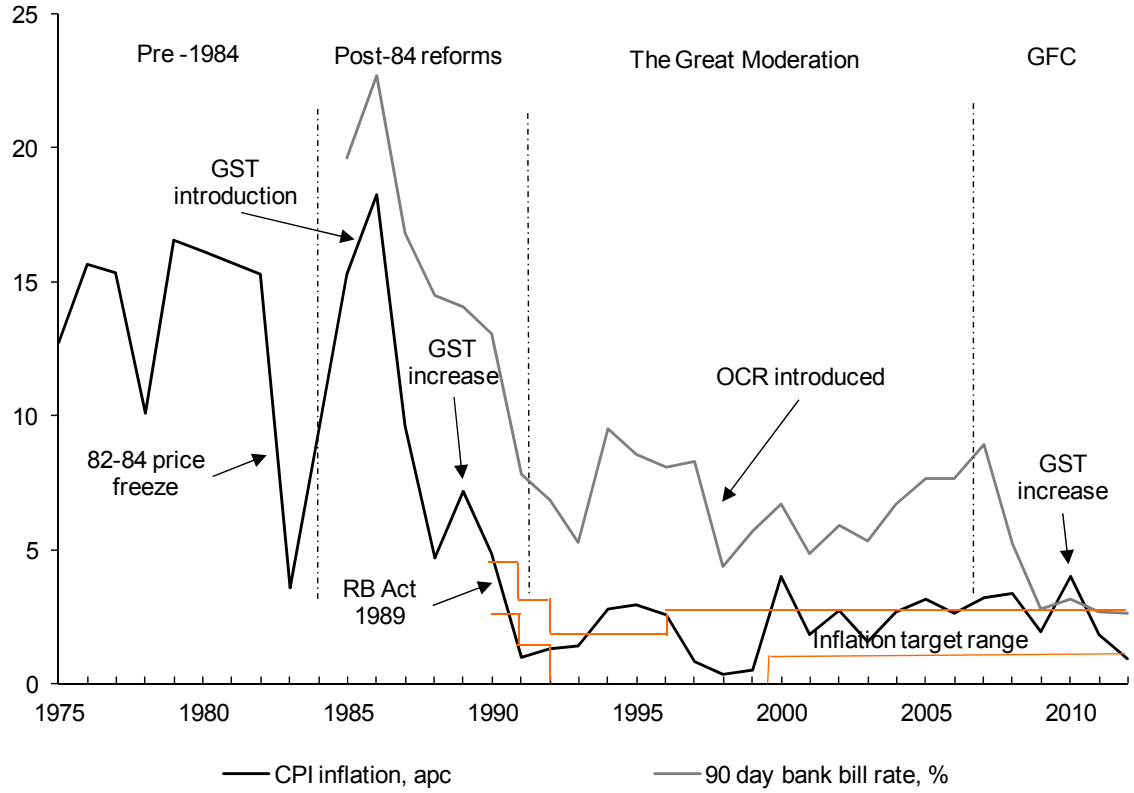
Figure 3 — The cyclical



Fiscal policy is more counter- than pro-cyclical, at least since the mid-80s, reflecting the automatic-fiscal stabilisers at work, and post-enactment of the Public Finance Act 1989, less active use of fiscal policy as an instrument of stabilisation policy, at least up until the GFC.

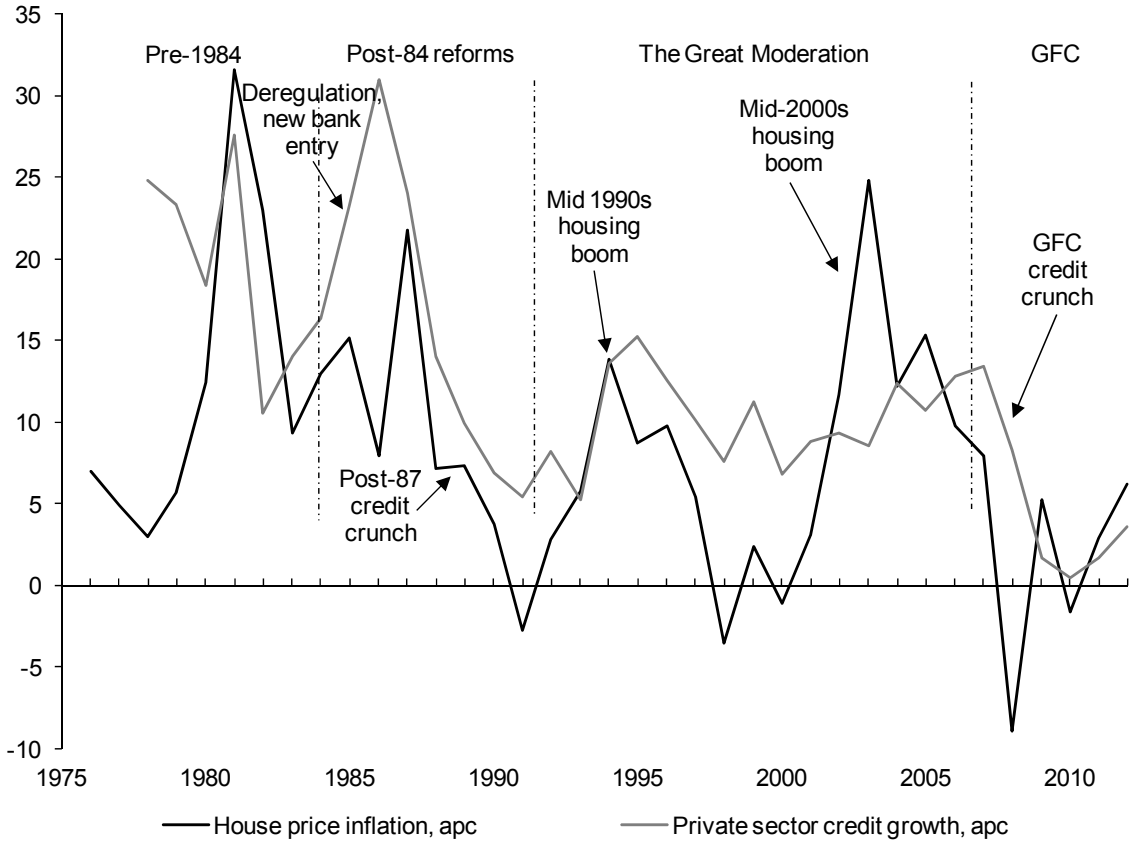
Monetary policy — anchoring the nominal economy

Figure 4 — Goods and services prices



The Great Inflation for New Zealand runs into the second half of the 1980s, but is brought to heel with ramped-up interest rates (and other reforms) early the next decade, with some upward creep during the 2000s, at least up until the GFC.

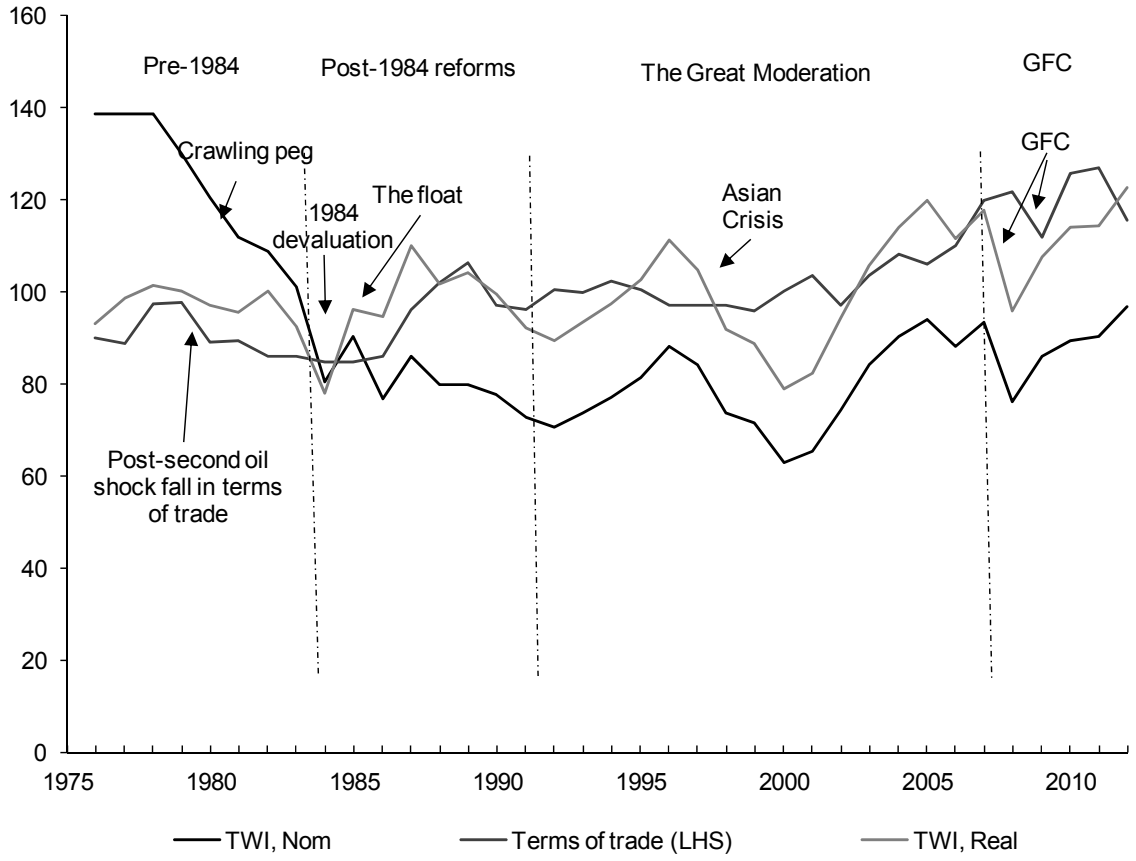
Figure 5 — Asset-price inflation



Unanchored asset prices — boom followed by bust (late 1980s) or pause (mid-1990s and mid-2000s), and linked to the credit cycle — bouts of credit easing and credit tightening, ie, flex in the prudential anchor.

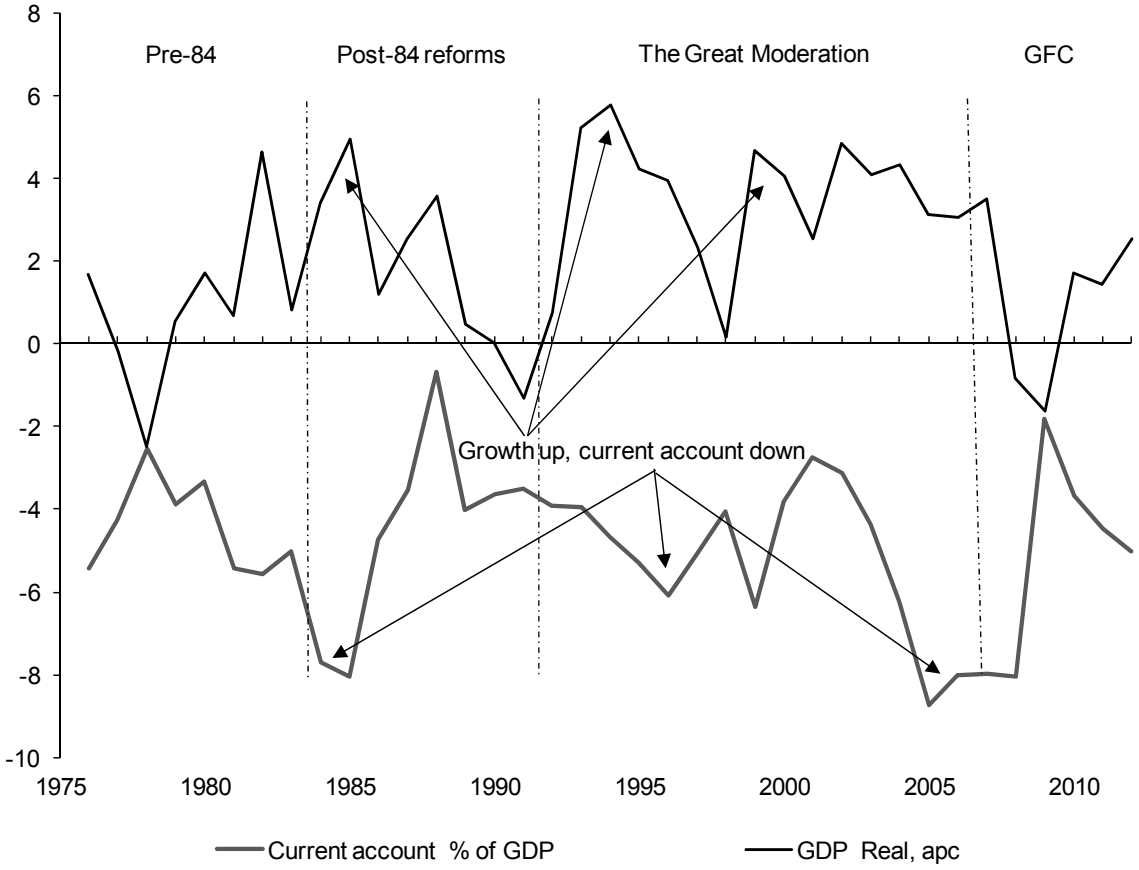
The external interface

Figure 6 — The exchange rate and the terms of trade



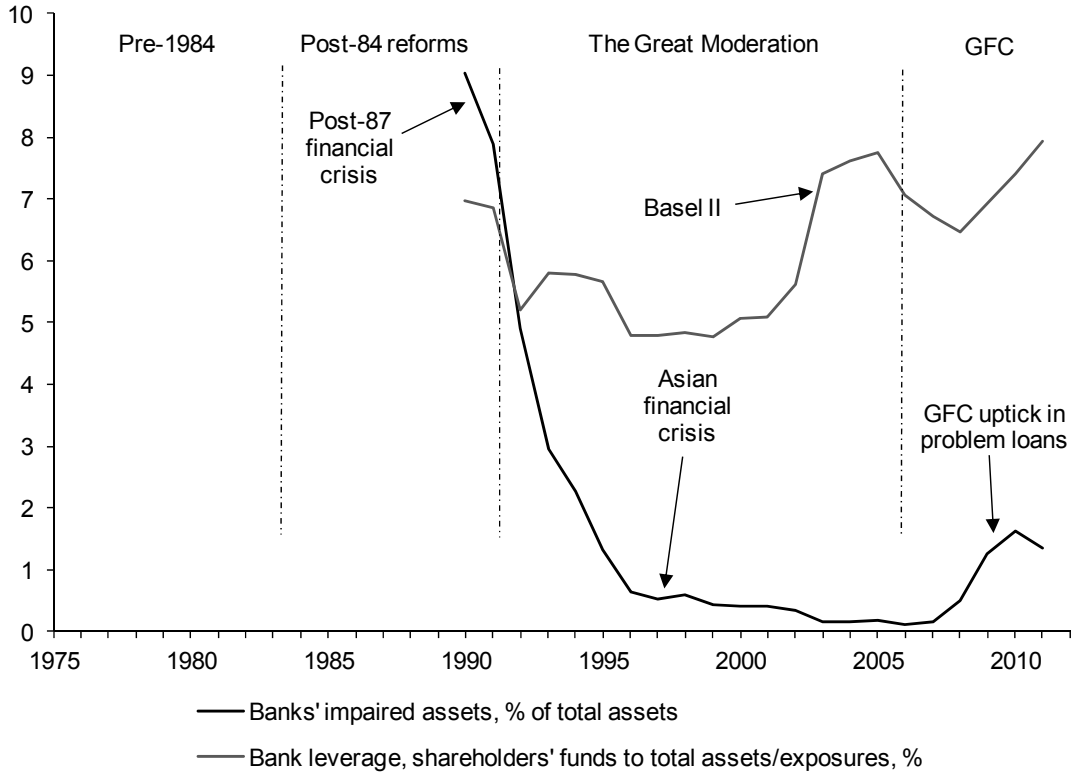
Big swings in the real exchange rate more or less in line with, but over-shooting, shifts in the terms of trade.

Figure 7 — External (im)balance



Structural current account deficits cycling with the macroeconomy — expansions resulting in widening deficits and vice versa.

Figure 8 — The prudential anchor



The banking system lost its anchor in the second half of the 1980s, culminating in post-1987 financial stresses; but has held sufficiently since, such that the mid-1990s and mid-2000s credit expansions did not result in subsequent crashes.