Stabilisation policy in New Zealand:
Counting your blessings, one by one[†]

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1   Introduction

This paper is written in response to an invitation from the Reserve Bank of New Zealand (RBNZ) and the New Zealand Treasury, to take part in a *"project to investigate policy options for a smoother evolution of the New Zealand business cycle, particularly in respect to swings in the exchange-rate and shifting pressures on the externally exposed sectors of the economy."* My contribution consists of a paper that focuses on the role of fiscal policy, but is also expected to consider the overall macro-mix of monetary, fiscal, external and structural policies.

New Zealand has pioneered more important changes in the design of monetary and fiscal policy and in the institutional arrangements through which monetary and fiscal policy are designed and implemented, than any country since (at least) the second half of the 20th century. The modern independent central bank was born in New Zealand in 1989[1,2]. Inflation targeting was invented in New Zealand with the Reserve Bank of New Zealand Act of March 1989 and the first Policy Targets Agreement (PTA) in March 1990.

At least as important as these two widely-acclaimed institutional innovations has been the medium and long-term fiscal-financial sustainability framework developed and adopted by New Zealand through the Public Finance Act of 1989, as amended by the Public Finance (State Sector Management) Bill of 2004, and especially the Fiscal Responsibility Act 1994 (FRA). Together they provide a framework which, if adhered to consistently, now and in the future, will ensure fiscal sustainability.

When in 1982, during a spell as a visitor in the Fiscal Affairs Department of the IMF, I wrote a paper (Buiter (1983), see also Buiter (1985) and Gray, Merton and Bodie (2003)) advocating the collection of data that would permit the construction of a comprehensive, 'marked to market' balance sheet for the consolidated public sector (general government, central bank and all other agencies for which the general government is ultimately financially responsible), including a full accounting for deferred contingent liabilities and for the uncertain future cash flows associated with state assets, I did not anticipate that any country would ever contemplate actually implementing anything remotely like it. New Zealand has progressed further, indeed as far as data availability permits, on the road to the construction of a comprehensive balance sheet for the public sector, including the measurement of the comprehensive net worth of the state than any other country.

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[1]   A case can be made for the Deutsche Bundesbank, established in 1957 as the sole successor to the two-tier central bank system which comprised the Bank deutscher Länder and the Land Central Banks of the Federal Republic of Germany, as the first modern independent central bank.

[2]   The Reserve Bank of New Zealand Act 1989 specifies that the primary function of the Reserve Bank shall be to deliver "stability in the general level of prices." The Act says that the Minister of Finance and the Governor of the Reserve Bank shall together have a separate agreement setting out specific targets for achieving and maintaining price stability. This is known as the Policy Targets Agreement (PTA). A new PTA must be negotiated every time a Governor is appointed or re-appointed, but it does not have to be renegotiated when a new Minister of Finance is appointed. The current PTA, is the seventh since the passage of the 1989 Act. Finance Minister Michael Cullen and Dr Alan Bollard signed the current PTA on 17 September 2002, a week before Dr Bollard took up his role as Governor. The Act requires that the PTA sets out specific price stability targets and that the agreement, or any changes to it, must be made public. The PTA can only be changed by agreement between the Governor and the Minister of Finance. Thus, neither side can impose unilateral changes. Note, however, that under the Reserve Bank Act the Government has the power to override the PTA. This override power, akin to the UK Treasury's Treasury Reserve Powers, has not been invoked thus far.

The outline of the paper is as follows: Section 2 reviews New Zealand's macroeconomic record over the inflation targeting period. Section 3 discusses fiscal policy. Section 4 reviews monetary policy. Section 5 considers some recent proposals for using foreign exchange market intervention as a stabilisation instrument. Section 6 considers some alternative stabilisation instruments. Section 7 concludes.

2 Is there a problem with New Zealand's economic performance?

New Zealand's remarkable economic achievements

A glance at some of the key macroeconomic indicators shows the turn-around in New Zealand's economic performance since 1985.

Inflation, inflation targeting and central bank independence

The post-World War II inflation record is a story of virtue lost and painfully regained, as is clear from Figure 1.

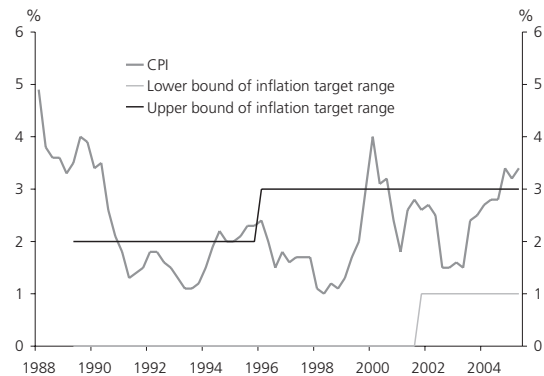## Figure 1

CPI inflation since WWII
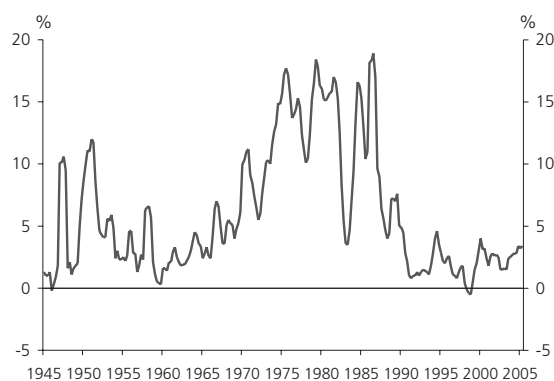
Source: Statistics New Zealand

During the inflation targeting period (since March 1990), shown in Figure 2, inflation was, on average close to the

mid-point of the applicable target range, although it was volatile from year to year, and strayed outside the target range on three occasions, including the first half of 2006[3].

Figure 2

Inflation and inflation target range

Source: Statistics New Zealand
        Reserve Bank of New Zealand

The March 2006 figure is a year-on-year inflation rate of 3.3%. The second quarter 2006 year-on-year inflation rate was 4.0% – a figure that should ring alarm bells. It is notable that all three times inflation fell outside the target range, it exceeded the upper bound of the range. Inflation never fell below the lower bound of the target range.

Real GDP growth and unemployment

The conquest of inflation does not appear to have had a negative effect on the trend growth rate of GDP. There is even some evidence (see Figure 3) that the volatility of GDP growth has been reduced since the 1980s, although the level of volatility remains quite high.

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[3]   With inflation initially well above the target range of $0 - 2\%$, the original March 1990 PTA specified the target as something to be achieved by end-December 1992. In December 1990, the period for achieving the 0 to 2 per cent inflation target was extended by 12 months to the year ended 31 December 1993.

Figure 3

Real GDP growth
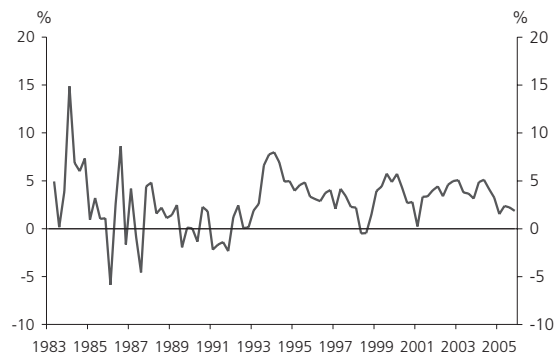
Source: Statistics New Zealand

The "eye-ball" identification of reduced volatility in New Zealand's real GDP growth since the mid-1980s is confirmed by detailed statistical studies of the variance of GDP growth over time and of its decomposition in terms of the sectoral variances and covariances (see e.g. Buckle, Haugh and Thomson (2003)). Another detailed study of the thirty-year period prior to 2000 was conduction by the RBNZ (Reserve Bank of New Zealand (2000b)). It concludes that output volatility in New Zealand has declined over the past three decades due, in part, to a more benign world environment. The economic reforms and restructuring during the 1980s and early 1990s undid much of the damage done by over-regulation and macro-mismanagement during the 1970s and the first half of the 1980s, permitting a less vehement business cycle pattern in output to become apparent. In line with international experience, contractions in New Zealand appear to be becoming less severe. Many of these developments are shared by the other advanced industrial nations, and although output volatility has been declining, New Zealand's relative performance does not appear to have changed much.

There has been a marked improvement in the functioning of the labour market, with unemployment coming down from a high of about 11% in 1991, to a level below 4% in 2005 (Figure 4). There remain cyclical swings in the unemployment rate, which rose from 6.0% in 1996Q4 to 7.6% in 1998Q4. These swings are smaller than they were before inflation targeting was introduced. The level of *static efficiency* of the economy has clearly been improved very significantly since 1990. That is, the economy makes better use of its existing human resources and other physical resources.

There have been few reversals in the liberalisation processes in the labour markets and in the product markets. Only in the last few years have there been some signs of slippage, for instance the amendments to the Employment Relations Act in 2004.

Figure 4

Unemployment rate
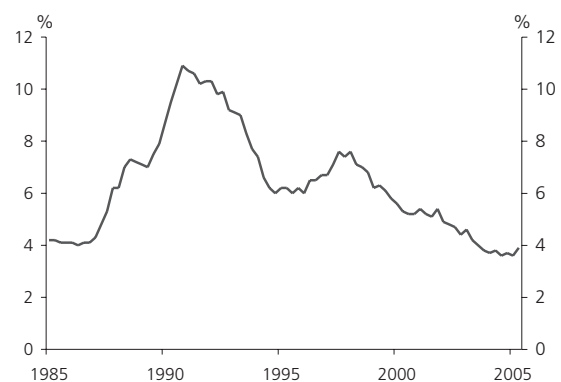
Source: Statistics New Zealand

As regards *dynamic efficiency*, measured by trend productivity growth, the true record is in a number of respects rather stronger than is suggested by the growth of per capita GDP, shown in Figure 5. Average per capita GDP growth since 1988 has been 1.5% per annum, a number somewhat below the OECD average (OECD (2005)).[4]

Figure 5

Growth rate of real GDP per capita
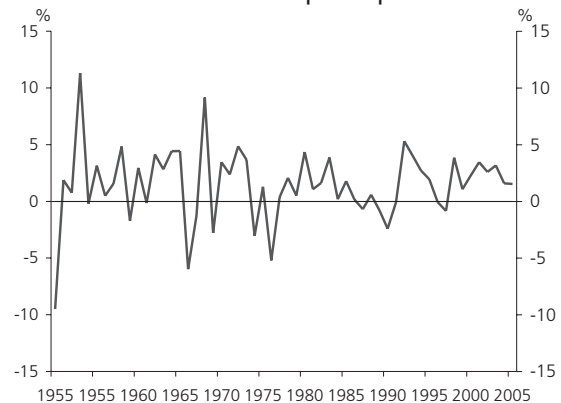
Source: Statistics New Zealand

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[4] New official measures of labour, capital and multifactor productivity were released in the first quarter of 2006, and cover the March years 1988 to 2005 (see e.g. http://www.stats.govt.nz/developments/productivity.htm and Statistics New Zealand (2006a,b) and Treasury of New Zealand (2005b)).

The growth rate of GDP per person employed was even lower, at just under 1.3 % per annum (see Figure 6). However, Figure 6 also shows the behaviour of productivity growth in the "measured sector of the economy", the roughly two thirds of total GDP for which there are independent estimates of output and inputs.[5] It leaves out most of the general government (the non-market part of the public sector) and some private market services for which output is also measured mainly by its inputs.
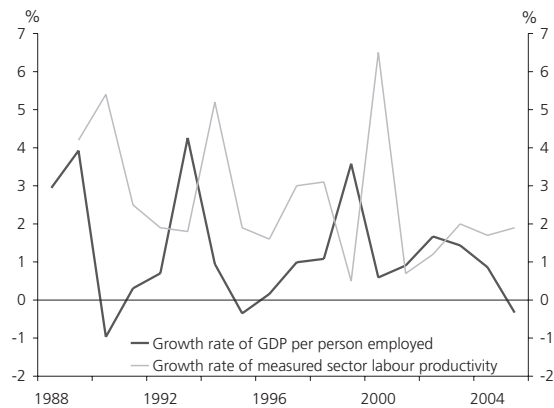
Figure 6

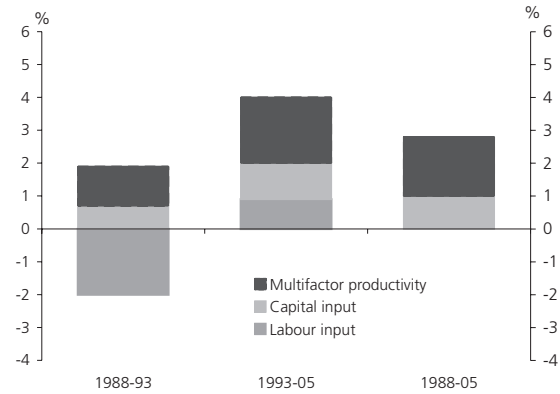### Productivity growth for the whole economy and the measured sector

Source: Statistics New Zealand

For the period 1989-2005 for which we have data for both series, the growth rate of whole-economy real GDP per person employed is 1.3% per annum and measured sector labour productivity growth is 2.7% per annum. Interestingly, multifactor productivity growth is the main contributor to measured sector GDP growth, with a contribution

equal to that of labour input growth and capital income growth combined (see Figure 7), and since 1993, the main contributor to measured sector labour productivity growth has been multifactor productivity growth, with only a modest contribution of capital deepening (Figure 8).

Figure 7

Contribution to measured sector real GDP growth

Source: Statistics New Zealand

Figure 8

Contribution to measured sector labour productivity growth

Annual average percentage change

Source: Statistics New Zealand

Unfortunately, comparable data for measured sector productivity growth are not available for most OECD countries, so we cannot get a sense of how unusual this is.

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[5] The 'measured sector', consisting of industries for which estimates of inputs and outputs are independently derived in constant prices, excludes those industries (mainly government non-market industries whose services, such as administration, health and education, are provided free or at nominal charges) whose real value-added is measured in the national accounts largely using input methods, such as numbers of employees. Also excluded are a number of private sector market industries that similarly use some form of input measure to estimate real output, for example the residential and commercial property industries whose output is measured by the growth in property assets. In accordance with this definition, the measured sector excludes the following Australia New Zealand Standard Industrial Classification (ANZSIC) divisions: L: Property and Business Services, M: Government Administration and Defence, N: Education, O: Health and Community Services and Q: Personal and Other Services. The measured sector accounts for about 65% of total GDP and 69% of total paid hours over the period 1988 - 2005. Its real value-added has closely tracked total GDP and has grown faster than the non-measured sector. Measured sector employment has grown more slowly than non-measured sector employment.
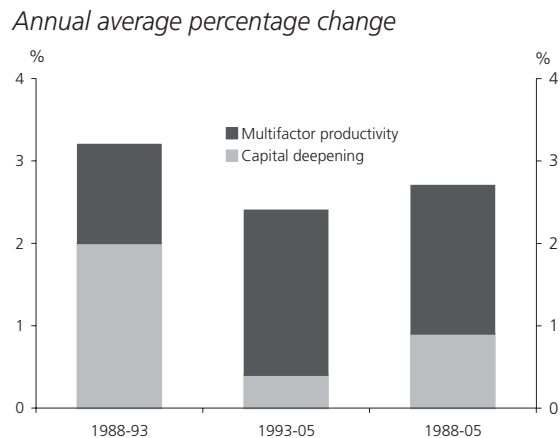
A comparable exercise for Australia over the same period shows that its "market sector" (the Australian name for the same concept as New Zealand's "measured sector") has a slightly lower growth rate of multifactor productivity than New Zealand's.

Unbalanced growth?

New Zealand's on balance remarkable record of economic performance since the stabilisation of the late 1980s is characterised by continued wide swings in key *endogenous* economic variables, and especially in variables that represent the interface of New Zealand and the global economy.

Nominal and real exchange-rates

Figures 9 and 10 show the behaviour of the trade-weighted (or effective) nominal and real exchange-rates (or TWI) since 1980 (an increase in the index represents a strengthening of the New Zealand currency).

There is a mild upward trend in the level of the real TWI exchange-rate, both over the full 25-year period and since 1990. The downward trend of the nominal TWI exchange-rate over the period 1980 to 1985 is followed by a gradual appreciation over the subsequent decade.[6]

Figure 9

NZD nominal and real exchange-rate
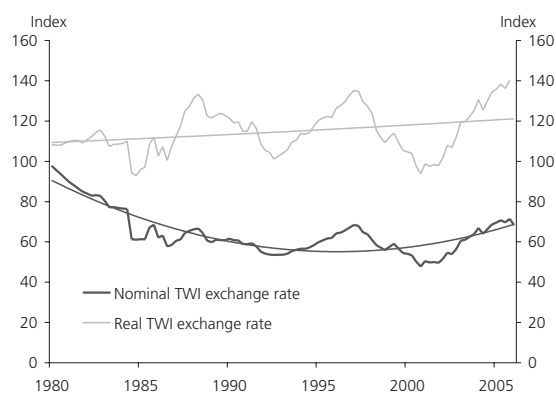
Source: Statistics New Zealand

Two facts stand out about the current account of the balance of payments. First, it has been subject to massive fluctuations, as is evident from Figure 10.

Figure 10

Real exchange-rate and current account balance
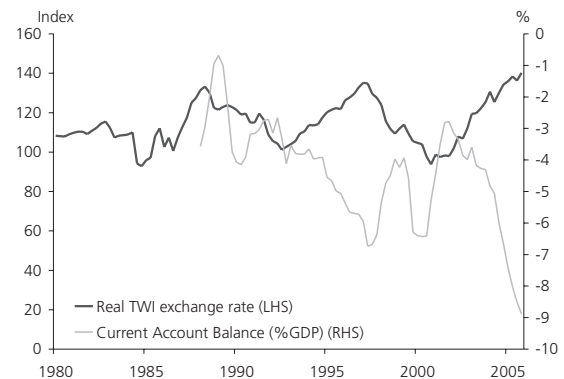
Source: Statistics New Zealand
Reserve Bank of New Zealand

Second, over the period since 1988, the current account has been in deficit every year. In 1997 and 2000, the current account deficit exceeded six per cent of GDP. Towards the end of 2005, it was approaching nine per cent of GDP. Over the period 1988-2005, there is a positive correlation between the level of the real exchange-rate and the size of the current account deficit.[7] The current account balance by definition equals the excess of national saving over domestic capital formation. We see in Figure 11 that the increase in the current account deficit over the past three years reflects a combination of stronger investment and weaker saving.

Figure 11

Saving, investment and the current account balance
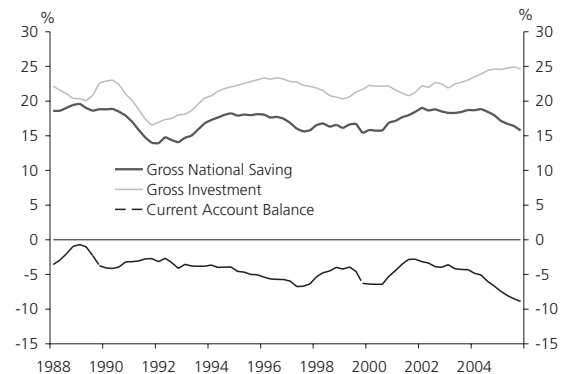
Source: Statistics New Zealand

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[6] The two time trends in Figure 9 are second order polynomials.

[7] The contemporaneous correlation between the level of the trade-weighted real exchange-rate and the current account balance as a percentage of GDP for the period 1988Q1 - 2005Q4 is -0.39.

The low (net) national saving rates, rarely above four per cent of GDP, aggregates very different sectoral saving rates (see Figure 12).

Figure 12

Sectoral saving rates

Source: Statistics New Zealand

Net household saving rates have been on a downward trend since 1988 and reached minus 7% of GDP in 2005. Part of the explanation is undoubtedly the very significant capital gains on housing experienced over the period, which contributed to a steady increase in the ratio of household financial wealth to disposable income despite negative household saving rates (see Figure 13).

Figure 13

Household assets as a percentage of disposable income

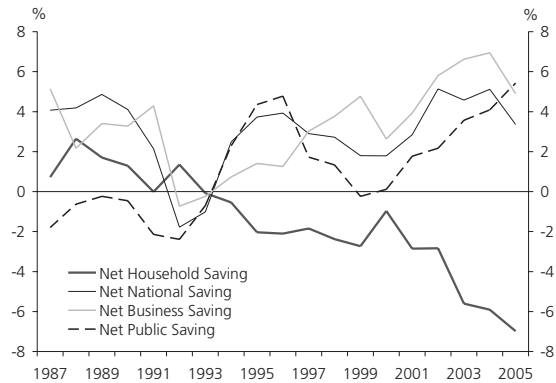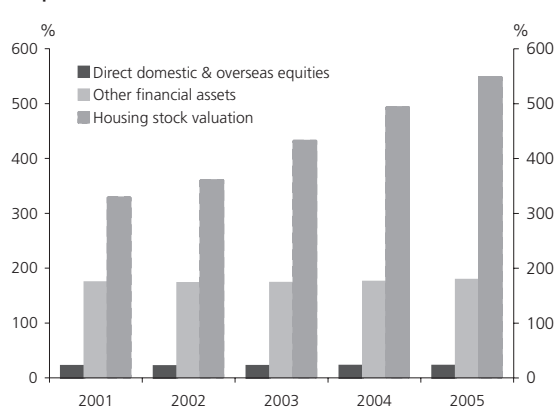
Source: Statistics New Zealand

Both business saving and government saving have been volatile, but positive. Net government saving went from zero in 2000 to five per cent of GDP in 2005.

The persistent current account deficit has made New Zealand a net external debtor to a degree that is without parallel among advanced industrial countries. The net external investment position of New Zealand, as shown in Figure 14, was minus 91.6 per cent of GDP at the end of 2005. With continuing large scale current account deficits, net external indebtedness will continue to grow unless favourable valuation effects come to the rescue.

Figure 14

Net international investment position
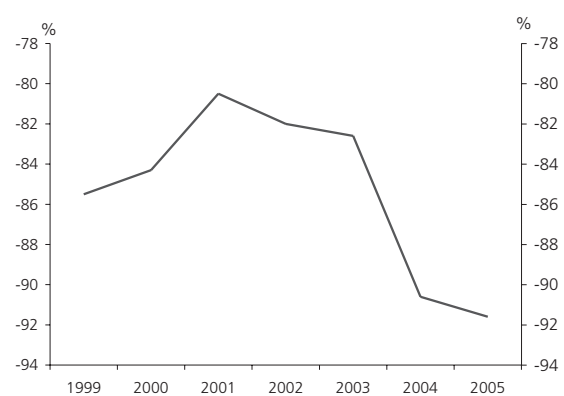
Source: Statistics New Zealand

The reflection in the net foreign investment income account of the large negative external investment position is a sizeable and growing negative net stream of foreign investment income, reaching close to 7% of GDP by the end of 2005, as shown in Figure 15.

Figure 15

Balance on foreign investment income
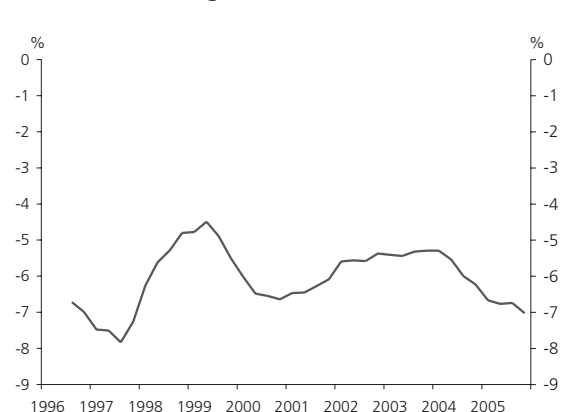
Source: Statistics New Zealand

Although the growing net external indebtedness of New Zealand has no obvious implications for the conduct of stabilisation policy, it does mean the country is highly exposed to global financial market developments that are quite beyond its control. There also are potential political problems associated with the transfer of a large and growing share of GDP to foreign owners of domestic assets.

In other countries with large current account deficits and a large net external debt position, domestic agents, from banks and other financial intermediaries to non-financial corporates and households, have built up significant balance sheet exposures to exchange-rate risk, by taking on foreign exchange-denominated liabilities for which they have no natural or artificial hedges. Some of the new EU members from central and eastern Europe are particularly vulnerable to the balance sheet effects of exchange-rate shocks. New Zealand appears to have avoided this problem thus far, although a rigorous monitoring of the foreign exchange exposures not just of banks, but also of their customers, remains a key part of safeguarding financial stability.

Another bit of evidence that supports the view of a two-speed economy, with a sheltered non-traded sector and a traded sector that is subject to the full force of international competition is the difference between the inflation rates of tradable and non-tradable goods, shown in Figure 16.

Figure 16

CPI tradable and non-tradable inflation

Source: Statistics New Zealand
          Reserve Bank of New Zealand

Over the period 1988Q1 to 2006Q1, the average annual rate of inflation of traded goods prices in the CPI was 2.0%, while for non-traded goods prices it was 5.7%. It is likely that the Balassa-Samuelson effect (the productivity growth differentials between New Zealand and the average of its trading partners in the traded 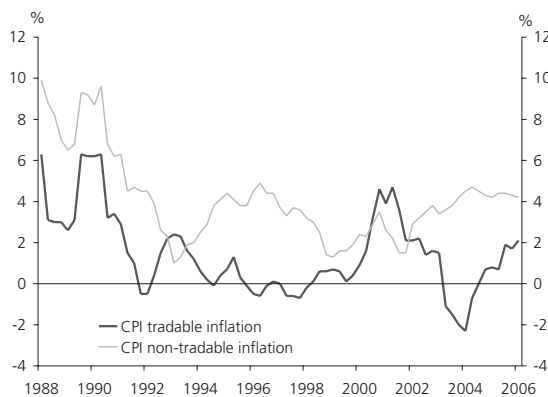goods sector exceed that in the non-traded goods sectors) accounts for part of this inflation differential. It is unlikely, however, to account for all of it. Cyclical disinflation may have impacted disproportionately on the traded goods sectors.

Large swings in the current account balance and in the real and nominal exchange-rates are often attributed to shocks transmitted from the world economy to New Zealand. It is therefore interesting to note that, as shown in Figure 17, the amplitude of swings in the (proximately exogenous) terms of trade has been significantly smaller than that of the (endogenous) real exchange-rate. Over the period 1980Q1-20056Q4, when normalised to have the same average value of 100, the nominal TWI exchange-rate had a variance of 289.9, the real TWI exchange-rate had a variance of 95.4 and the terms of trade a variance of 57.2.

Figure 17

Terms of trade and nominal and real exchange-rates

Period average = 100 for all three indices
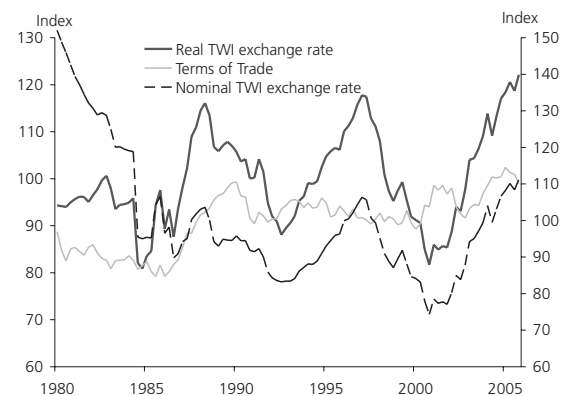
Source: Statistics New Zealand
          Reserve Bank of New Zealand

This does not, of course, mean that the fluctuations in the terms of trade have not been a significant (or possibly even the most important) cause of fluctuations in the real exchange-rate. It does, however, mean that there appears to be, in the transmission mechanism from exogenous shocks and impulses to domestic fluctuations in key relative prices (and in economic activity), a shock-enhancing and amplitude-magnifying domestic "filter". It is even possible that part or even most of the volatility of New Zealand's real exchange-rate and GDP growth cannot be attributed to exogenous terms of trade shocks at all, but instead reflects domestic supply shocks and demand shocks that are amplified through the asset markets, especially the housing market.

The available empirical evidence (see e.g. Wells and Evans (1985) Buckle *et. al.* (2002) and Grimes (2006), is consistent with the view that terms of trade shocks (or import and export price shocks separately) are important determinants of New Zealand's GDP growth and of its stability. None of these models directly addresses the proposition that the high volatility (by international standards, although not by New Zealand historical standards) of the (endogenous) real exchange-rate and of real GDP growth, cannot be attributed mainly to the volatility of New Zealand's (exogenous) terms of trade, but requires a shock-enhancing and amplitude-magnifying domestic filter. Only the Buckle *et. al.* (2002, 2006) SVAR models include any domestic financial variables – the prime suspects as shock enhancers and amplitude magnifiers. However, the two domestic financial variables (a 90-day nominal interest rate and the real rate of return on New Zealand equities) do not include the prime suspect: house prices.

Further evidence to support the view that the external environment may not be the main cause of New Zealand's wide economic fluctuations is the fact that New Zealand is not, for an economy of its size and per capita income level, highly open to international trade.

Exports plus imports as a share of GDP, a common index of trade intensity, are just below 60% in 2005, and have ranged over the past 20 years between just over 50% to just under 70%. This is much lower than countries of similar size and level of development, like Norway (73.1% in 2005), Finland (73% in 2005), Sweden (89.5% in 2005) or Ireland (145.5% in 2005). It is about the level of trade intensity of the UK economy (56.1% in 2005), a much larger economy.[8] Clearly, transportation costs and other international transaction costs make New Zealand, for a country of its size and wealth, a rather closed economy as regards trade in real goods and services.

The geographical distribution of New Zealand's international trade is not highly concentrated. Australia is the most important destination for New Zealand exports and the most important source of imports, with a share of just over 20% for both exports and imports.

International labour mobility is higher for New Zealand than for other developed nations of its size. There is, effectively, an integrated regional labour market with Australia. Inward and outward FDI are both high. One manifestation of this is that most of New Zealand's banking sector now is Australian-owned.

Financial openness, whether measured by gross and net financial stocks and flows or by co-movements between domestic and external yields, is much higher than openness to trade in real goods and services. New Zealand has been on the radar of every macro hedge fund and international investment bank since at least the beginning of this decade. With the disappearance of many high quality currencies through the creation of the Eurozone in 1999, the remaining small developed countries with national currencies, Switzerland, Norway, Sweden, Denmark, New Zealand, Iceland, Australia, (and to some extent also Canada and the UK), have become disproportionately important sources and destinations of actively managed funds; New Zealand's recent role in the Japanese yen carry trade is a dramatic example of this.

Finally, New Zealand's structure of production, that is, the sectoral composition of its GDP is often mentioned as a reason for the volatility of its GDP. Primary industries, especially agriculture, fishing, forestry and mining are viewed as significant flexible-price, competitive sectors where global demand shocks, manifesting themselves as terms-of-trade shocks, and domestic supply shocks play a unique role that is different from the global and domestic shocks affecting the more "New-Keynesian" goods producing and service industries. Shocks to these primary sectors are then transmitted, through income and expenditure effects, to the rest of the economy.[9]

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[8] Trade for these other countries, especially for Ireland, has a much higher 'entrepot' content than for New Zealand. That is, much of Irish imports are raw materials and intermediate inputs that are processed and re-exported. The value of exports is therefore significantly higher than the value of value added in exports.

[9] The 'size of the primary sector' argument is distinct from the terms of trade argument. Terms of trade changes affect not just the primary sector, but also the export prices faced by non-primary exporters and the import prices faced by non-primary producers and by consumers.

Table 1

GDP by production group

	2005: % of Total
Finance Insurance & Business Services, etc.	24.0%
Manufacturing	15.2%
Personal & Community Services	12.0%
Transport & Communication	10.5%
Wholesale Trade	8.7%
Retail, Accommodation, Restaurants	7.6%
Construction	4.9%
Agriculture	4.5%
Government Administration & Defence	4.1%
Fishing, Forestry, Mining	2.3%
Electricity, Gas & Water	2.0%
GDP	100.0%
Primary Industries	6.9%
Goods producing Industries	22.1%
Service Industries	67.0%

Source: Statistics New Zealand

As is apparent from Table 1, the validity of the argument that the primary sectors in New Zealand play a unique and significant role as a source of domestic supply shocks and as a transmission/propagation mechanism for global commodity shocks, is not immediately evident from the data on the sectoral composition of output. New Zealand's structure of production looks like that of any advanced post-industrial economy. The service sector is overwhelmingly important, with 67% of GDP.

Just over 22 per cent of GDP is accounted for by goods producing industries. All primary industries combined account for 6.9% of GDP. By contrast, Ireland's primary sectors accounted for 2.5% of GDP in 2005. The primary sector in New Zealand is perhaps twice as large as a share of GDP as it is in most advanced industrial countries (other than major oil or gas producers like Norway).[10] It is still a rather small tail to be a plausible candidate for wagging the entire dog.

It is frequently argued that the natural resource-based sectors are more important to the New Zealand economy than is indicated by their GDP share, because a sizeable primary processing industry uses the outputs of the natural resource-based sectors as inputs. Some proponents of this

view go so far as to assert that the true importance of the natural resource-based sectors is measured by the sum of the value added in the natural resource-based sectors and the value added in the sectors that use the output of the natural resource-based sectors as their principal input. That argument only makes sense if without the natural resource-based sectors, the productive resources (capital, land and labour) now utilized in the natural resource processing industries would not produce any value added at all. Not only would it not be possible to obtain natural resource inputs for the natural resource processing sectors from outside New Zealand on terms that would make the natural resource processing sectors economically viable, the resources currently employed in the natural resource processing sectors would have no economically viable alternative uses whatsoever in manufacturing or services.

Given a choice between this extreme hypothesis and the alternative extreme hypothesis that without New Zealand's natural resource-based sectors the resources currently employed processing the outputs of New Zealand's natural resource-based sectors would be producing an equal amount of value added, the second seems likely to be closer to the truth.[11]

The key parameters determining the appropriate 'weight' of the New Zealand primary sector over and above its GDP share in the transmission of terms of trade shocks or domestic primary sector supply shocks are (a) the terms on which substitutes for the outputs of the New Zealand primary sector can be sourced from abroad and (b) the

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10   The oil and gas sectors accounted for just under 24% of Norway's GDP in 2005.

11   The thought experiment I consider is that of the complete disappearance of New Zealand's primary sector, not a marginal reduction in its size. The cost to the New Zealand economy includes the cost of reallocating quasi-sunk factors of production. Such transitional costs will be higher if the disappearance of the primary sector is unexpected and sudden rather than anticipated and gradual.

terms on which the inputs of capital, land and labour currently employed in the New Zealand primary processing industries can be reallocated to alternative uses.[12]

The fact that most New Zealand economists are quite happy to model the country as a price taker in its international import and export transactions of primary commodities suggests that a competitive foreign supply of primary materials would indeed be available to the domestic food processing industry, even if there were no primary domestic food growing industry. Note that this argument in no way affects the importance of terms of trade shocks (which affect all traded goods and services and not just primary sector products) for the New Zealand economy as a whole. It does, however, suggest that the primary sector in New Zealand is probably no more significant in the transmission of these shocks to the domestic economy, than is indicated by the size of that sector, as measured by its value added. Whether these primary products are sold on the world market or to the domestic food processing industry, or whether the domestic food processing industries procure their inputs from New Zealand primary producers or on the world markets, is a matter of little significance.[13]

3   Fiscal policy

Throughout the world, including the USA and much of Western Europe, the authorities are keen to use fiscal policy actively for stabilisation purposes - or at any rate keen to use tax cuts or public spending increases to boost aggregate demand during periods of cyclical weakness. The long-term sustainability of the fiscal-financial programme of the state is often questionable, unless future spending and/or taxation programmes turn out to be significantly different from what is in the pipeline today. Fiscal incontinence has been a worldwide problem for a significant period. General government deficits are often excessive and general government debt-to-GDP ratios are rising.

In New Zealand, this pattern is reversed. The long-term sustainability and solvency of the state is beyond doubt if the rules adopted since in the past two decades continue to be implemented in spirit as well as according to the letter of the law. The Public Finance Act of 1989 (recently amended to include the key parts of the Fiscal Responsibility Act 1994) provides a framework which, if adhered to consistently, now and in the future, will ensure fiscal sustainability in the face of the demographic challenges (population aging through a combination of lower birth rates and higher life expectancy), which New Zealand faces together with all other developed nations. The PFA requires government to set both short-term fiscal intentions and long-term fiscal objectives consistent with the "principles of responsible fiscal management" set out in the Act. It requires a comprehensive accounting for all government assets and liabilities, including deferred and/or contingent claims on the state budget. Its five principles of responsible fiscal management compel governments to take the long view and to explicitly consider future fiscal risks. The five principles can be summarised as follows:

(1) Reducing total Crown debt to prudent levels so as to provide a buffer against factors that may impact adversely on the level of total debt in the future, by ensuring that, until those levels have been achieved, total operating expenses in each financial year are less than its total operating revenues in the same financial year.

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12   If a country in its not too distant past had a primary commodity-based economy, its inhabitants tend to greatly overestimate the continued size and significance of the natural resource-based sectors today, no matter how much the structure of the economy may have changed. Icelandic economists were as unwilling to contemplate the lack of macroeconomic significance of their natural resource sector (fisheries) in 1999, when I wrote a paper for the Icelandic Central Bank as New Zealand economists are today (see Buiter (2000)). The Icelandic fish processing industry could survive very well without an Icelandic fishing industry, as long as non-Icelandic fishermen and women could and would supply it with fish on terms comparable to that of the domestic fishing industry. Since Iceland on a number of occasions almost went to war with the UK to ban British fishing vessels from what Iceland considered to be its fishing grounds, it is apparent that competitively priced fish would have continued to be available to the Icelandic fish processing industry, even if there had been no Icelandic fishing industry at all.

13   The exact determination of the impact on aggregate value added in New Zealand of the disappearance of the primary sectors would have to take into account a number of features that would have the effect of making the impact somewhat larger than the value of the primary sectors' value added. For instance, the world markets could not supply commercially viable substitutes for the fresh produce supplied by New Zealand farms. Resources currently employed in processing such produce would have to be re-allocated to alternative uses which might create less value added.

(2) Once (1) has been achieved, maintaining these levels by ensuring that, on average, over a reasonable period of time, total operating expenses of the crown do not exceed its total operating revenues.

(3) Achieve and maintain levels of Crown net worth that provide a buffer against factors that may impact adversely on total net worth in the future.

(4) Manage fiscal risks prudently.

(5) Ensure predictable and stable tax rates in the future.

Principle (1) has surely been met by now. Principle (2) can be interpreted as a version of the golden rule, according to which the Crown should only borrow to finance net investment. The phrase "over a reasonable period of time" is vague, but would cover the kind of "cyclically corrected" golden rule that the UK is supposed to pursue. I would favour a slightly more general interpretation that permits transitory/reversible deficits and surpluses driven by any temporary factors, not only conventional business cycles, in order to smooth public consumption, distortionary tax rates and private consumption.

Principle (3) means that the asset side of the Crown's balance sheet must be taken into account, as well as the liability side covered by (1). It is key that assets be "marked-to-market", that is valued as the present discounted value of their future contributions to the Crown's budget. Neither historic, nor replacement costs are relevant if the assets cannot be realised and/or do not yield a future cash flow to the government. Principle (4) has no obvious operational content, although the PFA guide cites two examples that, if they indeed represent the spirit in which Principle (4) will be applied, would be very positive indeed.[14] Principle (5) imposes tax (rate) smoothing (something like a constant average marginal tax rate) as a *desideratum*. When the growth rates of tax bases and spending commitments are not uniform, tax rate smoothing provides a non-Keynesian rationale for counter cyclical deficits.

The comprehensive reporting requirements (the annual pre-Budget Budget Policy Statement of the government's short-term fiscal intentions and the annual Fiscal Strategy Report at the time of the Budget which details the long-term (minimum 10 years) fiscal objectives) impose on the government the highly desirable discipline of having to demonstrate that both the short-term fiscal intentions and the long-term fiscal strategy are consistent with the five Principles outlined above.

While the golden rule (cyclically adjusted or not) by itself does not rule out explosive behaviour of the public debt (the Crown could engage in massive investment programmes that do not yield a financial return at least equal to the Crown's cost of borrowing) the combination of the golden rule and the requirement that Crown debt be reduced to and kept at prudent levels together do ensure that Crown borrowing to finance public investment cannot get out of control.[15]

New Zealand's fiscal-financial framework "takes care of the long run", including intergenerational distributional objectives and population aging: fiscal-financial sustainability is built into the framework, without recourse to arbitrary numerical debt and/or deficit ceilings like the three per cent of GDP deficit ceiling and the 60 per cent of annual GDP gross debt ceiling of the EU Stability and Growth Pact. Governments are still required, however, to specify long-term objectives.

The framework also appears to have delivered what it set out to achieve. Figure 18 shows the almost perfect volcanic cone described by New Zealand's net public debt as a percentage of GDP since 1971.[16]

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14 The first example relates to fiscal risk that can arise in relation to the Crown's financial position, for example, changes in the value of assets and liabilities and the potential for off-balance sheet items such as guarantees to give rise to liabilities. The second example concerns risks to operating flows, for example, changes in the tax base and the risk of certain expenditures exceeding the amounts budgeted.

15 In the UK the combination of the cyclically adjusted golden rule and a sustainable investment criterion (net general government debt cannot exceed 40% of GDP) ensure that debt-financed public investment cannot become a source of fiscal unsustainability.

16 OBERAC = Operating Balance excluding revaluations and accounting policy changes.

Figure 18

Gross and net government debt

Note: March years
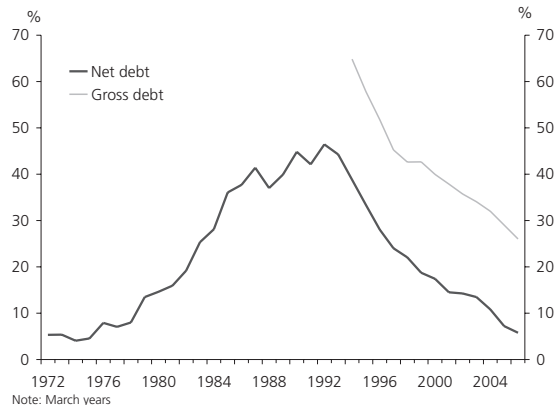
Source: Statistics New Zealand

The Crown has also been building up its stock of financial assets, both in the form of foreign exchange reserves held at the RBNZ and though contributions to the NZS Fund which in 2006 reached NZD10bn or six per cent of GDP and is expected to more than double by 2010.

It is not immediately obvious, that building up financial assets through the specific mechanism of pre-funding future state pension (superannuation) commitments makes sense. It would be more transparent to "fiscalise" NZS completely, by abolishing the specific pre-funding of the state pension and replacing it by a general prefunding of all future government spending commitments. New Zealand is already most of the way there. Unlike all other OECD countries, New Zealand does not levy payroll taxes on employers or employees to fund its state pension programme. As there is no link between individual life-time contributions during the working life and the state pension that is paid during retirement, formally turning NZS benefits into a state pension based on residence, and perhaps on other characteristics, uncoupled completely from life-time contributions and financed out of general government revenues without NZS-specific pre-funding would be preferable. Likewise, publicly funded health and disability benefits and programmes should be funded out of general government revenues, not out of phoney health or disability

"insurance" premia, as there is no true individual insurance element involved. New Zealand has this absolutely right.[17]

This does *not* mean that the assets built up in the NZS Fund would be there to be raided. It means that instead of earmarking the current NZS Fund and any future planned prefunding for a specific expenditure commitment, the Crown would have a Fund (and could contribute to that Fund in the future) as part of a policy of prefunding future Crown expenditure in general. Fiscal virtue cannot be achieved by earmarking, that is, by ring-fencing a particular pot of money for a particular future expenditure commitment. It can only be realised by achieving the appropriate profile of current and future Crown revenues of all kinds, given the totality of the spending commitments and plans of the Crown. The New Zealand Treasury has recently produced a number of documents (Treasury of New Zealand (2006a)) that are quite close in spirit to the approach I advocate here. Even so, in the introduction to one of the key documents (Treasury of New Zealand (2006b, p5)), the Secretary to the Treasury referred to "…the establishment of the New Zealand Superannuation Fund, which invests a proportion of current taxes to contribute to the costs of New Zealand superannuation in the future."

The figures for the stock of debt are mirrored in the persistent budgetary surplus of the general government, as shown in Figure 19. The operating balance has been positive since 1993/94, and so have net lending and the primary (non-interest) budget balance (except for tiny deficits for the last two measures in 1999/2000). For the last available year, 2004/5, all three budgetary balances are close to 5 per cent of GDP.

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[17] It is a mystery, however, why the sensible public *funding* of health care and disability is coupled, in New Zealand, with virtually exclusive public *provision* of health care services. There could be great efficiency gains, to be shared by patients and tax payers, if much of the public provision of healthcare were privatised.
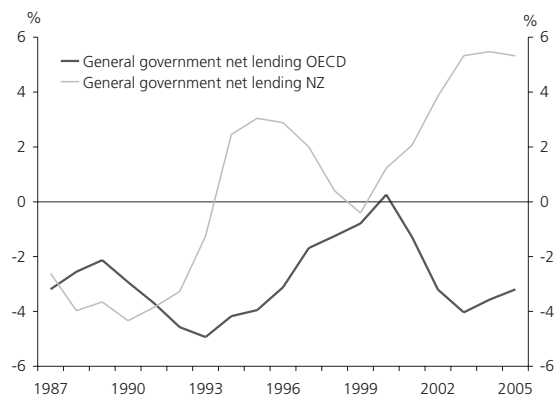
Figure 19

Government budget balances
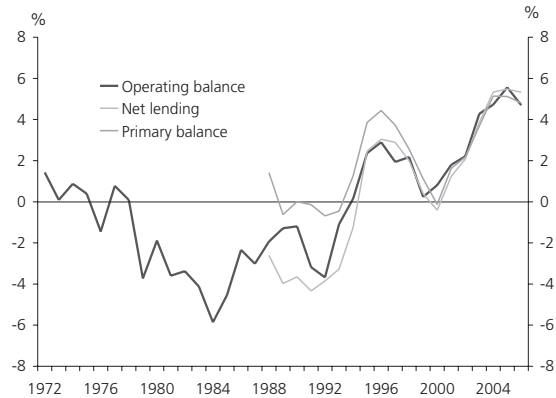
Source: Statistics New Zealand

A comparison of New Zealand with the average of the OECD countries, gives one a sense of just how remarkable an achievement this is. Figure 20 shows the comparison for net lending, Figure 21 shows it for net debt.

Figure 20

General government net lending in New Zealand and the OECD average

Source: OECD

Figure 21

General government net financial liabilities in New Zealand and the OECD average
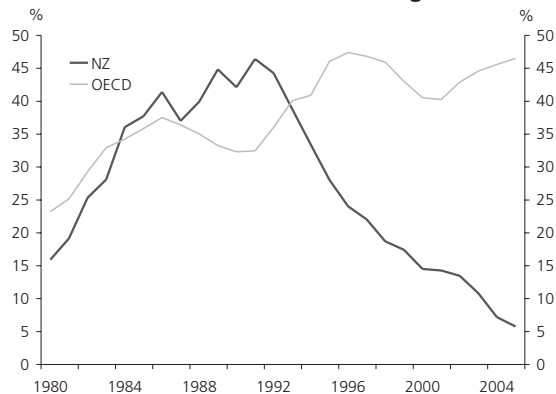
Source: OECD

Not only has the fiscal-financial position of the Crown been transformed since the late 1980s. In addition to this massive intertemporal redistribution, there has been a reduction in the size of the public sector, as measured by the share of total public spending in GDP. From over 43% of GDP at the end of the 1980s, (well above the OECD average) this ratio has come down to just over 36% in 2004, somewhat below the OECD average (see Figure 22). This downward trend appears to have come to a halt or even to have been reversed in the last couple of years, with obvious implications for future tax burdens and tax rates.

Figure 22

Total general government disbursements in New Zealand and the OECD average
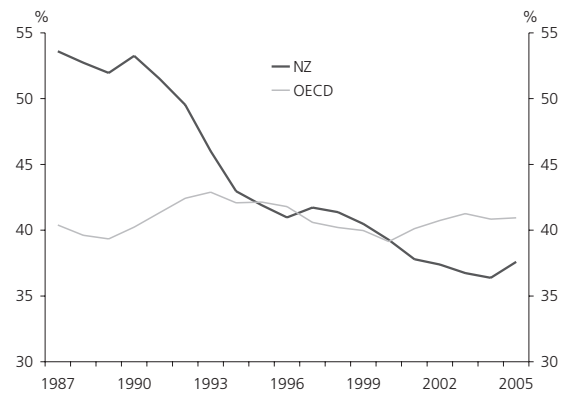
Source: OECD

Bathing in the gentle glow of fiscal sustainability, the New Zealand authorities and economics community wonder whether fiscal policy could make a larger contribution to cyclical stabilisation. This issue can be broken down into three sub-questions. The first concerns the role and effectiveness of the automatic fiscal stabilisers, and possible fiscal or regulatory changes required to enhance their capacity for damping cyclical fluctuations. The second concerns the more active use of discretionary fiscal policy for macroeconomic stabilisation. The third concerns better coordination between monetary and fiscal policy.

The automatic stabilisers

The automatic fiscal stabilisers are one of three automatic stabilisers that can dampen the response of income to exogenous demand shocks when at least some households are *Keynesian* consumers rather than permanent income

consumers. Keynesian consumers are those for whom a change in current disposable income has an effect on current consumption that is much larger than the marginal propensity to consume out of permanent income (approximately one) times the effect of a change in current disposable income on permanent income (typically small). Liquidity constraints, cash-flow constraints, wedges between household borrowing and lending rates and other capital market imperfections, like the poor collateralisability of human wealth, lie behind the Keynesian consumption function and the role it creates for the automatic stabilisers.

In an open economy, the simple Keynesian multiplier, μ (holding constant interest rates, the exchange-rate, other asset prices and money prices and wages) can be written as follows:

(1)

$$\mu = \frac{1}{1-(1-s)(1-m)\left(\frac{1-(\tau^d+\tau^s)}{1+\tau^i}\right)}$$

$$0 \leq s < 1; 0 < m < 1; \tau^d + \tau^s < 1; \tau^i > -1;$$

$$1-(1-s)(1-m)\left(\frac{1-(\tau^d+\tau^s)}{1+\tau^i}\right) > 0$$

where s is the marginal propensity to save out of current disposable income, m is the marginal propensity to import (the share of total consumption spent on imports), τ^d is the direct or income tax rate, τ^s the social contribution rate and τ^i the indirect tax rate (in New Zealand this is mainly the Goods and Services Tax or GST, a value-added tax).

New Zealand's revenue structure is very simple. For the automatic stabilisers, the degree to which taxes and transfer payments co-vary with the level of economic activity is key. In what follows, these aspects of the tax and transfer structure are emphasized. Figure 23 shows that there is a reasonably pronounced counter-cyclical behaviour of the government primary (non-interest) deficit.

Figure 23
Primary balance and output gap
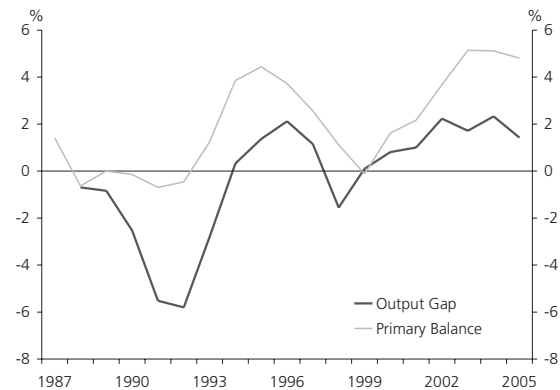
Source: OECD

The tax on personal income taxes all income other than capital gains. The structure is progressive; for wage and salary income a 15% rate is paid on income up to NZD 9,500 per annum, 21% on income between 9,500 and 38,000, 33% on income between 38,000 and 60,000 and 39% on income above 60,000. Withholding taxes apply to wages and salaries and to interest income and dividends. Fringe benefits are taxed separately. Tax credits are available to low-income families with dependent children. The highest marginal rate is among the lowest in the advanced industrial countries. The progressive income tax structure makes for real fiscal drag (the share of taxes in income increases as real income grows). There may also be some nominal fiscal drag, because of imperfect effective indexation of the different tax rate bands.

The structure of the income tax suggests the following means of strengthening the automatic fiscal stabilisers while reducing distortions. Since there is at this moment no apparent need to increase total tax revenues, extending the tax bases, as proposed below should be accompanied by lowering the average and marginal tax rates, so as to make the whole exercise revenue-neutral.

Proposal 1. Tax capital gains at the same rate as all other income. Make the income and capital gains tax index-linked to the CPI. Index-link the corporate profits tax (only real interest costs should be deductible etc).

This prevents erosion of the tax bases for the labour income and capital income, as it is far too easy to turn capital gains into capital income and, in the unincorporated sector, capital income into labour income. There is an efficiency

case for not taxing capital income at all (whether it be profits, dividends or capital gains), but if any capital income is taxed, all capital income should be taxed and at the same rate. This will raise τ^d and thus reduce the size of the multiplier.

Corporate profits are taxed at a 33 per cent rate, which is becoming a rather high number among the advanced industrial countries. As noted earlier, unique among OECD countries, New Zealand has no dedicated employee and employer contributions to a pay-as-you go state pension scheme (like the NZS) or other social security funds. This means that $\tau^s = 0$ in equation (1).

The main indirect tax is the GST, applied at a uniform rate of 12.5%. Financial services and housing rentals are exempt. There also are excise duties on alcohol, tobacco, petroleum and gaming. This immediately suggests another way of strengthening the automatic fiscal stabilisers:

Proposal 2. Broaden the GST base by eliminating the exemptions for financial services and housing rentals, including the imputed consumption of housing services by owner-occupiers.

This increases τ^i and reduces the value of the multiplier. It also eliminates a distortion. The argument that there are insuperable practical obstacles to the inclusion of financial services in the tax base (see e.g. Jack (2000) and Auerbach and Gordon (2002)) because of the inability to measure the value added of a financial service makes no sense to this non-specialist. Firms selling financial products create value added which can be measured as the sum of wages/salaries plus profits plus rents. These are all reported as part of the income and profit tax filings.

The exemption of the imputed rental income of owner-occupiers from both the GST and the income tax makes no sense. It should either be taxed as consumption under the GST or as income under the income tax.

On the transfer payments side of the budget, social security and welfare are just under one third of total public spending. However, much of this, including superannuation (just under half) is not countercyclical. Unemployment benefits, an obvious countercyclical item, are only about six per cent

of total social security and welfare spending. There do not seem to be any easy angles for augmenting the automatic stabilisers from the government transfer payment side of the budget.

More active countercyclical use of the GST

Even at a constant proportional rate of 12.5%, New Zealand's GST contributes to the conventional Keynesian automatic fiscal stabilisers. It is, however, also clear that the magnitude of the multiplier is smaller when the indirect tax rate, or indeed any tax rate or any "marginal leakage from the circular flow of income and expenditure" is higher. Raising the GST rate during a boom and lowering it during a downturn could therefore enhance the working of the automatic stabilisers. It would, however, increase the microeconomic dead-weight losses associated with time-varying marginal tax rates. If there are more Keynesian consumers (who spend their disposable income) in the downturn than in the upturn of the cycle, a variable GST could have stabilising effects even if it were revenue-neutral over the cycle. During the downturn the lower taxes would relax the current disposable income constraint on more consumers than it would incrementally subject to a binding current disposable income constraint in the upturn.

There is, however, another reason why the New Zealand authorities might be interested in a more active countercyclical use of the GST, which does not depend on the GST contribution to the Keynesian automatic stabilisers, but on its ability to enhance the neoclassical intertemporal substitution effect. The Euler equation of a standard competitive household intertemporal optimisation problem with an efficient financial market is

$$(2) \qquad u'(C_t;...) = E_t\left[\beta(1+r_{t,t+1})\left(\frac{1+\tau_t^i}{1+\tau_{t+1}^i}\right)u'(C_{t+1};...)\right]$$

where $u(C;...)$ is the period utility function, C is consumption, β is the subjective discount factor, $r_{t,t+1}$ is the real interest rate between periods t and t+1 and E_t is the expectation operator conditional on information at time t.

It is clear from that, *ceteris paribus* a lower GST rate, τ_t^i, in period t or a higher expected GST rate, τ_{t+1}^i, in period t+1 lower the consumer's effective real rate of interest at market prices between periods t and t+1, just as much as a cut in the real interest rate at factor cost between periods t and t+1, $r_{t,t+1}$, would. *A-fortiori*, the combination of a cut in the period t indirect tax rate and credible commitment to an increase in the period t+1 indirect tax rate that keeps total indirect tax revenue constant in present discounted value, would represent a cut in the consumer's effective real interest rate.

We can now rephrase this as a combination of a GST rate cut during a downturn of the business cycle and a GST rate increase during the upswing of the cycle, which is revenue-neutral over the cycle in present discounted value. Since the proposed changed in the GST tax rule is revenue-neutral over the cycle, there will be no income effect, and the pure intertemporal substitution effect of a lower real interest rate will stimulate consumption during the downturn and dampen consumption during the upturn.[18]

The thought experiment just carried out kept constant the factor cost (or before-tax) real interest rate, $r_{t,t+1}$. For a small open economy like New Zealand, which is highly integrated into the international financial markets, the assumption that changes in domestic indirect tax rates have no effect on the before-tax real interest rate seems quite reasonable. The *ceteris paribus* effect of the GST tax changes is therefore likely to be the same as the total effect.[19]

The consumer demand effect of changes in the real interest rate induced by changes in the time pattern of indirect tax rates are enhanced for consumer durables, compared to consumption of non-durables and services. Changes in indirect tax rates can prompt significant shifts in the *timing of purchases* of new consumer durables (household investment goods), even when they do not give rise to immediate comparable changes in the household's consumption of the service flows of the durables.[20]

Implementing a more countercyclical GST policy: technical issues

The key technical issues associated with a more countercyclical use of the GST rate are the same as for the use of all other discretionary fiscal and monetary policy instruments, especially those that work at least in part through expectational channels: timing, magnitude and credibility. We are considering the adoption of a rule aimed at switching consumption expenditure from upturns in the business cycle to downswings. It does not, of course, follow that the GST rate should be varied only in response to measurements/estimates of the current output gap or some other cyclical variable. It should be targeted at the future expected output gap.

Policy is bedevilled by three kinds of lags: two types of *inside lag* and one type of outside lag. The first inside lag is the *recognition lag*, the length of time between objective occurrence of an event making a rate change appropriate and the subjective recognition of that occurrence. The second inside lag is the *decision lag*, the length of time between recognition of the need for a change in the GST rate and its actual implementation. The outside lag is the length of the time interval(s) between the implementation of a GST rate change and its (distributed) effects on consumer demand.

Given these inside and outside lags, the rule should be designed to ensure that the GST rate responds appropriately to anything that helps predict (Granger-causes) movements in the output gap. The list of feedback variables in the GST rate decision rule will in general not be restricted to current and past observations on the output gap itself. The length of the recognition lag can make both the decision lag and the outside lag irrelevant: if it takes too long to recognise that the event making a rate change desirable has occurred, i.e. the horse has bolted, it does not matter that the decision

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18   Strictly speaking, the proposed tax changes would have to be expected utility-neutral rather than revenue neutral in order for the income effect to be absent.

19   With a constant elasticity of intertemporal substitution $\gamma > 0$ and $u(C) = \frac{1}{1-\gamma} C^{1-\gamma}$, equation (2) implies, for the case of no uncertainty, that $\frac{C_{t+1}}{C_t} = \left[\beta (1 + r_{t,t+1}) \left(\frac{1+\tau_t^i}{1+\tau_{t+1}^i} \right) \right]^{\gamma^{-1}}$.

20   The policy is therefore similar in its effect on aggregate demand to a cyclically revenue-neutral sequence of temporary subsidies and temporary taxes on business investment.

to shut the gate is taken promptly and that the gate is shut immediately afterwards.

Consider the following simple implementation of the rule. During a boom, the rate is set at 15.0%, during a slump it is set at 10% and during the neutral phases of the cycle it is set at its current level of 12.5%. The effect during a slump on current consumer purchases of a cut in the GST rate to 10.0% will, under the rule, depend on the length of the period for which it will be in effect (the rule is known to be revenue-neutral over the cycle, so rational, forward-looking consumers know that rates will eventually normalise to 12.5% and rise to 15.0%). It seems likely that, especially for consumer durables, the length of the outside lag would be short: the duration of the downturn is uncertain, and there is no option value of waiting for a further cut in the tax rate: with "use it or risk losing it" incentives to spend now, consumer durables expenditure should strengthen and so, albeit to a lesser extent, will the actual consumption of non-durable goods and services.

Thus, even if the duration of the different business cycle phases is uncertain, the impact of a change in the GST rate on demand is likely to be swift (the outside lag is likely to be short and predictable). This, however, does not mean the GST rate change will be well-timed and appropriate in magnitude. The key technical issues are the combined length of the two inside lags and the trade-off between the duration of these lags and the quality of the GST rate decision that is taken. This brings us to institutional implementation issues.

Implementing a more countercyclical GST policy: institutional issues

The reasonably effective and successful implementation of monetary policy in many types of market economies through operationally independent central banks has created some momentum in favour of delegating other aspects of stabilisation policy to operationally independent technical experts. An example is Charles Wyplosz's proposal for national Fiscal Policy Committees to play a key role is determining the appropriate size of the general government's financial deficit (Wyplosz (2002)).

There is no time to address the general issue of when and how, in democratic societies, policy decisions can be delegated by the constitutionally elected government of the day to operationally independent committees of appointed technical experts. There are obvious attractions to depoliticising the operation of a cyclically variable GST rate. Turning the decision over to a committee of independent experts would remove the scope for opportunistic manipulation of the GST rate for electoral or other party-political advantage. The technical competency of the committee (the GSTC?) would be a non-trivial issue, as the size of the population from which plausible domestic candidates could be drawn (The Treasury, the RBNZ, the Ministry of Economic Development, the universities and a few think tanks) is small, so flying in external experts would soon become necessary, just as it would be if New Zealand were to create a Monetary Policy Committee to take OCR decisions. Technical and administrative support for the GSTC would presumably have to be drawn from the Treasury, the RBNZ and the Ministry of Economic Development. There are no realistic alternatives, even though it may undermine at least the appearance of independence.

It would not be desirable to merge the GSTC with the RBNZ into an independent integrated monetary and fiscal stabilisation committee. Doing so might undermine the substance of operational independence for both institutions, since fundamentally unaccountable economic decision-making authority can only be legitimate, and therefore acceptable, if the domain of discretion is strictly circumscribed. Monetary policy in New Zealand, as in the UK and the Eurozone, is *formally accountable* in the sense that there are reporting obligations. Those to whom authority has been delegated must explain and justify their actions to the legitimate political authorities. There is no *effective or substantive accountability*, however, since typically there are no adverse consequences for the operationally independent authorities, other than naming and shaming, if they make a mess of things, or if their explanations fail to convince. Typically, dismissal can only occur for incapacity and gross misconduct, which does not include gross incompetence!

This makes it essential that not too much substantively unaccountable economic decision making power be

concentrated in one institution. This is certainly the case in New Zealand, where the monetary policy decisions are taken not by a committee, as is the case almost everywhere else, but by the Governor alone. The GSTC and the monetary authority should therefore be independent from each other as well as from the government, although cooperation and coordination among them would of course be desirable.

The foregoing discussion prompts the following proposal:

Proposal 3: Consider the active use of the GST rate as a countercyclical stabilisation instrument. Delegate this policy to an operationally independent GST Committee.

Other discretionary fiscal stabilisation policy

Other than the limited discretionary use of the GST rate for countercyclical policy, I cannot see a role for discretionary fiscal policy as a stabilisation instrument. Public investment expenditure cannot be switched on or off, or varied in scale according to the cycle, without causing serious efficiency losses and cost overruns. The inside and outside lags are also bound to be so long, variable and uncertain as to make this an inappropriate stabilisation instrument. *Mutatis mutandis*, the same holds for other changes in government spending and tax programmes. Clearly, if ever New Zealand found itself in a deep, 1930s-style slump, or in a Japanese-style liquidity trap, expansionary fiscal policy, combined with expansionary quantitative-easing-style monetary policy, would be the appropriate response. Such exceptional, self-evident conditions calling for discretionary fiscal policy are, however, quite unlike the modest cyclical fluctuations that have characterised New Zealand since the beginning of inflation targeting.

Monetary and fiscal coordination

New Zealand has an operationally independent central bank. Monetary policy instrument changes occur at a higher frequency than fiscal policy changes. The monetary authorities act effectively as Stackelberg followers vis-à-vis the fiscal authority: the fiscal actions and fiscal rules are taken as part of the economic environment within which the RBNZ pursues its mandate. The fiscal authorities try not

to complicate the conduct of monetary policy by conducting fiscal policy with transparency, which means that most major discretionary changes in fiscal policy are announced well in advance. Frequent communication between the Treasury and the RBNZ is the rule. Given the New Zealand institutional set-up this is the only arrangement that makes sense. I do not advocate switching to a form of coordination that would involve the explicit joint determination of monetary policy by the monetary and fiscal policy agencies (see Reserve Bank of New Zealand (2001)). This view matches that of Lars Svensson (2001) in his *Independent Review of the Operation of Monetary Policy in New Zealand: Report to the Minister of Finance.*

4   Monetary policy

As the first country to implement a formal inflation targeting policy, New Zealand had to invent the necessary institutions, instruments and policy rules from scratch. It is therefore no surprise that since 1990 there have been changes both in the operational inflation target and in the wider characterisation of the RBNZ's remit, as shown in Table 2.

An important change of emphasis in the remit occurred in December 1999, when the Bank was instructed to have regard for "unnecessary volatility" in interest rates, output and the exchange-rate, in the course of conducting monetary policy. This concern for volatility in the real economy was, however, subject to or without prejudice to, the primary target of establishing and maintaining price stability in the medium term.

Table 2

A Summary of evolution of the PTA

March 1990	Initially, the government and Reserve Bank agreed to a phased move towards the initial inflation target of 0-2 per cent, with the original target date being December 1992.
December 1990	The target date was extended to December 1993.
December 1996	The target band was widened to 0-3 per cent in December 1996 to enable a somewhat greater degree of inflation variability.
December 1999	A clause 4(c) was included requiring the Reserve Bank to have regard for `unnecessary volatility' in interest rates, output and the exchange-rate, in the course of conducting monetary policy.
September 2002	The lower bound of the inflation target was raised to 1 per cent, on the grounds that at extremely low or negative rates of inflation, the volatility trade-off probably worsens. In addition clause 2(b), specifying the inflation target, was amended from `12-monthly increases in the CPI' to keeping future CPI inflation outcomes within the target band `on average over the medium term'. This change made explicit the medium-term focus for price stability, further enhancing monetary policy flexibility. Clause 4(c) was retained with modified wording, as clause 4(b).

Source: Bollard and Karagedikli (2005)

There has been a considerable evolution in the RBNZ's operational approach since the exchange-rate was floated on March 4, 1985. From June 1997 till March 1999, the Monetary Conditions Indicator (MCI) was the proximate *target* of monetary policy.[21] The interest component of the MCI was the 90-day Bank Bill rate, which was not itself an instrument of monetary policy. The policy instrument during the MCI period, and for much of the floating rate period, was the target amount of settlement cash in the banking system. Since March 1999, when the Bank abandoned the policy of targeting the MCI, the official cash rate or OCR has been the sole instrument set by the RBNZ to achieve the inflation target (see Reserve Bank of New Zealand (2000a) and Woodford (2000)).

The choice of instrument, the overnight rate, is now in line with common practice among central banks of advanced industrial countries. The OCR is reviewed by the Bank eight times a year, approximately every six weeks, although the RBNZ reserves the right, under exceptional circumstances, to change the OCR at any time. This is consistent with the practice in the United States and, more recently, Canada, but

a little less frequent than in many other countries. I support the relatively low frequency of RBNZ meetings. Those who advocate frequent meetings (outside periods of crisis), more often than, say, once a month (with a month off for good behaviour during the summer) appear to confuse motion with action. Most of the time, news relevant to rate setting tends to accrue slowly and ambiguously. The occurrence of crises is identified easily and ad-hoc meetings can be called immediately.

The specification of the RBNZ's inflation target has a non-standard feature: the target is defined as a range for the inflation rate, currently between one and three per cent per annum. There appears to be no presumption, in principle or in practice, that the centre of that range, two per cent, is the effective point target of monetary policy. I believe this feature to be undesirable, because it leaves the market confused. Is policy (the OCR) likely to be different when the inflation rate is (or is expected to be over the horizon relevant to policy making) close to the upper bound of the range than close to the lower bound of the range? Is there a discontinuity in the reaction function when the (expected) inflation rate crosses the limits of the range? It would add to clarity in monetary policy making if the range were replaced by a point target for inflation, to be achieved in the medium and long-term (or over whatever horizon the monetary

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[21] The MCI was a weighted arithmetic average of the 90-day Bank Bill yield i^b and the proportional appreciation of the TWI nominal exchange-rate ε. The weight on the interest rate was twice that of the exchange-rate appreciation:
$MCI = i^b + 0.5\varepsilon$.

authority is believed to be able to have a systematic effect on the rate of inflation). The target should be symmetric: upwards and downwards deviations of inflation from target of equal magnitude should be viewed as equally costly. Larger deviations (in absolute value) should be viewed as proportionally more costly than smaller deviations. The usual quadratic loss function penalising deviations of inflation from the point target provides an adequate representation. The range could either be dropped altogether or be given some operational meaning along the lines of the "Open Letter to the Chancellor" requirement found in the Bank of England Act 1998.[22]

Another unusual feature of the New Zealand monetary policy making process is that the decision is taken by the Governor of the RBNZ alone, rather than by a committee, as is now the practice in most other central banks. On the whole, the quality of the monetary policy decisions made since 1990 suggests that thus far Monetary Policy Committees have not been greatly missed in New Zealand, although I wonder whether a Monetary Policy Committee might have avoided the 1997-1999 MCI interlude. I recognise that there are potential drawbacks to decision-making by committee (see e.g. Sibert (2006)) that could outweigh its more familiar alleged advantages (see e.g. Blinder and Morgan (2005)), prominent among which is the (unproven) presumption that committees reduce the risk of an outlandish/extremist decision being taken.

On balance, I believe the evidence supports the creation of a procedurally transparent, individually accountable Monetary Policy Committee, along the lines of the MPC of the Bank of England to take future OCR decisions. Given the small population size of New Zealand, this would at some point require either appointing foreign residents and nationals who become residents of New Zealand for the duration of their MPC appointment, or flying in overseas experts for the OCR meetings, or using international video conferencing.[23]

Has monetary policy lost its punch and bite?

A widely shared concern (at all levels) is that monetary policy (changes in the OCR) has lost much of its capacity to affect the real economy because changes in short-term nominal interest rates (which are strongly influenced by the OCR) are largely neutralized either by a decline on long-term rates or by borrowers moving along the downward sloping yield curve to cheaper maturities. The lengthening of household mortgage maturities during the latest series of OCR increases was frequently cited as an example.

It is clear that a change in the OCR by itself has a negligible effect on economic activity. In normal times, OCR-setting meetings occur eight times a year, that is, once every month and a half on average. What is the likely impact of an increase of, say, 25 bps? An increase of 25bps, say, for 6 weeks, which is all that is "technically" implied by such an increase, has a negligible effect of the cost of funds for corporate investment, the household's return to saving and the opportunity cost of lending and borrowing. As a member of the Monetary Policy Committee of the Bank of England, I once referred to the effect of a 25bps change in the Repo rate by the Bank of England as "chicken feed", and that characterisation is appropriate also for New Zealand.

In a small open economy with a floating exchange-rate, monetary policy (changes in the current OCR) work through their effect on longer-maturity nominal interest rates, the exchange-rate and the prices of other financial and real assets. There may also be effects through a variety of credit channels, if financial markets are inefficient, for any of a number of informational and enforcement reasons, and market segmentation prevails. A necessary condition for a current OCR change to have an appreciable influence on behaviour is that a change in the current value of the OCR affects expectations about future values of the OCR. If changes in expected future values of the OCR in

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[22] Deviations of more than one percentage point above or below the target require an Open Letter from the Governor of the Bank of England to the Chancellor of the Exchequer. This will explain the cause of the deviation, how long inflation will be away from target, what action the Monetary Policy Committee (MPC) of the Bank of England is taking, as well as how this will be consistent with the Government's wider economic policy objectives.

[23] The UK is now pioneering flying in an MPC member from across the Atlantic for 10 to 12 days each month. Given this precedent, and assuming that jet lag affects the quality of monetary policy making either not at all or favourably, New Zealand could create a 5 to 7 member MPC, with the Governor having the casting vote. When the New Zealand stock of qualified MPC candidates has been exhausted, the global stock of qualified candidates could be drawn upon. I don't think the world is ready yet for the lower-cost alternative of outsourcing monetary policy to some MPCC (monetary policy call centre) in Bangalore.

turn affect current behaviour of private agents, monetary policy is effective. This could be either because changes in current expectations of future OCR levels influence the current prices of other financial instruments, or because they affect non-price determinants of current household behaviour (e.g. subjective estimates of permanent income), of corporate behaviour and of the behaviour of importers and exporters. By leveraging expectations, current changes in an instrument that in and of itself matter very little, can influence private behaviour.

Clearly, if an increase in the OCR only raises market-determined rates at very short maturities and lowers rates at longer maturities, and if there are no other channels through which a current OCR change affects private behaviour, then conventional monetary policy is weakened or even neutralised completely. This concern is not unique to New Zealand. When the Federal Reserve Board started its sequence of 17 consecutive 25bps increases in its target for the Federal Funds rate from 100bps to 525bps, long nominal interest rates declined and in due course the yield curve became inverted. While this raised concerns among the members of the Federal Reserve Board, including Chairman Alan Greenspan, no-one concluded that monetary policy in the US had lost its capacity for influencing economic activity.

For New Zealand, the recent behaviour of the OCR and longer-term interest rates raises three issues. First, empirically, is the current inverted yield curve a common phenomenon? Second, do higher short rates (changes in short rates) tend to be associated with lower long rates (with changes in long rates in the opposite direction)? Third, if the answers to these first two questions is affirmative, does it mean that monetary policy has lost its punch?

Figure 24 shows that, while short and long nominal interest rates have moved together, historically, there have been several episodes, in addition to the most recent one starting in the second half of 2005, when the term structure was inverted. The most recent prior periods with a negative term premium were from early 1995 till early 1997 and from mid-1997 till mid-1998.
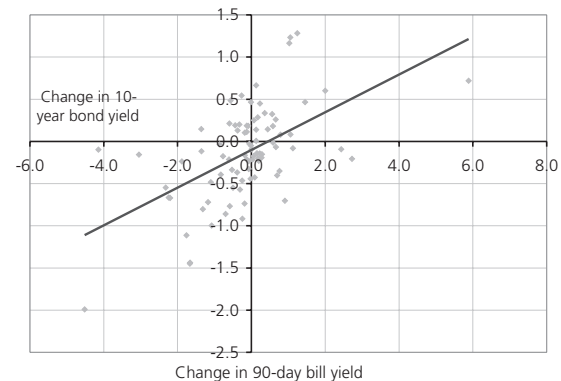
Figure 24

Short- and long-term nominal interest rates and spread
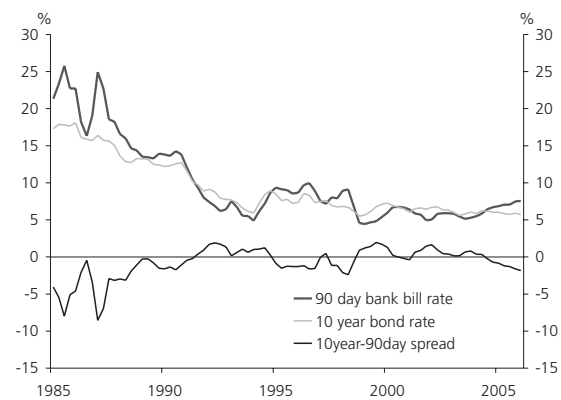
Source: Reserve Bank of New Zealand

Changes in short rates are also associated with *changes* in long rates in the same direction, although the relationship is fairly weak, as is clear from Figure 25.[24]

Figure 25

Changes in short and long nominal yields

Change in 90-day bill yield

The observation that an increase in short rates is, on occasion, associated with a decline in long rates need not imply that monetary policy is ineffective. Take, for instance, the simplest "Dornbusch overshooting model" in which the authorities raise the short nominal rate of interest in response to an unexpected temporary increase in the rate of inflation (reflecting some permanent, cost-push price level shock). Assume that the authorities' reaction function has the "Taylor property" that the short nominal interest rate is raised by more than the short-to-medium-term increase in the inflation rate. Short real interest rates therefore also rise. There is a sharp appreciation of the nominal and real

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[24] The two largest outliers are in the fourth quadrant (a fall in the bill rate and an increase in the bond rate) and occurred in December 1994 and July 1997 respectively.

exchange-rates. After the initial increase, the short nominal interest rate declines steadily and ultimately returns to its level prior to the inflationary shock. This future decline in short nominal rates is reflected immediately in the long nominal interest rate (and real rate) which rises less on impact than the short nominal interest rate. If the yield-curve had been flat prior to the inflation shock, it would now be inverted.[25] This movement in the yield curve is accompanied by a jump-appreciation of the nominal and real exchange-rates. In a small open economy with a floating exchange-rate and unrestricted financial capital mobility, the exchange-rate becomes the principal monetary transmission mechanism.

The successful countering of an inflationary shock using the monetary policy instrument (the OCR) will be associated with a downward shift, and often an inversion of the yield curve; it is a sign of monetary policy effectiveness, not of its lack of effectiveness.

Long-term inflation expectations: the crucial anchor for monetary policy

Central to the RBNZ's decision on the appropriate level of the OCR is the state of long-term inflation expectations. This is the litmus test of credibility for any inflation targeting central bank. Figures 26 to 29 tell a story of remarkable success in anchoring longer-run inflationary expectations around the centre of the Bank's target range, despite non-negligible deviations of actual inflation from the centre of the target range, and indeed despite three episodes during which actual inflation exceeded the upper bound of the range (see Figure 2).

Figure 26

Perceptions of current inflation

Marketscope Survey
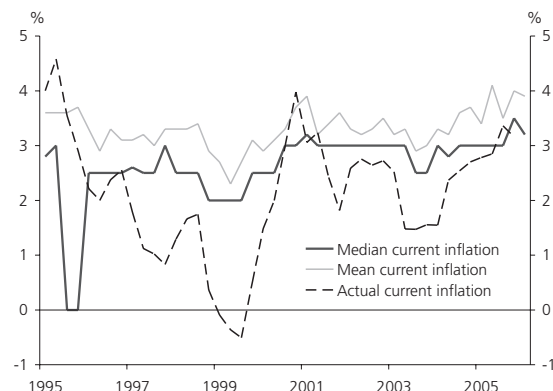
Figure 27

Predictions of inflation over next year
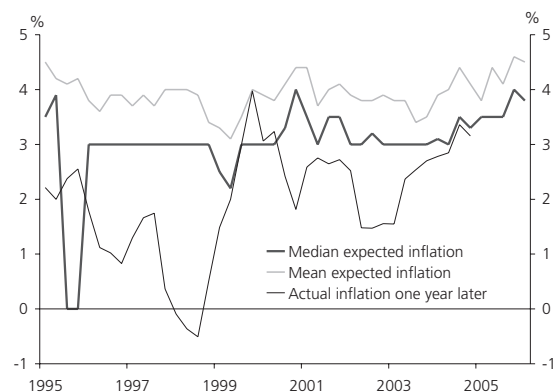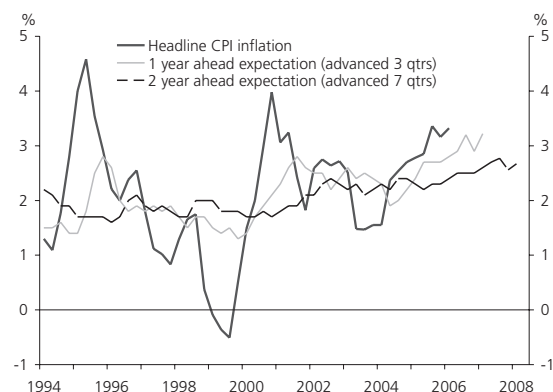
Marketscope Survey

Figure 28

**Expectations of inflation actual and expected**

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[25] For other shocks (e.g. the unexpected announcement of a reduction in the inflation target) it is even possible that the long nominal interest rate falls on impact.

Figure 26 suggests that the public has a tendency to overestimate the current rate of inflation (mean current inflation exceeds actual inflation by about one half of one per cent, although for median current inflation the gap is much smaller). We cannot be fully confident of this, however, as we do not know whether the public's subjective price index is the same as the CPI used by the national income statisticians. Allowing for the public's overestimate of current inflation, their inflation predictions one year and two years ahead (reported in Figures 27 and 28) show these medium-term inflation expectations reasonably well anchored around the upper end of the target range (3 per cent).

A longer time-series of survey expectations one year ahead is given in Figure 29. It shows the dramatic decline in inflation expectations from 1988 on, as well as the stabilisation of these expectations around 3 per cent in recent years.

Figure 29

Inflation expectations
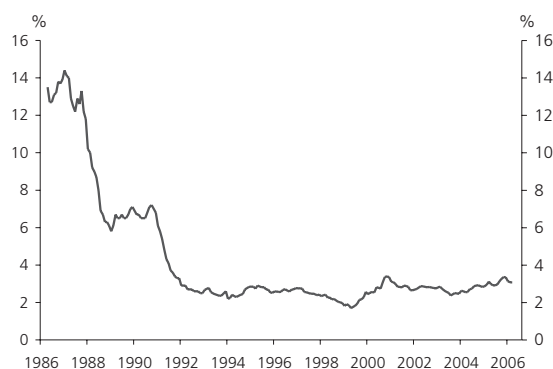
Longer term inflation expectations backed out of 10 year index-linked and nominal bonds (so-called 'break even rates') also show longer-term inflation expectations anchored around 2.5 per cent, one half of one per cent below the upper bound of the target range.

It is interesting to note that although inflation has never fallen below the lower bound of the target range, the apparent asymmetry in the Bank's pursuit of the inflation objective (it appears to be more tolerant of inflation above the target range than of inflation below the target range, and more tolerant of inflation above the centre of the target range than below the centre), has thus far not caused inflation expectation to drift significantly above the centre of the target range.[26] There has been some minor drift, however, and it is therefore important to remind the markets of two key properties a credible inflation targeting policy should have.

First, the inflation target is *symmetric*. Deviations above the centre of the band (2 per cent) are considered of equal importance as deviations of equal magnitude below the centre of the band. Also, excursions outside the band are equally serious when they occur at the upper bound (3%) as below the band (1%). Here the RBNZ may have a growing problem on its hands. There has never been a deviation of the inflation rate below the lower bound of the target range. There have been several excursions north of the upper bound of the target range. We are currently in such an episode, with year-on-year CPI inflation at 4.0% in June 2006, and with the near-certain prospect that the inflation rate will exceed four per cent towards the end of the year, before it starts to decline again. I would be surprised if inflation expectations did not continue to drift upwards under these circumstances. Such drift of the nominal anchor is dangerous. This drift of actual inflation toward the top end of the band, and now well beyond it, was made easier because the inflation target in New Zealand is a range rather than a point target. Replacing the target band by a symmetric point target would help focus market expectations and would make it more difficult for the RBNZ to become a victim of "upward nominal anchor drift".

Second, it is important to resist the siren song of "flexible inflation targeting", as advocated by Svensson (2001), Woodford (2003) and many others.[27] The objective

[26]   Econometric testing by Karagedikli and Lees (2004) suggests that the Bank has not acted asymmetrically in its pursuit of the inflation target. Their data cover the period 1994Q1 to 2002Q4. It therefore does not include the most recent inflation overshooting episode. Their starting date of 1994Q1 is at least a year after the high inflation inherited from the pre-inflation targeting regime had been 'worked off'. Over the period 1993Q1 till 2006Q2, the average year-on-year rate of inflation for the target variable is 2.1%. The average centre of the inflation target band is 1.5%

[27]   For a more extensive discussion of these points, see Buiter (2006).

function of the monetary authority in this approach is represented by the discounted sum of expected future squared deviations of inflation from its (constant) target level and of expected future squared deviations of output from its natural or potential level. The typical period loss function can be written as

$$(3) \quad E_t\left[\left(\pi_j - \pi^*\right)^2 + \lambda(y_j - y_j^*)^2\right], j \geq t; \lambda > 0$$

where π_j is the inflation rate in period j, π^* is the inflation target, y_j is real output in period j, and y_j^* is potential output in period j, E_t represents expectations formed at the beginning of period t and λ is the weight put on output gap stabilisation; the weight on inflation targeting is normalised to 1.

The period loss function given in (3) is a poor choice of objective function for the policy authority: neither does it have robust welfare economics foundations nor is it compatible with the price stability mandate given to the RBNZ, which is lexicographic in price stability (see Blinder (2006), Buiter (2006) and Buiter and Sibert (2006)). In addition, the flexible inflation targeting approach compounds the problem by frequently replacing (3) by

$$(4) \quad \mathrm{Var}_t\, \pi_{j,j-1} + \lambda\, \mathrm{Var}_t\, y_j$$

where Var_t denotes the variance conditional on information available at time t.

In fact (3) is equivalent not to (4) but

$$
(5) \quad
\begin{aligned}
&\mathrm{Var}_t\, \pi_{j,j-1} + \lambda\, \mathrm{Var}_t\, y_j \\
&+ \lambda\, \mathrm{Var}_t\, y_j^* + \left(E_t\, \pi_j - \pi^*\right)^2 + \lambda \\
&\left(E_t\, y_j - E_t\, y_j^*\right)^2 - 2\lambda\, \mathrm{Cov}_t(y_j, y_j^*)
\end{aligned}
$$

where Cov_t denotes the covariance conditional on period t information. It follows that for (4) to represent a period loss function for the monetary authority that is equivalent to (3) or (5), the following assumptions have to be made:

(1) $E_t\, \pi_j = \pi^*$: there is no inflation target bias (or the inflation target bias is independent of monetary policy).

(2) $E_t\, y_j = E_t\, y_j^*$: there is no output gap bias: the actual and optimal levels of output are the same on average (or the output gap bias is independent of monetary policy).

(3) $\mathrm{Cov}_t(y_j, y_j^*) = 0$ (or the conditional covariance is independent of monetary policy).

(4) $\mathrm{Var}_t\, y_j^* = 0$ (or the conditional variance of the efficient level of output is independent of monetary policy).

Assumption (4) is pretty standard. Assumption (3) is highly unlikely to be satisfied in most Old- or New-Keynesian models. Assumption (2) is satisfied in the long run if the economy has the long-run natural rate property; it is not necessarily satisfied in the short and medium term. Assumption (1) is a necessary condition for effective inflation targeting, at any rate in the long run. To assume that it is automatically satisfied is to assume away all the technical problems, commitment problems and other political problems associated with inflation targeting. It is true that for many of the most popular New-Keynesian and Old-Keynesian models used to address inflation targeting, there are few technical obstacles to meeting the inflation target on average. Indeed, these models all share the property that, when the inflation rate is, on average, equal to the constant target rate of inflation, the output gap is, on average, equal to zero. So, with the "first moment" problems of inflation targeting and output gap targeting solved, the monetary policy maker is left with just the problem of choosing the optimal combination of the conditional second moments of inflation and output.

This trivialises the central problem of inflation targeting, which is meeting the inflation target on average, going forward, that is, achieving a zero inflation bias. When $E_t\pi_j = \pi^*$, the key problem of the inflation targeting monetary authority, that of creating a credible nominal anchor, is solved. This is difficult to achieve in practice, and can never be taken for granted: the first moment problem is also the first-order problem. Monetary authorities in the UK, in the Eurozone, in the US, in New Zealand and in Turkey are concerned, as this paper is being written, about the upward drift of inflation expectations above their inflation targets or tolerance ranges. The second-moments period loss function (4), which assumes that there is no first-moments problem, is an extremely misleading and dangerous construct to dangle in front of the monetary authorities: the second moments are really of second order importance unless the first order first moments problem has indeed been solved.

The apparent similarity of Assumption (2), $E_t y_j = E_t y_j^*$ (no output gap bias) and Assumption (1), $E_t \pi_j = \pi^*$ (no inflation target bias) hides an important difference which can come back to haunt policy makers. For models with the (long-run) natural rate property, the servo-mechanisms of the market economy will tend to drive actual output towards potential output, at any rate in the long run, even without any policies designed to achieve that. There is no such built-in mechanism for ensuring that the actual rate of inflation will be driven towards the target rate of inflation, unless the policy authorities adopt rules (like the Taylor rule) that ensure that this will be the case: there may be a natural rate of unemployment, a natural level of output and a natural real rate of interest but there is no natural rate of inflation; the long-run equilibrium inflation rate is decided by the monetary authorities.

The original mandate of the RBNZ, like that of the Bank of England and the ECB, cannot be represented by a period loss function that trades off inflation volatility for output volatility. That mandate is lexicographic in price stability and all other *desiderata*: only without prejudice to, or subject to, the price stability objective being met, can other objectives, such as output or exchange-rate stabilisation be pursued. No positive weight on output stabilisation, however low, represents the lexicographic ordering of price stability. Nor does a zero weight on output stabilisation represent a lexicographic ordering with price stability in the first position. Output stabilisation can be, and is, valued, but only without prejudice to the price stability objective.

Unfortunately, the mandate of the RBNZ, as laid down in successive PTAs, has been, if not watered down, at the very least made fuzzier. As can be seen from Table 2, a clause 4(c) was included in 1999 requiring the Reserve Bank to have regard for "unnecessary volatility" in interest rates, output and the exchange-rate, in the course of conducting monetary policy. In addition, in 2002, clause 2(b), specifying the inflation target, was amended from "12-monthly increases in the CPI" to keeping future CPI inflation outcomes within the target band "on average over the medium term". This change made explicit the medium-term focus for price stability, further enhancing monetary policy flexibility.

Both these changes are unfortunate, because they put on a Bank a responsibility that it does not have the capacity to deliver: to stabilise output, interest rates and the exchange-rate over and above what can be achieved as the natural by-product of targeting price stability in the medium and long term. The illusion that monetary policy can systematically trade off inflation stability for output stability (let alone output stability, interest rate stability and exchange-rate stability) will be shattered as surely as the older belief that monetary policy can trade off expected inflation for the expected output gap. I would urge the authorities to re-emphasize the primacy of the price stability objective and not to endanger the long-term nominal anchor by the direct pursuit of other objectives, or by softening or widening the target bounds on inflation.

The use of alternative nominal anchors to medium and long-term inflation expectations, specifically the growth rate of some monetary aggregate at some frequency, does not appear to offer much hope for success. The statement attributed to Governor Gerald Bouey of the Bank of Canada that "In Canada, we did not abandon money supply targets, they abandoned us," applies equally to New Zealand.[28]

5 Foreign exchange market intervention

In 2003 the RBNZ conducted a review of its foreign exchange market intervention capacity and policies. Since the NZD was floated in 1985, the Bank's policy has been to intervene only during periods of "extreme market disorder" when operation of the foreign exchange market itself is under threat. For this purpose, the Bank maintained foreign exchange reserves in a target range of SDR 1.45bn to 1.75bn. At the time of the review the exchange-rate was NZD 1:SDR 0.45. The Bank has never had to intervene for crisis management reasons during the past 21 years. As part of the review the Bank recommended an increase in the target range of reserves held for crisis management to the range SDR 3.0-3.3bn.

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[28] An earlier and even longer version of this paper showed the wild gyrations in the growth of narrow money (Notes and coin held by the public and M1) and of broad money (M2 and M3).

The Reserve Bank of New Zealand Act also allows the Bank to operate in the foreign exchange market for reasons other than preventing disorderly markets and ensuring the continued operation of the foreign exchange market. First, the Bank can deal in the market on its own terms, provided such intervention supports the implementation of monetary policy. Second, the Minister of Finance can direct the Bank to intervene, within set guidelines, to influence the level of the exchange-rate. Note that while this ministerial power is meant to be more of an emergency power than a power to be used routinely, it could, if it were to be abused by the Minister of Finance, completely emasculate the substance of central bank independence.

In his review of the adequacy of the Bank's reserves for crisis management, Gordon (2005) produces a table, reproduced below as Table 3, which compares New Zealand's reserves in 2004 with a peer group of 35 countries (all OECD countries and some developed emerging market countries with access to international capital markets.)

Table 3

Comparison of foreign exchange reserves

Reserves to	Value	NZ Ranking
Annual GDP	6%	20/31
Imports	2.7 months	20/36
M2	6.9%	29/33
Foreign short-term debt (gross)	27.3%	20/21
Daily foreign exchange turnover	3.1 days	21/32

Source: Gordon (2005)

Objective measures of what constitutes an optimal or even adequate level of reserves don't exist. Rules of thumb (most of them originating from IMF programmes in developing countries with little capital market access) suggest that reserves should cover at least three months' worth of imports and at least 100 per cent of foreign debt maturing in less than one year.

On 30 March 2004, the Government of New Zealand approved a proposal by the RBNZ that gives the Bank the capacity to use foreign exchange market intervention in order to influence the level of the exchange-rate.

The old policy was not so much about maintaining or achieving any particular level of the exchange-rate as to preserve the functioning of the foreign exchange market in a crisis. The new policy goes beyond that, in that it permits foreign exchange market intervention to be used to influence the exchange-rate in support of the monetary policy objectives set in the Policy Targets Agreement (PTA) of September 2002. That PTA mandates the Bank to keep future CPI inflation outcomes within the target band "on average over the medium term" and to have regard for "unnecessary volatility" in interest rates, output and the exchange-rate, in the course of conducting monetary policy. In principle, foreign exchange market intervention is now viewed as a second instrument of monetary policy, next to the OCR. Like the setting of the OCR, foreign exchange market intervention would be decided and implemented by the Bank, independently of the Government.

The new foreign exchange market intervention policy requires that before the Bank can intervene, all of the four following criteria must be met:

(1). The exchange-rate must be exceptionally high or low.

(2). The exchange-rate must be unjustified by economic fundamentals.

(3). Intervention must be consistent with the PTA.

(4). Conditions in markets must be opportune and allow intervention a reasonable chance of success.

If foreign exchange market intervention is considered, all four criteria make sense, although only the last one is objectively verifiable: presumably, if the conditions in markets must be opportune and allow intervention a reasonable chance of success, intervention will be profitable to the Bank. To make intervention possible and credible, the Bank has built up financial resources of its own.

This new approach towards foreign exchange market intervention raises both technical issues and more fundamental issues about monetary and exchange-rate management in a small financially open economy.

Sterilised vs. non-sterilised intervention

The analyses of Gordon (2005) and of Eckhold and Hunt (2005) of the mechanics of foreign exchange market intervention assume that pressure of the Bank's interventions on the exchange-rate is measured by the change in the Bank's net long foreign currency position: an increase in the net long foreign currency position (an increase in the value of the Bank's foreign currency assets relative to that of its foreign currency liabilities) weakens the domestic currency. A reduction in the net long foreign currency position or an increase in the net short currency position strengthens it.

It must follow that the intervention referred to in these papers is sterilised intervention, and this is confirmed in official statements by the Bank (e.g. "Selling and buying New Zealand dollars might initially seem to involve changing monetary policy by altering the New Zealand money supply. However, it is important to note that the intervention would automatically be "sterilised" to undo the effect on the money supply. This is standard practice internationally"). Foreign exchange market intervention that does not involve a change in any country's monetary base but still affects the exchange-rate does so because of the imperfect substitutability of otherwise identical non-monetary financial instruments denominated in different currencies. Convincing direct or indirect evidence on this is not easy to come by.

Intervention in spot market, forward market or option markets

The relevant Bank documents (Eckhold and Hunt (2005)) refer to a number of alternative ways in which sterilised foreign exchange market intervention could be implemented. It is clear, however, that foreign exchange market intervention, if conducted through the options markets (say by selling call options on the NZD with a strike price below the current market price when there is (unwanted) upward pressure on the external value of the NZD), will not be associated with the same easily identified and measured changes in the Bank's net long foreign currency position that, in the view of the Bank, represents the metric for the pressure of the Bank's interventions on the exchange-rate.

"Giving the markets something to think about"

A frequently heard argument for the Bank building up a capacity for foreign exchange market intervention is that it "will give the markets something to think about". Speculators will be less willing to take open positions in the NZD, when there is a risk that the Bank will intervene in the market. Even if speculative (open) positions that are not justified by fundamentals are taken by market participants, the welfare economics of countering such "destabilising" speculation by deliberately increasing uncertainty are by no means well worked out. Regardless of the welfare economics, the ability of the authorities to intervene successfully is doubtful, and subject to a fundamental asymmetry.

When the NZD strengthens to a degree deemed undesirable by the authorities, they can, in principle, engage in foreign exchange market interventions (sales of the NZD) of any magnitude, as long as the fiscal consequences of such interventions are tolerable. The Bank can either sell NZD-denominated Government debt it owns or issue its own NZD-denominated liabilities and use the proceeds to build up its stock of reserves.

It is not possible, however, for the Bank to prevent an undesirable weakening of the NZD by selling arbitrarily large amounts of foreign exchange reserves. Its stock of foreign exchange reserves is limited and must be kept above the minimum level (currently SDR 2.45 bn) agreed with the Minister of Finance to manage situations of "extreme market disorder". Its ability to borrow foreign exchange reserves is limited by the willingness of other governments and international financial institutions to take on increased NZD exposure during periods of NZD weakness, and by the market's perception of liquidity risk and default risk.

The magnitude of the Bank's resources versus daily turnover in the foreign exchange markets (shown in Figure 30) gives one reasons to wonder about the effectiveness of intervening to prevent an excessive weakening of the NZD.

Figure 30

Foreign exchange market daily turnover
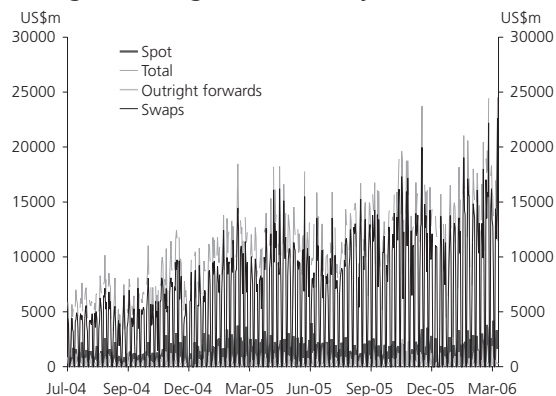
Source: Reserve Bank of New Zealand

Eckhold and Hunt (2005, p. 20 ,fn 13), report the Bank as having foreign exchange reserves for crisis intervention of SDR 1.6 billion. These reserves are scheduled to grow to SDR 2.45 billion over the next few years. During April 2006, the exchange-rate of the SDR and the US$ was about 1 SDR=1.45US$, current reserves are about US$ 2.32bn and future target reserves about US$ 3.55bn. Figure 30 shows daily turnover in the New Zealand foreign exchange market between July 2004 and March 2006. Spot transactions involving the NZD regularly top US$ 2.0bn; outright forwards are rarely more than US$ 1bn; swaps dominate and have topped US$ 12bn in a day. Total turnover has been as much as US$16bn in a day.

Clearly, foreign exchange turnover in the New Zealand forex market (the gross flows of foreign exchange transactions during a period) may well be a poor proxy for the market's willingness to take and hold an open position in NZDollars (the stock of foreign exchange reserves or NZDollars willingly held an any point of time): a given stock can turn over many times during any given period. I do not have data on the capacity of individual private investors to hold NZDollars (the size of their balance sheets and any external or internal prudential or internal constraints on single currency exposure) or, given that capacity, on their willingness to hold open positions in the NZDollar. Figure 30 is, however, consistent with the view that even the new target level of foreign exchange reserves would be no more than a light lunch for the foreign exchange market. Faced with a determined selling attack on the NZD, the stock of foreign exchange reserves would be exhausted swiftly. To

get a sense of perspective, before the events leading up to "Black Wednesday", 16 September 1992, when the UK was forced to leave the Exchange-rate Mechanism of the European Monetary System, the Bank of England has been estimated as having spent £10bn (about $18bn at the exchange-rate prevailing at that time) of the UK's foreign exchange reserves in an unsuccessful attempt to keep sterling in the ERM.

There is an obvious asymmetry in a central bank's ability to defend an undervalued and an overvalued parity. This means that if foreign exchange market intervention to influence the value of the exchange-rate were to be effective, its effects would most likely be asymmetric: there would be more intervention and more effective intervention to weaken the NZD than to strengthen it. This would impart an upward bias to the inflationary process.

Effectiveness

Even if reserve adequacy is not an issue, the effectiveness of foreign exchange market intervention at the frequencies that matter for macroeconomic policy is an open question. There is a vast and largely inconclusive literature on the effectiveness of foreign exchange market intervention in countries that are highly integrated into the international financial markets (see e.g. Sarno and Taylor (2001)). My reading of the evidence prompts the following verdict: if foreign exchange market intervention does not convey news about future monetary policy, that is, news about the future path of the OCR, then there is no lasting effect on the exchange-rate. Such effects as do occur are at very high frequencies (hours, days, a couple of weeks at most). No effect is sufficiently persistent to be of macroeconomic policy relevance. These high frequency changes in asset prices and yields are of course of great financial relevance to profit-oriented market participants with significant net open positions.

Can foreign exchange market intervention act as a signal about the future behaviour of the policy instrument that really does matter – the short-term interest rate set by the Bank, that is, the OCR? Logically it can, but why should the authorities wish to signal using as a signalling device

something that only matters if and to the extent that it is perceived as a signal? The only reasonable explanation for using a prima facie spurious signal is that the use of the signal is not cheap talk, but represents a commitment by the Bank that could result in a costly loss if the Bank does not in the future act according to the signal that was given. Foreign exchange market intervention means taking a larger open foreign exchange position. Assume the authorities want to see a weaker NZD and signal future OCR cuts (the fundamental that will ultimately justify a weaker NZD) through purchases of additional foreign exchange reserves. If the authorities do not follow through on the interest rate cut, the NZD would strengthen again, resulting in a marked-to-market loss for the Bank on its increased stock of foreign exchange reserves. So, to the extent that foreign exchange market intervention is indeed perceived by the market as "putting your money where your mouth is", it may be an effective signal for announcing future OCR decisions.

The danger of creating multiple nominal targets

The most serious danger associated with having foreign exchange market intervention as an instrument is that instead of being seen and used solely as an additional tool (of doubtful effectiveness) to support the achievement of the inflation target, it will tempt the monetary policy makers into pursuing two nominal targets, inflation and the exchange-rate. The pursuit of two nominal targets amounts to the pursuit of one real target – the real exchange-rate in this case. Such a development would be disastrous. Not only is the central bank incapable of successfully targeting the real exchange-rate, the vainglorious attempt to target the real exchange-rate is likely to lead to a Wicksellian inflationary explosion or deflationary implosion. It is difficult enough to target a single nominal objective. Targeting more than one, or targeting one nominal objective (the rate of inflation) subject to another nominal constraint (the nominal exchange-rate) would be an act of hubris and folly.

No intervention yet, but how close did we get?

I have seen no evidence to suggest that there has been any foreign exchange market intervention since the NZD was floated in 1985. However, the accepted view of market commentators is that New Zealand came close to intervening in December 2005, when the NZD hit 0.72 USD on a couple of occasions. According to these sources, the RBNZ had decided that at least the first three of the four necessary conditions for foreign exchange market intervention to influence the exchange-rate had been met, and that the fourth condition (a reasonable likelihood of success) was also likely to be met; apparently the Bank did not intervene because it hoped that the market would do the job for them, as it did. The NZD now (July 19, 2006) trades at 0.62 US$, after hitting a low of 0.61 US$ in March 2006. I would expect the RBNZ to be quite comfortable with this level and to view some further weakening with equanimity, provided it does not become a rout.

6 Alternative stabilisation instruments

The KiwiSaver as a contributor to the automatic stabilisers

The KiwiSaver, planned to commence on 1 April 2007, is a government-sponsored occupational saving plan. From that date, all new employees are automatically enrolled into KiwiSaver, but can opt out if they so wish. Existing employees and individuals not employed can opt into KiwiSaver. Contributions will be deducted by employers (along with PAYE) at a rate of 4% (default) or 8% of gross wages or salary. Members can choose among KiwiSaver schemes with different investment risk profiles, with a default scheme for those who do not want to choose. Savings are locked-in until the age of eligibility for the state pension, New Zealand Superannuation (NZS), currently 65 years or five years membership (whichever is longer), with three exceptions: first home purchase, serious financial hardship and permanent emigration. The government will also make a NZ$1000 start-up contribution to each new account.

The purpose of the KiwiSaver is to boost retirement saving by middle income New Zealanders to help them avoid a significant drop in living standards during retirement. An assessment as to whether such a drop in living standards during retirement is likely and, if so, a cause for government intervention, is beyond the scope of this paper. What matters for stabilisation policy is the possible effect of the "soft compulsion" element of the KiwiSaver (the default is "you're in", you have to actively opt out) on the savings behaviour of those enrolled in it.

Neoclassical economics with efficient financial markets implies there will be no effect on aggregate saving from the introduction of the KiwiSaver; there would be none even if there were hard compulsion (mandating) rather than soft compulsion. Neoclassical economics with cash-flow, liquidity, borrowing and dissaving constraints implies there will be no effect on aggregate saving if it is not truly mandatory; those for whom the constraints are binding will all opt out. Behavioural economics implies it will raise aggregate saving.

If the government's rationale for the scheme works out, there will be no full offset through a reduction in discretionary non-KiwiSaver saving, and the introduction of the KiwiSaver itself would, in a modest way, increase the effectiveness of the automatic stabilisers, by raising s in equation (1). The government could do more than making a one-off NZDollar 1000 initial deposit for each individual KiwiSaver account. Instead of using revenue windfalls for paying down the remaining public debt, or for increasing public sector financial assets (though the prefunding of the NZS or through some other broad 'Crown National Fund' not tied to a specific category of future public spending commitments) it could make further equal per-account payments into the KiwiSaver accounts.

This could, for instance, be a good use for the stock of foreign exchange reserves that has been built up for possible use in foreign exchange-rate interventions aimed at influencing the value of the exchange-rate. If my view that foreign exchange-rate intervention is not an effective tool for macroeconomic stabilisation is correct, these reserves are redundant and can be allocated to alternative uses. They could be used to pay down crown debt or build

up crown financial assets, or they could be transferred to the private sector, preferably in a way that will not lead to an immediate consumption boom, by paying them into the KiwiSaver accounts, say.[29]

Proposal 4: Use (part of) any revenue windfall to fund the individual KiwiSaver accounts. The stock of foreign exchange reserves beyond what is deemed prudent to avoid disorderly markets could also be transferred to households in this way.

Also, since there is no economic rationale linking retirement saving with the first home purchase, it would make sense to eliminate the option that the KiwiSaver account can be drawn on for first home purchase before reaching the age of retirement.

If the government is seriously concerned about under-saving by low and middle-income workers, it should make contributions to the KiwiSaver accounts mandatory. Political unpopularity should not stand in the way of a good idea.

Migration policy as an automatic supply-side stabiliser

Migration flows affect fluctuations in the level of activity both from the supply side, by changing the supply of labour, and from the demand side, by influencing the demand for goods and services, and in particular housing demand.

Net permanent and long-term migration, NI, is the difference between gross permanent and long-term immigration, GI, and gross permanent and long-term emigration, GE. Immigration can be decomposed into inflows of persons who have prior residence rights and work permits in New Zealand, GIR, and those who do not, GINR. Emigration

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29 The fact that, historically, RBNZ foreign exchange reserves were funded from public debt has no implications for the optimal use of these resources should it be concluded that less of them henceforth need be held as foreign exchange reserves. The realisation that foreign exchange market intervention aimed at influencing the level of the exchange-rate is ineffective at the cyclical frequencies (several years) that matter for stabilisation policy, is, from an economic point of view, like technical progress, or like an improvement in the economic environment. The same policy outcomes can be achieved with a lower average stock of foreign exchange reserves. One would expect that the optimal reallocation of the now-redundant foreign exchange reserves would involve both some paying down of outstanding public debt and some capital transfers to the private sector.

can be decomposed similarly into outflows of persons who have prior residence rights and work permits in New Zealand, GER, and those who do not, GENR, although the last category must be very small.

$$NI = GI - GE$$
$$= GIR + GINR - GER - GENR$$

The New Zealand authorities can, in principle, control GINR, the inflows of those without established residence rights. The other contributors to net immigration, GIR, GER and GENR are not a policy instrument.

From Figure 31 it is clear that, on balance, net immigration has been procyclical.

Figure 31

Immigration and GDP growth
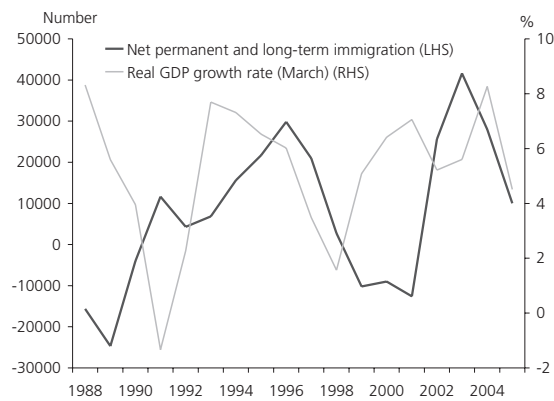
It can be argued that this procyclical behaviour of net immigration would dampen the business cycle (defined as the gap between actual and potential output), by raising the effective labour supply and thus potential output. There is also, of course, an effect of migration on the demand for goods and services and through that an effect on the derived demand for labour. A frequently heard view in New Zealand, holds that the effect of migration on labour supply is subject to significant delays, while there is an immediate effect on aggregate demand, especially through the demand for housing created by new immigrants (and the increase in the supply of housing created by emigrants). The evidence on this, is however, rather patchy, as suggested by Figure 32, which shows that the growth rate of building consents issued and work put in place appears to lead net permanent and long-term migration.

Figure 32

Immigration, building activity and house prices
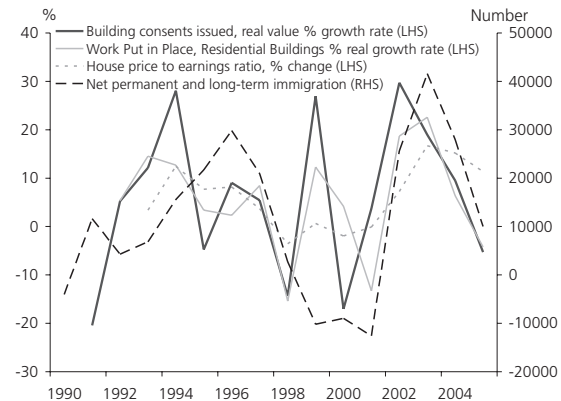
There appears to be no systematic relationship, however, between such housing price indicators as the change in the house price to earnings ratio and net permanent and long-term migration. Other immigration measures may, however, reveal a more systematic relationship between house price indicators and net migration. Further investigation of the timing and magnitude of the supply-side and demand effects of net migration, and of the capacity of the New Zealand authorities to manage the net migration rate would seem to be required before a confident recommendation can be made as to the use of pro-cyclical GINR as a supply-side cyclical stabilisation device.

If it could be established that the supply-side effects of migration are indeed significant at business cycle frequencies, this pro-cyclical net migration flows could be an interesting complement to the automatic fiscal stabilisers. Given the high degree of integration of the New Zealand labour market with that of Australia, this supply-side stabilisation mechanism could be effective even without discretionary changes in immigration policy, as long as the business cycles of New Zealand and Australia are not perfectly synchronised.

Mitigating asset market boom and bust

I will take as given the view that monetary policy (the OCR rule) should respond to asset market developments if and only if at least one of the two following conditions is satisfied: First, the asset market developments have implications for current and future developments of the inflation target that have to be taken into account because of the Bank's primary mandate: price stability; second, the asset market developments have welfare implications other than current or future inflation, that can be addressed by monetary policy without prejudice to the primary price stability objective.

On the basis of global experience thus far, it seems unlikely that monetary policy is an effective instruments for preventing or mitigating asset bubbles. It can be reasonably effective to help clean up the mess that results when asset bust follows asset boom. The reason monetary policy should not target asset prices is simple. First, monetary policy should not try to influence asset prices that reflect fundamentals, even if these asset prices move fast and furiously. Second, monetary policy is not the appropriate tool for influencing asset price movements that are not driven by fundamentals, that is, monetary policy is not an effective tool for bursting or mitigating bubbles. You don't hunt bubbles with fundamentals. At most, if the monetary authorities are sufficiently confident that a given observed pattern of asset price movements does indeed represents a bubble, they should use open mouth operations (warnings about irrational exuberance or irrational despondence) to try and prick the bubble.

Let me start by saying that I find the evidence that there have been bubbles in key New Zealand asset markets, specifically the housing market and the stock market, less than convincing. As shown in Figure 33, between 2001 and 2005, the real house price index rose by 60 per cent (this is also the increase in the house-price to earnings ratio over the same period).

Figure 33

Real house price index
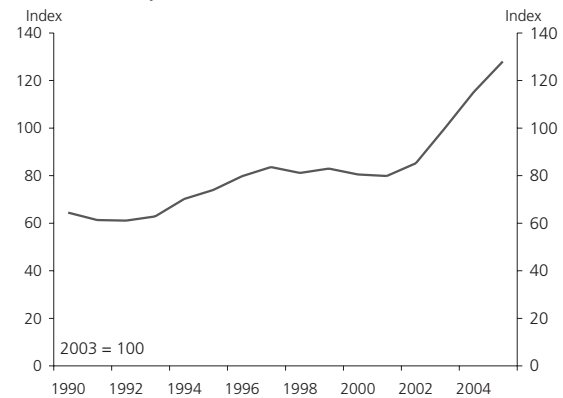
Source: Statistics New Zealand, QVNZ

While large, this increase can be accounted for in its entirety by the fall in the long-term real interest rate over the period. This combined fall in the risk-free real interest rate and in virtually every credit risk premium was a world-wide phenomenon and therefore at most a global bond market bubble without a New-Zealand specific component. The real price of a house can be written as

$$(6) \quad P = \frac{\rho}{r - g}$$

where P is the real house price, ρ is the current real rental rate of housing, r is the permanent or long-run value of the appropriate risk-adjusted real discount rate and g is the permanent or long-run real growth rate of housing rentals. It follows that

$$(7) \quad d \ln P = d \ln \rho - \frac{1}{r - g} d(r - g)$$

If the pre-boom value of the real risk-adjusted discount rate for housing was 6%, and the growth rate of real housing rentals 3%, any combination of a reduction in the long-run risk-free rate, a reduction in the housing risk premium and an increase in the growth rate of housing rentals adding up to 2%, would raise the housing price index by 66.6%. The combination of a falling discount rate and an upward-revision in the growth rate of housing rentals of such a magnitude is not at all implausible. The general health and growth prospects of the New Zealand economy are strong and, probably for the first time, New Zealand residential property (especially coastal property) has become a target for foreign investors, both from Australia and, increasingly, from emerging Asia. Such a 'level' effect on housing prices

of becoming part of the global housing market is probably better represented by an increase in ρ than by an increase in *g*, but this does not matter for its net effect on valuations.

Fiscal and regulatory instruments to address asset market anomalies

The use of fiscal policy instruments or regulatory measures for controlling or mitigating asset market booms have been proposed in New Zealand and elsewhere. I shall focus on the housing market, or property markets generally, and on the markets for housing (or property) finance.

A necessary condition for any of these measures to make sense is that the authorities are capable of distinguishing asset price bubbles from asset price movements driven by fundamentals, and that policy instruments can respond with sufficient speed and accuracy to mitigate rather than exacerbate asset market bubbles. The relevant lags include both the "inside lags" of the policy making process and the "outside lags" of the effects of the policy instruments, once triggered, on the variables of interest.

A second necessary condition for any policy measures targeted at asset market bubbles to make sense is that the cure does not do more damage than the disease. This rules out the vast majority of regulatory interventions in the asset markets. It also rules out most fiscal interventions, whether in the property markets themselves or in the markets for financing property.

The one exception of a fiscal measure that could effectively dampen property price fluctuations without causing distortions is, unfortunately, a political tar baby. It is the land tax, either on the value of the unimproved land or on the capital gains on the value of the unimproved land.

A land tax

A tax either on the value or on the capital gains on "land", the unimproved value of real estate, has many efficiency and fairness arguments in its favour, quite apart from its possible usefulness in mitigating asset market booms in real estate markets. The contribution of "nature's gift" to the value of real estate can be obtained quite easily by subtracting the insured value of the property from its market value. Taxing realisations rather than accruals may be administratively easiest. The alternative is to tax realisations where possible and to impute capital gains on property that is not traded during the tax year on the basis of regional indices of comparable house prices. One could even integrate a capital gains tax on land with the general capital gains tax I proposed earlier.

In all this it is key to tax values or capital gains, regardless of the kind of property they are attached to, and regardless of the intentions of the buyers and sellers of the properties. Focusing the land tax on the taxation of profits on properties purchased for resale is without economic merit.

Proposal 5: Introduce a land tax on all land, regardless of what it is used for.

Measures to avoid: supplementary stabilisation instruments

The recent Initial Report by the Governor, Reserve Bank of New Zealand and Secretary to the Treasury (2006), *Supplementary Stabilisation Instruments*, is "a little shop of horrors" of regulatory and fiscal interventions in asset and credit markets, that would fail to stabilise anything of value while creating massive distortions, disintermediation and rent-seeking behaviour. There is just one small pearl among the swine – streamlining the planning process for house building.

Most of the proposals amount to the discretionary use of the regulatory regime and prudential norms of the financial sector for short-run cyclical stabilisation. Clearly, the permanent or long-term features of the regulatory and supervisory regimes are important parts of the transmission mechanism of shocks that drive the business cycle, just as the automatic fiscal stabilisers associated with a given tax and benefit structure. Optimising the permanent, structural features of the regulatory and supervisory regimes to mitigate excessive fluctuations is desirable if this can be done without prejudice to their primary task: enhancing systemic stability and preventing financial crises. Attempting to do more, say by tightening prudential constraints on lending activity in a manner intended to be countercyclical, would

overburden both the regulators and the instruments at their disposal.

I shall briefly touch on the main proposals, to indicate where and how they amount to an abuse of regulatory and supervisory processes and norms in doomed pursuit of cyclical stabilisation.

- *Tax on property purchased for resale*. Why is it more virtuous/efficient to own and hold property than to buy and re-sell it? This is an expression of an atavistic fear of speculation. It makes no economic sense and smacks of populist pandering. On balance, speculation enhances efficiency and should be encouraged, within a proper regulatory framework and with proper prudential safeguards.

- *Ring-fencing* (preventing operating losses on investment properties being offset against other income). Again, this is economic nonsense. Losses are losses, as long as the activity in question is legal.

- *Linking bank capital to cyclical risk*. For this to be counter-cyclical, capital requirements would have to be lowered in a cyclical downswing when solvency risk and other prudential risk are highest and raised in the upswing. This would be Basel II on its head and on steroids. It is indeed true that Basel II capital requirements imposed for essential regulatory/prudential purposes inevitably have some "automatic" linkage that renders them procyclical. If these rules can be revised to make them less pro-cyclical, that would be a plus not just for New Zealand, but globally. Using key prudential 'ratios' actively in a countercyclical manner is, however, a bridge too far.

- *Discretionary loan to value ratio limit on loans secured by residential property*. If enforced on the lender, disintermediation among instruments and lending institutions will result swiftly. If enforced on the borrower, it will be highly intrusive, but the scope for disintermediation is more limited, because individual households are less able to bear the fixed cost of disintermediation. It is not clear what the problem(s) is (are) that this is meant to address. Is it a price bubble in the housing market? Or is it not house prices that are

the problem but excessive borrowing secured against residential property? As opposed to unsecured loans or loans secured by commercial and industrial property?

- *Discretionary mortgage interest levy*. See the previous bullet point. What is the problem that is targeted? Are house prices to high? Are interest rates too low in general? If so, use monetary policy. Are just mortgage interest rates too low? Lenders will metamorphose mortgages into formally non-secured but de-facto secured loans.

If it were possible to design a tax on all interest (and on all financial contracts that involve payment that are economically/functionally equivalent to interest), this would clearly give the RNBZ a much bigger club with which to hit not just the short maturity interest rates but the whole term structure of interest rates. Granting such an obviously fiscal tool to the central bank would be politically problematic (even if the revenues from the interest rate tax were transferred to the government). I am also not convinced that the OCR is not sufficient to do the job of achieving price stability in the medium term.

- *Measures to increase the speed at which new land and houses are able to be brought onto the market in response to evidence of rising demand*. Simplifying and speeding up planning and zoning applications and reducing the red tape faced by the building industry is desirable regardless of its supply-side contribution to stabilisation policy.

Other policy measures to avoid

Incomes policy

Incomes policy, or prices and incomes policy, is the direct control of the state over prices and wages. Obviously, the state plays a role in setting wages for public sector employees and in bargaining over prices for goods and services sold to or purchased from the private sector by the state. In New Zealand, public sector employment (including health and education) is around 25% of total employment. The state as employer therefore is an important player in

the national labour market. Through state procurement and through the sale of goods and services produced by the state, the state is a player with some monopsony and monopoly power in a range of markets. One can only hope that public sector wages and salaries are set with reference to the opportunity cost of the appropriate labour categories in the private sector and that similar market-conform benchmarks are used for pricing other goods and services sold to or by the public sector.

Beyond the direct and unavoidable role of the state as employer, procurer of goods and services or seller of same, there is no case for state intervention in wage or price setting in the economy, whether through hard ceilings on price or wage increases, through the taxation of price or wage increases above the officially sanctioned norm, or through softer "guide posts". The history of incomes policy across the world is a sorry tale of short-term "success", that is, a reduction in recorded wage or price inflation without any demand-restricting monetary or fiscal measures, accompanied by a steady accumulation of distortions and build-up of wage and price pressures, culminating in a wage and price explosion which then has to be painfully corrected with restrictive monetary and fiscal policy.

Capital controls, foreign exchange restrictions and the Tobin Tax

I include these measures only for completeness, and in case some benighted soul would inadvertently advocate them. Whatever may be the merits of phasing out existing capital controls and foreign exchange controls gradually in an emerging market or developing country that does not yet have free international mobility of financial capital, the case for re-introducing such controls in an advanced industrial economy where they have been absent for 20-odd years is non-existent. Putting the capital mobility genie back in the bottle would be administratively costly, lead to wide-spread evasion, rent-seeking and corruption and, to the extent that it would be effective, would distort intertemporal trade and international risk-sharing. The Tobin tax (a tax on foreign exchange transactions), to the extent that it cannot be avoided, would only have value as a source of revenue. Its stabilising effect on exchange-rates would, for any realistic tax rate, be negligible.

7   Conclusion

The most important conclusion is that there is little that is wrong with the current monetary and fiscal framework. It has produced a reasonable degree of price stability in the medium term and healthy trend growth. Economic fluctuations, in GDP growth and employment are significant, but monetary policy should not be used more actively to try and close the output gap. A retreat from the ambitions of flexible inflation targeting seems desirable: the authorities should not try to trade off inflation volatility for output (gap) volatility. Instead a more lexicographic approach to inflation targeting, with the output gap targeted for its own sake (as opposed to as a predictor of future inflation) only when this can be done without prejudice to the inflation target, may well result in greater ex-post stability of both inflation and output. Not only does flexible inflation targeting violate the price stability mandate of the RBNZ. Through its focus on trading off inflation volatility for output volatility it de-emphases the primary goal of meeting the inflation target on average, going forward. In the most extreme, but unfortunately quite common, manifestation of flexible inflation targeting, which focuses exclusively on the trade-off, now and in the future, between the variance of inflation and the variance of real output, the nominal anchor has become completely invisible. This is grist to the mill of those who believe that there is an exploitable trade-off not only between the conditional second moments of inflation and output, but also between their conditional first moments.

The inflation target of the RNBZ should be reformulated as a symmetric point target.

The creation of a Monetary Policy Committee to take interest rate decisions would be desirable.

Foreign exchange market intervention to influence the level and volatility of the exchange-rate would be spitting against the wind.

Giving up foreign exchange market intervention under any circumstances other than the prevention of disorderly, illiquid markets would make sense but would probably not be credible. The best alternative is to retain the option of using intervention in extremis, but to be determined never to exercise the option.

The only monetary regime change that could make a serious contribution to macroeconomic stability would be monetary union with the only possible candidate: Australia. As noted earlier, while Australia only accounts for just over 20% of exports and imports, it is the single largest national trading partner. Furthermore, New Zealand and Australia have an integrated labour market; if there is significant pro-cyclical net labour mobility between New Zealand and Australia, this would reduce the cost of the loss of nominal exchange-rate flexibility vis-à-vis Australia.

All the important New Zealand commercial banks are Australian-owned. This means that there is, between New Zealand and Australia, more than the near perfect financial capital mobility that exists between New Zealand and virtually every developed nation. There is in addition the almost full integration of the New Zealand financial sector, as provider of financial products and services, with that of Australia.

The question of the synchronisation of business cycles between New Zealand and Australia (or the frequency and significance of asymmetric shocks and the asymmetric transmission of common shocks) requires further investigation. Traditional optimal currency area theory considers asymmetric shocks a reason for not having a monetary union. From a "real portfolio diversification" perspective, asymmetric shocks (especially asymmetric shocks to labour income) imply the possibility of risk sharing, and call for greater integration, including monetary integration. Financial market integration is deeper when countries or regions share a common currency.

Of course, monetary union is a deeply significant symbolic political act, involving a transfer or sharing of sovereignty, as well as a technical economic issue. From a purely economic point of view, however, monetary union with Australia is the only alternative to the (slightly fine-tuned) current monetary regime that would make sense.

As regards enhanced fiscal stabilisation, only modest offerings are available. The automatic stabilisers could be strengthened by broadening the GST base through the elimination of the exemptions for financial services and housing rentals. Further base-broadening could be achieved by taxing capital gains at the same rate as all other income.

Active use of the GST rate would help stabilise demand both through Keynesian automatic fiscal stabiliser effects and through classical intertemporal substitution effects.

The introduction of the KiwiSaver may have some positive effect on the automatic stabilisers, apart from its role in boosting private saving in the long term. Revenue windfalls could, in part, be used to further capitalise the KiwiSaver accounts, over and above the NZD 1000 start-up payment the government are already committed to make. The (in my view) redundant additional foreign exchange reserves accumulated by the RBNZ for a more active foreign exchange market intervention policy, could also be privatised (in part) by transferring them (in part) into the KiwiSaver accounts.

There should be further study of whether a more procyclical immigration policy could (by relaxing the labour supply constraint during booms) help stabilise the economy, despite the stimulus increased immigration provides to aggregate demand, especially in the housing market.

Of all the fiscal and administrative instruments that have been proposed for addressing the housing boom, the only one that makes economic sense is Henry George's land tax, which could be levelled either on the value of the land or on the capital gains. To avoid creating distortions, rent-seeking and corruption, it should apply to all land, residential, commercial, industrial and agricultural.

In the final analysis, a small open economy like New Zealand will be characterised by fluctuations in the level of economic activity, driven by external shocks (terms of trade shocks, changes in global interest rates, risk premia and valuations in global financial markets), by internal supply shocks (weather), shocks to internal animal spirits and by policy shocks, which can never be avoided completely. New Zealand's overall monetary and fiscal framework is among the best thought-out and most far-sighted I have ever come across. My final advice is therefore not quite "don't worry, be happy," but:

Don't change a winning game; don't raise your ambitions for dampening cyclical fluctuations to the point that you endanger the hard-gained fiscal-financial sustainability achieved by the public sector and the allocative efficiency that characterises most of the private sector.

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# Stabilisation policy in New Zealand: counting your blessings, one by one by Willem H. Buiter

Discussion by Pierre L. Siklos, Wilfrid Laurier University and Viessmann Research Centre[1]

Willem Buiter was given the seemingly daunting task of reviewing the conduct of stabilisation policy in New Zealand. His remit included the review of the overall macro mix of fiscal, monetary, external and structural policies, the state of coordination between fiscal and monetary policies, whether a fiscal stabilisation instrument would be desirable, and what New Zealand can do to promote macroeconomic stability. It is not surprising, therefore, that the paper begins by providing a general overview of economic performance in New Zealand, as well as examining the state of institutional reforms up to the present time. The strategy I intend to adopt below is to underscore areas of agreement with the paper, bringing in evidence from another small open economy that shares an affinity with the New Zealand experience, namely Canada, while highlighting areas the paper has neglected. As will be clear from what follows I share many, but not all, of Buiter's conclusions about New Zealand's present state and the direction it should follow in future.

The general conclusion is that New Zealand should indeed "count its blessings" as the sub-title of the paper suggests. But all is not sweetness and light and the paper does suggest that there are clouds looming on the horizon. Whether any thunder storms are expected in the near future, however, is very much open to debate. For example, the paper points out that there are worries about the size and persistence of the current account deficit, the effects of volatile commodity prices, and the complications for monetary policy when asset prices are rising quickly, as in the case of housing prices, or are seemingly very volatile, as in the case of the nominal exchange-rate. Indeed, when it comes to the current account deficit the paper notes the "massive fluctuations" of New Zealand's current account balance, the fact that it has been in deficit in every year

since 1988, and that in 2005 it is approaching 9% of GDP.[2] Since the paper's remit was not to ask whether such a deficit is sustainable, Buiter instead considers whether the present situation portends a crisis or is sowing the seeds of an eventual serious economic downturn.[3] Put in starker terms, is New Zealand on the "comfortable path to ruin"?[4] The bottom line is that this is not the case and here Buiter, and the other participants and discussants in the Forum, are both persuasive and in broad agreement with each other.

Figure 1

Nominal exchange-rate for Australia, Canada, and New Zealand: 1993-2005
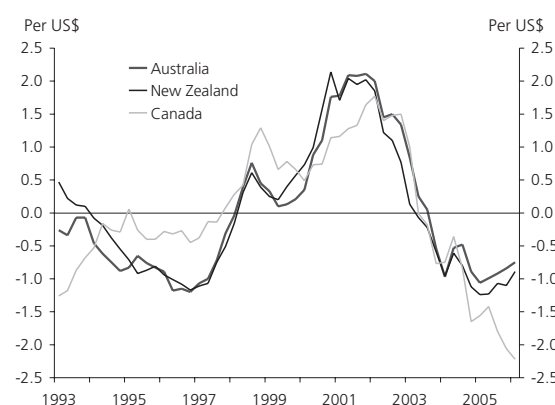
Source: Data from International Financial Statistics CD-ROM (Washington, D.C.: International Monetary Fund), May 2006 edition

Are the foregoing developments peculiar to New Zealand? The answer is clearly not. Figure 1 plots the nominal exchange-rate for three "dollar bloc" countries, namely Australia, Canada, and New Zealand, for the period 1993-2005. Broadly speaking, movements in the three exchange-rates parallel each other although, by 2006, there is a growing spread between the three currencies with the
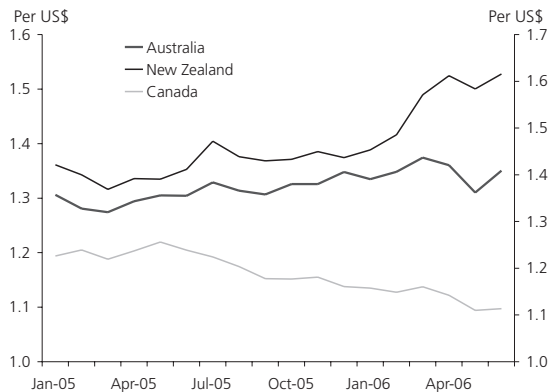
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[2]   This makes New Zealand's current account deficit one of the largest amongst developed economies. Iceland's deficit is higher. Several other countries' deficits are not far behind. See "Still Waiting for the Big One," The Economist 6 April 2006.
[3]   Other papers presented in this Policy Forum (e.g., Edwards, and Schmidt-Hebbel) consider the current account sustainability question more directly.
[4]   This quote is from Martin Wolf (2004) who wrote about the deleterious effect of the US twin deficits in the current account and in the government budget.

Canadian dollar continuing to appreciate against the US dollar until the Spring of the same year, while, as this is written, the two other currencies have lost some value against the US currency. The widening gap is seen from Figure 2.

Figure 2

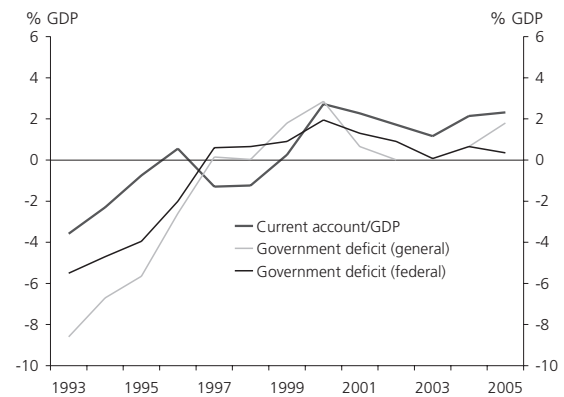## Nominal exchange-rates in Australia, Canada, and New Zealand: Jan 2005-April 2006

Figure 3

The current account balance and the real exchange-rate, Canada 1993-2005
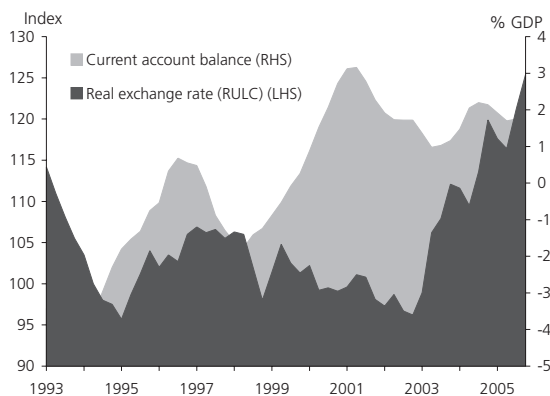
Figure 4

## Government deficits (surpluses) and the current account, Canada 1993-2005

Nor does one learn much from the behaviour of the real exchange-rate over the same period. Again, whereas the Canadian dollar has appreciated strongly in real terms, the current account has remained in surplus (since 1999-2000) in contrast to developments in New Zealand (and elsewhere), as seen in Figure 3. Rising commodity prices seem to have improved current account prospects in Canada but the same pattern has not emerged in New Zealand (Munro 2005).[5] Instead, Canada seems to be bucking the trend found in several small open economies, including New Zealand, as it has moved from a position of "twin deficits" to its current position of having a "twin surplus", that is, a government budget surplus as well as a current account surplus, as seen in Figure 4.

In other major areas of economic performance New Zealand and Canada share fairly similar experiences. Both are experiencing rising housing prices, a phenomenon that is also being seen in many parts of the world, and one that is also reflected in the growth of non-financial wealth in the economy. The recent Canadian experience is shown in Figure 5. Meanwhile, long-term interest rates have fallen, again a global phenomenon. Perhaps all of these developments are a reflection of the fact that Canada, for example, is

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[5]   The results for Canada are not apparently dependent on the course of oil prices. A possible explanation for the divergent patterns between the Canadian and New Zealand nominal exchange-rates in 2006 stems from the perception that the 'loonie', as the Canadian dollar is called, is now also perceived as a petro-currency.

considered to be the small open economy par excellence. Perhaps surprisingly, as Buiter points out, New Zealand is far less open than one might think.[6]

Figure 5

### Housing prices and non-financial wealth, Canada 1993-2005
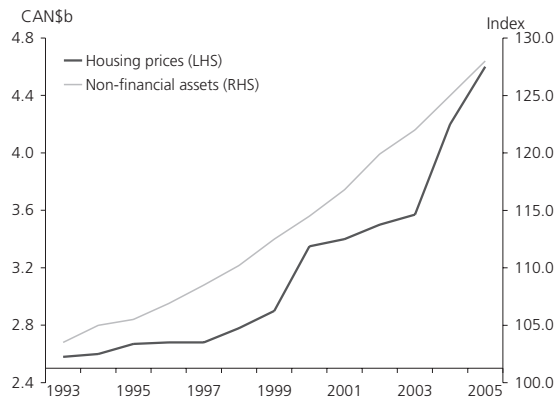
Turning to the implementation of monetary policy the paper asks whether the overnight cash rate (OCR), the primary instrument of monetary policy, has lost its ability to determine the degree of tightness or looseness in monetary policy. As the paper correctly points out, the real question revolves around the ability of monetary policy to influence expectations. So long as this is the case, and the Reserve Bank of New Zealand (RBNZ) is prepared to act, there is little danger that the overnight interest rate will prevent the central bank from meeting its inflation target. The worry about the ability of households (and businesses) to move up the maturity structure (i.e., toward the longer end) is misplaced, and is reminiscent of the concerns expressed some years ago about the potential for hedging and derivative financial products to weaken the effectiveness of monetary policy. The imminent ineffectiveness of monetary policy did not materialize then, and it is unlikely to emerge under the present circumstances.

Figure 6

Real GDP growth and the nominal exchange-rate: Canada, 1993-2005
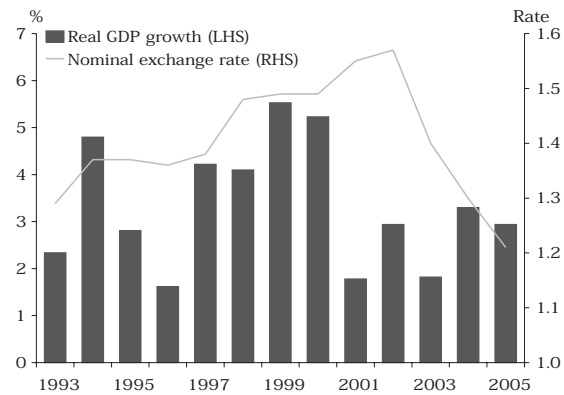
Some of the concern over the effectiveness of the interest rate instrument also stems from the relative volatility of nominal and real exchange-rates. Nevertheless, as has long been known, if the desideratum is less volatile exchange-rates then this can only be accomplished at the cost of more volatile interest rates, and this is likely to be far more damaging to the reputation of the RBNZ than volatile exchange-rates. There is simply no credible evidence that volatile exchange-rates have negatively affected either inflationary expectations or economic performance more generally.[7] Figure 6 reveals no obvious association between overall macroeconomic performance in Canada and the behaviour of the nominal exchange-rate. Buiter's Figures 3 and 9 can be said to make the same case for New Zealand.

A crucial element that seems to be under-emphasized in Buiter's paper is the role of the central bank in communicating more effectively to financial markets and the public about how monetary policy is being conducted, not only in New Zealand, but perhaps more importantly

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[6] Financial openness, however, is high in both countries and this might explain common interest rate and inflation developments not only in Canada and New Zealand but elsewhere in the industrial world.

[7] Collins and Siklos (2004) find that this is indeed the case for New Zealand, as well as for Canada and Australia. They consider the implications for optimal monetary policy rules of targeting the real exchange-rate, in an objective function that also includes inflation, the output gap, and permits interest rate smoothing. Other studies rely on different methodologies but arrive at precisely the same conclusion (e.g., Lubik and Schorfheide (2005), and Kam, Lees, and Liu (2006)). Also see Schmidt-Hebbel's contribution.

to an international audience, how effective it has been and how policy makers are working hard to ensure that it continues on this path in future. There is growing evidence that an effective communications strategy can complement, but never entirely substitute, for the main instrument of monetary policy (e.g., see Siklos 2002, Amato and Shin 2003, and references therein). Clearly, the RBNZ pays a great deal of attention to its communications policies (e.g., see Jackman 2002) but its successes or failures in this realm will undoubtedly be a function of the monetary policy strategy being followed. Thus, for example, when the MCI was being targeted, the effectiveness of the RBNZ's communications was impaired, and there is the possibility that tinkering over the years with the PTA, as well as the threat of foreign exchange intervention, may exacerbate the communications problem faced by the Bank (also see below).

The reader of Buiter's paper gets the sense that policymakers in New Zealand were prompted to consider the state of the current mix of monetary and fiscal policies perhaps because of some disappointment with the experience with floating exchange-rates. Policymakers may also feel the need to renew their defence of the current exchange-rate system.[8] Alternatively, policymakers in New Zealand, as is true elsewhere, are worried about the "big one", that is, the event or shock that will lead to the unravelling of the present state of "global imbalances".[9] While dismissing these worries as overblown the paper brings up the issue of foreign exchange intervention as a mechanism to deal with what are perceived to be excessive movements or levels inconsistent with fundamentals. In this connection while I am not prepared to agree with Buiter that foreign exchange intervention should never be considered, I do wish to emphasize that recent RBNZ policy has been harmful to the

overall consistency of monetary policy in New Zealand.[10] In an attempt to be transparent the RBNZ has gone to great lengths to justify its policy on when it might intervene in foreign exchange markets (see http://www.rbnz.govt.nz/finmarkets/foreignreserves/index.html).

First, economists regrettably have not succeeded in developing reliable models that link fundamentals to the exchange-rate. Hence, the RBNZ's view that it might intervene in the event that the exchange-rate excessively departs from such fundamentals is not only unclear but can be downright confusing. Matters are not helped by the statement that such intervention would not necessarily be disclosed.[11] Indeed, the RBNZ risks revisiting the difficulties it faced some years ago over the Monetary Conditions Index (see Siklos 2000).

The difficulties are similar to ones raised by Buiter who warns, as if such warnings are still necessary in this day and age, that central banking remains fundamentally an art. Hence, mechanistic views of what the monetary authority does may be useful descriptions of reality but are downright dangerous if taken literally.[12]

Second, the evidence on the effectiveness of foreign exchange intervention is, at best, mixed. Indeed, the evidence is sensitive according to whether one investigates the impact of intervention on the levels, the volatility, or uncertainty in foreign exchange-rate movements (e.g., see Rogers and Siklos 2003). Ongoing work of mine, with Diana Weymark (Siklos and Weymark 2006), suggests that inflation targeting is a monetary policy strategy that has contributed to reducing uncertainty in foreign exchange movements in Australia and Canada.

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[8]   Such fears are not new to New Zealand as the recent history of the Reserve Bank of New Zealand (Singleton, Grimes, Holmes 2006) makes clear. Canada also went through such a phase when the nominal exchange-rate reached its lowest ebb in 2002.

[9]   It is inappropriate here to go into the details. Suffice it to say that the current state of affairs stems from the large current account and government budget imbalances between the US and the rest of the world. A burgeoning literature on the subject is cited by many of the authors of papers delivered at this policy forum.

[10]   As an indication of the concern Buiter has expressed over this issue it is worth noting that the conference paper devotes almost 5 pages .

[11]   This element of the foreign exchange intervention rules contradicts the stated aim of transparency. It reminds me of the statement once heard: "Transparency is the key – unless you know you're not going to get caught." It may be of interest to point out that the Bank of Canada has stated that foreign exchange interventions will be publicly announced on its website.
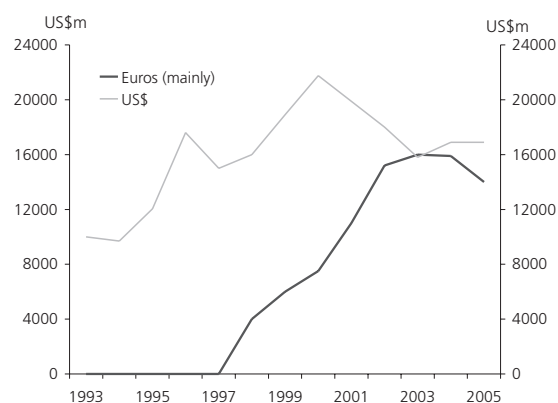
[12]   See Poole (2006) in relation to the Taylor rule as a device to discern what central banks do and why they cannot be used to describe the Fed's policy making activities in a purely mechanistic manner.

Whether a return to foreign exchange intervention would increase uncertainty is unclear but Buiter's portrayal of intervention amounting to increasing the number of instruments of policy to two while retaining a single monetary policy objective, namely inflation control, suggests that intervention under inflation targeting would increase uncertainty, albeit temporarily. Moreover, relying on evidence that such intervention can be profitable also muddies the waters because it suggests that the central bank might use such practices to "make a profit" for the government rather than correct some perceived inappropriate exchange-rate level.[13] There is nothing wrong, in principle, with the central bank managing its foreign exchange reserves to obtain the best possible yields. In Canada, for example, a dramatic shift away from holding foreign exchange reserves in US dollars (a depreciating currency) towards the euro primarily (recently an appreciating currency) is evidence that this kind of practice does take place (Figure 7). However, to justify foreign exchange intervention on this basis does not inspire confidence in the floating exchange-rate regime.

Third, the publication of foreign exchange intervention rules suggests something is missing in the current institutional relationship between the RBNZ and the government. However, nothing is further from the truth. The original directive in the RBNZ Act did not prevent the Minister, or the Governor with ministerial approval, from engaging in foreign exchange intervention. Hence, it seems little is gained from explicitly stating the possibility that foreign exchange intervention is an option as it gives the illusion that could be the beginning of the slippery slope toward adopting a second instrument of policy to complement the current OCR, even though there is no hint at the present time that this is even being contemplated by the RBNZ (or the government).

Figure 7

Foreign exchange reserves composition, Canada 1993-2005

Source: Both series are from the Bank of Canada, Banking and Financial Statistics.

If New Zealand can count its blessing then does this mean that, as the saying goes, "If it Ain't Broke, Don't Fix it?" The answer is a qualified no and I am largely in agreement with the position stated by Buiter. However, improvements in the delivery of monetary policy might be possible if the following reforms were to be considered. They are:

(1). Establishing a permanent or long-run point inflation target, say at 2%. As a result, the PTA would henceforth emphasize how each government wishes to see exceptions or relaxations of the existing rule. Adoption of such a policy would serve to better anchor inflationary expectations which, in New Zealand and elsewhere (e.g., Canada and the US) have shown signs of drifting upwards (also see Buiter on this point, in particular his Figures 26 through 29). This proposal is similar in spirit to the one outlined by Buiter. Whether this can be characterized as a form of "flexible" inflation targeting is unclear. His criticism of flexible inflation targeting a la Svensson, and others, is mostly on the mark though his equation (3), in particular, makes no allowance for interest rate smoothing, a practice that is widely believed to be followed by central banks.[14] There is insufficient space to go into the details but eschewing a role for gradual interest rate changes

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[13] One of the better institutional practices implemented in New Zealand, namely the Funding Agreement between the RBNZ and the Treasurer (see http://www.rbnz.govt.nz/about/whatwedo/0090769.html for the latest version) is not mentioned by Buiter. It represents an important and clear constraint on the central bank and one that other countries could learn from (e.g., as in the recent experience in, for example, Sweden, Germany; also see Ize 2006).

[14] And is reflected in Buiter's remark that typical interest rate changes engineered by central banks is "chicken feed".

represents another way to tackle the first and second moments problem Buiter refers to.[15]

(2). Since the Governor is already being advised by experts why not establish a formal committee structure between the RBNZ and the government? This kind of reform has previously been recommended (e.g, as in Svensson's report in 2001; see http://www.rbnz.govt.nz/monpol/review/index.html) and it seems like a natural evolution in the delivery of monetary policy in New Zealand. The creation of a committee would formalize what is considered to be part and parcel of good governance in the private sector.[16]

(3). Although improvements have been made in recent Financial Stability Reports, the RBNZ is also responsible for financial system oversight. It remains to be seen whether the RBNZ is getting closer to establishing a proper metric for financial system stability, and whether it would be willing to warn markets and the public of an impending problem or crisis in this sector. While suggesting that a separate authority be responsible for financial system stability is not likely to be practical at the present time, the RBNZ should be encouraged to devote more research to the measurement of financial system stability.[17] It is clear that this is also easier said than done. Central bankers have increasingly pointed to the need for monetary policy to prepare for potential financial instability, either of the home grown variety or imported from elsewhere. Yet, while there is broad acceptance, though not universal agreement, on how inflation is measured, there is as yet no widespread agreement on how to evaluate or measure financial system stability. There is an urgent need to develop an

understanding of the forces leading to financial crises.[18] Buiter may be correct that the occurrence of a crisis is easily identified but the public would not look kindly on a central bank that was unable to see such a crisis coming. Moreover, by the time the Governor is called upon to deal with the crisis the loss of credibility may be large. Once lost, credibility is difficult to regain. Of course, there is also the possibility that the crisis serves as the defining moment of a Governorship much as the 1987 stock market crash forever gave Alan Greenspan an aura that would stay with him throughout the time he served as Chair of the FOMC. However, it is doubtful that most central bankers will want to take this kind of chance.

While a significant portion of Buiter's paper is devoted to monetary policy, coordination issues between the monetary and fiscal authorities, and fiscal policy more generally, is not neglected. Indeed, the focus is almost entirely on proposals to generate some kind of automatic fiscal stabilizer. In addition, the possibility of more constraints on overall fiscal policy, via the creation of some oversight board, is also mentioned. There is no discussion in the paper about the fact that the *Fiscal Responsibility Act* (FRA), born out of an earlier fiscal crisis, mitigated in large part the dangers of a return to fiscal irresponsibility once the electoral process was changed from the Westminster system presently used in the UK and Canada to a form of proportional representation. As such, there was no loss of fiscal responsibility that is often the hallmark of minority or divided governments. Nevertheless, while fiscal probity has no doubt been enhanced by the introduction of the FRA, other countries have managed their fiscal affairs quite well without such additional constraints (e.g., Canada). The suggestion that the fiscal authority be further constrained is not only impractical but would severely weaken the notion of political accountability. We may not always like what fiscal policy is currently accomplishing but as long as the public gets to vote there is sufficient accountability at present. Therefore, I see little merit in creating a GST committee

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[15]   It is considered less than elegant to admit interest rate smoothing but gradualism does seem to take place partly to deal with the problem of uncertainty and partly to protect central bankers from having to reverse themselves too often and risk losing their reputation.

[16]   Buiter's worry about having to outsource membership on a monetary policy committee to Bangalore (what about Ireland?) is somewhat overblown. For one thing he skirts the issue of committee size which, presumably, would be far smaller than in the UK or the US and, second, that a de facto committee has already been in place for some time.

[17]   This is a point made recently, and forcefully, by Goodhart (2006).

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[18]   Perhaps, as de Grauwe (2006) points out, it is because the pure rational expectations model so favoured by economists and central banks is a fairy tale world view that does not permit bubbles and crashes to be observed from the data.

(more on the GST below). In addition, the problems faced in the European context that are mentioned in the paper are clearly not the same as would arise in New Zealand. Finally, Buiter does not give sufficient credit to the present attempts at the New Zealand Treasury to deal with long-run aspects of fiscal policy. Policy makers in New Zealand should not only be congratulated for their far-sightedness in this respect but for pioneering the measurement of the impact of the government sector in the economy through the publication of financial statements of the Government of New Zealand (e.g., see http://www.treasury.govt.nz/publicsector/).

As for the proposed automatic stabilizers, Buiter's recommendations are all economically sensible but many are "politically incorrect". Were they adopted it is unclear whether these would prevent boom and bust cycles in economic activity, large fluctuations in the exchange-rate, or whether these could be introduced in a cost-effective manner. Nevertheless, I will briefly comment on the five proposals made in the paper. His proposal to tax capital gains the same as income and to index-link it to the CPI is a sensible one but, in practice, the manner in which labour income is earned and valued is not the same as for income from investments and it is likely that for every distortion that is addressed with such a move it will prompt tax experts to find new and clever ways to circumvent them. Ideally, as Buiter points out, capital gains should not be taxed at all. As for indexing the tax system this is hardly the way to constrain fiscal policy and could complicate the inflation control task of the RBNZ.

The proposal to broaden the base of the GST is also a sensible one but instead of creating an independent committee it might simply be more practical to reduce or remove GST from goods and services that are highly sensitive to the business cycle. Buiter's proposal to use any windfall from the KiwiSaver as well as the stock of foreign exchange reserves beyond what is deemed prudent seems designed to contribute to the creation of automatic stabilizers and is seemingly admirable but I doubt that it will be easy to agree on a definitions of "windfall" or "prudent". Just look at what companies in North American have done with their supposed 'windfalls' from the growth of their pensions in

the late 1990s. What seemed like a sensible thing at the time, unless there were fraudulent activities involved as was true in several cases, turned out to be disastrous once the bottom fell out of the stock market. Thousands of workers are still dealing with the consequences.

The proposal to tax land has merits but the difficulty is that this proposal is made in isolation of other proposals and without any clear discussion of the existing system and the implications for taxation as a whole and the taxation of property at the local level. Finally, I have similar concerns over Buiter's discussion of immigration. Canada, as is well-known, is on a per capita basis, one of the largest recipients of immigrants in the world and there is an enormous literature on immigration and its effects. It would have been more credible and preferable to mention the possibility that immigration policies should perhaps be revisited than to show charts relating housing prices and immigration which add nothing to the debate. Indeed, when the aggregate demand effects of immigration are considered it is the social welfare costs that have concerned many observers. New Zealand is a partner in the Metropolis Project (http://international.metropolis.net/index_e.html) and I would urge instead that this aspect of the debate, while relevant, is best dealt with separately.

The sage advice given by Buiter about the current state of economic policy in New Zealand should not alter the fact that New Zealand has done exceedingly well in the past decade especially. While improvements are possible they are likely to be marginal. To the extent that more radical changes in economic policy are to be contemplated these would appear to be politically infeasible and very likely economically unnecessary. New Zealand should indeed count its blessings but keep an eye out for better ways to design and implement fiscal and monetary policies.

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