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## Contents

Editor's note	3
<b>Articles</b>	
<b>Quality of bank capital in New Zealand</b>	5
<i>Kevin Hoskin and Stuart Irvine</i>	
<b>Anchoring fiscal expectations</b>	17
<i>Eric M. Leeper, Indiana University</i>	
<b>'Mordacious years': socio-economic aspects and outcomes of New Zealand's experience in the Great Depression</b>	43
<i>Matthew Wright</i>	
<b>Financial crises, sound policies and sound institutions: an interview with Michael Bordo</b>	61
<i>Interview by John Singleton, Victoria University of Wellington</i>	
<b>The financial crisis: whodunnit?</b>	69
<i>Howard Davies, London School of Economics</i>	
<b>Economic recovery</b>	76
<i>Alan Bollard</i>	
<b>For the record</b>	
Discussion papers	84
News releases	85
Publications	95
Articles in recent issues of the Reserve Bank of New Zealand <i>Bulletin</i>	96

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## Editor's note

In this edition of the Reserve Bank *Bulletin*, we present a range of articles about strengthening the economy in light of the economic and financial crisis, and lessons that can be learned from history. Three of the articles feature an international perspective from recent visitors to the Reserve Bank.

In our first article, Kevin Hoskin and Stuart Irvine explain the Reserve Bank's philosophy regarding the quality of capital held by banks in New Zealand. A sound financial system requires that banks hold sufficient capital at all times. The article focuses in particular on the determination of minimum capital levels for the four largest banks in New Zealand, which have been accredited to operate as 'internal models' banks under the Basel II international framework for bank capital. The Reserve Bank's approach to Basel II aims to ensure that New Zealand banks' capital holdings are conservative and attuned to New Zealand circumstances.

Our second article is the paper supporting a public lecture about fiscal and monetary policy delivered by Eric Leeper, Professor of Economics at Indiana University and the Reserve Bank of New Zealand and Victoria University of Wellington Professorial Fellow in Monetary and Financial Economics for 2008. In the paper, Professor Leeper discusses how enhanced transparency about fiscal policy could make fiscal policy more predictable and effective, akin to the way in which greater transparency about monetary policy around the world has facilitated the effectiveness of monetary policy. He argues that, following the substantially increased fiscal activity around the world in response to the crisis, anchoring fiscal expectations will become increasingly important.

In our third article, Matthew Wright discusses the socio-economic aspects of the Great Depression of the 1930s in New Zealand. He discusses how social and political factors may have influenced popular perceptions of New Zealand's experience of that time more strongly than the actual economic circumstances as measured in the data.

Our fourth article is an interview with Michael Bordo, Professor of Economics and Director of the Center for Monetary and Financial History at Rutgers University in New Brunswick, New Jersey. Professor Bordo was the Reserve Bank of New Zealand and Victoria University of Wellington

Professorial Fellow in Monetary and Financial Economics for 2009. In the interview, he talks to John Singleton of Victoria University about his research on financial crises and New Zealand's financial vulnerability, and about the challenges for central banks in dealing with the current crisis.

Our fifth article is the text of a public speech delivered in Wellington by Howard Davies, Director of the London School of Economics, to mark the occasion of the Reserve Bank's 75th Anniversary this year. Howard Davies looks at the various parties involved in the current crisis and asks: whodunnit?

Our final article in this edition is the paper for a speech given by Governor Alan Bollard in July 2009, about the recovery from the current crisis. The Governor looks at the impact of the crisis on New Zealand, and at the factors that will promote sustainable growth and reduce the New Zealand economy's vulnerability in the future.

I hope you enjoy the range of articles in this edition.

Tim Ng

Editor



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Photography by Stephen A'Court.

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## ARTICLES

# Quality of bank capital in New Zealand

Kevin Hoskin and Stuart Irvine<sup>1</sup>

The four largest banks in New Zealand have been accredited to operate as 'internal models' (IM) banks under the Basel II capital framework. Under this approach, banks are allowed to use their own models as a basis of determining their minimum capital requirements, subject to their models being accredited by the Reserve Bank. In this article, we explore the quality of capital in New Zealand. We explain the Reserve Bank's capital philosophy, and discuss the key issues that have been considered during the implementation of the IM approach within the New Zealand context. In doing so, we highlight areas in which the Reserve Bank has diverged from international practice to ensure that the New Zealand banking system operates within a conservatively capitalised framework, commensurate with the risks faced by New Zealand banks.

## 1 Introduction

The Reserve Bank registers and supervises banks in New Zealand for the purposes of promoting the maintenance of a sound and efficient financial system, and avoiding significant damage to the financial system that could result from the failure of a registered bank. Like most bank regulators, one of the principal ways the Reserve Bank undertakes prudential supervision is by setting the minimum level and quality of capital that banks must hold. Capital management is a fundamental aspect of bank risk management. Capital provides a buffer to reduce the risk of a bank becoming insolvent as a result of losses arising from a severe economic downturn. Bank capital is therefore a key contributing factor to a sound and efficient financial system.<sup>2</sup>

This article provides an update on how the Reserve Bank has implemented Basel II to ensure high-quality capital management outcomes. The article proceeds as follows. Section 2 provides a brief overview of the development of international capital adequacy requirements (principally the Basel II framework), and outlines the philosophy adopted by the Reserve Bank in implementing them in New Zealand. Section 3 summarises the key issues in the calculation of minimum capital holdings under Pillar 1 of the Basel II framework, focusing specifically on areas where the nature of risks in New Zealand make it appropriate to deviate from international practice. Section 4 discusses capital overlays and disclosure requirements (Pillars 2 and 3 of the Basel II framework), and section 5 outlines emerging issues.

<sup>1</sup> The authors acknowledge the helpful comments received from Ian Harrison, Tim Ng and Ian Woolford.

<sup>2</sup> A more complete discussion of the importance of capital is contained in Yeh, A *et al.*, (2005).

## 2 International requirements and the Reserve Bank's capital philosophy

Capital adequacy frameworks developed by the Basel Committee on Banking Supervision (the Basel Committee) have been adopted by virtually all countries with internationally active banks. The current framework, known as Basel II, forms the basis of the Reserve Bank's capital adequacy requirements for banks incorporated in New Zealand. Box 1 provides further information on the Basel Committee and the standards it has developed.

One of the key features of the Basel framework is that banks' capital holdings should be risk sensitive. In simple terms, this means that the level of capital held against high-risk loans should be higher than the level of capital held against low-risk loans. As a result, under the Basel framework, the assets of a bank are weighted according to the risk of loss. For instance, a commercial loan would normally be considered more risky than a residential mortgage. Minimum capital requirements are set at 8 percent of the bank's aggregate risk-weighted assets (RWAs).

Whilst this minimum requirement applies to all banks under Basel II, the precise calculation of the bank's RWA will depend upon which of the two broad approaches to calculating capital it uses. As a default setting, the RWA will be calculated according to a set list of simple, broad categories of loans and risk weightings that are applied mechanically. This is known as the standardised model.

The alternative is to adopt, subject to supervisor approval, the IM approach. Whilst the basic principle of setting

## Box 1

### International bank capital adequacy requirements

International banking regulations are developed by the Basel Committee on Banking Supervision, which was established by the central bank governors of the Group of Ten countries in 1974. The Committee does not have any formal supranational supervisory authority, but seeks to encourage convergence towards common supervisory approaches and standards without attempting detailed harmonisation of member countries' supervisory techniques.

In 1988, the Committee developed the Basel Capital Accord (Basel I) to align the capital adequacy requirements applicable to internationally-active banks. Basel I introduced two key concepts:

- It defined what could be counted as capital, and designated capital as Tier 1 or Tier 2 depending on its loss-absorbing or creditor-protecting characteristics.
- It linked capital requirements to the risks associated with the assets held on banks' balance sheets, setting minimum capital requirements as a percentage of assets, which are adjusted for their riskiness.

The original Basel I framework applied solely to credit risks. The framework was subsequently enhanced in 1997 by a requirement to measure and apply capital charges to market risks.

Basel I was widely implemented around the world and was considered to be a broadly successful framework. However, as financial market instruments became increasingly more complex and sophisticated, the gap between the relatively simple risk measurement framework of Basel I and the actual practice of major international banks widened. In response, the Basel Committee began work on an updated capital adequacy framework, resulting in the release of the Basel II framework in June 2004.

The Basel II framework builds on the basic concepts of the original Basel Accord. In particular, the Committee wanted to incorporate the many elements that help to promote a sound and efficient financial system over and above the setting of minimum capital requirements. As a result, the

Basel II framework features three complementary 'pillars' that draw on a range of approaches to ensure banks are adequately capitalised. These are:

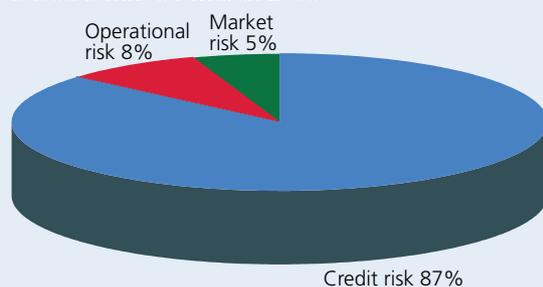
- Pillar 1, which focuses on minimum capital requirements, specifying how banks should determine the capital requirements for the risks they face, including credit risk, traded market risk and operational risk;
- Pillar 2, which focuses on the supervisory review process, and is designed to reflect the fact that supervisors have a role to play in ensuring that banks' risk management practices reflect negative externalities that might arise from failure; and
- Pillar 3, which focuses on market discipline, recognising that market participants have a role in 'regulating' bank behaviour and emphasising the importance of strong and consistent disclosure requirements.

Whilst the three pillars are interdependent and are designed to collectively ensure that banks hold sufficient capital for their respective operations, Pillar 1 constitutes the most substantial part of the framework. It builds on the Basel I framework with the aim of increasing the risk sensitivity of capital requirements. It does this by focusing explicitly on the different risks that banks face, including:

- credit risk, which refers to the risks associated with borrowers defaulting on their obligations;
- operational risk, which reflects losses arising from inadequate or failed internal processes, people, and systems, or external events; and
- market risk, which reflects the risk of losses from holding financial instruments for trading purposes, and arises from movements in market prices.

Of these risks, credit risk represents the most significant element for New Zealand banks, as shown in figure 1.

**Figure 1**  
Capital for Pillar 1 risks, NZ internal models based banks 31 March 2009



Source: Bank general disclosure statements.

capital requirements according to the underlying risk of the business is the same, the IM approach allows banks to align their capital requirement more closely with their individual risk profile. For credit risk, this means that the capital requirement for each category of asset is calculated with reference to the bank's own internal modelling and determination of factors that drive the risk profile of that asset (to a standard acceptable to the Reserve Bank). These factors include the downturn loss given default (LGD), the long-run average probability of default (PD), and the exposure at default (EAD). The models used by banks under the IM approach are subject to accreditation by the banks' supervisor.

The Basel II framework was implemented in New Zealand in the first quarter of 2008. Four banks in New Zealand have been accredited to use internal models for credit and operational risk. These banks are ANZ National Bank Limited, ASB Bank Limited, the Bank of New Zealand, and Westpac New Zealand Limited. Between them, these institutions account for over 80 percent of total New Zealand registered bank assets.

Given the scale of these institutions, and their resulting importance to the overall stability of the New Zealand financial system, the Reserve Bank seeks to ensure that each individual bank's model is consistent with the Reserve Bank's broader, and by international standards, conservative, capital philosophy. In part, the conservatism comes from a capital philosophy that reflects the features and risks particular to the New Zealand financial system, and in part from some of the implementation decisions we have taken.

Philosophically, there are two approaches to measuring risk over time. Under the point-in-time (PIT) approach, capital varies over time, generally in line with the economic cycle. Under the through-the-cycle (TTC) approach, capital is relatively stable over time and does not change materially with the ups and downs of the economic cycle. These two options are illustrated in figure 2 below. The TTC approach is the appropriate approach in the Reserve Bank's view. This view is based on the premise that the risk of loss a bank faces with respect to a loan should be measured in a way that reflects the full range of economic conditions that could prevail over the life of the loan. In setting a TTC capital

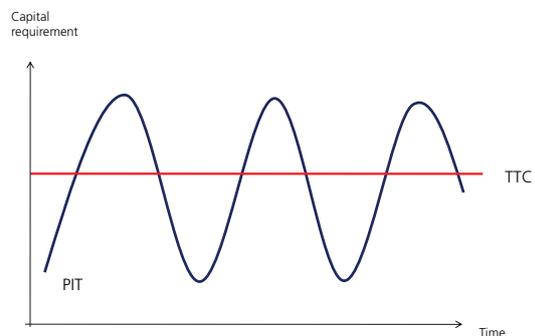
requirement at an appropriate level, the Reserve Bank considers that the following factors should be inherent within the modelling:

Calibration: that banks' minimum capital holdings should be calibrated to downturn economic conditions is a widely accepted principle. However, under a TTC approach, banks should hold a level of capital that is at all times capable of absorbing, with a high probability, the shocks that could occur over the reasonably foreseeable future.

Risk differentiation: that banks' minimum capital holdings should be risk sensitive is also widely accepted. However, in this context it is important that banks are able to differentiate risk (i.e., distinguish between high- and low-risk loans) appropriately under a TTC approach. In a favourable economic environment, the difference in risk between two particular loans may appear small, but in an economic downturn, the difference in risk could be significant. Banks should measure risk in the context of an economic downturn, which is also when the capital is most needed.

In combining these factors, the Reserve Bank has sought to ensure that the Basel II framework is implemented with risk weightings that are calibrated to an appropriately conservative threshold.<sup>3</sup> The remaining sections of this article explain in more detail how this outcome has been achieved.

**Figure 2**  
**Capital requirements under the PIT and TTC approaches**



<sup>3</sup> While the focus of this article is on the determination of conservative risk weights, by international standards, the Reserve Bank also has a conservative approach to the definition of regulatory capital (in particular eligible Tier 1 capital instruments).

### 3 Key issues in the calculation of minimum capital holdings under Pillar 1

As the standardised model is mechanistic (there is no discretion involved on the part of the bank other than to classify the loans), the key Pillar 1 issues arise in the context of the IM approach (see box 1 for an explanation of the ‘three pillars’ of Basel II). The New Zealand IM banks are all owned by Australian parent banks that have been accredited to use IM by the Australian Prudential Regulation Authority (APRA) and generally base their models on those used by their parents. In this context, it made sense for the Reserve Bank and APRA to work together as they undertook their assessments of banks’ models.<sup>4</sup> The Reserve Bank focused on housing and farm lending risks for IM banks for several reasons:

- Both sectors represent a significant portion of New Zealand banks’ balance sheets (see figure 3 below).
- Concerns the Reserve Bank had about the banks’ housing models, based on a significant amount of analytical work in this area the Reserve Bank had undertaken.
- The distinctive nature of New Zealand farm lending risks compared to those risks built into the parent bank corporate lending models on which the New Zealand models were based.

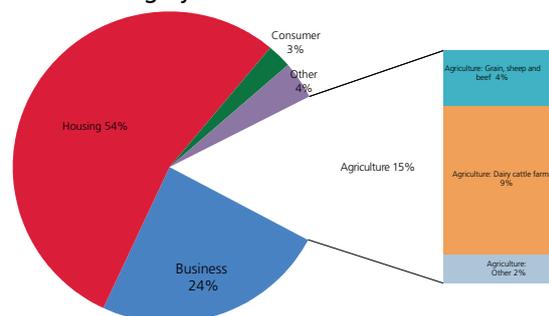
In addition, the Reserve Bank takes a particular approach to internal models for credit cards to best reflect New Zealand conditions. In other areas, particularly non-farming corporate loans and operational risk, the Reserve Bank has relied more on APRA’s assessments.

The Basel II framework specifies an equation for determining risk-weighted assets for each class of asset.<sup>5</sup> The task of

<sup>4</sup> DeSourdy (2006) explains the legislation relating to cooperation between New Zealand and Australian bank regulators. Also see the “Terms of Engagement between the Reserve Bank of New Zealand and the Australian Prudential Regulation Authority in relation to the implementation of Basel II” for an explanation of how the Reserve Bank and APRA seeks to dovetail their assessments of IM banks’ models: <http://www.rbnz.govt.nz/finstab/banking/regulation/1497871.html>.

<sup>5</sup> See the Reserve Bank’s “Capital adequacy framework (internal models based approach)” for these equations (<http://www.rbnz.govt.nz/finstab/banking/regulation/0094291.html>).

Figure 3  
Bank lending by sector



Source: RBNZ.<sup>6</sup>

IM banks includes determining which asset class is the most appropriate for each loan portfolio (this is usually straightforward), and determining the risk drivers and values for some of the inputs into the Basel II equations (see box 2 for more detail). Two of the key inputs are:

- Probability of default (PD) – the likelihood of a borrower defaulting on a contractual obligation. Banks determine the long-run average PD.
- Loss given default (LGD) – the proportion of the obligation that the bank expects to lose in the event of a default. Banks determine LGD for their portfolios assuming a downturn economic environment.

When assessing the initial models of the IM banks, the Reserve Bank found the models were inadequate in a number of areas. The Reserve Bank therefore required changes to be made either prior to accrediting the models, or as part of the post-accreditation model improvement process. The key areas of change are summarised in table 1 below and discussed in more detail below.

The purpose of table 1, overleaf, is to provide a general indication of New Zealand Basel II outcomes, as results will differ from bank to bank and through time. Some results for Australia and the UK are also shown to illustrate the extent to which the New Zealand approach departs from some comparator jurisdictions.

<sup>6</sup> Breakdown of bank lending by sector is as at June 2009, excluding inter-bank and non-residential claims. Percentages reported for the breakdown of lending to agriculture are estimated from the most recent RBNZ agricultural lending survey (June 2009).

## Box 2

### Calculation of capital requirements

Conceptually, the process for determining the capital requirements for IM banks is as follows:

- IM banks determine a series of inputs for each 'pool' of loans.
- These inputs feed into the Basel II equation to determine a risk weight for the loan pool.
- The risk weight is then applied to the loan value to determine risk-weighted assets.
- Capital requirements are determined by multiplying risk-weighted assets by 8 percent.

An example of the determination of capital requirements for a pool of farm loans and a pool of residential mortgage loans is provided below.

Different asset classes use different equations (for instance, there are various classes of corporate and retail exposures). The inputs into the Basel II equation may include (depending

on asset class).

- **Probability of default (PD)** – the likelihood of a borrower defaulting on a contractual obligation. Banks determine the long-run average PD.
- **Loss given default (LGD)** – the proportion of the obligation that the bank expects to lose in the event of a default. Banks determine LGD for a downturn economic environment.
- **Exposure at default (EAD)** – the maximum amount of loss in the event of a default.
- **Maturity (M)** – the remaining age of the obligation.
- **Firm size** – there is a separate corporate equation for firms with annual sales of less than \$50 million.

Another critical input into the Basel II equation is correlation. This is measure of risk diversification (the extent to which individual loan losses within a pool or portfolio are correlated). The correlations for the various asset classes are given by the respective equations and are not determined by IM banks.

Loan type	Loan value		Risk weight		Risk-weighted assets		Minimum capital requirement
Farm loan	\$1,000	*	100%	=	\$1,000	* 8% =	\$80
Residential mortgage	\$1,000	*	30%	=	\$300	* 8% =	\$24

### Housing models

The Reserve Bank's assessment of IM banks' models drew heavily on a model of residential mortgage loan loss that it developed (box 3 contains a brief description of this model). A challenge for IM banks was the unavailability of a long sample of time series data. As a result, the models placed too much weight on the years just prior to when the models were developed, which were very benign in terms of housing credit losses. This meant the banks' models were not sufficiently calibrated to the long-run and were not well suited to identifying long-run or downturn risk drivers. The three key housing issues for the Reserve Bank (in table 1 overleaf) are described more fully below:

- LGD estimates were not sufficiently calibrated to economic downturn conditions and did not include the loan-to-value ratio (LVR) as a risk driver. LVR is the size of the mortgage compared to the value of the house.

The difference between normal-times LGD and downturn LGD can be very significant, particularly for high LVR loans. In benign economic times, a high proportion of defaults are 'liquidity events', where there is little or no loss to the bank because the house is either sold and the loan repaid in full, or the borrower is able to fully service the loan after a period of being in default. In a downturn, 'solvency events' are more common, whereby the bank incurs a loss because the borrower does not resume repayments and the value of the loan

Table 1

## Key areas of change required to IM bank models

Issue	Basel I risk weights	Initial bank position	Final position after Reserve Bank actions	Australian estimates/risk weights <sup>7</sup>	UK risk weights
<b>Housing</b>					
LGD estimates		10% <sup>8</sup> Not LVR-sensitive	Just over 20% and sensitive to LVR	20% minimum	-
PD-model risk drivers		Emphasis on current signs of borrower distress	Pillar 2 capital overlay and further work required	-	-
Long-run portfolio PD estimates		0.5% (approx)	1.25% minimum	0.8%	-
<b>Average risk weight</b>	<b>50%</b>	<b>10%</b>	<b>30%</b>	<b>15-20%</b>	<b>15-20%</b>
<b>Rural</b>					
LGD estimates		Not sufficiently calibrated to downturn economic conditions	Appropriately calibrated	-	-
Risk diversification benefits (correlation coefficient)		Standard Basel II treatment overly optimistic	Better calibrated to homogeneous NZ sector	-	-
<b>Average risk weight</b>	<b>100%</b>	<b>50%</b>	<b>System average of 80-90%</b>	<b>50%</b>	<b>-</b>
<b>Credit cards</b>					
Assignment to appropriate Basel II asset class		Standard classification resulted in too much emphasis on idiosyncratic rather than systemic risk	Appropriate asset class classification fit for NZ conditions	-	-
<b>Average risk weight</b>	<b>100%</b>	<b>30% (approx)</b>	<b>80%</b>	<b>30-50%</b>	<b>-</b>

exceeds the amount that can be realised in a mortgagee sale (taking into account various other default-related costs incurred by the bank, such as administrative costs and the financial cost associated with the period of time between default and any recovery).

The following example illustrates: In a relatively benign environment, a realistic loss rate when there is a solvency event is 35 percent. Only 5 percent of defaults are solvency events and so the measured LGD is 35% x 5% = 1.75%. In a downturn environment, the typical loss

rate for a solvency event can be expected to increase moderately to, say, 55 percent, but the proportion of solvency events will increase sharply. For high LVR loans, the proportion could easily increase to 50 percent. In this case, the measured stressed LGD becomes 55% x 50% = 27.5%.

The choice of the downturn scenario is critical. In the example above, the downturn LGD is more than 10 times the benign LGD. The difference between benign and downturn LGD would be less with a more moderate downturn. The Reserve Bank's view is that a 'severe' rather than a moderate downturn scenario is appropriate for modelling capital requirements. This is

<sup>7</sup> Source: Australian bank Pillar 3 disclosures.

<sup>8</sup> The Basel II framework specifies a minimum value of 10 percent for LGD. Some banks' initial modelling work produced estimates below this floor.

consistent with the Basel II framework.

The Reserve Bank required that, over time, banks undertake further work to improve the sensitivity of their own LGD models to economic risk drivers, and to ensure their own LGD models are calibrated to economic downturn conditions that incorporate a fall in average house prices of 30 percent. In the meantime, in order to ensure banks' models are appropriately calibrated and risk-sensitive, IM banks are required to use the following set of LGD estimates in their capital calculations:

**Table 2**

**Reserve Bank downturn LGD estimates**

LVR	90-100%	80-89%	70-79%	60-69%	Under 60%
LGD	40%	35%	30%	20%	10%

- Several PD models placed too much emphasis on signs of current borrower distress such as delinquency (delinquency occurs when the borrower's repayments of principal or interest fall behind schedule). The predictive power of the models overstated their practical usefulness for capital purposes, as logically a borrower will always miss payments prior to defaulting on a loan. Also, while delinquency can provide a useful 'early warning signal' of potential near-term losses, it represents a point-in-time measure of risk. In particular, during favourable economic times when delinquencies are low, PD would also be low. During unfavourable economic times, as delinquencies increase, PD would increase accordingly. For the purpose of determining capital requirements, it is the vulnerability to distress over the longer term (through the cycle) that is most relevant.

The Reserve Bank did not require IM banks to address PD risk differentiation issues at the point of accreditation. However, over time, IM banks are required to investigate long-term structural drivers of default risk (such as the debt-servicing ratio, marital status, and occupation)<sup>9</sup> that can predict average default years, rather than weeks or months, ahead of time.

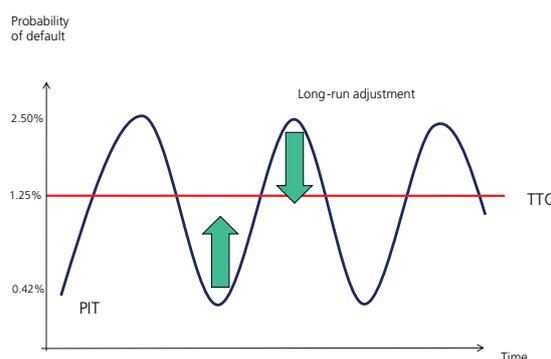
In the meantime, a condition of accredited IM bank status is that the IM banks are required to hold additional

capital equal to 15 percent of the capital modelled for credit risk arising from residential mortgage lending, to recognise that model improvements are needed.

- The estimates of long-run PD were generally low in relation to comparable estimates observed internationally, and low on the basis of the Reserve Bank's own modelling. Also, the estimates of long-run portfolio PD varied across banks more than could be reasonably expected given the New Zealand banks generally have a similar customer base. The Reserve Bank thus required IM banks to maintain a long-run average portfolio PD of at least 1.25 percent to reflect the range of economic conditions that could reasonably be expected over the medium- to long-term.

Given the point-in-time nature of IM banks' models, periodic adjustments may be necessary to ensure banks' PDs remain calibrated to 1.25 percent throughout the economic cycle. Figure 4 illustrates how such an adjustment could be made. In this example, in relatively good economic times, the unadjusted modelled PD is 0.42 percent, reflecting a low delinquency rate. To comply with the Reserve Bank's requirements, the unadjusted PD would need to be multiplied by a factor of about 3. In unfavourable economic times, unadjusted PD rises to 2.5 percent as delinquencies increase. In this case the bank may elect to divide unadjusted PD by 2 to achieve an adjusted PD of 1.25 percent. While the actual adjustment process used by some banks is complex, the description provided here is, in essence, what the Reserve Bank requires IM banks to do.

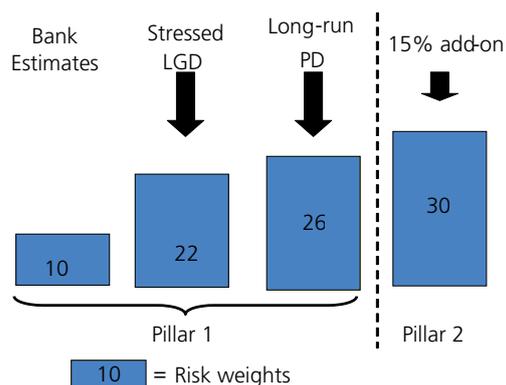
**Figure 4**  
**Illustrative PD long-run adjustment**



<sup>9</sup> Debt-servicing ratio is the value of loan payments as a proportion the borrower's income.

The three measures taken by the Reserve Bank as outlined above had the effect of lifting the average risk weight for housing loans from around 10 percent (based on the IM banks' initial estimates) to 30 percent. Figure 5 below illustrates the contributions to the final risk weight.

**Figure 5**  
Policy actions and housing risk weights



There are two additional issues worth noting:

- Bank estimates should incorporate an upward adjustment as an additional measure of conservatism. This is needed to take account of the uncertainty associated with any long-run estimate, and also to take account of the uncertainty associated with the models being new and largely untested.
- Housing loan losses in the New Zealand housing market are more highly correlated than the Basel II equation for determining housing capital assumes. In effect, the equation gives too much weight to idiosyncratic risk (ie, that associated with the particular circumstances of the borrower) compared to systemic risk (ie, that associated with general economic conditions). A higher loss correlation implies that downturn losses are potentially higher. This issue relates to the Basel II framework rather than banks' models per se.

As a result of these concerns, the Reserve Bank included an additional margin in its LGD estimates and minimum PD requirements.

## Credit card models

Within the Basel II framework, there are three categories of retail loans: residential mortgages, 'Qualifying Revolving Retail Exposures' (QRRE), and a residual category called 'Other Retail'. Under the Basel II framework, it can be expected that loans classified as QRRE would attract less capital than Other Retail loans, but only those loans that meet certain criteria can be classified as QRRE.<sup>10</sup> The QRRE category was created by the Basel Committee in part to accommodate the risk characteristics of credit card loans.

The lower capital requirement for QRRE loans is based on an assumption that there is relatively more idiosyncratic risk associated with credit card losses because banks target a customer base that has a relatively high loss rate due to individual circumstances, and relatively less risk associated with economic events affecting a large portion of obligators at the same time (systemic risk). This rationale for the QRRE treatment was developed from the experience of countries such as the US where credit cards are relatively easy to obtain.

Unlike in many other countries (including Australia), the Reserve Bank has not permitted New Zealand banks to classify their credit card portfolios as QRRE loans for two reasons:

- New Zealand banks have not been able to demonstrate that New Zealand credit card loss rates are only weakly correlated with the economic cycle. This is not surprising. In New Zealand, relative to some other countries, more creditworthiness must generally be demonstrated before banks will issue credit cards. Consequently, a greater proportion of credit card losses arise from unfavourable general economic conditions rather than from (uncorrelated) individual circumstances.
- Given the nature of New Zealand credit card risks, use of the QRRE category would mean credit card loans attract a similar level of capital as residential mortgage loans. However, intuitively, credit card loans are more risky than mortgages because no collateral is provided for credit card loans, while a house is provided as collateral for a mortgage.

<sup>10</sup> The correlation coefficient for loans classified as Other Retail decreases with PD. So while generally loans classified as QRRE generate less capital, very high PD loans do not.

### Box 3

#### The Reserve Bank's model of residential mortgage loan loss

The Reserve Bank's model is designed to investigate major loss events in residential housing loan portfolios. These events are rare, but are nevertheless possible, and are relevant to questions such as the amount of capital a mortgage lender should hold or what might happen in a particularly acute stress event. The name of the model – Tool for Unobserved-event Investigation – TUI, captures this focus on the analysis of 'tail-end' events when there is limited reliable data from actual events.

The TUI model was useful for the Reserve Bank in assessing the Basel II internal models for housing risk for a number of reasons. First, the standard Basel II equation adopts a one size fits all approach. It is therefore necessary to consider whether this equation has been appropriately calibrated to measure risk in New Zealand housing loan portfolios. Second, even if the underlying Basel II model is robust for New Zealand, its implementation raises some difficult data problems. The banks' internal models relied heavily on recent data that is characterised by historically benign conditions in the housing market. Given this period lacks data on the kind of event that generates unusually high but plausible losses, it is necessary to consider whether the values generated for key inputs into the equation (ie, PD and LGD) are appropriate. TUI provided a reference point to help address these kinds of questions.

TUI combines an explicit structure of the loan default and loss process with estimates of behavioural and macroeconomic risk driver coefficients to produce a distribution of loss outcomes. Once a loss distribution has been calculated, the model can generate an array of outputs including the long-run probability of default, average and downturn loss given defaults and risk weights for an overall loan portfolio. For the purposes of assessing capital requirements for New Zealand banks, the model was set to assess the impact of extreme but plausible events rather than more moderate stress events.

The following is a sample of some of the more important TUI results:

- The biggest driver of risk is a simultaneous interest rate increase and a house price fall. The volatility of interest rates and house prices and the way they are correlated are, therefore, the biggest determinants of capital requirements in the model.
- Residential mortgage lending appears to be substantially more risky than initial modelling by banks would suggest and some higher-risk risk-buckets may require more capital than required by the standardised model.
- Low observed default rates in benign times can be consistent with a risky portfolio and a high capital requirement.
- The Basel II housing equation requires calibration for New Zealand conditions. The correlation factor needs to be increased to reflect the fact that systemic risk is a bigger component of overall risk in New Zealand than in some other jurisdictions. In other words, losses associated with general economic conditions rather than with particular borrower circumstances are relatively more significant for New Zealand.

Although the Reserve Bank has used the TUI model in its assessments of IM banks, TUI is not intended as a substitute or a template for banks' own models.

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## Farming lending models

As shown in figure 3, farm lending accounts for around 15 percent of NZ bank lending. However, when adjusted for risk, it is of similar importance to housing in terms of capital.

The Reserve Bank advised IM banks at the time they were accredited that their farm lending models were inadequate and would be further reviewed post-accreditation.<sup>11</sup> In some cases, it was necessary to require banks to hold additional capital pending this further work. Given the commonality of the key risk drivers between banks, the Reserve Bank undertook to lead the modelling work in this area. Taking into account the significance of dairy sector lending, the work focused on this sector.<sup>12</sup> The two key issues identified in this work, shown in table 1 above, are described more fully below:

- Firstly, bank models did not sufficiently take account of the risk of a sharp fall in farm land prices, particularly given the sharp dairy land price increase that occurred between 2001 and 2008. During this period, dairy land prices were heavily influenced by positive expectations about future dairy payouts and there was a risk of a substantial price fall if those expectations were not met. In response, the Reserve Bank plans to specify a minimum set of downturn LGDs differentiated by LVR for farm lending. These LGD estimates will take account of changing economic conditions (e.g., farm land prices have now fallen from their peak).
- Secondly, the initial categorisation of farms as small businesses within the Basel II framework incorporated an overly optimistic view of the extent that risks in the sector can be diversified. The Basel II framework assumes that small business lending is more heterogeneous than large business lending and therefore subject to less systemic risk. New Zealand farm lending is in fact very homogeneous. In response, the Reserve Bank plans to

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<sup>11</sup> Note that for the purposes of the Reserve Bank's capital requirements, farm lending is defined relatively narrowly. It includes banks' lending to farms but not to the wider agricultural sector that provides supplies and support to farms.

<sup>12</sup> Dairy represents more than 60 percent of total farm lending and has an indirect effect on land values and hence on risk in the sheep and beef sector, which accounts for a further 25 percent of lending.

require banks to apply the standard corporate correlation coefficient to farm loans. This will incorporate lower assumed diversification benefits, consistent with the characteristics of the farming sector in New Zealand.

Two additional farm lending issues the Reserve Bank identified are:

- The Basel II model gives significant weight to the contractual maturity of a loan in determining the risk of the loan. For instance, a loan with a contractual term of five years is considered 60 percent more risky than a loan with a one-year contractual term. In the Reserve Bank's view, this calibration significantly overstates the effect of contractual maturity on risk in the farming sector and provides an incentive to rewrite contracts to reduce regulatory capital. In response, the Reserve Bank plans to require IM banks to have a minimum average capital model maturity input of 3.5 years for farm loans. This is based on the sector average and will reduce the incentive to rewrite contracts to reduce regulatory capital.
- Banks may need to periodically adjust their farm lending PD models to account for their models' PIT characteristics. These adjustments will be similar to those described for housing above (and shown in figure 4).

## 4 Pillar 2 and 3 implementation

### Pillar 2

The Pillar 2 component of the Basel II framework ensures that banks are adequately capitalised, taking account of risks not captured sufficiently in the Pillar 1 process. The two main aspects of Pillar 2 for New Zealand banks are described below:

#### *Internal Capital Adequacy Assessment Process*

Each bank is required to have in place an Internal Capital Adequacy Assessment Process (ICAAP) to ensure that it has adequate capital against all material risks. As part of this, all banks are expected to determine and disclose the appropriate level of capital for 'other material risks' (ie, those risks that are not captured by the Pillar 1 regulatory capital requirement). While banks generally

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hold capital for other material risks, it is not part of their regulatory capital requirements. The 'disclosure only' requirement recognises the early stages of development of banks' ICAAP processes. To require banks to hold capital against these risks prematurely could result in divergent capital outcomes across banks that would not reflect differences in actual risk.

### ***Additional regulatory capital***

The Reserve Bank will impose additional regulatory requirements if it is not satisfied that a bank's capital determined under Pillar 1 is adequate. The additional 15 percent of housing capital for IM banks described above falls into this category.

## **Capital floors**

The Basel II framework provides for a transitional capital floor for IM banks. This is to allow time to ensure sound implementation of banks' models. Consistent with international practice, the Reserve Bank has required that each IM bank's capital is maintained at a level at least 90 percent of what it would be under the previous Basel I regime for the foreseeable future.

## **Pillar 3**

The decision by the Basel Committee to include disclosure requirements in the Basel II framework fitted well with the Reserve Bank's existing banking supervision approach, in which market discipline is a cornerstone. New Zealand banks have been required to make comprehensive quarterly financial and prudential disclosures for many years. However, the Basel II Pillar 3 requirement entails disclosure of more comprehensive risk information and came into effect around the same time as new and substantial additional requirements associated with the introduction of International Financial Reporting Standards.

The Reserve Bank decided not to implement all aspects of the Pillar 3 regime in New Zealand. Some aspects were excluded either on the grounds of immateriality for New Zealand banks, or because they were unjustifiably burdensome. In

some areas the Reserve Bank's disclosure requirements do go beyond Basel II framework, most noticeably in regard to the frequency of disclosure.

The Basel II framework requires disclosures on a semi-annual basis (with some exceptions), compared with New Zealand's quarterly requirements. The Reserve Bank did not alter the required frequency of bank disclosures with the introduction of Basel II, although banks are not required to disclose the full set of capital adequacy information every quarter.

A Reserve Bank requirement for residential mortgage LVR disclosures also goes beyond the Basel II framework.<sup>13</sup> This requirement reflects the significance of housing risk for New Zealand banks and the importance of LVR as a housing risk factor, as discussed earlier.

## **5 Emerging Issues**

Internationally, debate about the application and calibration of the Basel II capital framework continues. The recent financial crisis has exposed a number of weaknesses in the Basel II framework that the Basel Committee had sought to address. To date, many of the changes made have been designed to improve the effectiveness of market risk models and provide for a more conservative treatment of securitisations. These areas are of limited relevance for New Zealand because the Reserve Bank has not allowed internal models to be used to determine market risk capital requirements, and New Zealand banks are not significantly involved in securitisation.

On 7 September 2009, the Basel Committee outlined plans to strengthen the regulation, supervision and risk management of the banking sector, with the aim of substantially reducing the probability and severity of economic and financial stress.<sup>14</sup> One aspect of the Committee's plans is the concept of 'capital buffers' that are built up during favourable economic times and 'drawn down' during periods of stress. In part, this proposal reflects concerns some commentators have expressed that Basel II

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<sup>13</sup> **The Reserve Bank requires New Zealand banks to disclose the value of residential mortgage lending by LVR category.**

<sup>14</sup> See <http://www.bis.org/press/p090907.htm>

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can accentuate the ups and downs of the economic cycle, as capital requirements increase (constrain lending) in 'bad' times and fall (encourage lending) in good times. This pro-cyclicality may contribute to a 'boom-bust' economic cycle. The Reserve Bank's existing capital philosophy (in particular our TTC approach) stands New Zealand in good stead for any likely international developments in this area. In particular, the adjustments banks are able to make to their long-run portfolio housing PD estimates (illustrated in figure 4), and the sensitivity of banks' models to asset values (via LVR risk drivers) can provide significant smoothing of capital requirements throughout the economic cycle.

Other key areas that have been identified by the Basel Committee plans include:

- The quality of bank capital. The quality and quantity of banks' capital has come under increasing scrutiny by markets in the context of the financial crisis (particularly by potential suppliers of bank wholesale funding). In

response, some banks have increased their holdings of capital, particularly of 'higher quality' Tier 1 capital. The Basel Committee intends to strengthen the quality, consistency and transparency of the highest forms of Tier 1 capital.

- Leverage ratio. A leverage ratio sets a lower limit to the capital-to-assets ratio of banks. The Basel Committee intends to introduce a leverage ratio requirement to act as a supplementary measure to the Basel II risk-based framework, ensuring that banks do not build up excessive leverage.

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### PDF edition change log

#### *Original publication (30-9-09) to current (8-10-09)*

Figure 1: replaced.

Figure 2: replaced.

Table 1: changed "Appropriately" to "Appropriately calibrated" (rural LGD estimate).

Figure 5: changed "Estimates Banks" to "Bank Estimates".

Page 8: changed to "Banks determine their own long-run portfolio average PD" to "Banks determine the long-run average PD" (third paragraph, first bullet point).

Box 2: changed "roll of farm loans" to "pool of farm loans" (second paragraph).

Box 2: removed "portfolio" (probably of default definition).

Box 2: inserted "by" (last sentence).

Page 14: changed "small" to "small business" (second paragraph, second bullet point).

Page 16: changed "pro-cyclically" to "pro-cyclicality" (first paragraph).

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# Anchoring fiscal expectations<sup>1</sup>

Eric M. Leeper, Indiana University

In this lecture, I argue that there are remarkable parallels between how monetary and fiscal policies operate on the macro economy and that these parallels are sufficient to lead us to think about transforming fiscal policy and fiscal institutions as many countries have transformed monetary policy and monetary institutions. Making fiscal transparency comparable to monetary transparency requires fiscal authorities to discuss future possible fiscal policies explicitly. Enhanced fiscal transparency can help anchor expectations of fiscal policy and make fiscal actions more predictable and effective. As advanced economies move into a prolonged period of heightened fiscal activity, anchoring fiscal expectations will become an increasingly important aspect of macroeconomic policy.

## 1 Introduction

A stunning transformation in monetary policy has occurred in the past 15 years. Central banks have moved from 'monetary mystique' to a 'culture of clarity', a movement in which the Reserve Bank of New Zealand has led the way. It is now widely accepted that for monetary policy to effectively stabilise the real economy and inflation, it should be guided by several principles: monetary policy should be independent of fiscal policy and insulated from political pressures, and avoid fooling people in order to offset the dynamic effects of distortions in the economy; in addition, central bankers should communicate transparently about their objectives and their strategies for achieving those objectives and they should be held accountable for their decisions.

There is less widespread agreement about the position taken by some central banks to take transparency to the next level by announcing the governors' own views about the likely future path of the policy interest rate.<sup>2</sup>

Still more remarkable is that this transformation occurred in the absence of any real evidence that transparency of monetary policy and improved communication by central banks actually matter for the performance of the economy.<sup>3</sup> Two conditions drove the move toward greater transparency. First, a professional consensus emerged that inflation is a monetary phenomenon and that inflation control is the appropriate purview of the central bank. Second, and perhaps more important, a political consensus developed that low and stable inflation is desirable because inflation fluctuations redistribute wealth in capricious ways (Faust and Henderson 2004). It took several decades of poor macroeconomic performance for these consensuses to develop.

Why have we seen no corresponding enlightenment in governments' tax and spending policies? Despite a range of changes in fiscal frameworks across advanced countries since the 1990s, in general, fiscal policy remains as opaque as ever. Is it desirable to transform fiscal policy in a manner that is analogous to what has occurred with monetary policy? Is it feasible? Can professional and political consensuses on the effects and role of fiscal policies be reached?

Monetary authorities and fiscal authorities appear to mean different things by 'transparency.' For central banks, it is a means to an end: the better the public understands and anticipates monetary policy choices, the more firmly expectations will be anchored on actual monetary policy goals, and the more effective monetary policy will be in achieving its objectives. This is the sense in which I shall

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<sup>1</sup> This paper draws on Professor Leeper's public lecture on 12 November 2008 in Wellington, New Zealand, which was part of the author's tenure as a Professorial Fellow in Monetary and Financial Economics at Victoria University of Wellington and the Reserve Bank of New Zealand. I thank the Victoria University of Wellington Foundation, the Victoria University of Wellington School of Economics and Finance, and the RBNZ for their fabulous hospitality to me and my family and for providing me with this unusual intellectual opportunity. Many people provided useful input to this lecture, particularly Mark Blackmore, Stephen Burnell, Peter Bushnell, Arthur Grimes, Viv Hall, John Janssen, John McDermott, Adrian Orr and Bryce Wilkinson. I also thank Huixin Bi, Troy Davig, Jürgen von Hagen, Jim Poterba and Shu-Chun Susan Yang for comments on this draft.

<sup>2</sup> Faust and Leeper (2005) discuss these issues in more detail in the context of monetary policy.

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<sup>3</sup> There is now evidence supporting the earlier presumption (see Blinder, Ehrmann, Fratzscher, De Haan and Jansen 2008).

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use the term. But this is not how fiscal authorities apply the term. In fiscal realms, ‘transparency’ means the adoption of generally accepted accounting principles, the conduct of policy in an open and public way, and so forth. Fiscal transparency is more about establishing the integrity of the fiscal process than it is about helping the public to form expectations of future tax and spending policies. Although fiscal authorities compute and publish fiscal projections, the projections typically condition on current policies; they are silent on possible *future* policies and, therefore, contribute little to transparency and the anchoring of fiscal expectations.

This lecture will argue that there are strong parallels between how monetary and fiscal policies affect private sector behaviour and what the two kinds of policies can achieve in the macro economy. Along many important dimensions, monetary and fiscal policies have more similarities than dissimilarities. As a consequence, the arguments that have led countries to make dramatic reforms to their monetary policy institutions apply with equal – or possibly greater – force to fiscal policy. Because fiscal policy actions typically generate changes in government debt, taxes and spending that extend over several decades, in practice, dynamics may be more important for fiscal policy than for monetary policy (Chung and Leeper 2007, Leeper, Plante and Traum (2009)).

This fact has not been fully embraced by institutional reformers.<sup>4</sup> Instead, fiscal reforms are often superficial and frequently ineffectual when compared to the thoroughgoing reformations of monetary policy in many countries. I will argue that this asymmetric treatment of monetary and fiscal policies runs the risk of undermining the progress made in monetary policy. I will also argue that, because fiscal policy in many countries is likely to raise substantial economic and political challenges over the next several decades, fiscal transparency and the anchoring of fiscal expectations will become increasingly important aspects of macroeconomic policy. Effective reforms may require

statutory or constitutional enforcement that give the reforms bite.

Inconsistencies between monetary and fiscal policy frameworks are most likely to become apparent in times of economic stress. The current financial turmoil and worldwide recession may provide a challenging test to the monetary-only reforms.

## 2 Fiscal failure breeds monetary success

### Fiscal roots of extreme crises

History abounds with examples where badly managed fiscal policies undermined the ability of monetary policy to achieve its macroeconomic objectives. Even observers who subscribe to the adage that ‘inflation is always and everywhere a monetary phenomenon’, acknowledge that it is ‘almost always’ and ‘nearly everywhere’. Hyperinflation is the classic exception – presumably the one that makes the rule – of an inflation whose fundamental cause is fiscal policy run amok.

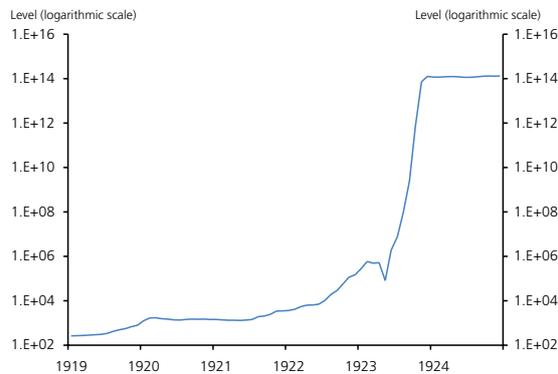
The best-known hyperinflation occurred between the world wars in Europe. After World War I, Germany was under tremendous fiscal strain: the Versailles Treaty entailed substantial reparation payments from Germany to France and England; the German government needed to provide for large numbers of war victims; the destroyed economy created an extraordinarily weak tax base, making it impossible to collect sufficient revenues to cover expenditures. Government budget deficits were large, with revenues never covering more than about 35 percent of expenditures. Running the printing presses was the only fiscal option available to the government, with the predictable results. Between July and November of 1923, the inflation rate was 560 billion percent. Figure 1 records the overall price level in Germany from 1919 to 1924, using a logarithmic scale. During this period, the price level increased several trillion fold.<sup>5</sup>

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<sup>4</sup> Although many treasuries or other fiscal agencies are required to construct long-term projections, for reasons discussed below, these projections do not adequately reflect the dynamics of fiscal policies; neither do they contribute toward making fiscal policy meaningfully more transparent.

<sup>5</sup> Of course, along with the massive inflation came large distortions to the real economy and the associated output losses. Sargent (1986) describes several other historical episodes of hyperinflation at the same time – Austria, Hungary, and Poland – tracing each to large-scale fiscal failures.

**Figure 1**  
**The price level in Germany during the interwar era**



Source: Sargent (1986).

Germany's hyperinflation led, after World War II, to the Bundesbank law that granted the bank independence and made price stability its primary objective. Germany's Bundesbank was widely regarded as the world's foremost inflation fighter, even during the 1970s when many countries experienced a steady upward march in inflation rates. Even now, hyperinflation's legacy looms large over European monetary policy: European Monetary Union, with Germany as a central player, is designed to carry the legacy of the horrors of hyperinflation into policy decisions of the European Central Bank.

Latin American countries are well known for having high inflation or periodic bouts of hyperinflations in which fiscal policies have played a central role (Singh, Belaisch, Collyns, De Masi, Krieger, Meredith and Rennhack 2005). Some examples of peak inflation rates are: Bolivia, May to August 1985, 60,000 percent (Sachs 1987); Argentina, May 1989 to March 1990, 20,266 percent (Reinhart and Savastano 2003); Peru, July to August 1990, 12,378 percent (Reinhart and Savastano 2003). Chile became the world's second inflation-targeting country when it transformed its monetary policy in September 1990. Five other Latin American countries – Brazil, Columbia, Mexico, and Peru – now officially target inflation (Vega and Winkelried 2005). Several of these countries, and Chile in particular, backed up their monetary reforms with dramatic fiscal reforms.

<sup>6</sup> As von Hagen (1999) documents, the reality of the Bundesbank's success in combating inflation deviated from those perceptions, especially in the early 1990s.

### Fiscal role in moderate crises

Sweden and New Zealand are instructive examples of countries that experienced moderate – judged by the standards of hyperinflations – economic crises to which the macroeconomic policy response was reform of both monetary and fiscal institutions. Both countries also underwent extensive deregulation of financial markets immediately preceding the macroeconomic reforms. Although both countries did adopt fiscal reforms, those reforms were not nearly as throughgoing as the monetary changes, which were wholesale reforms of the objectives and the execution of monetary policy.

*Sweden.* In the early 1990s, Sweden experienced a boom-bust cycle that severely tested the prevailing monetary-fiscal policy regime.<sup>7</sup> After deregulation of the financial system, the economy boomed in the late 1980s, with rapid growth in GDP, employment, consumption and imports. Despite a worsening current account balance, monetary policy was prevented from reacting to the boom because the krona was pegged to a basket of currencies.

By 1989-90 the boom had ended and the bust began. Rising international real interest rates exerted further pressure on the pegged krona while simultaneously the Riksbank raised nominal interest rates to defend the krona against speculative attacks. Major tax reform in 1990-91 sharply lowered marginal tax rates and reduced mortgage deductibility, raising real after-tax interest rates still more. The strong increases in real rates deflated asset values, which reduced wealth and triggered a banking crisis.

The resulting recession was comparable to Sweden's experience in the Great Depression. GDP fell for three consecutive years. Unemployment rose from 1.5 percent in 1989 to over 8 percent in 1993. The cumulative employment loss exceeded that of the Great Depression, according to Jonung (2009). Attacks on the krona continued, culminating in the famous instance on September 16, 1992, when the Riksbank raised the overnight rate to 500 percent.<sup>8</sup> In the

<sup>7</sup> This section draws liberally from Swedish Ministry of Finance (2001), Jonung (2009), and Wetterberg (2009).

<sup>8</sup> The Riksbank had plans to go as high as 4000 percent (Swedish Ministry of Finance 2001).

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event, by November 19, the Riksbank allowed the krona to float.

Large automatic stabilisers built into Swedish fiscal rules swung the general government balance from a 5 percent surplus in 1989 to nearly a 12 percent deficit in 1993.<sup>9</sup> Central government debt rose from 30 percent to 80 percent of GDP over the same period.

The Swedish government responded with a thorough reform of both monetary and fiscal policy. Beginning in January 1993, the Riksbank announced a 2 percent target for CPI inflation, applying from 1995 on. This target was formalised by the Sveriges Riksbank Act, passed in 1997, an Act that greatly reinforced the Riksbank's independence (Sveriges Riksbank 2008). Fiscal policy in 1993 consolidated in fits and starts, but projections showed government debt continuing to grow rapidly and fears of sustainability arose. Progress on fiscal reform was motivated by at least three concerns. First, bond markets downgraded Swedish sovereign debt in 1993. Second, by the end of 1993, one-third of government expenditures were devoted to debt service. Third, it was recognised that fiscal instability could undermine the Riksbank's newly adopted inflation targeting regime. A series of bills beginning in late 1994, called the 'Consolidation Programme', sought to stabilise debt by adopting both a nominal expenditures ceiling and a surplus target. By 1998, the budget had swung back to surplus and debt was on a downward trajectory.

Jonung (2009) lists macroeconomic policy reforms as critical factors in resolving crises in both the financial sector and the real economy. Swedish policies continue to be guided by the reforms that grew out of the crises.

*New Zealand.* After a decade of poor economic performance, in July 1984, New Zealand launched comprehensive economic reforms that transformed the country's economic landscape. Over the previous decade, government debt had increased sixfold, inflation rates were chronically in the double digits, and the unemployment rate had risen from 0.2 percent to 4.9 percent.

Reforms were broad and deep. They included privatisation and deregulation of industries, financial and trade liberalisation, reform of public finance, and deregulation of labour markets (Evans, Grimes, Wilkinson and Teece 1996). In terms of macroeconomic policies, the critical changes were the decision to allow the Kiwi dollar to float on March 4, 1985, the passage of the Reserve Bank of New Zealand Act in December 1989, and the Fiscal Responsibility Act in 1994.

New Zealand led the way in reform of its monetary policy.<sup>10</sup> Although at the time other central banks were operating with considerable autonomy – for example, the German Bundesbank, the Swiss National Bank, and the US Federal Reserve – the Reserve Bank Act established that the central bank's primary function was 'achieving and maintaining stability in the general level of prices'. The Act also required the Governor of the Reserve Bank of New Zealand and the Minister of Finance to negotiate a Policy Targets Agreement (PTA), which laid out specific targets – in practice, an inflation target – that the Bank would aim to hit. Transparency was served by publicly announcing the PTA. Accountability was addressed by making the Governor's contract conditional on achieving the agreed upon targets; in principle, the Governor could be dismissed or not renewed for failing to attain the targets. The Reserve Bank Act and its implementation were bold initiatives that began the worldwide movement toward inflation targeting, the monetary policy regime now adopted by more than 20 central banks.

As in Sweden, fiscal reforms in New Zealand progressed more gradually. In the decade from the early 1980s, New Zealand sovereign debt was downgraded three times, from AAA to AA-. Estimates of default and liquidity premia on its debt ranged from about 125 basis points in 1990 to 75 basis points in 1994 (Hawkesby, Smith and Tether 2000) when the debt-GDP ratio had climbed to over 50 percent. Just as monetary policy became focused on a single objective – inflation targeting – fiscal reforms were designed 'to provide stable policies rather than stabilisation policies', as (Evans, Grimes, Wilkinson and Teece, 1996, p. 1863) put it.

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<sup>9</sup> Sweden is known for having unusually strong automatic stabilisers (Floden 2009, Calmfors 2009).

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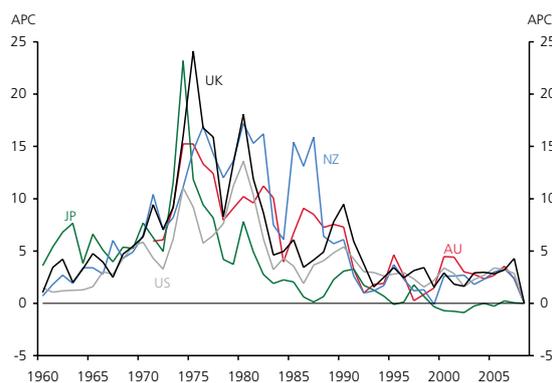
<sup>10</sup> Lloyd (1992) provides a nice overview.

Fiscal reforms culminated in the Fiscal Responsibility Act of 1994, which shifted focus from short-run economic and political issues to strategic and long-run objectives (Scott 1995). Out of the Act grew enhanced transparency in the form of detailed accounts and long-run projections, which are made public. It also mandates that sovereign debt levels should be at 'prudent levels', a mandate that is now interpreted as an informal debt target of 20 percent of GDP, a level that presumably will ensure that New Zealand sovereign debt is not assessed a substantial default premium.

### Summary

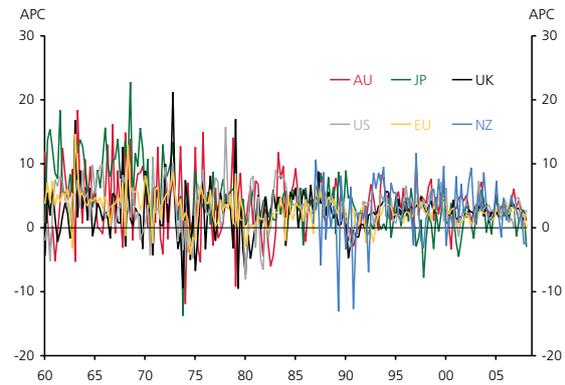
Many countries, in addition to Sweden and New Zealand, transformed their monetary policies, adopting either explicit or de facto inflation targeting. Advocates of the monetary policy transformation point to data like those depicted in figures 2 and 3 as evidence that the monetary transformation has been highly successful. Both the average level and the volatility of inflation across countries have declined markedly over the past 20 years (figure 2). And the success with inflation begat less variation in output growth in those same countries, a phenomenon that has been labeled, perhaps immoderately, 'the great moderation' (figure 3).

**Figure 2**  
Inflation rates in selected countries



Source: OECD Economic Outlook, various issues, and Reserve Bank of New Zealand.

**Figure 3**  
Output growth rates in selected countries



Source: OECD Economic Outlook, various issues, and Reserve Bank of New Zealand.

Those advocates attribute these two striking successes entirely to monetary policy reforms that have delivered better policies. But for many countries whose data appear in those figures, the years from the mid-1980s to 2007 were particularly benign, with only mild recessions and no large and persistent adverse economic shocks.<sup>11</sup>

Benign, that is, until now. The current global recession and financial crisis are testing the view that monetary policy alone can deliver good economic performance.

### 3 Parallels between monetary and fiscal policies

Despite the willingness of economists to concede that fiscal policy may drive inflation in extreme circumstances, such as hyperinflations, those same economists hold fast to the view that 'normally' monetary policy alone can control inflation, if only central bankers have sufficient resolve. I now develop the argument that in the realm of inflation control, as well as other matters, it is generically true that it is the joint behaviour of monetary and fiscal policy that matters, even in normal times.

Classic writings about macroeconomic policies recognised the inherent symmetry between monetary and fiscal policies. For example, Friedman's sweeping policy prescriptions

<sup>11</sup> In this same set of countries, New Zealand stands out as the exception, with the recession in the early 1990s producing large negative growth rates in GDP.

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treated the two branches of macroeconomic policy equally (Friedman 1948, 1960). In later years, when Friedman began to discuss monetary policy exclusively, his critics shot back that fiscal policy and government liabilities, such as debt, needed to be brought in as equal partners with monetary policy and money (Brunner and Meltzer (1974, 1972), Tobin 1974, 1980; Tobin and Buiter 1976).

The profound influence of Friedman's later work is apparent even today. Leading graduate textbooks in monetary economics by Walsh (2003), Woodford (2003) and Gali (2008) discuss monetary policy in tremendous detail with only scant, if any, reference to fiscal policy, and then only to acknowledge that the books' maintained assumptions serve to trivialise fiscal policy. Walsh (2003) does contain some discussion of fiscal theories of the price level, but treats them as distinct perspectives on macro policy, rather than as an integral part of a comprehensive view of price level determination. The bulk of the book, however, examines monetary policy in isolation from fiscal policy. Discussions by leading monetary economists about monetary frameworks and inflation targeting rarely, if ever, mention fiscal policy (Bernanke and Mishkin 1997; Bernanke, Laubach, Mishkin and Posen 1999; Rotemberg and Woodford 1999; Svensson 1999; Taylor 1999; Goodfriend 2005). Econometric models estimated at central banks typically treat fiscal policy in only the most perfunctory manner, if they include it at all (Brayton and Tinsley 1996; Smets and Wouters 2003, 2007; Harrison, Nikolov, Quinn, Ramsey, Scott and Thomas 2005; Adolfson, Laseen, Linde and Villani 2007).<sup>12</sup>

I will take the position that, despite the established tradition of treating monetary policy separately from fiscal policy, there are remarkable parallels between how monetary and fiscal policies operate on the macro economy and that these parallels are sufficient to lead us to think about transforming fiscal policy and fiscal institutions as many countries have transformed monetary policy and monetary institutions. Indeed, it makes little sense to reform monetary policy independently of fiscal policy.

Four important parallels stand out: macroeconomics impacts, the centrality of expectations for policy effects, ensuring government solvency, and the importance of transparency and credibility for policy effectiveness. In what follows, I focus on fiscal policy because much has already been written about these issues with regard to monetary policy.

### Macroeconomic impacts

Both monetary and fiscal policies can influence real economic activity and control inflation, and both do so with, in Friedman's (1961) famous phrase, 'long and variable lags'. That changes in tax distortions and government purchases can have important effects on the real economy is widely accepted. Empirical evidence suggests that for a variety of reasons, even changes in non-distorting taxes and transfers have real effects.

Fiscal policies play an important countercyclical role in many countries. Automatic stabilisers are built into tax codes and expenditure programmes that ensure that during economic downturns, tax burdens decline while government transfers increase, with the aim of cushioning individuals against declines in their incomes. In Sweden, for example, automatic stabilisers are large and have been relied on as nearly the sole source of countercyclical policies during the 2007-09 recession (Floden 2009, Borg 2009). 'Discretionary' policies, which require legislative action, are a form of countercyclical response that has played a major role in the current recession (examples of recent fiscal initiatives appear in Romer and Bernstein (2009), HM Treasury (2009a), Australian Treasury (2009) and New Zealand Treasury (2009).

Less well appreciated, and less studied, are the impacts of fiscal policy on inflation. Recent research under the rubric of the 'fiscal theory of the price level' argues that under certain assumptions about monetary and fiscal policy behaviour, it is fiscal policy, rather than monetary policy, that determines the price level and the rate of inflation.<sup>13</sup>

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<sup>12</sup> The International Monetary Fund's "Global Integrated Monetary Fiscal Model" is an important exception (Kumhof and Laxton 2008a).

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<sup>13</sup> These papers include Leeper (1991), Sims (1994), Woodford (1995, 2001a), Cochrane (1999), Gordon and Leeper (2006), and Leeper and Yun (2006), among many others.

At its most basic level, the fiscal theory brings to the foreground the role of an intertemporal equilibrium condition that in most monetary-only analyses of inflation is swept into deep background. This equilibrium condition, which equates the value of outstanding government liabilities – money plus bonds – to the expected present value of net-of-interest fiscal surpluses inclusive of seigniorage revenues, is ubiquitous in formal economic models and intrinsic to thinking about policy in dynamic economies. Schematically, the intertemporal equilibrium condition (IEC) is expressed as

*Market Value of Liabilities =*

*Expected Present Value of Future Net Real Surpluses (IEC)*

*where*

*Net Real Surpluses = Total Revenues + Central Bank Seigniorage*

*– Government Consumption & Investment – Government Transfer Payments*

Importantly, the expected present value of surpluses reflects the beliefs that holders of government liabilities have about the entire future paths of the policy variables that constitute net surpluses.

It is natural to interpret the IEC as a valuation formula for liabilities (Cochrane 1999). Government liabilities derive their value from their anticipated backing. That backing comes from the government's ability to raise revenues through direct taxes or through inflation taxes, as well as the ability to reduce spending obligations.

Following an economic disturbance that perturbs the equality in the IEC, equilibrium can be reestablished through some combination of adjustments in the value of the liabilities – prices of bonds or the general price level – or in expected surpluses.<sup>14</sup> Stark forms of monetary or fiscal theories of price level determination are distinguished by assumptions about how equality of the IEC is achieved.

<sup>14</sup> Of course, the discount rate can also play a role in the adjustment process, as empirical work seems to suggest (Chung and Leeper 2007; Leeper, Plante, and Traum 2009).

Monetary theories assume adjustment occurs primarily through surpluses, typically in some non-distorting way, such as via lump-sum taxes. In this manner, monetary policy is free to determine the price level – as it does in characterisations of inflation-targeting central banks – and thereby the value of government liabilities. Fiscal policy is relegated to a supporting role, as it is required to adjust future surpluses sufficiently to ensure the IEC holds. This monetary-fiscal policy regime is variously referred to as 'monetary dominance' (Sargent 1982); 'monetarist/Ricardian' (Aiyagari and Gertler 1985); or 'active monetary/passive fiscal policy' (Leeper 1991). Of course, fiscal policy's supporting role is essential for monetary policy to be able to control inflation. If fiscal policy is unwilling or unable to provide appropriate support, monetary policy will lose control of inflation, a point that has been forcefully made by Sims (2005) in the context of inflation targeting and by Cochrane (2009) in reference to current macro policies.

Fiscal theories posit that surpluses do not systematically adjust to establish the IEC, so adjustment must occur through the market value of liabilities. Because liabilities are denominated in nominal, or dollar, terms, changes in the price level alter their real value: a higher price level reduces their value and requires less backing from future surpluses. Alternatively, when government bonds have long maturities, their prices can adjust, which changes long-term interest rates and, therefore, expected inflation (Cochrane (2001)). Now monetary policy plays the supporting role by allowing to occur the fluctuations in the inflation rate that are needed to stabilise debt. The policy regime underlying the fiscal perspective is called 'fiscal dominance', 'non-Ricardian', or 'passive monetary/active fiscal policy'.<sup>15</sup> Symmetrically, if monetary policy fails to provide support, then fiscal policy cannot control the price level.

<sup>15</sup> There is evidence that macroeconomic policies in some countries have been consistent with the fiscal theory equilibrium (Cochrane 1999; Sims 2001, 2008 and Woodford 2001a). Davig and Leeper (2006, 2009) pursue the plausible idea that monetary and fiscal regimes fluctuate over time, bouncing among mixes of the two policies, according to estimates of policy behaviour. In that environment, the fiscal mechanisms are always at work.

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Two striking conclusions emerge from the fiscal theory: newly issued nominal government debt is inflationary; and increases in nominal interest rates induced by monetary policy behaviour raise rather than lower inflation. Sims (2008) nicely summarises the mechanisms at work:

‘Increases in nominal debt in the hands of the public that are not accompanied by any increase in expected future tax liabilities or by any increase in the price level leave the public with apparently increased wealth, which they will try to spend, until price increases erode their wealth or expectations about future taxes or economic growth make them scale back spending. In these circumstances, an increased nominal interest rate flows directly through to increased nominal government spending. In a flexible price model, the monetary authority loses any ability to affect the price level, as interest rate increases increase the rate of expansion of nominal government debt without any restrictive effect on spending plans [p. 2].’

Two key roles of macroeconomic policies – output stabilisation and price level control – can be achieved by either monetary or fiscal policy. Successful regimes that assign these tasks to either monetary or fiscal policy alone, however, require that the other policy cooperate by playing the appropriate supporting role.

### Role of expectations

A central tenet of modern economic analysis is that households and firms base their decisions, in part, on how they expect economic conditions to evolve in the future. Because future policies influence future economic conditions, economic agents must also form expectations over how policy choices will evolve. For monetary policy this forward-looking behaviour implies that both the current policy interest rate and the *expected path* of interest rates indicate the stance of monetary policy that determines the impacts of policy. As Woodford (2001b) puts it: ‘...successful monetary policy is not so much a matter of effective control of overnight interest rates...as of affecting...the evolution of market *expectations*...’ (p. 307).

Transparency and clear communications are most important when people make forward-looking decisions. Most central

banks now try to include in their communications with the public some information about the ‘tilt’ or the ‘risks’ to policy, revealing to some extent where the central bank thinks policy is headed. A handful of innovative central banks have taken communication about future policy to the next level. These banks, which include Canada, New Zealand, Norway, and Sweden, announce what they believe is the most likely path for the policy interest rate over the forecast horizon.

What’s true about the role of expectations in transmitting the effects of monetary policy is true in spades about fiscal policy. There is substantial evidence that households and firms respond to tax changes at the time the changes are announced, which typically is before the changes are implemented (Poterba 1988, 1989; Steigerwald and Stuart 1997; Auerbach and Slemrod 1997; Ramey and Shapiro 1998, Ramey 2007). Moreover, economic theory is unambiguous in its predictions: anticipated changes in taxes or government spending can have large effects on economic behaviour (Yang 2005; Mertens and Ravn 2008, Leeper, Walker and Yang 2008, 2009a).

Some kinds of taxes, such as those on savings, operate entirely through expectations. Consumption-savings decisions are influenced, not by the current tax rate on savings, but by the expected tax rate because it is the tax rate in the future that affects the expected return to saving. Firms’ production and employment decisions depend on anticipated taxes on profits and payrolls. Government infrastructure spending, which takes time to reach fruition, gets transmitted to the macro economy through its impacts on expected productivity and anticipated returns to labour and capital (Leeper, Walker and Yang 2009b). These are examples of how the direct effects of fiscal decisions can operate through expectations.

Expectations also play a key role in determining the indirect effects of fiscal actions. A quantitative sense of the potential importance of expectations in fiscal policy can be gleaned from estimates of fiscal effects in the United States taken from Leeper, Plante and Traum (2009). These estimates come from a neo-classical growth model estimated on post-war US data. The model includes rich fiscal detail, including policy rules for government spending, lump-sum transfers, and distortionary taxation on labour and capital income and on consumption expenditures. It also allows for debt

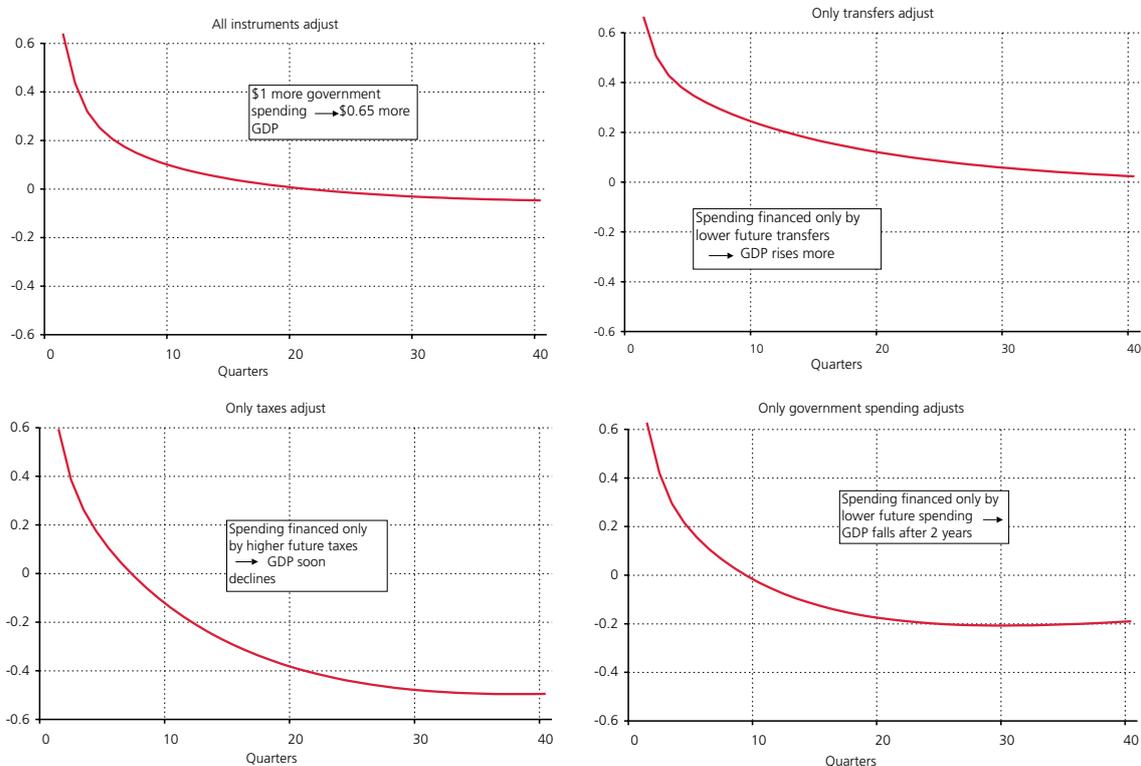
dynamics, so spending increases or tax cuts are financed initially by selling government debt. Both the timing and the sources of fiscal adjustments that eventually retire debt back to its initial level are determined by historical experience.

Figure 4 reports conventional impact multipliers that report the dynamic effects of an initial \$1 increase in government spending on GDP. The top left panel is the best fitting model in Leeper, Plante and Traum (2009) in which all fiscal instruments adjust to finance increases in government debt. In the short run, output rises by about \$0.65, and then smoothly declines, with essentially no effect after about 5 years. The remaining panels of the figure report the effects under counterfactual assumptions about which future instruments will adjust to stabilise debt. When only lump-sum transfers are cut in the future (top right panel), the output multipliers are uniformly larger. If future government spending is cut (bottom right panel), the multiplier turns negative after about 2 years and reaches a trough at  $-\$0.20$ .

But when future capital and labour taxes are expected to rise (bottom left panel), the multiplier becomes negative in a little more than a year and then falls to  $-\$0.50$ . This figure emphasises that because dynamics play such a central role in transmitting fiscal policy, fiscal effects in the short run can differ dramatically from long-run effects.

Differences among fiscal financing schemes emerge because forward-looking economic decision makers understand the nature of the fiscal rules in place and adjust their behaviour accordingly. Although future fiscal financing considerations are indirect, they can be of first-order importance in projecting the impacts of, say, a fiscal stimulus engineered by increasing government spending. As the bottom two panels of the figure make clear, the stimulus may be short-lived and even counterproductive if people believe that future government spending will be cut or future taxes will be raised.

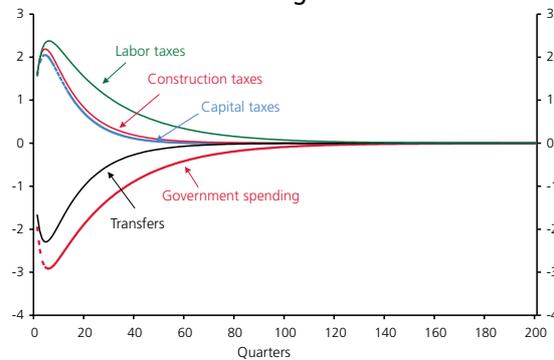
**Figure 4**  
**Government spending impact multipliers for output under alternative assumptions about fiscal financing**



Top left panel is the best fitting model in Leeper, Plante and Traum (2009) in which all fiscal instruments adjust to finance the increase in government debt; top right panel only lump-sum transfers adjust; bottom right panel, only government spending adjusts; bottom left panel, only capital and labour taxes adjust. Vertical scale is dollars of output following an initial increase in government spending of \$1. Source: Leeper, Plante and Traum (2009).

With an estimated model of fiscal policy in hand, we can ask: ‘How long does it take for present-value balance to occur – that is, for the intertemporal equilibrium condition to be established – following fiscal disturbances that change the level of government debt outstanding?’ The answer from US data is: a very long time indeed; on the order of 25 to 35 years. Figure 5 answers the closely related question: ‘What fraction of a 1-unit change in government debt in quarter  $t$ , due to each of the five fiscal shocks, is financed by period  $t + K$ , where  $K$  is determined by the quarters on the x-axis?’ This is really about the discrepancy between the two sides of the IEC when the left side changes by 1 unit and the right side is truncated  $K$  periods into the future. Regardless of the fiscal shock, the discrepancy widens in the short run before the gap begins to close. The gap closes faster for some shocks than for others, and in all cases, the gap is still substantial even 10 years after the initial change in fiscal policy.<sup>16</sup>

**Figure 5**  
**Government debt-funding horizons**



For each of five fiscal shocks – labor taxes, consumption taxes, capital taxes, transfer payments, government spending – using the mean estimates of posterior draws from the best fitting model in Leeper, Plante and Traum (2009) where all fiscal instruments adjust to debt. The figure can answer the question, ‘What fraction of a 1-unit innovation in government debt in quarter  $t$ , due to each of the five fiscal shocks, is financed by period  $t + K$ , where  $K$  is determined by the quarters on the x-axis?’ Source: Leeper, Plante and Traum (2009).

<sup>16</sup> Leeper, Plante and Traum (2009) show through alternative counterfactual exercises that accelerating or decelerating fiscal adjustments – so the gap closes faster or slower – can have important consequences for the impacts of fiscal policy.

Figures 4 and 5 underscore three points about fiscal policy dynamics. First, fiscal effects depend strongly on expected future financing; even the signs of government spending multipliers can change under alternative financing schemes. Second, fiscal dynamics are long-lived, extending many decades into the future. Third, fiscal impacts can change dramatically over time, so the total effect of a fiscal stimulus may be quite different from the initial effect. Each of these points connects explicitly to the role that expectations play in transmitting fiscal policy.

### Ensuring government solvency

Either monetary or fiscal policy can ensure that the government is solvent, as touched on above. Conventional wisdom has increases in government debt backed by some combination of higher future taxes and lower future government expenditures; these are the adjustments that occur in figures 4 and 5. ‘Passive’ fiscal policy, which delivers this backing, is the most prevalent maintained assumption about fiscal behaviour.<sup>17</sup>

But as the IEC makes clear, other adjustments can occur to establish equilibrium. Here I mention three potential adjustments. First, Sargent and Wallace (1981) study an environment in which government debt is indexed to inflation, there is a threshold level of government debt that the public is willing to hold, and taxes and expenditures are unresponsive to the state of government debt. Government rolls over debt until it reaches the threshold beyond which people are unwilling to absorb new debt issuances. At this point, the only option available to ensure solvency is to print money to generate seigniorage revenues, as countries did during the hyperinflations discussed in section 2. This raises the seigniorage component of net surpluses on the right side of the IEC. Sargent and Wallace’s point is that, in such an environment, the central bank loses control of inflation because the required inflation tax is driven by fiscal considerations.

<sup>17</sup> Passive fiscal policy does not preclude periodic episodes in which fiscal instruments do not adjust to debt, so that debt grows rapidly for some time. But bond holders must believe that eventually the adjustments will occur. Davig (2005) applies this reasoning in his tests of the sustainability of US fiscal policy.

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A second set of adjustments that ensure solvency can arise when government issues nominal debt, rather than indexed, or real, debt. With outstanding nominal debt, the stage is set for the fiscal theory to operate. Debt can be revalued by changes in the price level that guarantee equality holds in the IEC. Once again, as the quotation from Sims (2008) above emphasises, monetary policy loses control of the price level. Fiscal theory adjustments have no necessary connection to the seigniorage mechanism that Sargent and Wallace (1981) emphasise, although some authors have linked the two mechanisms (King 1995). Whereas seigniorage financing typically implies persistently higher money growth and inflation, the fiscal theory mechanism is more subtle and difficult to detect in data.

In all the potential adjustments just discussed – fiscal instruments, money creation, and price-level changes – the maintained assumption is that the government cannot default outright on its debt obligations.<sup>18</sup> This assumption is at odds with how financial markets operate in practice, a fact into which treasuries and ministries of finance around the world are well tuned.

Fears of sovereign debt default in several countries have arisen during the recent global recession. In July 2009, Irish government debt was downgraded to AA and its risk premium over German bonds was nearly 3 percentage points. In May even the venerable UK had its sovereign bond rating placed on ‘negative watch’ in response to forecasts that government debt as a share of GDP will reach 100 percent and remain there for the medium run.

More generally, countries are frequently penalised with risk premia when their macroeconomic fundamentals or their fiscal policies raise concerns about the riskiness of their government debt (Bi 2009). New Zealand government debt was downgraded from AAA to AA- over the period from 1983 to 1991 when net government debt grew to a peak of a bit over 50 percent of GDP. Because risk premia are costly, making debt service consume a larger fraction of government expenditures, New Zealand adopted the fiscal reforms discussed above in section 2.

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<sup>18</sup> But a type of default, surprise revaluations of debt, does occur under the fiscal theory.

Even in the face of default risk and concerns about a country’s fiscal soundness, the intertemporal equilibrium condition, IEC, continues to hold. Risk premia serve to reduce the value of outstanding debt, reducing the left side of the IEC to line up with expected future surpluses.

Taken literally, government ‘insolvency’ means that a government’s debt obligations exceed its ability to back the obligation: the left side of IEC exceeds the right side. But such an outcome is difficult to rationalise in an economy with well-informed and forward-looking investors because the IEC is a condition of economic equilibrium. So long as there is some positive price that investors are willing to pay for a government’s debt, IEC must hold and the government is not insolvent.

The IEC shifts the focus from ‘solvency’ to the notion of ‘risk-free’ policy. As Bi (2009) shows formally, risk-free policies ensure that in the face of shocks to economic fundamentals, the probability is negligible that an economy will reach its fiscal limit and investors will demand a risk premium to hold the government’s bonds.<sup>19</sup>

Monetary and fiscal policy both play a role in delivering risk-free policies that keep government debt at a level where the IEC can be satisfied without investors building in a risk penalty.

### Most effective when transparent

Transparency of policy has been interpreted by fiscal authorities as referring to tracking how tax revenues get spent, achieving ‘value for money’ from government programmes, following accepted accounting standards, and conducting policy in an open and public way. These laudable goals have been codified by the International Monetary Fund

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<sup>19</sup> Bi (2009) distinguishes between the “natural fiscal limit” and the “maximum level of debt”. A natural limit corresponds to the maximum tax revenues an economy can raise – the peak of the Laffer curves – when the IEC reflects the present value over the infinite future. Maximum level of debt is designed to reflect the populace’s tolerance for government debt accumulation. It is derived by setting tax rates at the peak of the Laffer curve, but truncating the present value at some finite period to reflect a concern about policy only over the ‘foreseeable’ future, rather than the infinite future. Bi interprets this lower debt threshold as the maximum level of debt an economy is able to service over some foreseeable horizon.

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(International Monetary Fund 2007a,b). But these goals are really the minimal standards that a democratic society should expect from its government.

Central banks have pushed transparency to a higher plane. They take for granted that their decisions – both policy and non-policy – will be scrutinised by legislators, economists and the public. This intense scrutiny has led the most transparent central banks to reveal to the public in written documents, public speeches, and news conferences three key aspects of their decision making processes: the objectives of monetary policy and the means by which the central bank tries to achieve the objectives; and the central bank's views of the current state of the economy, including its understanding of the sources of shocks to the economy in the recent past and; the central bank's forecasts of important economic variables, including at least some discussion of where future policy is likely to head. In sum, a transparent central bank communicates to the public whatever information it possesses that will help the public form its views about current and future states of the economy, which includes policy choices.

Using central banks as the model sets the transparency bar quite high for fiscal authorities. It also fundamentally redefines 'transparency'. To central banks, transparency is a means to the end of enhancing the effectiveness of monetary policy. By informing the public about the 'hows' and the 'whys' of monetary policy choices, efforts at transparency are designed to anchor the public's expectations of policy and of the targets of policy. In principle, transparency also reduces macroeconomic uncertainty by taking some of the guesswork out of policy intentions. Transparency, then, is a monetary policy tool that makes the central bank's other tools work better.

Fiscal transparency, as it is typically perceived, is less about the 'hows' and 'whys' of tax and spending decisions and more about establishing the integrity of, and instilling trust in, the fiscal policy process. With only a few minor exceptions, efforts at fiscal transparency do little to anchor expectations of future policy choices and, therefore, may not directly improve fiscal policy's efficacy.

Figure 4 illustrates that whether a government spending stimulus will successfully stimulate depends on how the

public believes policy will adjust in the future to finance the higher spending. If the fiscal authority anticipates the new debt will be financed as debt has been historically (upper left panel), but the public believes future taxes will rise (lower left panel), the fiscal initiative could fail to stimulate the economy and could even cause output to contract sharply within a short time. When the public's expectations of fiscal financing are not aligned with the policy authority's, the impacts of fiscal actions become less predictable and, as the figure illustrates, can be counterproductive. This example highlights why it may be desirable for fiscal authorities to think about transparency as central banks do: anchoring expectations by providing information about what policies might occur in the future.

## 4 Fiscal transparency and predictability

For many reasons, it is not an easy task to enhance fiscal transparency by providing information that helps to anchor expectations of future fiscal choices. The two most prominent reasons offered for the difficulties are:

- (1) fiscal policy is complex; and
- (2) current governments cannot commit future governments.

These reasons are true. But they also underscore why enhanced fiscal transparency is potentially so valuable.

### Complexity

Whereas in normal times the central bank conducts routine monetary policy by setting one or two instruments – an overnight interest rate and possibly a rate at which commercial banks can borrow from the central bank – the fiscal authority routinely sets a seemingly endless array of instruments.<sup>20</sup> There is a long list of tax rates on various sources of income and types of consumption and investment

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<sup>20</sup> **In response to the current recession, central banks have pursued a number of non-standard policies, which have greatly expanded the effective number of instruments. But this has been a reaction to highly unusual circumstances, so presumably when times return to normal, central banks will go back to manipulating their usual instruments.**

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expenditures. Tax codes can be enormously complicated and imply highly non-linear tax functions. Government spending falls on a large variety of goods and services with different characteristics and potentially different impacts on the macro economy. Taxes and transfer payments affect income distribution and can have profound effects on economic incentives.

Fiscal decisions are taken by many actors with many motives. Political factions arise in response to some issues and dissolve in response to others. Lobbyists and groups representing small constituencies can have disproportionate influence on fiscal outcomes. Fiscal decisions, which are taken in the political realm, can be difficult for the public to understand, much less forecast.

Further complicating the fiscal decision process is a stunning fact: a clearly defined and attainable set of objectives for fiscal policy is rarely specified. Many fiscal authorities lay out their objectives on their web pages. Sustainable fiscal policy is the most common goal. But achieving sustainable policy is equivalent to aiming to avoid government insolvency. If a company's CEO were to announce to shareholders that the company's overarching goal is to avoid bankruptcy, the CEO would soon be replaced. Surely people can ask for more than minimal competence from their public officials.

Treasuries and ministries of finance, of course, do list objectives in addition to achieving sustainable policies. In fact, they tend to list many objectives to which they do not attach weights and whose internal compatibility is not discussed. Here is a sampling of objectives gleaned from the web pages of fiscal authorities in Australia, New Zealand, Sweden, the UK, and the US:<sup>21</sup> achieve high and sustainable economic growth; improve living standards; promote a sound macroeconomic environment; reduce labour market exclusions; strengthen national security; encourage global economic growth; predict and prevent economic and financial crises; raise productivity; deliver conditions for business success; maximise employment opportunity; combat climate change; reduce poverty at home and abroad; equalise income distribution; support low inflation; build

<sup>21</sup> Sources include Australian Treasury (2008), New Zealand Treasury (2003), Government Offices of Sweden (2009), HM Treasury (2009b), US Department of the Treasury (2007).

infrastructure; reduce smoking; minimise deadweight losses.

The list could go on. In contrast, central banks in those same countries list their objectives as: maintain price stability; maintain full employment; ensure the safety and soundness of the financial system; promote moderate long-term interest rates; supply legal tender. This contrast highlights one reason that it is difficult for fiscal authorities to communicate about their future intentions: when fiscal objectives are diffuse and not prioritised, the public's expectations of fiscal actions will be equally diffuse and ill formed.

There is no disputing the complexity of fiscal policy. But complexity argues for *more* transparency, not less. The more ways that fiscal initiatives insinuate themselves into the public's decisions and the macro economy, the greater is the need for government to communicate with the public about the precise range of initiatives and their likely impacts. Fiscal complexity as an argument against enhanced transparency is a red herring.

### Inability to precommit

The second major stumbling block to improved fiscal transparency stems from the well-known problem of the time inconsistency of government plans and has been invoked as a rationale for policy-makers to follow rules, rather than apply discretion to their policy-making (Kydland and Prescott 1977). Mankiw (2006) clearly explains the problem:

'In some situations policymakers may want to announce in advance the policy they will follow to influence the expectations of private decisionmakers. But later, after the private decisionmakers have acted on the basis of their expectations, these policymakers may be tempted to renege on their announcement. Understanding that policymakers may be inconsistent over time, private decisionmakers are led to distrust policy announcements. In this situation, to make their announcements credible, policymakers may want to make a commitment to a fixed policy rule.'

Time inconsistency applies to monetary policy, but it has been consciously attenuated by various institutional arrangements, such as a clearly stated objective like inflation targeting and other features that insulate central bankers

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from political pressures that might induce monetary policy-makers to renege on their previously announced plans.

Fiscal policy is rife with sources of time inconsistency. Fiscal actions that operate directly through expectations formation, by their nature, change future states of the economy, which can trigger future policy shifts. Elected governments are often short-lived and have no mechanism to force future governments to follow through on earlier promises.<sup>22</sup> Short-lived governments can also be short-sighted and pursue policies that leave fiscal messes, which future governments must clean up.

Some countries have made progress toward dealing with time inconsistency problems by adopting targets or rules for fiscal variables. Sweden imposes a nominal limit on government spending and it aims for a fiscal surplus of 1 percent of GDP. New Zealand has an informal net debt target of 20 percent of GDP. Members of the Euro Area are expected to obey the limits set by the Growth and Stability Pact – total annual deficits may not exceed 3 percent of GDP and debt may not exceed 60 percent of GDP. The UK follows a ‘Code for Fiscal Stability’ that usefully distinguishes between current account and capital account expenditures and then applies the golden rule, which requires current account budgets to be balanced over the business cycle. Since the mid-1980s, the US has flirted with a variety of efforts to rein-in fiscal deficits – ranging from Gramm-Rudman-Hollings to PAYGO. All of these measures were adopted more for reasons of sustainability than for transparency; they are ways of ensuring that fiscal policy does not get too out of whack.

To a limited degree, the rules may contribute to transparency. If government debt is currently above its target level – and the target is credible – then the public knows that in the future, taxes must rise or spending must fall. This information helps expectations formation by eliminating some possible beliefs; for example, high debt will not be permitted to persist or to rise still more. Unfortunately, experience does not inspire confidence in the credibility of existing rules. When France and Germany violated the Growth and Stability Pact, the pact was watered down. Creative accounting or exemption

of bills has allowed the US Congress to circumvent every effort to impose fiscal discipline.

More generally, existing rules may be sufficient to deliver sustainability, but they are only necessary for achieving transparency. Rules that contribute importantly to transparency need to deal with the specifics of how sustainability is to be assured – which taxes and what spending will adjust and when will they adjust – and why the government is opting for the specified adjustments. Governments are far from providing this kind of information, which will help the public form reasonable expectations of future policies.

The argument that governments cannot precommit to future policies applies with equal force to the types of fiscal rules that countries have already adopted as it does to the kinds of details that will help to guide the public’s beliefs. Inability to precommit has also been raised by opponents to central bank moves to announce forward tracks for the policy interest rate. Experience in countries that announce tracks suggests that policy observers understand that the tracks are not commitments; they are state-contingent indications of where monetary policy is headed, which do not bind future decisions (Archer 2004). But the act of announcing a track imposes discipline on central bankers and forces them to think dynamically about their policy choices. Evidence also suggests that announced tracks help guide financial market expectations of interest rates.

Identical reasoning applies to fiscal policy. Regardless of how much information the fiscal authority supplies to the public, people are going to form expectations of future taxes and spending. Those expectations can be informed by the policy-makers who choose fiscal variables or they can be diffuse, drawn solely from historical evidence or other sources of information, such as talk radio. Fiscal authorities who fail to offer information that anchors expectations run the risk that figure 4 illustrates: fiscal initiatives can have unintended consequences.

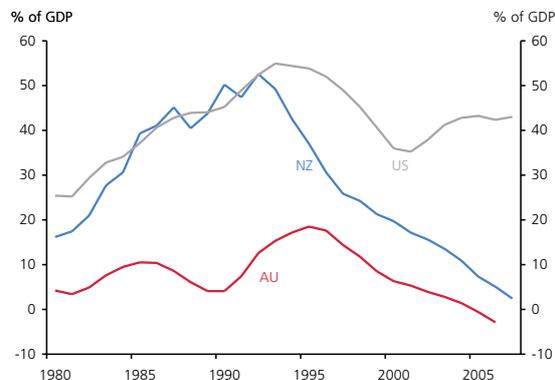
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<sup>22</sup> These issues arose in the debate that led to passage of New Zealand’s Fiscal Responsibility Act in 1994 (Scott 1995).

## 5 Transparency going forward

Until the current global recession hit, many countries' fiscal positions were improving. Figure 6 shows that in Australia, New Zealand, and the US, the past two decades had seen steady declines in government debt as a share of GDP. New Zealand's net debt fell from a peak of over 50 percent in the early 1990s – when the debt was also downgraded by bonding agencies and interest rates on debt embedded a risk premium – to under 5 percent before the recession affected the country's public finances.

**Figure 6**  
**Net government debt as a percentage of GDP in Australia, New Zealand and the US**



Source: OECD Economic Outlook, various issues.

Declining indebtedness boded well for how these countries would enter a prolonged period in which their ageing populations would impose growing demands on the government in the form of old-age pensions and health care. Some countries, like Australia and New Zealand but unlike the US, have planned for these inevitable demands by creating superannuation funds (Janssen 2001; Gruen and Sayegh 2005).<sup>23</sup> The current economic downturn may disturb those plans by placing countries in a worse fiscal state going forward. In the US, for example, fiscal stimulus bills, financial rescues, and the Obama Administration's 2009-10 budget are expected to double the debt-GDP ratio over the next decade, from 40 percent to 80 percent (Congressional Budget Office 2009a).

Figures 7 through 9, overleaf, show long-term projections

<sup>23</sup> Norway's sovereign wealth fund is another well-known example. Sweden's surplus target of 1 percent of GDP is designed, in part, to finance its ageing population.

of debt-GDP ratios for the US, Australia and New Zealand.<sup>24</sup> Fiscal agencies produce such projections making assumptions about non-discretionary and discretionary spending, economic growth, inflation rates, immigration patterns, and so forth. Importantly, the projections do not embed assumptions that future surpluses will adjust to stabilise debt. They also rule out other potential adjustments, including various forms of renegeing on future spending commitments.<sup>25</sup> Evidently, fiscal issues will remain on the front burner for many years to come.

What can we learn from such projections? Two things. First, under the maintained assumptions, debt will grow exponentially in these countries. Second, the maintained assumptions – which produced the exploding debt paths – cannot possibly hold. We learn the second point from the intertemporal equilibrium condition. Figure 7 implies that within our children's lifetimes, US debt will exceed the fiscal limit, violating the IEC.<sup>26</sup> These projections are public information and well understood by investors who continue to buy these government bonds without demanding a risk premium. Why do they continue to buy bonds? Because their expectations of future policy adjustments are at odds with the projections' maintained assumptions. In sum, figures of exploding debt paths, which fiscal authorities around the world routinely publish, arise from economic behaviour that is not happening and which flies in the face of basic economic logic.

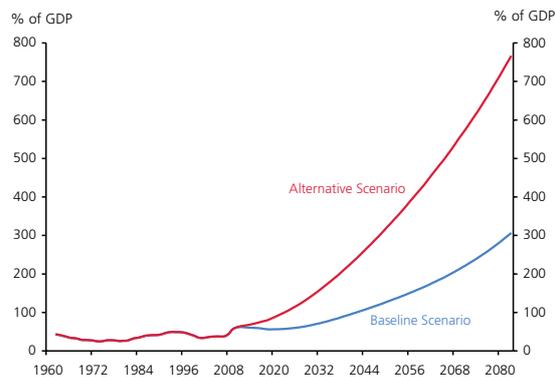
Having the future inherit larger government debt is problematic for several reasons. First, higher debt entails higher debt service and more government expenditures

<sup>24</sup> Australian projections are from Australian Treasury (2007), so the short-run outlook does not reflect recent developments. The latest projections from the 2009-2010 budget now have net debt rising to about 14 percent of GDP by 2012 and remaining positive up to the end of the projection period, 2019 (Australian Treasury 2009). Similarly, New Zealand projections are from New Zealand Treasury (1'2006) and the 2009 budget forecasts that gross debt will be over 40 percent of GDP by 2014 (New Zealand Treasury 2009).

<sup>25</sup> Renegeing could be outright repudiation of the commitment or it could be more subtle. For example, eligibility ages for pensions could be increased or some benefits could be taxed.

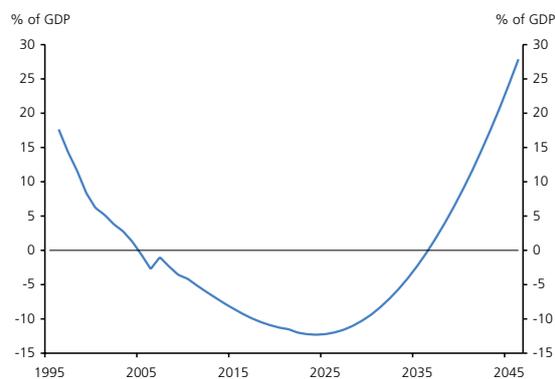
<sup>26</sup> The US fiscal limit is unknown, but I imagine it implies something less than a 300 percent debt-GDP ratio.

**Figure 7**  
 Long-term projection of government debt as a percentage of GDP in the US  
*(Baseline scenario assumes current law remains in place; alternative scenario incorporates some policy changes that are widely expected to occur)*



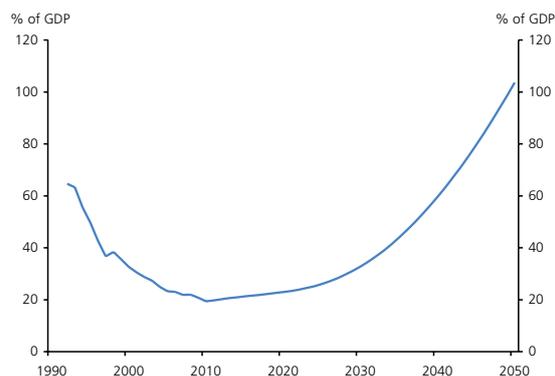
Source: Congressional Budget Office (2009b).

**Figure 8**  
 Long-term projection of net government debt as a percentage of GDP in Australia



Source: Australian Treasury (2007).

**Figure 9**  
 Long-term projection of gross sovereign-issued debt as a percentage of GDP in New Zealand



Source: New Zealand Treasury (2006).

must be devoted to paying interest on outstanding debt. Historically, countries have found that higher debt service crowds out other forms of government expenditures. Second, as the intertemporal equilibrium condition implies, higher debt requires higher present-value surpluses. But that present value is bounded: as a share of GDP, tax revenues have some maximum level and spending has some minimum level. At those levels, the natural fiscal limit is reached and the economy cannot support a value of debt higher than that limit. By pushing more debt into the future, current policies move debt closer to the fiscal limit, which places restrictions on fiscal flexibility in the future. But the future is when the fiscal consequences of ageing populations come home to roost; it is precisely when fiscal flexibility is most needed.

Additional reasons that higher debt is problematic tie back to transparency. Higher levels of interest payments require larger future fiscal adjustments. If the public is uncertain about the hows and whys of those adjustments, the macroeconomic consequences of the move to higher debt will be difficult to predict. But there is another more fundamental issue. In countries without guidelines governing debt levels, large debt run-ups leave unanswered a question that is critical to the public's formation of expectations: will the economy settle in at the new, higher level of debt or will policy endeavour to retire debt back to its previous level or some other level? The answer to this question is central to the public's ability to form reasonable fiscal expectations.

Many industrialised countries are heading into an extended period of heightened fiscal activity. Transparency will be more important than ever in the face of the inevitable public debates about how to handle the looming fiscal challenges.

## 6 Steps towards fiscal transparency

To be clear, by fiscal 'transparency' I mean having the government bring current and future fiscal decisions into the public debate. In this sense, transparency is really about anchoring fiscal expectations and raising the level of discourse about fiscal policy effects and financing options. Although, for the reasons discussed in section D, it is

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difficult for fiscal policy to achieve a degree of transparency comparable to that in central banks, fiscal authorities could nonetheless *strive* to achieve it. This section lays out some steps that would enhance the transparency of fiscal policy-making institutions.

### More sophisticated projections

Section 5 argues that the long-term projections in figures 7 through 9 cannot describe actual outcomes. Are such projections useful? Some would argue that they are because they make the point that in the absence of substantive changes in fiscal policies, policy is not sustainable. But this observation alone is of limited utility. First, we hardly need pictures showing that the debt-GDP ratio could reach 500 percent in 50 years to tell us that current policies cannot persist. Second, because the figures depict a scenario that cannot occur, they do nothing to help the public form expectations about how policies are likely to change. Third, the process that creates such projections is not sufficiently dynamic: 'current policy' is an incomplete description of fiscal behaviour because it ignores the fact that 'future policy' can, and certainly will, be different.

Fiscal authorities could produce more sophisticated projections, grounded in economic reasoning, that characterise outcomes that, as a matter of economic logic, could occur. A minimal requirement is that the projections ensure that, among other things, equilibrium condition IEC is satisfied. Of course, there are many ways that the equilibrium condition can be made to hold. Transparent projections would then present a menu of the more interesting and relevant adjustments and show how other aspects of the macro economy are likely to evolve under each contemplated adjustment. For example, it would be interesting to report the consequences of the types of financing schemes underlying figure 4. This would force policy discussions to focus on the economic substance of fiscal issues. It could also serve to expose specious fiscal arguments that consist of political rhetoric and are devoid of economic support.

Figure 4, however, depicts a limited class of adjustments because the economic model behind the figure assumes that regardless of what happens to government debt in

the short run, eventually it is retired back to its long-run average. Additional interesting scenarios would examine how outcomes would change if debt were to settle down at a permanently higher (or lower) level.

### Independent oversight

Some fiscal authorities, following their monetary brethren, have opened themselves to external scrutiny by establishing fiscal policy councils. Councils' remit varies from independent fiscal authorities (Belgium) to large government-run agencies that prepare assessments of fiscal proposals (the Netherlands, the US) to independent 'academic' agencies that evaluate whether the government's fiscal objectives are being achieved (Austria, Denmark, Hungary and Sweden).<sup>27</sup>

Kirsanova, Leith and Wren-Lewis (2006) make an institutional proposal grounded in economic theory. They argue that optimal fiscal policy has debt, rather than tax rates, act as a shock absorber. To smooth tax distortions, debt follows a random walk, implying that debt targets produce sub-optimal outcomes.<sup>28</sup> They find, though, that the optimal fiscal rules are sufficiently complex as to not be practically implementable. Instead of advocating those rules, Kirsanova, Leith and Wren-Lewis propose that the UK establish a fiscal council that would produce annual long-term projections and assess sustainability and optimality of the government's plans. The council could also publish its preferred adjustments to policy. In Kirsanova, Leith and Wren-Lewis's proposal, a fiscal council serves as a surrogate for a fiscal policy rule. Wyplosz (2005, 2008) takes this idea further to advocate the creation of independent fiscal policy committees with more bite. Modelled after central banks, Wyplosz's proposal gives the committees the task of achieving debt targets and the authority to set or recommend deficits.

Even 'soft' fiscal policy councils like those manned by academic economists can contribute to fiscal transparency by raising the right questions about policy. If current policies are unsustainable, which set of policies will set things right?

<sup>27</sup> Early proposals along these lines appear in von Hagen and Harden (1994).

<sup>28</sup> The random walk result is sensitive to how the possibility of debt default is handled. Pouzo (2009) shows that it breaks down in the presence of incomplete markets and endogenous default. See also Bi (2009).

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What are the macroeconomic effects of various policies that stabilise debt? Why does the government favour one policy over another? Are the government's guidelines for sustainability appropriate or too harsh?

It is critical for the council to have a public forum. In Sweden, for example, the chair of the Swedish Fiscal Policy Council gives annual testimony before the Riksdag (the parliament) and the council's annual report is used by the Riksdag to evaluate the government's policies (Swedish Fiscal Policy Council (2008, 2009)). If councils offer independent and intellectually credible evaluations that receive public attention, the quality of public discussion of fiscal policy will rise well above its current levels.

### Agree on broad principles

If fiscal authorities were given relatively narrow objectives, just as many legislatures have done for their monetary authorities, those objectives would need to be achievable and verifiable. This would require arriving at a political consensus on the goals of government spending and tax programmes. To a large extent, fiscal decisions would then be a technical matter, just as many monetary policy decisions are now.<sup>29</sup>

I recognise that this is an exceedingly Panglossian perspective. Even small, largely homogeneous populations would have difficulty reaching consensus on the goals of fiscal policy. But perhaps it is possible for elected officials to reach agreement on some broad principles of fiscal policy. Without advocating them, I can offer some examples of such principles:

- reduce the complexity of current tax and spending rules;
- raise revenues in the least inefficient manner possible;
- use spending and transfer programmes, rather than taxes, to achieve social goals, such as income redistribution;
- include (or not include) automatic stabilisers in fiscal policy rules;

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<sup>29</sup> This is the aim of the 'science of monetary policy' in Clarida, Gertler and Gali's (1999) rather hopeful phrase. The practice of monetary policy remains – and probably always will be – more than a technical matter (Faust 2005).

- engage (or not engage) in discretionary countercyclical fiscal actions;
- manage government debt to avoid risk premia;
- aim to make fiscal policy as transparent as monetary policy;
- talk explicitly about current and future fiscal policy options and report likely economic outcomes of the options;
- produce long-term fiscal projections that make economic sense;
- adopt fiscal policy rules that are compatible with monetary policy rules; and
- ensure that fiscal principles do not conflict with monetary policy objectives.

This is intended to be a suggestive, rather than an exhaustive list of fiscal principles. Each society will have its own set of principles on which consensus can be reached.

A well-understood set of principles to guide fiscal decision-making provides a framework within which the technical analysis of how to design policies that satisfy the principles can progress.

### Reach consensus on rules

Once a broad set of principles has been agreed on, fiscal authorities can develop rules for determining spending and taxation decisions that are consistent with the principles. As discussed, many countries have jumped to this step without first establishing the guiding principles. Rules that enforce sustainability have been adopted without checking whether those rules conflict with other aims of fiscal policy. There is no unique set of fiscal rules to ensure policy is sustainable. But almost certainly some rules for sustainability will prevent governments from pursuing other objectives such as countercyclical policy. Fiscal policy is intrinsically a general equilibrium problem and fiscal policy design must be approached from a general equilibrium perspective.

Academic research on fiscal policy is at a shockingly nascent stage. The dynamic consequences of various fiscal financing schemes have only begun to be explored. Optimal fiscal

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policy prescriptions tend to be so sharply at odds with observed policies that it is difficult to know how seriously the prescriptions should be taken. Econometric models of fiscal behaviour remain crude and to date there are few micro-founded models that integrate monetary policy with sufficient fiscal detail to address practical questions.<sup>30</sup> Recent global macroeconomic developments have made apparent the shortcomings of existing models, and work is already under way at several central banks to address those shortcomings.

Answers to fundamental questions about fiscal policy still lack professional consensus. There are examples in which countercyclical fiscal policies can be unhelpful or counterproductive (Eser, Leith and Wren-Lewis 2009; Gordon and Leeper 2005), yet the modal view is that automatic stabilisers 'quietly do their thing' (Cohen and Follette 2000; Domenech and Andres 2005; Schmitt-Grohe and Uribe 2007; Andres, Domenech and Fatas 2009). Most economists contend that government debt crowds out private capital, but this conclusion depends on the underlying source of the debt expansion, the anticipated future adjustments that finance the debt, and assumptions about monetary policy behaviour (Leeper and Yang 2008; Davig and Leeper 2009).

In contrast, hundreds of papers have been written about rules for monetary policy that deliver good economic outcomes and are robust to various forms of misspecification of the model. Analogous work in models that integrate monetary and fiscal policy can begin to discover implementable rules for fiscal policy that produce outcomes consistent with the fiscal principles. Optimal fiscal rules are extraordinarily complex and highly model dependent. Are there robust 'simple' rules that can come close to replicating the outcomes of the optimal ones? Relatively simple fiscal rules can then be used as benchmarks to be compared to actual policy behaviour, much as Taylor's (1993) rule is used in monetary policy analysis.

Naturally, as with monetary policy, fiscal authorities should consider rules that are explicit about the state-contingent

nature of their decisions. Under what conditions can the public expect taxes to increase? When will discretionary countercyclical actions take place? What elements will be included in a countercyclical package? During periods of debt run-ups, how rapidly can people expect policies to adjust to stabilise debt?

Inevitably, fiscal rules will be more complex than monetary rules. Fiscal rules will need to apply to a large set of instruments and handle a variety of contingencies. And, of course, fiscal decisions ultimately are made in the political arena, rather than by one or a small handful of technocrats. But if society can agree on fiscal principles and fiscal authorities can derive rules consistent with those principles, huge strides toward transparency and anchoring expectations will have been taken.

### Establishing credibility

To this point, I have used the term 'fiscal authority' without distinguishing between the treasury or ministry of finance and the elected officials who propose and vote for spending and tax legislation. All the transparency in the world will do little to anchor fiscal expectations if the actual fiscal decision-makers' communications about fiscal plans are not credible.

How can elected officials establish credibility? The standard answer is for them to do as they say and say as they do. True enough. But how can such behaviour be institutionalised to instill it across elected officials and across time?

Here it is useful to point out an important difference between monetary and fiscal decision-makers. Central bankers can be held accountable and earn credibility because they own their decisions and the economic analyses and projections underlying those decisions. Central banks around the world employ sizeable staffs of professional economists who produce high-quality research that finds its way into board rooms, central bank communications with the public, and leading academic journals. Many central banks publish the econometric models they use in their routine policy

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<sup>30</sup> **Though the International Monetary Fund has made progress along these lines with its global model (Kumhof and Laxton (2008a,b)).**

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analysis.<sup>31</sup> Some banks even include in their public reports explicit references to results from their models (for example, Sveriges Riksbank 2007). By devoting substantial resources to the analyses behind their policy choices and then exposing the analyses to the public, monetary policy-makers consciously take ownership both of their decisions and their economic rationales. Recognising that there may also be grounds for dissenting views well grounded in economic reasoning, some central banks also publish the minutes of their meetings (for example, Sveriges Riksbank 2009).

Nothing comparable occurs with fiscal policy. Fiscal decision-makers do own their votes and they can be held accountable for those votes at election time. But fiscal decisions are only a small subset of the votes that legislators place, so fiscal votes can easily get lost in the morass of electoral politics. More importantly, even if legislators own their fiscal decisions, they rarely own the economic analysis underlying the decisions. In fact, as an institutional matter, legislators tend consciously to distance themselves from the nitty gritty economic details. Instead, fiscal decision-makers farm out the analysis and forecasting to autonomous or semi-autonomous agencies, which ensures that decision-makers do not have to ascribe to any particular analysis or set of projections.

Legislators could adopt procedures similar to those of central banks. Political coalitions could employ economists whose models and forecasts would be public and subjected to independent professional scrutiny. Each legislator's vote and underlying economic rationale would be recorded and made public. Because coherent economic analyses would be dynamic and satisfy the intertemporal equilibrium condition, they would necessarily embed assumptions about both current and future policies. By owning a fiscal projection, decision makers would also be revealing their views about likely and desirable future policy adjustments. Future decision-makers, of course, would not be bound by these views. But the act of revealing the views also brings them into sharp focus and into the public discourse about fiscal options. In this way, the discourse about fiscal decisions can

also help to guide the public's expectations about future policies.

## 7 Concluding remarks

I shall end with an egregious example of non-transparent fiscal policy: the recent \$787 billion American fiscal stimulus plan. Leading up to the introduction and passage of the American Recovery and Reinvestment Act, the entire economic rationale for the stimulus package consisted of the job creation prediction in a document by Romer and Bernstein (2009).<sup>32</sup> An appendix to the document reports multipliers for a permanent increase in government spending and decrease in taxes of 1 percent of GDP. Four years after the initial stimulus, government purchases raise GDP by 1.55 percent, while tax cuts raise GDP by 0.98 percent. Sources for these numbers are reported as the Federal Reserve's FRB/US model and 'a leading private forecast firm'.

To assess how this rationale for stimulus measures up in terms of transparency, I raise some questions that are not addressed in the Romer-Bernstein document, but are important for anchoring fiscal expectations:

- What are the economic models underlying the multiplier numbers and are those numbers reproducible?
- Why consider permanent changes in fiscal variables when the Act makes transitory changes?
- What are the consequences of the stimulus for government debt?
- What are the repercussions of significantly higher government debt?
- Will the debt run-up be sustained or retired?
- How will policies adjust in the future to either sustain or retire the debt?

Some might accuse me of finding a straw man to ridicule. But this is an important example because of its potential impact on the world economy. At over 5 percent of US GDP, this is the world's largest stimulus in response to the

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<sup>31</sup> Examples include Poloz, Rose and Tetlow (1994); Brayton and Tinsley (1996); Smets and Wouters (2003); Reserve Bank of New Zealand (2004); Harrison, Nikolov, Quinn, Ramsey, Scott and Thomas (2005); Adolfson, Laseen, Linde, and Villani (2007).

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<sup>32</sup> A follow-up report in May 2009 contains further predictions (Council of Economic Advisors 2009).

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current recession (International Monetary Fund (2009)), and that figure does not include the 2008 tax rebate or the substantial financial rescue packages.

Some might also argue that the United States is a bad example because it has among the least transparent fiscal policies. I grant that. But measured against the bulleted items above, few fiscal authorities would emerge looking very transparent.

Principles, guidelines, rules and independent oversight may help to improve the transparency and efficacy of fiscal policy by nailing down the private sector's expectations. Or they can provide a smoke screen behind which fiscal shenanigans can proceed as usual.

To be successful, fiscal principles need to reduce the complexity of fiscal policy. This can be accomplished at the implementation stage when the principles are transformed into quantifiable rules governing fiscal decisions. It may be necessary to provide statutory or even constitutional protections for the rules. Rules that are adopted in a frenzy are likely to be ill-conceived and can easily have deleterious effects.

Research has not yet quantified the social costs of the uncertainty about fiscal policy that non-transparent policies engender. Neither has research explored the possible consequences of unanchored fiscal expectations. Both of these issues need to be understood.

But some things are certain. Fiscal policy is too important to be left to the vagaries of the political process. Reform of fiscal institutions, the design of fiscal rules, and fiscal decisions can be informed and guided to a much larger extent by careful economic analysis. Failure to achieve appropriate fiscal reforms threatens to undermine the progress made on monetary policy and, in the face of the looming heightened fiscal activity, the stability of macro economies.

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# 'Mordacious years': socio-economic aspects and outcomes of New Zealand's experience in the Great Depression<sup>1</sup>

Matthew Wright

Some commentators in New Zealand and elsewhere have proposed similarities between the Great Depression of the early 1930s and the recession that began in 2007-08. To illuminate that discussion, this article provides brief international context before narrating selected economic data and socio-economic aspects of New Zealand's 1930s experience during the Great Depression, arguing that the popular perception of New Zealand's economic experience was moulded more by perceived social impact than the empirical economic data.

## 1 Background to the Great Depression

*"In 1931 everyone was still talking about the depression [in New Zealand] as if it was a rainstorm that would blow over...After that people spoke about the depression as something more than a rainstorm, as a national calamity that had begun to affect their lives."*

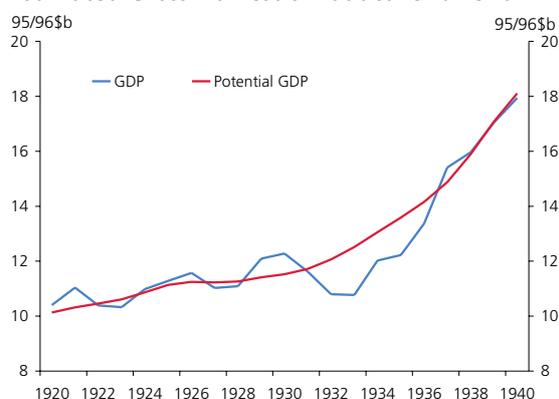
- John Mulgan, *Report on Experience*.<sup>2</sup>

The Great Depression of the early 1930s was the deepest global economic crisis of the twentieth century. It affected the whole western world, notably the British Empire, Europe and the US. Its economic legacy was significant.<sup>3</sup> The socio-political legacy was felt worldwide, including in New Zealand, for decades afterwards – the historical debate is not whether, but how.<sup>4</sup>

Available annual data (figures 1 and 2) shows that New Zealand, which had been through several downturns in the 1920s, experienced the economic effects of the Great Depression most severely during 1931-33. It has been estimated that at its peak in 1933, up to 30 percent of the

Figure 1

Estimated Gross Domestic Product 1920-1940<sup>5</sup>



Sources: SNZ, RBNZ data

potential workforce were unemployed.<sup>6</sup> But in an economic sense the Depression was relatively brief. There was a sharp recovery in 1934-36. Although there were mild downturns in 1937-38, and New Zealand experienced a foreign reserves crisis in 1939 – in part a consequence of fiscal policies introduced in response to the Depression<sup>7</sup> – these were not integral with the earlier events. These post-Depression issues arguably were not resolved until the Second World War. The rapidity of economic recovery in 1934-36 was explicit, and as early as April 1936 a study based on 1935 data was able to report 'satisfactory evidence of recovery'.<sup>8</sup>

<sup>1</sup> I am grateful to Tim Ng and Chris Hunt (RBNZ), and John Singleton (Victoria University of Wellington) for their comments on drafts. I also thank the Reserve Bank Knowledge Centre, Statistics unit; and John Singleton for his research into the Bank of England archive.

<sup>2</sup> John Mulgan (1947), *Report On Experience*, Oxford University Press, Oxford, p. 9.

<sup>3</sup> For example, John Maynard Keynes published his *General Theory* in 1936; see also Clarence E. Ayres (1946), 'The impact of the Great Depression on economic thinking' *The American Economic Review*, 36 (2), May, especially pp. 115-116.

<sup>4</sup> Jim McAloon (2008), 'Unsettling recolonisation: Labourism, Keynesianism and Australasia from the 1890s to the 1950s', *Thesis Eleven*, 92, pp. 50-68.

<sup>5</sup> From Keith Rankin (1992), 'New Zealand's Gross National Product: 1859-1939', *Review of Income and Wealth*, 38, (1), March, p. 61.

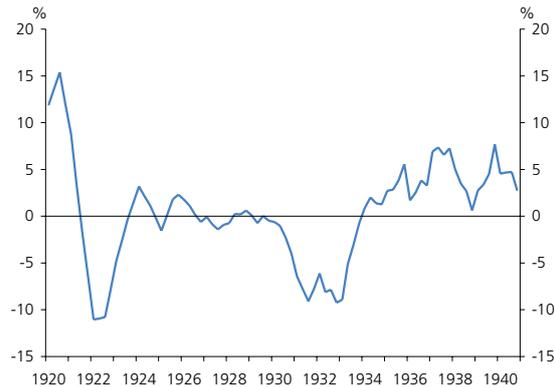
<sup>6</sup> Keith Rankin, (1995), 'Unemployment in New Zealand at the peak of the Great Depression', University of Auckland, *Working Papers in Economics* No. 144, p. 13.

<sup>7</sup> J. W. Williams (1948), 'The New Zealand Economy in War and Reconstruction', *International Secretariat, Institute of Pacific Relations*, New York, p. 25.

<sup>8</sup> R. Boulter and T. G. A. Muntz, (1936) 'Report on economic and commercial conditions in New Zealand', HM Stationery Office, London, p. 6.

From a world perspective – and despite the perceived severity by New Zealand standards – the Depression did not plumb the depths experienced elsewhere, either in terms of lost GDP or other measures. By contrast with some other nations there was no banking crisis, no balance of payments crisis, and New Zealand did not default on sovereign debt.

**Figure 2**  
**Consumers Price Index 1920-1940**



Source: SNZ, Reserve Bank data.

Given this circumstance, it is necessary to find an explanation for popular perceptions of the Great Depression in New Zealand as a ‘bogey man’. Some analyses to date have struggled with this point because the empirical economic data does not correlate well with the observed scale and timing of the social effects, and no purely economic or social hypothesis, alone, offers a compelling explanation for the combined pattern. But we must not, however, suppose that the economic data reduces the received social memory to a populist trope; the more useful approach is to identify a consistent explanation that accounts for both aspects.

The relationship between the empirical and perceived effects of the Great Depression in New Zealand also helps illuminate questions that arose as the recession of 2007-09 unfolded, when there were suggestions that the world was heading for a second Great Depression. Some figures supported this impression; one analysis suggested that the scale of economic shock worldwide from 2007 until mid-2009, measured by world trade, industrial production and stock prices, was ‘every bit as big’ as that of 1929-30.<sup>9</sup> In New

Zealand the 2007-09 period was, nevertheless, economically different from that of 1929-30 for a number of reasons.<sup>10</sup> More to the point, however, was the fact that a 1930s-style social response was noticeably absent.

This article focuses on the New Zealand experience during the Great Depression of the early 1930s, and begins by briefly summarising the economic debate over the causes worldwide. The article goes on to summarise and deconstruct the economic, social and political effects on New Zealand, identifying the causalities between these factors.

Although not in the league of overseas experience, the social effects in New Zealand, it will be argued, followed a series of social shocks. These included the enduring pressure that the economic downturns of the 1920s placed on the ability of ordinary New Zealanders to realise the ideals and values that had shaped local aspirations since colonial times, most notably home ownership and security of employment. The net effect, when combined with the strictly economic pressures of the Great Depression, was a community-wide emotional experience of great personal depth and socio-cultural breadth. One outcome was that many of those who lived through it, even as children, were determined to avoid such times again at virtually any cost.

Finally, this article summarises some of the mechanisms by which New Zealand emerged from the Great Depression, before briefly evaluating the role of the Reserve Bank. It will be concluded that while some aspects of both the economic and social experience may reflect deeper human commonalities through time, the specific shape of the Great Depression was of its period.

### The world’s road to the Great Depression

Although popular mythology attributes the Great Depression to the Wall Street stock market crash of October 1929 – a view perpetuated by officials such as the US President of the day, Herbert Hoover<sup>11</sup> – this event, like that of the sub-prime

<sup>9</sup> Barry Eichengreen and Kevin H. O’Rourke, ‘A Tale of Two Depressions’, second update, <http://www.voxeu.org/index.php?q=node/3421>, accessed 3 September 2009.

<sup>10</sup> For discussion see, e.g. Alan Bollard and Tim Ng (2009), ‘Coping with global financial and economic stresses’, *Reserve Bank of New Zealand Bulletin*, 72 (1), March.

<sup>11</sup> Herbert Hoover, (1953), *The Memoirs of Herbert Hoover*, Hollis and Carter, London. introduction pp. vi-vii.

defaults relative to the 2007-09 recession, was a proximate cause rather than fundamental.<sup>12</sup> Economic debate on the deeper factors has been divided between monetarist explanations, non-monetarist explanations, and shades between.<sup>13</sup> Specific arguments have flowed around the role of the gold standard and the way central banks handled it,<sup>14</sup> and about the likelihood of the Depression being a 'credit boom gone wrong'.<sup>15</sup> Interest-rate uncertainties have also been cited.<sup>16</sup>

Most explanations of both cause and propagation relate to the particular circumstance of the 1920s and 1930s rather than any underlying or more enduring truths of generic human behaviour, although a few economists have proposed less time-specific factors, notably positing comparisons between the wireless-driven boom of the 1920s and the 'tech wreck' of 2001, both reflecting apparently timeless gulfs between expectations and reality relative to the economic impact of new technology.<sup>17</sup>

In a direct sense, it has been shown that much flowed from the credit-driven consumer boom of the mid-to-late 1920s, coupled with the international gold standard mechanism. US Federal Reserve Chairman Ben Bernanke has argued that this explanation remains 'in most respects compelling'.<sup>18</sup> Policy actions by the US Federal Reserve were a contributing factor; the central bank raised its rates in early 1928 and kept them high to squash what Hoover called an 'orgy of speculation'.<sup>19</sup> This contributed to the stock market crash in

October that year, but key US indicators improved in early 1930.<sup>20</sup> The problem was that US investors then sought opportunities on currency markets, buying gold – which backed currency by value – and provoking a run on the dollar. Banks began failing as their funds ran out – more than 10,000 of them over the next year.<sup>21</sup>

A sharp downward price spiral was then exported to Europe, whose own situation was already difficult for reasons related to the First World War.<sup>22</sup> The German situation certainly flowed from post-war debt and reparations.<sup>23</sup> Inevitably, the propagating factors have also been debated; one 2001 study suggested that declines in agricultural prices were as influential as the gold standard;<sup>24</sup> other analyses have considered uncertainties as mechanisms for spreading the downturn.<sup>25</sup> Differential experience has also attracted attention. Why the Nordic countries, for example, got away fairly lightly has been subject to a particular study. Unfortunately this analysis – concluding that the early abandonment of the gold standard by the so-called N4 group was causal – did not identify structural reasons from which we might draw lessons for the contemporaneous New Zealand experience which, itself, was milder than that elsewhere.<sup>26</sup>

Though differing in lines of enquiry, proposed causalities and transmission mechanisms, however, analyses consistently identify conditions and systems in the 1920s and early 1930s that varied from those of the early 2000s.

<sup>12</sup> See, eg, Michael Reddell and Cath Sleeman (2008), 'Some perspectives on past recessions', Reserve Bank of New Zealand *Bulletin*, 71 (2), June, p. 5.

<sup>13</sup> James S. Fackler and Randal E. Parker (1994), 'Accounting for the Great Depression: a historical decomposition', *Journal of Macroeconomics*, 16 (4), Louisiana State University Press, p. 195.

<sup>14</sup> Summarised by, eg, Ben Bernanke and Harold James (1990), 'The gold standard, deflation, and financial crisis in the Great Depression: an international comparison', National Bureau of Economic Research, Cambridge MA pp. 1-3.

<sup>15</sup> Barry Eichengreen and Kris Mitchener (2003), 'The Great Depression as a credit boom gone wrong', *BIS Working Papers No. 137*, Bank for International Settlements, pp. 45-47

<sup>16</sup> J. Peter Ferderer and David A. Zaleski (1994), 'Uncertainty as a propagating force in the Great Depression', *The Journal of Economic History*, 54 (4) Cambridge University Press on behalf of the Economic History Association, esp. pp. 826-827.

<sup>17</sup> Eichengreen and Michener (2003), pp. 42-43.

<sup>18</sup> Bernanke and James (1990), p. 1.

<sup>19</sup> Hoover (1953), p. 16.

<sup>20</sup> Charles P. Kindleberger (1973), *The World in Depression*, Allen Lane, London, pp. 128-129.

<sup>21</sup> Hoover (1953), p. 21.

<sup>22</sup> For summary see, eg, Kindleberger (1973), pp. 128-145.

<sup>23</sup> Heywood Fleisig (1976), 'War-related debts and the great depression', *The American Economic Review*, 66 (2), p. 56.

<sup>24</sup> Jakob B. Madsen (2001), 'Agricultural crises and the International Transmission of the Great Depression', *The Journal of Economic History*, 61 (2), esp. p. 327.

<sup>25</sup> Peter J. Ferderer and David A. Zaleski (1994), 'Uncertainty as a propagating force in the Great Depression', *The Journal of Economic History*, 54(4), Cambridge University Press on behalf of the Economic History Association, p. 827.

<sup>26</sup> Ola Honningdal Grytten (n.d.), 'Why was the Great Depression not so great in the Nordic countries? Economic policy and unemployment', Department of Economics, Norwegian School of Economics and Business Administration, pp. 1-2, 29-30.

## Box 1

### The gold standard and its failure

The gold standard was pioneered by Britain in the early eighteenth century and, during the nineteenth, adopted by major nations including the Netherlands, the US, Portugal, Germany, Japan, the Scandinavian Monetary Union, France, Austria and Russia. Each national currency was defined via a specified weight of gold, which was held to back the money in circulation.

In theory this offered controls over money supply as well as mechanisms for international exchange. In practice it meant that, among other things, money supply could grow no faster than gold supply. During the First World War, governments switched to fiat (legislative) currency – in effect, printing money. World attempts to return to the gold standard in the 1920s were fraught with problems. Britain rejoined in 1925 at a level widely regarded as too high; New Zealand, whose pound was linked to the British, effectively followed suit.<sup>27</sup>

## 2 Economic effects on New Zealand

### New Zealand's economic situation 1919-30

To understand the Great Depression in New Zealand we have to put it in economic context. It has been argued that New Zealand's entire inter-war period was depressed; the Great Depression was simply the largest in a pattern of downturns during these decades. The specifics are, however, not easy to identify because figures such as GNP and GDP have had to be estimated.<sup>28</sup> At the same time, the Great Depression was also milder in New Zealand than it was internationally. In the world context, as figure 3 shows, New Zealand's per-capita fall in GDP over the 1929-32 period was an estimated 17.8 percent. This was by no means as great as that of the US (30.8 percent), Australia (20.6 percent), Germany (25.0 percent) or Canada (34.8 percent), over similar periods.<sup>29</sup>

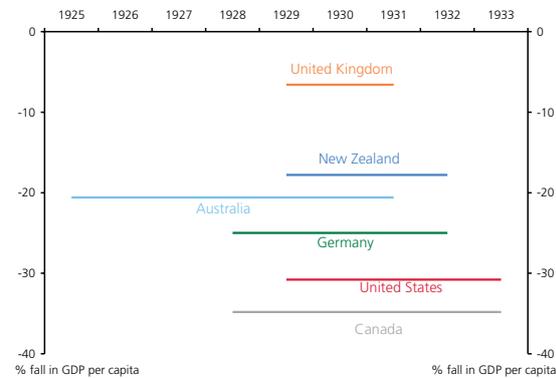
<sup>27</sup> Reddell and Sleeman (2008), p. 6.

<sup>28</sup> See, eg, Simon Chapple (1994), 'How great was the depression in New Zealand? A neglected estimate of inter-war GNP', New Zealand Institute of Economic Research (Inc), Wellington; Keith Rankin (1992).

<sup>29</sup> Grytten (n.d.), p. 6.

Figure 3

Selected national falls in GDP per capita<sup>30</sup>  
(Height on Y-axis shows percentage of fall,  
X-axis duration of fall in years)



Source: Grytten (n.d.).

The New Zealand economy also displayed characteristics not shared by others, partly because it was agrarian and selling into a single market, partly because of social expectations stemming from its colonial past, which had become integral with New Zealand's pakeha culture. The structure of that agrarian world, principally distributed around the large numbers of small-to-medium pastoral holders who had emerged since the 1890s, meant that any pastoral downturn had a broad impact on the economy.

New Zealand entered the 1920s in a superficially good economic position, thanks in part to Britain's wartime 'commandeer'. Up to the end of the 1919-20 fiscal year, this guaranteed purchase by Britain allowed New Zealand to sell beef, mutton, lamb and other meats worth around 7 percent of total GNP,<sup>31</sup> along with cheese, wool and scheelite.<sup>32</sup> These returns masked the fact that New Zealand was, by and large, selling one product – pastoral – into a single market.

After the end of the war, the property market boomed amid speculation on land made available to returned servicemen. However, both this bubble and the 'commandeer' came to an abrupt end in 1921, a shock compounded by the fact that Europe returned to full commodity production in 1920, but the US retained the expanded productivity it had developed to make up for European losses during the war.

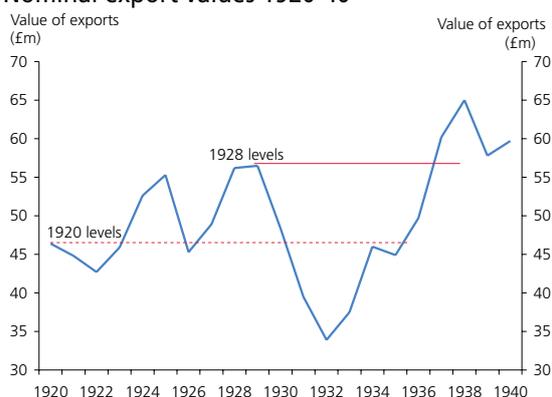
<sup>30</sup> Data from Grytten (n.d.) p. 6.

<sup>31</sup> Calculated from figures in Rankin (1992), p. 61.

<sup>32</sup> AJHR 1920 H-38 'Department of Imperial Government Supplies', pp. 1, 3-4, 7.

Figure 4

### Nominal export values 1920-40



Sources: SNZ, Reserve Bank data,

The result was a glut. Returns on New Zealand exports fell dramatically; wool, for instance, plunged from £19.6 million in 1919 to just £5.2 million in 1921. Meat fell from £11.6 million in 1920 to £8.4 million in 1922.<sup>33</sup>

New Zealand entered a decade of indifferent growth and severe downturns. It has been estimated that in 1921-22 and 1925-26, for instance, GNP fell to similar degree as in 1932-33, the period usually regarded as the worst of the Great Depression.<sup>34</sup> Unemployment became a 'normal part of life'.<sup>35</sup> Part of the problem was reliance on Britain, which took, typically, 80 percent of New Zealand's exports during the 1920s,<sup>36</sup> but whose own post-war fortunes were flagging.

Structural changes occurred in the New Zealand economy at this time; an economy built around steam and primary produce was adapting to the second industrial revolution, with brisk domestic demand as New Zealanders who could afford it eagerly adopted motor vehicles and new electrical appliances. Such demand stood at odds with the faltering economic landscape. Reform Party leader J. Gordon Coates responded with an interventionist regimen, initially as Railways Minister, later as Prime Minister,<sup>37</sup> believing the economy could be aided by spending on infrastructure. Public works spending – which had been around 21-22



J. G. Coates, MC and Bar (1878-1943), Reform Party leader and, successively, Ministers of Unemployment and Finance during the Depression years. He personally argued the toss with angry groups of unemployed on occasion. Although reviled by a generation, he was responsible for a significant range of economic, public works and race-relations initiatives, and later joined the Labour-led War Cabinet, where he died in office in 1943. (S. P. Andrew Collection, Alexander Turnbull Library, F-19049-1/1)

percent of state budgets during the First World War – climbed steadily, reaching a high of 31.4 percent in 1931.<sup>38</sup>

### How the Great Depression reached New Zealand

New Zealand was drawn into the Great Depression during 1930-31. Several mechanisms were at work, all external. At the time, the most crucial problem was what one contemporary report called the 'alarming extent' of the collapse in export prices,<sup>39</sup> with a consequential drop in farm incomes.<sup>40</sup> Although production went up, return on farm output plunged from £73.6 million in 1929-30 to just £49.2 million in 1931-32, a pattern followed by factory output.<sup>41</sup>

<sup>33</sup> M. F. Lloyd-Prichard (1970), *An Economic History of New Zealand to 1939*, Collins, Auckland p. 292.

<sup>34</sup> Rankin (1992) p. 61.

<sup>35</sup> W. B. Sutch (1966, 1968) *Colony or Nation?* Sydney University Press, Sydney, pp. 40-41.

<sup>36</sup> New Zealand Official Yearbook 1940, (1940) Government Printer, Wellington, p. 251.

<sup>37</sup> For background and summary biographical details see <http://www.dnz.govt.nz/dnz/>

<sup>38</sup> David Thorns and Charles Sedgwick (1997), *Understanding Aotearoa/New Zealand: historical statistics*, The Dunmore Press, Palmerston North, p. 108.

<sup>39</sup> L. A. Paish (1931), 'Economic Conditions in the Dominion of New Zealand to March 1931', HM Stationery Office, London, p. 9.

<sup>40</sup> G. R. Hawke, (1985), *The Making of New Zealand: an economic history*, Cambridge University Press, Cambridge, p. 137.

More fundamentally, the local economy was drawn into Australia's deeper problems via cross-contamination with Australia's balance-of-payments and sovereign debt crisis, largely because the sterling reserves of both Dominions were inter-mingled in the same London banks. This made it difficult for New Zealand banks to trade on the London money markets and make up the difference in the balance of payments when New Zealand's export returns fell below import costs.<sup>42</sup>

To this was added concern relative to sovereign debt. Britain went off the gold standard in 1931, provoking fears in New Zealand that Crown loans due the following year would have to be paid rather than rolled over. The result after brisk debate in Wellington was a legislated 'exchange pool' giving government preferential access to foreign exchange earnings, so the debt could be repaid if necessary.<sup>43</sup>

By 1931 the New Zealand pound had depreciated around 10 percent against the pound sterling, compared to 1928 values.<sup>44</sup> While this helped offset the collapse of export prices, it has been argued that the subsequent decision to defend the exchange rate in effect entrenched a 45 percent drop in export prices.<sup>45</sup> That was not compensated for by an increase in productivity, and was followed by reduced domestic activity.

### State policy responses and economic effects

On the basis of advice from Britain, Prime Minister George Forbes responded to the downturn with cut-backs during 1931. Late that year he suggested a 'grand coalition' to meet the crisis. Labour refused to join, but Coates helped establish a centre-right United-Reform platform, which won the general election that year. They inherited rising unemployment, high public debt – some 160 percent of estimated GDP – falling income and falling prices.<sup>46</sup>

The economic theory then in vogue called for retrenchment. Forbes also believed that state books had to be balanced,

a point which, it has been proposed, was pursued for reasons of conviction rather than economics.<sup>47</sup> The result was that a National Expenditure Commission took a razor to government spending. Pensions were cut 30 percent and hospitals had to cut back on the food they provided patients.<sup>48</sup> Public service salaries were slashed by between 5 and 12 percent.<sup>49</sup> Works expenditure, previously used as an economic booster, fell by around 65 percent in nominal terms between 1931 and 1933.<sup>50</sup> These cut-backs extended to the private sector; the government enabled the Court of Arbitration to set private-sector wage rates, provoking a 10 percent cut in nominal terms in May 1931.<sup>51</sup> At its peak in 1932, deflation reached 12 percent.<sup>52</sup>

These cuts, often pursued to petty extremes, affected a wide proportion of the population and became the public face of the Depression, reinforcing the sense of crisis and linking government with hardships. This view was even expressed by the conservative rural sector that made up a substantial proportion of the government's support. As pastoralist Herbert Guthrie-Smith remarked, 'every legislative enactment seemed to hinder not help'.<sup>53</sup> The social gloom was not helped by the Hawke's Bay earthquake of February 1931. This has been shown to have had no lasting economic impact on the district,<sup>54</sup> however its social effects, through the need to house refugees and via family ties, were effectively national.

<sup>42</sup> Hawke, (1985), p. 134.

<sup>43</sup> *Ibid.*, pp. 134-135.

<sup>44</sup> G. R. Hawke (1973), *Between Governments and Banks*, Government Printer, Wellington, p. 19.

<sup>45</sup> Reddell and Sleeman (2008), p. 7.

<sup>46</sup> *Ibid.*

<sup>47</sup> Hawke (1985), p. 150.

<sup>48</sup> Tony Simpson (1974, 1997), *The Sugarbag Years*, Godwit, Auckland, pp. 13-14.

<sup>49</sup> Brian Easton (1997), *In Stormy Seas: the post-war New Zealand economy*, University of Otago Press, Dunedin, p. 58.

<sup>50</sup> Lloyd-Prichard (1970), p. 429.

<sup>51</sup> Hawke (1985), p. 149.

<sup>52</sup> Reserve Bank data, also Reddell and Sleeman (2008), p. 6.

<sup>53</sup> H. Guthrie-Smith (1940), *Tutira*, Godwit, Auckland, p. 414.

<sup>54</sup> Although it was a human tragedy with the loss of 258 lives, more than 400 serious injuries and several thousand hurt to a lesser extent, coupled with devastation that took years to repair, the economic effects of the Hawke's Bay earthquake of 1931 were not material, either in terms of negative impact, or positively relative to local stimulus from quake relief and reconstruction spending. Simon Chapple (1997), 'The Economic effects of the 1931 Hawke's Bay Earthquake', New Zealand Institute of Economic Research, Wellington, p. 47. However, Depression finances certainly constrained reconstruction. Whether the disaster added a layer to the social and psychological effects of the Great Depression in the district remains unclear; further study is indicated.

To this was added rising unemployment which, by New Zealand standards, was severe. Official figures indicate that by September 1932 some 73,650 New Zealanders were registered as unemployed, including 45,100 who were on relief schemes and 22,010 working with state subsidies.<sup>55</sup> Their numbers peaked at 79,435 in 1933.<sup>56</sup> These were distinct from the unoccupied potential workforce, a more meaningful number in terms of the economy; and one investigation since indicates that actual unemployment in that sense stood at 27,785 in 1926, 179,800 in 1933, and 84,763 in 1936. Put another way, the peak 1933 figure amounted to about 30 percent of the potential workforce.<sup>57</sup>

This correlates with other measures; a 1931 estimate suggested that the unemployment rate among industrial union members had risen from 5.6 percent in November 1927 to 15.5 percent as early as November 1930.<sup>58</sup> The effects were stratified. One study suggested that although employment in the manufacturing sector dropped from 82,861 in 1929-30 to 68,921 in 1932-33, the smallest enterprises 'held their own'.<sup>59</sup> Certainly the effects of the Depression varied across that sector.<sup>60</sup>

New Zealand's history to that point, apart from efforts by the Liberal government, was one of minimal welfarism. In part this was a function of the 'green fields' colonial context; social support systems such as existed in Britain, however poor they were by later standards, had not developed even to this extent in the colony.<sup>61</sup> That created a legacy into the first decades of the twentieth century.

The Unemployment Act of 1930 included the so-called 'Scheme 5' for relief employment, throwing much of the administrative onus on local bodies. At its peak in 1932, some 45,100 men were under this scheme.<sup>62</sup> Those with no

work received 'sustenance', miserly rates amounting to 14 shillings a week for single men, about \$71 in 2009 values.<sup>63</sup> This was graduated on a rising scale for married men with children, though even a husband expected to support a wife and three children received just £1 16s, about \$183 in 2009 figures.<sup>64</sup> Relief work offered only a little more.<sup>65</sup> It was made worse when some businesses and local authorities sacked employees and re-hired them under the relief scheme.<sup>66</sup> The cost to the state amounted to £4.2 million in 1933-34.<sup>67</sup>

Unemployment and penurious relief schemes joined dwindling incomes as causes of impoverishment. Although there have been arguments that falls in wages were offset by falls in the consumers price index,<sup>68</sup> actual data paints a more complex picture. While wage rates were sustained in real terms,<sup>69</sup> median incomes fell sharply. This was a consequence of rising unemployment, reductions in overtime and the reductions in wages and salaries that followed the 1932 suspension of the arbitration system. Available data indicates that in 1925-26, just 11.3 percent of New Zealand's 557,288-strong workforce were receiving less than £52 per annum. By 1932-33, some 42.3 percent of a 681,135-strong workforce were in this category.<sup>70</sup>

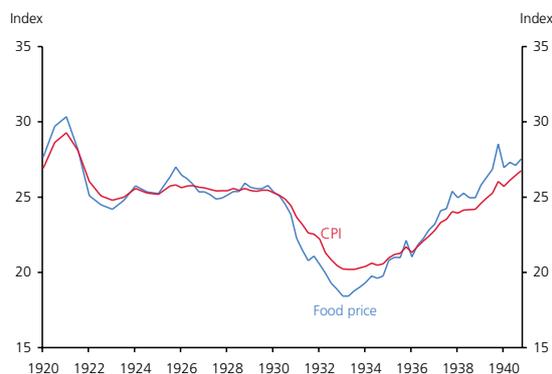
Available data also shows that food prices, an important component of any household budget in the lower income bracket, closely tracked the all-groups CPI (figure 5);<sup>71</sup> but quantities purchased fell.<sup>72</sup> This suggests that the 'income reaction' – the very sharp fall in median incomes and the drastic rise in the proportion earning less than £1 a week – was a significant contributor to hardship.<sup>73</sup>

Those with debt were in particular trouble. Real interest rates increased because they did not fall as far or fast as the CPI.<sup>74</sup>

<sup>55</sup> *New Zealand Official Yearbook 1941*, Government Printer, Wellington, p. 760.  
<sup>56</sup> Lloyd Pritchard (1970), p. 379.  
<sup>57</sup> Rankin (1995), p. 13.  
<sup>58</sup> Paish (1931), p. 62.  
<sup>59</sup> Lloyd-Prichard (1970), p. 324.  
<sup>60</sup> Keith Rankin (1992a), 'Manufacturing output in New Zealand: 1870-1940', Paper for the 1992 Conference of the Economic History Association of Australia and New Zealand, Perth, p. 11.  
<sup>61</sup> See, e.g., David Thompson (1998), *A World Without Welfare*, Bridget Williams Books/Auckland University Press, pp. 18-32.  
<sup>62</sup> Lloyd-Prichard (1970), p. 379.

<sup>63</sup> RBNZ Inflation Calculator Q3 1935 compared with Q2 2009 (1935 sustenance figures only available).  
<sup>64</sup> RBNZ Inflation Calculator Q3 1935 compared with Q2 2009.  
<sup>65</sup> Lloyd-Prichard (1970), p. 380.  
<sup>66</sup> Simpson (1974), pp. 14-15.  
<sup>67</sup> Lloyd-Prichard (1970), p. 380.  
<sup>68</sup> Outlined in James Belich (2001), *Reforging Paradise*, Allen Lane, Auckland, p. 255.  
<sup>69</sup> *New Zealand Official Yearbook 1940*, p. 609.  
<sup>70</sup> Rankin (1995), pp. 21, 26.  
<sup>71</sup> See, eg, *New Zealand Official Yearbook 1940*, p. 789.  
<sup>72</sup> Belich (2001), p. 255.  
<sup>73</sup> See also *New Zealand Official Yearbook 1940*, pp. 789, 792-793.  
<sup>74</sup> Reddell and Sleeman (2008), p. 6.

**Figure 5**  
**Quarterly CPI and food price indices 1920-40<sup>81</sup>**



Source: SNZ, Reserve Bank data.

Nominal (non-inflation-corrected) mortgage rates between 1930 and 1932, for example, fell only from 6.35 to 6.28 percent.<sup>75</sup> Deflation also increased debt in real terms, and servicing became particularly onerous as incomes fell. This was a particular issue in the pastoral sector, where servicing costs reached 26 percent of gross incomes in 1932-33.<sup>76</sup> Additional tax burdens such as the £1 per annum levied on wage earners to fund an Unemployment Board from 1931, a levy that was steadily increased until 1935, were significant for those on the lowest wages.<sup>77</sup>

The early years of the Depression were thus difficult even for those with work. Severe hardships were underscored by the scale of charitable aid. During a seven-month period in 1932, for instance, the Auckland City Mission provided 37,000 beds and 102,080 meals.<sup>78</sup> While it has been argued that rural communities could absorb a proportion of the urban unemployed,<sup>79</sup> the pastoral sector was also in difficulty. Hawke's Bay farmer Herbert Guthrie-Smith referred to these as 'mordacious years', watching his 1929 profits vanish into losses. He survived by 'enormously reducing expenditure'.<sup>80</sup>

Although not as severe as elsewhere in the world, these experiences were significant. Because of the social lags involved, these were still factors as late as 1935 when the economy, as measured by the indicators, was well on the way to recovery. While it has been shown that the numbers do not match the memory – that most small farmers did not

walk off their property, for instance<sup>82</sup> – the severe hardships for some New Zealanders were nevertheless very real. Some children did make their way barefoot and hungry to school with only a Chelsea sugar sack or newspaper to keep the rain from their heads. Food was desperately short at times. Some families had to sell carpets and amenities to make ends meet.<sup>83</sup> At other times, parents gave what food they had to their children;<sup>84</sup> but malnourishment among boys was partly responsible for the relatively high medical rejection rate when they were called up for military service eight or ten years later. The plight of the children prompted Coates, in 1934, to contemplate introducing free milk in schools.

The impact can be seen empirically in social indicators; for example, marriage rates fell from 7.8 per thousand in 1929 to 6.81 per thousand in 1932.<sup>85</sup> Birth rates fell from 19.76 per thousand in 1926-30 to 16.98 per thousand in 1931-35, picking up again in 1936-38.<sup>86</sup> Abortion rates rose.<sup>87</sup> Curiously, crime dropped – cases in magistrates courts fell from 35.78 per thousand in 1929 to 28.09 per thousand in 1934, recovering to 35.88 per thousand in 1940.<sup>88</sup> This was the reverse of what might be expected, and in contrast to other times of downturn.<sup>89</sup>

### 3 Social and political effects in New Zealand

#### The social impact as 'bogey man'

Both received memory and social indicators show that the Great Depression was as much a human as a technical economic phenomenon in New Zealand; and in order to understand the scale that the Depression gained in popular memory, as opposed to that shown by the purely economic indicators, we have to recognise the degree to which the moral impact framed both perceptions and the intellectual response, at the time and later. Jim McAloon suggests that

<sup>75</sup> Reserve Bank data.  
<sup>76</sup> Reddell and Sleeman (2008), p. 6.  
<sup>77</sup> Hawke (1985), p. 149.  
<sup>78</sup> Cited in Burdon (1965), p. 140.  
<sup>79</sup> Rankin, (1995), p.2  
<sup>80</sup> Guthrie-Smith (1940), pp. 414, 418.

<sup>81</sup> Statistics New Zealand, Reserve Bank data.  
<sup>82</sup> Hawke (1985), p. 137.  
<sup>83</sup> Simpson (1974), p. 50.  
<sup>84</sup> Simpson (1974), p. 79.  
<sup>85</sup> Lloyd Pritchard (1970), p. 383.  
<sup>86</sup> *New Zealand Yearbook* 1940, p. 87.  
<sup>87</sup> Belich (2001), p. 256.  
<sup>88</sup> *New Zealand Official Yearbook* 1940, p. 207.  
<sup>89</sup> Lloyd-Prichard (1970), pp. 131-132.

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recent economic history 'is a thoroughly politicised affair'.<sup>90</sup> The same seems true of many social analyses in New Zealand and elsewhere.

The social reaction to the Depression in New Zealand lagged the economic effects by perhaps 12-18 months. It was 1932 before the Depression translated into a sense of personal crisis in New Zealand.<sup>91</sup> In New Zealand, the phenomenon was given specific shape by New Zealand's pakeha culture, and arguably flowed from both systemic and proximate socio-cultural causes.

The systemic origins can arguably be traced to local expectations over the 80 or 90 years from the mid-nineteenth century, generally reflecting idealism, professed egalitarianism, and an exaltation of the nuclear family, underpinned by security of housing and employment. As has been shown, these were reactions to conditions in nineteenth-century Britain and evolved into drivers for New Zealand. A depression in the 1880s had already shaken this ideology, switching New Zealand from a mind-set of 'bigger, better Britain' to one of the 'best of Britain's children'. That experience also reinforced concepts of security – notably of income and housing – which became thoroughly embedded in the New Zealand psyche. The Great Depression occurred within this context.<sup>92</sup>

This established a general environment within which the social effects of the Depression played out; however, the proximate causes of the reaction to the Depression, and its immediate shape, flowed in a large part from the succession of social shocks to which New Zealand was subjected from 1914. The first and largest of these was the First World War, which involved a socially significant slice of New Zealand's population, over 100,000 young men – about half their demographic cohort. More than half became casualties.<sup>93</sup> It was followed by the influenza epidemic of 1918-19. Deaths estimated at over 8500 – including more than 2160 Maori –

added to the sense of loss.<sup>94</sup> Hundreds of former servicemen then died during the 1920s, many from the long-term effects of dichloroethyl sulphide ('mustard gas').<sup>95</sup> To this was added a significant number suffering degrees of post-traumatic stress disorder.

These consequences played out against the backdrop of the economically hard 1920s, in which the social ideal that exalted the safe, secure nuclear family seemed difficult to attain; and where the government had manifestly failed to create the 'land fit for heroes' promised to servicemen in return for their sacrifices.<sup>96</sup> The Depression then added cut-backs in state spending and private sector wages. Although some people retained money and lifestyles,<sup>97</sup> and a few spoke of unemployment as a 'purification' of the lazy from the workforce, it was a further blow. Income effects and rising debt costs helped provoke despair and hopelessness among a significant number of New Zealanders, a feeling captured in such literary output as James K. Baxter's 'The Magpies'.<sup>98</sup>

The direct hardship and generally adverse conditions experienced by New Zealand during the 1920s, all at odds with long-standing social and personal aspirations, thus contributed to a mood that overwhelmed the economic reality of a sharp but relatively short economic downturn from 1930. To John Mulgan, the Depression also struck hard because abstract economics were intangible; people did not understand. Economists, he later wrote, 'gained the status of witch doctors'.<sup>99</sup> There was an impression in some circles that politicians simply did not know what to do.<sup>100</sup>

It was a principally pakeha issue. Maori had been economically marginalised for years. For the urban unemployed, or those whose incomes fell below subsistence, hope faded. Although the quarter-acre section should have provided partial defence against starvation – promoted via such

<sup>90</sup> McAloon (2008), p. 51.

<sup>91</sup> Mulgan (1947), p. 9.

<sup>92</sup> This has been extensively analysed from various perspectives; for summaries see, e.g. Michael King, (2003), *The Penguin History of New Zealand*, Penguin, Auckland, pp. 206-208; Matthew Wright (2004), *The Reed Illustrated History of New Zealand*, Reed, Auckland, pp. 95-148; Matthew Wright (2009), *Old South*, Penguin, Auckland, pp. 54-59.

<sup>93</sup> Matthew Wright (2005), *Western Front*, Reed, Auckland, p. 8.

<sup>94</sup> Geoffrey W. Rice (2005), *Black November: the 1918 influenza pandemic in New Zealand*, 2nd Edition, Canterbury University Press, Christchurch, pp. 203, 284-293.

<sup>95</sup> It was a carcinogen that also left victims vulnerable to tuberculosis.

<sup>96</sup> Wright (2004), pp. 282-285.

<sup>97</sup> Mulgan (1947), p. 9.

<sup>98</sup> <http://www.dpmms.cam.ac.uk/~tf/poem10.html>, accessed 23-7-09.

<sup>99</sup> Mulgan (1947), pp. 10, 12.

<sup>100</sup> Simpson (1974), p. 127.



Above: Albert Malam (far left) and others ditch-digging in 1932. Tasks such as this typified Depression-age relief work, partly driven by concerns that work schemes should not compete unfairly with the private sector. (Photographer unidentified, Alexander Turnbull Library, F-27086-1/2)

things as a 1933 contest to find the best garden kept by an unemployed householder – some householders were too despondent to try. Houses went unpainted. Some former breadwinners even took to their beds.<sup>101</sup> City councils and community groups tried to revive hope with morale-boosting entertainments. Some published accounts make clear that for some people, lost morale was difficult to regain when conditions improved.<sup>102</sup>

Government was swiftly held responsible for many of the 'ill-starred necessities' of the age.<sup>103</sup> The ill-feeling towards Coates and Forbes in particular was arguably focussed in the popular mind by relief schemes. These had a high public profile as breadwinners were forced to travel to work camps, many of which were inadequately fitted out. Some tasks involved useless make-work efforts.<sup>104</sup> Some schemes developed a sub-culture of management bullying.<sup>105</sup>

<sup>101</sup> J. Wright, pers. comm.

<sup>102</sup> Simpson (1974), pp. 50-51.

<sup>103</sup> Mulgan (1947), pp. 10, 12.

<sup>104</sup> C. G. Scrimgeour, John A. Lee and Tony Simpson (1976), *The Scrim-Lee Papers*, A.H. & A.W. Reed, Wellington, p. 26.

<sup>105</sup> Notably in an account published in Simpson (1974), pp. 43-44.



Above: Soup kitchen in Wellington, early 1930s. (Photographer unidentified, *Evening Post* Collection, Alexander Turnbull Library, G-8646-1/2-EP)

Packaging these efforts as essential medicine intensified the belief that government was the author of Depression hardships, and there was much cynicism. Relief workers, one writer who lived through the period declared, were 'given tasks designed to keep them down, break their spirit, so they couldn't cause trouble'.<sup>106</sup> While, as has been shown, Coates was taking steps to address the situation after 1933, his efforts did not overcome a public perception of state abjuration, even malice. Coates was widely, though wrongly, alleged to have declared that the poor could 'eat grass'.<sup>107</sup>

The Depression-era administration never regained the moral high ground, and the popular image of a state that responded to economic downturn by punishing the electorate became received memory. As late as 1965 one historian remarked that 'so much legislation that hurt so many people had never before been crammed into so brief a period'.<sup>108</sup> The concept helped bolster a perception among some groups that the government of Michael Joseph Savage, elected in 1935, had saved New Zealand economically.<sup>109</sup>

These general perceptions also coloured the wider interpretation of the Depression in New Zealand afterwards, even among analysts.<sup>110</sup> Equally, the experience had an effect on historiography and other frameworks of analysis; to economist William Sutch, the Depression discredited older

<sup>106</sup> Alexander Turnbull Library 91-110, McRay, Colin J., fl. 1929-1991 "The silver halfpenny", typescript. Simpson (1974, 1997), p. 18.

<sup>107</sup> R. M. Burdon (1965), *The New Dominion*, A. H. & A. W. Reed, Wellington, p. 145.

<sup>108</sup> Wright (2004), pp. 318-319.

<sup>109</sup> Easton (1997), p. 35.

<sup>110</sup> Easton (1997), p. 35.



Relief workers pulling a chain harrow near Petone, 1932. This particular picture was used in Labour party posters of the day to discredit government relief schemes. Nonetheless, it remains a graphic illustration of the way relief work damaged morale at national level. (Jeremy Garvitch, J. V. Garvitch Collection, Alexander Turnbull Library PACOII-5584-03, F-76300-1/2)

market-led approaches.<sup>111</sup> Afterwards, when Keynesian-style approaches had become economic orthodoxy, his and other mid-twentieth-century studies tended to focus on the failure of earlier policies. The adoption of more market-oriented ideas in the 1980s offered other frameworks, and only then was some of the work of the United-Reform administration really highlighted.<sup>112</sup>

### Popular political effects

New Zealand of the 1930s had no tradition of civil unrest other than the industrial protests of 1912-13.<sup>113</sup> The popular street response to the Great Depression was not of this scale and mainly expressed in the winter of 1932. Rioters in Queen Street smashed windows. Labour MP John A. Lee blamed need – the rioters were ‘so hungry, with families as hungry’ they had no choice but to make a ‘desperate bid for food.’<sup>114</sup> In Wellington there was a riot in upper Cuba Street. Christchurch strikers were confronted by baton-wielding

police.<sup>115</sup> Government responded sharply; one Wellington rally was covered with automatic weapons. But the mood settled. Michael King has argued that New Zealanders had gone to the brink – then pulled back.<sup>116</sup>

In this environment, extremes such as the New Zealand Legion and the Communist Party gained no real traction.<sup>117</sup> The only significant political effect was a decision to postpone the 1934 general election. When the country finally went to the polls in November 1935, the Labour party gained power in a landslide, a swing to the left comparable with similar shifts experienced by democracies such as the US. As in the US, this shift was expressed within the existing democratic system.

By contrast, nations such as Germany, Italy and Japan experienced dramatic structural change away from democracy, as some politicians used the dislocation of the Great Depression to focus other issues and push themselves

<sup>111</sup> See, e.g. W. B. Sutch, (1966), *The Quest for Security in New Zealand*, Oxford, pp 176-200.

<sup>112</sup> See, e.g. Michael Bassett (2005) *Coates of Kaipara*, Auckland University Press.

<sup>113</sup> This stood in contrast to the actual economic picture. Discussed in, eg, Wright (2004), pp. 250-254.

<sup>114</sup> Scrimgeour, Lee and Simpson (1976), p. 32.

<sup>115</sup> Burdon (1965), p. 146.

<sup>116</sup> King (2003), p. 348.

<sup>117</sup> Belich (2001), p. 257.



The 'Cuba Street riot', mid-1932. As Michael King has argued, New Zealanders went to the brink – and then pulled back. Constable with raised baton mid-frame is noteworthy. (Photographer unidentified, *Dominion* Collection, Alexander Turnbull Library F-29260-1/2)



Demonstration by the unemployed at Parliament, 1932 or 1933. (Photographer unidentified, *Evening Post* Collection, Alexander Turnbull Library G-84840-1/2)

to power.<sup>118</sup> The Soviet Union was already outside the democratic system. Together all these powers encompassed a significant proportion of the developed world, and their relatively rapid emergence in wake of the First World War provoked a belief in some circles that democracy was in eclipse. It has been argued that it was not until 1943-44 – amidst a war that carried a final death toll estimated at 70 million – that it became clear that democracy would, in fact, prevail as a major world governmental system.<sup>119</sup>

<sup>118</sup> Fleisig (1976) correlates the 'rise of Hitler' with increasing Depression-triggered unemployment, p. 56.

<sup>119</sup> Richard Overly (1995, 2006), *Why the Allies Won*, Pimlico, London, pp. 13-15, 24-25.

## 4 Recovery from the Great Depression

### Mechanisms of economic recovery

Debate over the technical mechanisms that ended the Great Depression worldwide has variously credited policies such as Roosevelt's New Deal; or, conversely, argued that these merely cleared the way for recovery based on market principles.<sup>120</sup> Specific processes have been postulated such as the 'Keynes effect', where expansion of the money supply helped stimulate a recovery;<sup>121</sup> and the 'Mundell effect', in which deflationary expectations were controlled and confidence returned.<sup>122</sup> Both have been applied to New Zealand.<sup>123</sup> All these analyses to some extent have been framed by particular theoretical positions; and in reality, given the complexities of economy and society, it is likely that no single factor or mechanism applied in isolation.

These issues aside, New Zealand's empirical economic recovery from the Depression was sharp. While dairy prices stayed down in 1934, wool and meat experienced decisive improvements – wool prices, in particular, effectively doubled.<sup>124</sup> Total trade per capita, which plunged from just over £70 in 1929 to just over £39 in 1932, climbed sharply after 1933 and returned to 1929 levels late in 1936.<sup>125</sup> It has been argued that one of the triggers was the hard-fought decision to devalue the New Zealand pound by 25 percent against the sterling in January 1933.<sup>126</sup> Not everybody agreed at the time; Downie Stewart resigned over the issue and was replaced as Minister of Finance by Coates, who introduced a series of policies such as the formation of the Reserve Bank, the establishment of a Dairy Board, and many public works schemes.<sup>127</sup>

<sup>120</sup> Christina D. Romer (1991), 'What ended the Great Depression?', *Working Paper No. 3829*, National Bureau of Economic Research, Cambridge, MA., pp. 2-3.

<sup>121</sup> Christina D. Romer (1992), 'What ended the Great Depression?', *The Journal of Economic History*, 52(4), Cambridge University Press, Cambridge, pp. 775-776.

<sup>122</sup> David Greasley and Les Oxley (2002), 'Regime shift and fast recovery on the periphery: New Zealand in the 1930s', *Economic History Review*, LV(4), p. 698.

<sup>123</sup> Greasley and Oxley (2002), p. 719.

<sup>124</sup> *New Zealand Official Yearbook 1934*, Government Printer, Wellington, p. 801.

<sup>125</sup> Lloyd-Prichard (1970), p. 349.

<sup>126</sup> Greasley and Oxley (2002), p. 698.

<sup>127</sup> Easton (1997), p. 62.

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These facts emphasise the point that the Labour government elected in 1935 was not the trigger for purely economic recovery from Depression lows. While James Belich has argued that the only successful Depression-era measure Coates undertook was founding the Reserve Bank,<sup>128</sup> the more compelling interpretation is that the Coates-Forbes administration essentially produced an economic recovery, mainly on the back of a world turn-around; and that Coates then introduced policies that helped nurture it.

### Mechanisms of social recovery

Although economic indicators showed significant recovery from 1934, and a startling increase in GDP during 1936, there were lags at the social level, in part because it took time to soak up unemployment even after economic recovery, and in part because of the inextricable popular association between the Coates-Forbes administration and hardship. It is in this context that the Labour administration elected in November 1935 arguably had its main impact, fostering recovery in what we might, in the economic sense, think of as something akin to 'confidence'. In folk mythology, this was often conflated with the technical economic recovery.

These points deserve more discussion and amplification than is possible in a brief paper, but salient points are summarised. Part of the recovery in morale came from the fact that Prime Minister Michael Joseph Savage and his cabinet were new faces. This helped obscure the fact that many policies were simply older approaches repackaged in friendlier ways. For example, the 'Unemployment Fund', retained from the Coates administration, was renamed the 'Employment Promotion Fund'.<sup>129</sup> Similarly, Labour repeated Coates' theme of using public works expenditure as an economic booster,<sup>130</sup> but repackaged it as labour-saving, not labour-inflicting. In a well-orchestrated publicity stunt, Minister of Works Robert Semple made the point by using a D8 bulldozer to push a pile of wheelbarrows over a bank.

These initiatives, along with early moves to restore wage rates, were a direct response to the popular perception

of what the Depression government had done to New Zealanders. The congenial Savage was personally associated with the change, and small gestures carried disproportionate weight, notably the decision to issue a Christmas bonus to the unemployed in 1935. This meant everything to those who received it, and of all Labour's moves was the one remembered in family circles, even 70 years later.<sup>131</sup> Such opinions were reinforced in 1938 when Savage couched a new social welfare system as a right, a system for ensuring that New Zealanders would not suffer when beset by misfortune not of their own making. Amid intense political debate, Savage summed up the policy in two words: 'applied Christianity'.<sup>132</sup> There were reasons why Savage's portrait hung alongside that of Christ in some households.

The result was that Labour seized the moral high ground; and in a general sense, the positive mood extended to the conservative pastoral and business sectors, who otherwise viewed Labour with unease. When his farm accounts went back into black, Guthrie-Smith received a benediction from his bank manager. 'I found myself in the street...amazedness still upon me as to whether all bankers blessed clients on their return to solvency or if the practice was confined to the Union Bank of Australia.'<sup>133</sup>

### Other economic initiatives

Although many of the economic policies utilised by the Savage administration were an extension of earlier initiatives, some were distinct to that government. However, the explicit Depression experience was more causative relative to these policies than might be considered on a superficial glance, a point that becomes clear if we deconstruct the motives driving the housing policy introduced in 1936. Although political philosophy gave a flavour to the thrust and packaging, a part of the motive for this policy also flowed from the experiences of the early 1930s, when a third of New Zealand mortgages were foreclosed.<sup>134</sup> It has been

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<sup>128</sup> Belich (2001), p. 257.

<sup>129</sup> *New Zealand Official Yearbook 1940*, p. 581.

<sup>130</sup> Burdon (1965), p. 215.

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<sup>131</sup> J. Wright, pers. comm; also discussion with RBNZ colleagues relative to their own family reminiscence.

<sup>132</sup> Barry Gustafson (1986), *From the Cradle to the Grave – a biography of Michael Joseph Savage*, Reed Methuen, Auckland, pp. 225-228.

<sup>133</sup> Guthrie-Smith (1940) pp. 414, 418.

<sup>134</sup> Cited in Belich (2001), p. 260.

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argued that Minister of Finance Walter Nash was prepared to 'experiment' with central bank credit in order to address the issue.<sup>135</sup> These moves helped address one of the wider expectations that had moulded New Zealand society since the settler period, the concept of individual home ownership as ticket to personal security.

The functional causation between some new policies and the Depression was also true of the foreign exchange regulations introduced during late 1938. Again, we can identify a dissonance between ideological motives, short-run proximate and longer-run pragmatic causes. Conservative reaction decried regulation as a policy of the left, and to the extent that the Labour government framed their approach in such colours, it was. But such thinking shrouded practical need. It has been argued that these import controls were an immediate measure to stem 'capital flight' on the back of recovery, in part flowing from Labour's unwillingness to accept higher import prices among its urban constituency.<sup>136</sup>

However, perhaps the more significant pragmatic driver for these policies – irrespective of the proximate triggers or the way they were clothed by political parties – again remained the legacy of the Depression. The Coates administration had already initiated a more regulatory direction in response to Depression needs. The new policy introduced by Labour in the late 1930s went significantly further, but the name given to the approach at the time, 'insulationism',<sup>137</sup> makes the relationship clear. There was a perception that New Zealand's Great Depression had been imported via the reserves system. If the national economy could be 'insulated', another shock would not be transmitted. It remains telling relative to this aspect as driver that 'insulationism' was continued, with some variations, by all the governments that held power in Wellington through the mid-twentieth century. It evolved into 'protectionism', and New Zealand's general regulatory cycle, involving rules and systems of increasing complexity, did not end until the mid-1980s.

The economic and social policies introduced during the mid-to-late 1930s – in twenty-first century terms, guiding 'expectations' and building what might be called 'confidence'

– masked the fact that although the Depression had ended, the late 1930s still offered specific economic challenges for New Zealand. In this sense the arbiter of sustained economic recovery was the Second World War. Although an estimated 40 percent of local output went directly to the war effort,<sup>138</sup> the wartime government, partly via the multi-sectoral Stabilisation Commission, exploited the situation to remedy the 'many and various deficiencies in the economic structure of the pre-1939 era'.<sup>139</sup> It has been argued that the war helped bed in a regulated regimen that, by and large, produced near-full employment and long-run growth until the early 1970s, albeit at the cost of inflation.<sup>140</sup>

### Role of the Reserve Bank in New Zealand's recovery

It has been shown elsewhere that the wider policy origins of the Reserve Bank do not relate to the Great Depression;<sup>141</sup> and although action was triggered by that economic crisis, the Bank was not specifically set up to facilitate recovery.<sup>142</sup> However, policy-makers saw the Reserve Bank as an important agent in the economy in that context;<sup>143</sup> and Coates argued that it would promote stability and produce 'cheaper credit' through control of the bill market.<sup>144</sup> Founding legislation saw the Bank as a means by which 'the economic welfare of the Dominion may be promoted and maintained'.<sup>145</sup> That, to Coates, meant it would 'exercise a steadying influence'.<sup>146</sup>

Initial functions included control of foreign reserves;<sup>147</sup> as early as 1932, Bank of England Governor Montagu Norman

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<sup>135</sup> Hawke (1985), p. 165.

<sup>136</sup> Greasley and Oxley (2002), p. 718.

<sup>137</sup> Hawke (1985), p. 163.

<sup>138</sup> *Ibid*, p. 167.

<sup>139</sup> Organisation for National Development (1944), *Interim report on Post-war Reconstruction and National Development*, Wellington, p. 18.

<sup>140</sup> This was suggested by G. R. Hawke (1985), pp. 173-177.

<sup>141</sup> Matthew Wright (2006), 'The policy origins of the Reserve Bank of New Zealand', *Reserve Bank of New Zealand Bulletin*, 69 (3), pp. 10-12.

<sup>142</sup> John Singleton, Arthur Grimes, Gary Hawke and Frank Holmes (2006), *Innovation + Independence: the Reserve Bank of New Zealand 1973-2002*, Auckland University Press, Auckland, p. 9.

<sup>143</sup> Malcolm McKinnon (2003), *Treasury*, Auckland University Press, Auckland, pp. 124-125.

<sup>144</sup> J. G. Coates (1933), 'Reserve Bank of New Zealand Proposal', Wellington, September, p. 4.

<sup>145</sup> 24 Geo. V, Reserve Bank of New Zealand Act 1933, Clause 12.

<sup>146</sup> *New Zealand Parliamentary Debates*, Vol. 236, p. 895.

<sup>147</sup> Hawke (1973), p. 22.

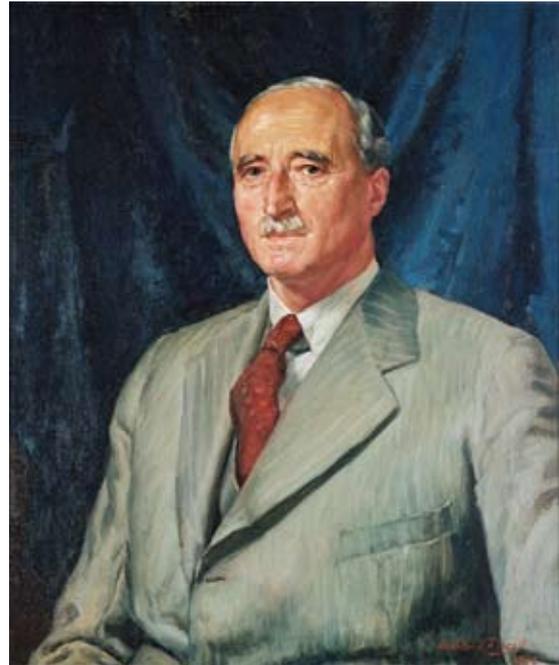


Reserve Bank Board of Directors 1934-35. (Photographer unknown, RBNZ Archive).

told Downie Stewart that the 'first and most important thing for New Zealand was to determine their attitude as an economic unit: were they to be dragged at the tail of Australia or to face their own affairs: in short, did his Government intend to form a Central Bank?'<sup>148</sup> The absence of a central bank was keenly felt; Finance Minister Downie Stewart even admitted he was subservient to the trading banks,<sup>149</sup> presumably a reference to trading bank control of the overseas reserve position.

This was crucial because it was through the lack of control over sterling reserves and cross-contamination with Australia that New Zealand had principally descended into the Depression in the first place. However, Coates warned that in general 'we must... not expect an improved monetary system to be a panacea for all our economic ills'.<sup>150</sup> Certainly the initial impact was minimal. Although A. H. Tocker attributed the decline of interest rates from 1934 to the Reserve Bank,<sup>151</sup> Gary Hawke has argued that, initially, the Reserve Bank did little other than 'act as the Government's Banker'. Initial financial returns to government, via seigniorage, were minimal.<sup>152</sup>

Legislative change from 1936 gave the Reserve Bank power to make home loans, contributing to the stimulatory effect of government expenditure on public works and social services. This was by no means welcomed in the Reserve Bank, where



Leslie Lefeaux, first Reserve Bank Governor. (Artwork, Archibald Nicoll; photography, Stephen A'Court)

the Governor, Leslie Lefeaux, cabled Norman to warn that the new legislation would 'open up [the] way for unlimited inflation' and 'render the Reserve Bank a menace instead of [a] useful part of [the] financial machine.'<sup>153</sup> In a technical sense, Lefeaux was correct; these functions increased the money supply.<sup>154</sup> The debate also reflected the fact that many of Nash's initiatives stood in the face of the economic orthodoxy of the 1930s, and while popular among the have-nots, engendered dismay at conservative levels.

In the immediate, however, no disasters occurred; indeed, it has been estimated that New Zealand's GNP grew 18 percent in 1936.<sup>155</sup> Whether, as two analysts have argued, this was due in part to the changes of Reserve Bank function and that the government of the day went too far in creating credit via the Bank,<sup>156</sup> is attractive but remains contentious. Arguably, this sharp acceleration was as much a recovery from the lows of 1932-33. It did not reduce tensions between Lefeaux and his Minister, and by 1939 Nash felt obliged to introduce legislation putting the Reserve Bank more particularly under control of the Minister of Finance.<sup>157</sup>

<sup>148</sup> Bank of England OV59/1, Notes of informal meeting between the Governor and Downie Stewart at the Hotel Metropole, London, 15 Sept. 1932. Research by John Singleton.

<sup>149</sup> Hawke (1985), p. 146.

<sup>150</sup> Coates, (1933) p. 4.

<sup>151</sup> A. H. Tocker (1934), 'The Establishment of Central Banking in New Zealand', *Economic Record*, December, p. 228.

<sup>152</sup> Hawke (1973), p. 58.

<sup>153</sup> Bank of England G1/339, Lefeaux to Norman, 10 January 1936.

<sup>154</sup> Greasley and Oxley (2002), p. 710.

<sup>155</sup> Rankin (1992), p. 61. But see also Chapple (1994), p.9.

<sup>156</sup> Greasley and Oxley (2002), pp. 710, 718.

<sup>157</sup> Hawke (1973), pp. 62, 65.

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## 5 Conclusion

With a duration of just 18 months, followed by a fast recovery, the Great Depression in New Zealand was relatively short as a purely economic phenomenon. This stands in contrast to the significant impact the Depression had on New Zealand's popular mind; and it was from this social impact that the Depression gained its real legacy in folk memory and in terms of practical policy-making over the next half century.

When analysing these events, we must be careful not to interpret the 1930s in presentist terms. Internationally, the financial legacy of the First World War and the faltering gold standard system gave a particular flavour to the credit boom of the 1920s. New Zealand's own situation of 1930, with a concentrated export focus on Britain, a foreign exchange system inextricably linked with that of Australia, and no central bank, was specific. The human legacy of the First World War, coupled with the social expectations of New Zealand and the indifferent economic fortunes of the 1920s, gave a social power to the Great Depression in New Zealand that it would likely not have had in different circumstances.

There was a disconnection between social effects and the economic experience; and it seems clear that the popular perception of a recovery in the mid-to-late 1930s in fact reflected recovery of morale, including what we might call 'confidence'. Many of the economic policies applied in New Zealand during the mid-to-late 1930s, as has been argued in this paper, were developments of policies introduced during the Depression; and others were founded less in the theory with which they were sometimes interpreted at the time, as a reaction to the perceived problems of the Depression, driven and framed by immediate social factors.

When combined with the regulations of the Second World War, this endorsed the trend towards a regulated economy that marked the middle decades of New Zealand's twentieth century. By no coincidence, the span of this thinking in New Zealand was the active working lifespan of the children of the Depression era.

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# Financial crises, sound policies and sound institutions: an interview with Michael Bordo<sup>1</sup>

*Interview conducted by John Singleton, Victoria University of Wellington*

Professor Michael D. Bordo is a Professor of Economics and Director of the Center for Monetary and Financial History at Rutgers University in New Brunswick, New Jersey. He visited New Zealand in June and July 2009 as part of the Professorial Fellowship in Monetary and Financial Economics sponsored by the Reserve Bank of New Zealand and Victoria University of Wellington. Michael is a Research Associate of the National Bureau of Economic Research in the United States, and has spent time as a Visiting Scholar, Professor or Consultant at the IMF, the World Bank, and many central banks. In this interview, Michael talks to John Singleton about his research interests in monetary and financial history and financial crises, the determinants of New Zealand's financial vulnerability, and some of the issues facing central banks in dealing with the aftermath of the current global financial crisis.

*How did you come to do advanced studies in economics and to focus your research on financial crises?*

I started my university education at McGill University in Montreal. I was always interested in history and political science and I developed an interest in economics. In a course in my first year at McGill, Frank Cyril James gave a spectacular course on global economic history, with the culmination of the course being the 1931 Financial Crisis. I just loved this course, and eventually took Honours [in] economics and political science at McGill. The teachers we had were excellent. I knew I wanted to go to graduate school, I knew I wanted to be a professor. I decided to apply to the London School of Economics, and not really knowing what I was going to do, I signed up for public finance. I later switched to advanced economic theory. Being in the Masters programme at LSE was a very enjoyable time for me. There, I met Bill Phillips.

*When you went to the LSE, were you aware that Phillips was an important character and that he'd done very important research?*

Yes, but not that much – I was still green in the profession. I was impressed with Lionel Robbins and gave a paper in his seminar. That was really a very exciting event for me. There

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<sup>1</sup> The views expressed in this article are those of Professor Bordo, and are not necessarily those of the Reserve Bank of New Zealand.



**Professor Michael Bordo (Tim Ng/RBNZ).**

were other great people at LSE and Phillips was one of them, but he wasn't really on my radar screen. I knew about the Phillips Curve, but it's not something that was dominating our thinking. We were being taught very Keynesian-type macro, as anybody who went to university in England or Canada at the time was getting.

*Was Phillips himself a Keynesian?*

Well, I'm giving you my impressions as a graduate student at 21 years old. He gave a series of lectures and demonstrated how his machine could explain the circular flow of income in a very simple Keynesian model. He had a concept of the economy as a control system, in today's sense. You know,

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a control system whereby the central bank and the treasury together would push policy levers and regulate the circular flow of income, offsetting negative injections with positive injections. His model was a Keynesian model, so that's what I mean when I say he was a Keynesian – he had a very simple Keynesian framework.

He also talked about the Phillips Curve, but it wasn't called the Phillips Curve then. He discussed the empirical relationship he found between the rate of change in money wages and the level of unemployment in Great Britain from 1857 to 1951. He fitted the line through it and then discussed how it was hard to interpret – he did not give us a theory. We got the theory from Richard Lipsey. Lipsey had the story of how the Phillips Curve was picking up excess demand in a very simple Keynesian-cross type of model, but Phillips didn't talk about that.

***Was Phillips a good lecturer?***

He was very nice, charming, modest, funny – he had this really strong New Zealand accent.

***After the LSE, you went to Chicago to do your PhD and ended up with Milton Friedman as your supervisor. Why did you choose Chicago?***

I got interested in Chicago from talking to my instructors at LSE, especially Ed Mishan, who was my advisor in the second year. He had done his PhD at Chicago and was a student of Milton Friedman. He wrote a strong letter for me and Harry Johnson arranged everything for me. Mishan just wrote a letter on one of those old-fashioned blue aerograms and shipped it off to Harry and, bang, I got in with a full scholarship.

The thing about Chicago was that I was always fascinated by the Chicago School and Friedman and Stigler. At LSE they were really anti-Friedman, and I sort of went along with it, but I was always curious. I wanted to find out what the Chicago School was all about, and when I got there I was assigned Milton Friedman as my advisor. He was extremely nice to me and said, 'You were at LSE, you've had a British education and studied in Canada – you've got a lot of

advantage over the other students from the United States – and I'm really happy that you could be with me'. Now I did have an advantage in price theory and in the history of economic thought, but I was a disaster in macro, because macro at LSE was Keynesian and macro at Chicago was Friedman and the quantity theory.

**“ I was always fascinated by the Chicago School and Friedman and Stigler... when I got there I was assigned Milton Friedman as my advisor. ”**

It took me a year to figure out how to do things and think like Friedman. Then I thought, well, now that I've figured it out, I'm going to stick with him. But I was also interested in economic history and I took courses from Robert Fogel, who was very friendly to me – you could just walk in and see him. With Friedman you had to make an appointment weeks in advance to see him, and then you'd have a half hour with him. When you saw him it was fine, but he was so famous by then. Fogel was the one that turned me on to economic history. First it was F. Cyril James, and then Bob Fogel.

I wanted to do a thesis that would combine both economic history and monetary economics, so I had read carefully through *A Monetary History of the United States* by Friedman and Schwartz. I wanted to do something in that vein, so I started a thesis topic with Milton. Friedman and Fogel were on my committee and I also got Anna Schwartz involved because I needed historical data. The year after I left Chicago, Friedman arranged for me to go to the National Bureau of Economic Research in New York, and I worked with Anna for three months to finish my thesis.

***What was your thesis topic?***

It was called 'The income effects of the sources of monetary change'. The question was, does it matter how money

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is injected into the economic system? Does it matter if it comes in through expansion of the banking system, or it comes through gold discoveries, or it comes through paper money? The approach was to compare different periods of US economic history where the sources of monetary change differed. I compared the pre-Civil War and post-Civil War periods, and I ran a large number of regressions using techniques that are totally defunct today – everything that you could imagine today was wrong with the econometrics, but anyway, I did these regressions of changes in output on changes in the money supply, adjusting for how the money came in. That was the econometric part. The other part was narrative and I basically did a historical analysis of the monetary system and the monetary arrangements that led to changes in money.

## “ Does it matter how money is injected into the economic system? ”

The thesis led me to write a paper on John Cairnes, a British political economist and a follower of John Stuart Mill. The idea for the thesis in part had come from Cairnes. Friedman had said to me, ‘You know, Mike, you should look at some articles by John Cairnes.’ Cairnes looked at the gold discoveries in Australia and California in the 1850s and traced out the effects of the gold discoveries on world prices. He predicted that the effects would first be on prices in Australia and California, then it would spread through the balance of payments to the UK and the rest of the world. He predicted that it would take about twenty years for the doubling of the quantity of gold to lead to a doubling in prices globally. He also predicted the chain of markets that the gold would flow through, and which prices would rise more than other prices depending on their elasticities of supply. And Friedman said, ‘Why don’t you take Cairnes’ idea and do a thesis based on that?’ So that’s more or less what I did, and I got my first publication with my article on Cairnes in the journal *History of Political Economy*. I’d put in a ton of work – it was one of the best papers I ever wrote.

Only a handful of people remember it. I ended up publishing two or three articles out of the thesis.

### *Did Friedman ever mention his views on the Phillips Curve?*

In the macro course I took from Friedman, he developed his famous *American Economic Review* article, published in 1967, that led to the Natural Rate Hypothesis. Friedman spent a lot of time attacking the Phillips Curve and showing that you could not gear policy on a stable Phillips Curve. In that course, he developed the Natural Rate Hypothesis based on adaptive expectations, coming up with the argument that the Phillips Curve can only be a vertical line in the long run, and that policy makers should not try to target the level of unemployment.

### *Did you find his exposition of the Phillips Curve convincing?*

I picked up the rational expectations approach to it and I think that’s where I stopped. I basically don’t think the Phillips Curve is a useful policy instrument. It’s a good description of things, and I think it’s a way of thinking about the short-run versus the long-run effects of changes in monetary policy on the economy. You can describe it in terms of the transmission mechanism that goes from changes in monetary policy to changes in real output to changes in prices, and to the extent that prices are sticky, it is going to appear in output. Friedman also taught us that Irving Fisher preceded Phillips in a paper that he wrote in the 1930s, which described a similar pattern. Fisher didn’t show the U-shaped pattern that Bill Phillips did, but he did say that as long as you had nominal rigidities, then monetary policy was going to have real effects on output, and there’s going to be lagged effects on prices.

### *How did your career develop after you left Chicago?*

I was hired by Carleton University in Ottawa, Canada. For the first three years, I was developing my courses in economic history and trying to finish my thesis. After I finished my

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thesis in 1972, Carleton decided that economic history was not important and informed me that I was now going to be a macroeconomist. So I taught macro, monetary theory and international finance, staying at Carleton for another nine years.

I left Carleton to move to the University of South Carolina, where they hired me as a monetary economist. The paper I wrote on Cairnes led to another paper on the effects of monetary policy on relative prices that was published in the *Journal of Political Economy*, and that got me a lot of attention in the States. And because I had started writing joint papers together with Anna Schwartz, I got gradually plugged into the US network. I didn't like living in South Carolina much but I got a lot of work done at USC. I joined the NBER and I started writing joint papers with a large number of people.

A lot of what I did involved monetary history. I've always written papers that talk about the relevance of historical evidence for current monetary theory and policy, and was successful at that because not many people did it. I had this little comparative advantage in that I was somebody who did monetary history. The macro people didn't like economic historians much and thought they were wasting their time, but said to me, 'Oh yeah, but what you do is useful.'

“ The macro people didn't like economic historians much... but said to me, 'Oh yeah, but what you do is useful'. ”

*Then you went to Rutgers.*

Yes, I went to Rutgers in 1989 to join Hugh Rockoff and Eugene White. Hugh was a classmate of mine at Chicago. The two of them were doing really good work and they wanted to bring in a third person, and they had a sympathetic dean who thought that we could set up a Centre of Excellence.

That's how I got to Rutgers and I have very much enjoyed it there. My colleagues and I have been running a workshop in Monetary and Financial History since 1989 and anybody who's done any good work in anything related to macroeconomic history has come through that workshop, and I feel really good about that. I think it's a major accomplishment that we got the thing going.

*And for the last few weeks here in Wellington you've been working on financial crises?*

Yes. Let me backtrack for a second, since you asked me how I got interested in financial crises. Because I've always been a big fan of Friedman and Schwartz, banking panics have always been something that were part of the courses I teach. In 1985, I did a paper for a conference in London on financial crises, which got me into the subject formally. I put together a database and that paper led to a number of citations, and since then I've always been working in that area.

“ Certain factors can insulate or prevent countries from being hit by crises. ”

Here in New Zealand, I have been extending my research on currency and banking crises, and also debt crises and sudden stops. What my research shows is that there are certain factors that can insulate or prevent countries from being hit by crises. These factors can be labelled as either sound policies or sound institutions. Sound policies include low money growth, low inflation and low fiscal deficits. Sound institutions are things like adherence to the Gold Standard pre-1914, adhering to the rule of law, and parliamentary democracy. Countries that had sound institutions and sound policies were often able to avoid crises.

New Zealand fits right into the group of countries that were able to insulate themselves to a certain extent from

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financial crises, in comparison to countries like Argentina, Italy and the other Latin or southern European countries that didn't have many of these sound institutions. One of the key features that led to financial crises was having what was called 'original sin' or 'liability dollarisation', where a large fraction of debt is foreign-currency-denominated. New Zealand was a country that had a high original sin, but it didn't have serious crises. Canada was another country like that and the reason was that they came up with ways to offset the risk of crises. They held either large gold reserves, or they had high exports which could generate gold reserves to pay off the foreign-currency debt.

What my research at the Reserve Bank with Dave Hargreaves and Mizuho Kida did was look at the determinants of financial crises. In earlier research with Chris Meissner, I had assessed the probabilities of a financial crisis, given certain values for the current account deficit, money growth, the fiscal deficit, original sin, offsets to original sin, and a number of other variables. From the regressions, you can predict the probability of a crisis. So we did the same exercise for New Zealand, focusing on the New Zealand values of each of these variables. You could then come up with a measure of the risk that New Zealand faced relative to that faced by other countries.

What we learnt is that in the pre-1914 period, New Zealand was at lower risk of having a currency crisis but at slightly greater risk of having a sudden stop. It generally did better than the average. For the second era of globalisation, 1972 to the end of the 20th century, we found that even though New Zealand had some sound fundamentals, it also had some fundamentals that weren't so sound. It had high original sin, and not as high an offset to original sin. So even though per capita GDP was high, it was not enough to offset the exposure. In the 1970s, 80s and 90s, New Zealand was, on average, more susceptible to having a currency crisis.

We then looked at other factors that could affect New Zealand. Even though, on average, it was in relatively good shape with respect to financial crises, it still had some risk. There were other things that you would have to worry about and these were real global shocks, such as terms-of-trade shocks and shocks to the demand for exports as a consequence of foreign real GDP shocks. Time series

regressions over the period 1880-2007 on a moving average of the growth of real per capita GDP, with the terms of trade, the real exchange rate and foreign GDP represented by the US as independent variables, explained over half of the variation in real GDP. Adding in the financial crisis indicators didn't explain much more. So it backed up a story that New Zealand was vulnerable largely to real shocks. The policy prescription that comes out of this result is to follow a floating exchange rate. Floating is the way to protect yourself, and switching to a float in 1985 was a pretty good policy.

**“ New Zealand switching to a float in 1985 was a pretty good policy. ”**

*You said in your public lecture talk that it might be a good idea for New Zealand to consider a monetary union with Australia.*

When you're a very small open economy, the floating exchange rate also has some problems, in that it overshoots. It overshoots for big countries too, but the overshooting can have serious consequences in changing the relative prices of traded to non-traded goods, leading to reallocation of resources between those sectors. Now if you have a very flexible economy, it's not an issue. If your economy's not that flexible, it can be an issue. For that reason, given the extreme degree of openness you have and the size of your country, there is a case to tie yourselves to a larger country that has stable monetary and fiscal policies – a stable nominal anchor. You would have less risk of the misallocation issues associated with the float.

The literature on monetary unions and European Monetary Union (EMU) is relevant to this. You weigh the benefits of integration with a larger economy against the cost of giving up the independence of monetary policy to deal with asymmetric shocks. Which countries should join an MU and which countries shouldn't is an empirical question. I don't know what the answer to that question is for New Zealand; I suspect the evidence is mixed. But just from a very casual

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examination, I think there is an economic case for joining an arrangement something like EMU with free trade, free factor mobility, one currency and some degree of fiscal centralisation.

Having said that, whether there's an economic case or not is often immaterial, because what really drives monetary union is politics. I've done a lot of research on EMU, and what were called the "optimal currency area" arguments for joining just didn't stack up. The economics of Europe adopting EMU just didn't stack up in the 1990s. It was a political move to set up EMU in 1999, driven by political will. All past monetary unions in history have been driven by politics and strategic considerations.

What the evidence does seem to show is that once a monetary union was set up, trade integration increased quite a bit inside Europe, and that the benefits of trade integration are quite significant. However, the cost of giving up monetary policy in the face of big recessions like we're facing right now is not insignificant. So the European example is one that New Zealand should think about. But really, what matters is whether the New Zealand people want to do this, and whether Parliament wants to go along with it. Economists can only push things so far.

**“ Economists can only push things so far. ”**

I suspect what's going to happen in the future is that as New Zealand continues to decline in importance relative to Australia, reflecting the fact that Australia is a much bigger economy with economies of scale and of scope, and also with more natural resources and connections to the metropolitan part of the world, the benefits of joining will go up. Other issues will come up as China becomes more important in the world. There may be other strategic benefits for Australia and New Zealand to hook together.

***If New Zealand should become more flexible, what can it do?***

You basically need to limit any restrictions on labour mobility. I know New Zealand's gone part of the way in doing that, but basically resources just have to re-allocate themselves. With a floating exchange rate, theory tells you that you need to have perfect labour mobility where resources can move within the economy. Exchange rate changes affect traded good prices relative to non-traded goods. You have to have people that can move quickly and labour and capital that can move quickly in response. Now, in practice it doesn't happen that way, and the more rigidity you have, the more of a problem it is.

Immigration is a different issue. Immigration would give New Zealand a larger market and the ability to have economies of scale, economies of scope. It would bring in human capital, different skills to make the economy more flexible, to give it more depth. When I say more immigration, I don't mean just cherry-picking the very best, I mean bringing in people who can afford to get here and that's just about it. People with low incomes from poor countries will come here – some do come here – and work really hard to make a good life for themselves and especially for their kids. There are the incentives to do so and there are resources here. There's a lot of human capital here already and the country's sparsely populated. I think New Zealand should think about an economy that's got maybe 12 million people, or 15. I know that a good chunk of the country is mountains and people can't live on the Southern Alps, but I suspect there's still a lot of room. I don't see why New Zealand can't have the population density of a European country or the United States.

**“ New Zealand should think about an economy that's got maybe 12 million people, or 15. ”**

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***You're a member of the Shadow Open Market Committee in the US. What do you see as the main challenges for the Fed in the next year or two?***

I think there are two main challenges for the Fed. The first is with monetary policy and that is coming up with an exit strategy from their current expansionary quantitative easing approach. They need to reverse course without either precipitating a second recession like what happened in 1937–38, when they tightened after easing from 1933 to 1936, but at the same time getting out in time to prevent inflationary expectations from building up.

The second issue is independence. The Fed has had a lot of independence over its history. The kind of policies it has been following in this crisis, working closely with the Treasury, have deeply compromised its independence. It has to break away from the Treasury and it has to get out of a lot of the arrangements propping up certain credit markets and helping guarantee and bail out firms and banks with Treasury support. It has to get back to what it was doing before, which is to focus primarily on providing stable money, and come up with a very strong statement backed up by the government, saying that the government respects the Fed's independence, and that the Fed itself realises that it has to be independent of the Treasury.

The other issues are about how to unwind the mess they got themselves into and roll back all these facilities they created. I think that they will do it, but it seems like they've created a situation where they're engaged in credit allocation – in picking winners and losers in the economy. These are things that government shouldn't do at all, but if they're going to be done, they should be done by the Treasury and not by the Federal Reserve. The Federal Reserve went through a long history in the 30s, 40s and 50s of engaging in credit allocation. They decided by themselves that this was something they didn't want to do, they wanted to get out of it – and now they have gotten themselves into it again.

***Should they have done things differently in the last year or two?***

Did they make some mistakes? Yes, they did. The first mistake was viewing the crisis as primarily a liquidity crisis.

At the beginning it was. When the inter-bank markets froze up, it was a liquidity problem and they did the right thing by expanding liquidity.

But then it became apparent quite quickly that the problem was one of solvency. The issue was that with the toxic sub-prime mortgages, their derivatives and other derivatives on real-estate-backed paper, nobody knew how to value these assets. So a great suspicion arose among banks and other kinds of financial institutions about the quality of the paper that these banks had issued and were holding. And this is a solvency issue. Nobody knew if the banks were really solvent or not, and this explains why all the credit markets just ceased functioning and the spreads got so large.

The Fed treated it as a liquidity issue and set up all these facilities to deal with it. What I and others in the Shadow Open Market Committee think they should have done is just engage in open market operations and let the market determine how the credit is allocated. We think going down the credit allocation route was a mistake.

Because they were following a credit allocation policy, the second thing the Fed did was sterilise the expansion in the monetary base from about the end of 2007 until about September 2008. This meant that money and credit growth was flat. The money multiplier was shrinking, so any quantitative measure you look at suggests that monetary policy was relatively tight for six or seven or eight months. Also, using DSGE models, if you measure the natural rate of interest and look at the actual real interest rate compared to it, it suggests that the real interest rate was too high, and that in a Wicksellian sense there was deflationary pressure on the economy. In a sense, this made sure that there was going to be a serious recession. Fed policy put fuel on the fire for about eight or nine months.

***That sounds very much like 1929 and 1930.***

Yes, indeed. The late autumn of 1929 and 1930, exactly when the Federal Reserve Board reversed the policy of ease that it followed immediately after the October 1929 stock market crash. In the recent crisis, the Fed changed gears and did the right thing around the time of the Lehman crisis. They stopped sterilising the increases in the monetary base,

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so it has been increasing quite rapidly. At the same time, they cut short-term interest rates close to zero. They became very worried as policy rates reached the zero nominal bound, but they had the good sense to realise that hitting the zero nominal bound doesn't mean you can't use monetary policy. So they did switch to a policy of quantitative easing (purchasing assets other than short-term Treasuries) at the end of 2008, and I think that was a really good thing.

I am convinced that the US economy is going to recover. It has reached the bottom of the cycle right now (summer 2009). Expansionary monetary policy, which should have been expansionary earlier, is getting us out of this recession.

“ I am convinced that the US economy is going to recover. ”

*Why did it take the Fed so long to switch to an expansionary monetary policy?*

Because they thought the problem was liquidity, and that getting the spreads down in these different credit markets would eliminate the credit crunch. Then bank lending would flow and the economy would recover through bank lending. But if it isn't just a liquidity problem, if banks are potentially insolvent and nobody knows what or where the toxic assets are, then monetary policy has to do an end-run around the banks. It has to just throw money at the economy. It has to work through the banks too, but not just depend upon bank lending. That's what the Fed has done, but it took them a while to figure it out.

*Going back to your work, your research shows that financial crises are becoming more common. Is that something we just have to live with as the downside of globalisation? Can anything be done to iron out these crises?*

That's an interesting question. There's an argument that, in a sense, emerging countries can use financial crises as

opportunities to develop sound institutions. A crisis is a learning experience – a wake-up call about imbalances and faults in your financial system – and you can improve your institutions by adapting following the crisis.

“ A crisis is a wake-up call about imbalances and faults in your financial system. ”

The history of the United States and the UK tells us that. In the nineteenth century, the UK had a crisis virtually every decade after the Napoleonic Wars until 1867. But what did the British do after these crises? They held a royal commission that criticised the Bank of England, and the Bank made changes. Eventually, after Walter Bagehot wrote his famous *Lombard Street* in 1870, they really did get their act together and learned to follow the “responsibility doctrine” (subsuming their own profits to the public interest), and they attached a lot of importance to trying to prevent banking crises. They were successful for close to 150 years, until Northern Rock in 2007.

The US learned through the failures of the Free Banking era, which led to the institution of the National Banking system. The National Banking system still had serious problems, which led to the creation of the Federal Reserve, whose shortcomings in the Great Contraction then led to the revision of the Federal Reserve Act in 1935. It took them four tries and a hundred years to get it right, and they still haven't got it completely right, but each time it's been getting better.

*Thanks very much for chatting with me today.*

You're welcome.

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# The financial crisis: whodunnit?

Howard Davies<sup>1</sup>

Howard Davies is Director of the London School of Economics. This is the text of a speech he delivered on 30 July 2009, when he visited the Reserve Bank on the occasion of our 75th anniversary. The slideshow accompanying the speech and a video file of its delivery can be viewed at the Reserve Bank's website, [www.rbnz.govt.nz](http://www.rbnz.govt.nz).

I am very grateful to the Reserve Bank of New Zealand for this invitation to mark their 75th anniversary. There are two particular reasons why I was delighted to accept, and neither of them was the opportunity to visit New Zealand during your winter, and in the middle of a home Ashes series.

The first reason is that there is a close link between New Zealand and the London School of Economics. One of the most celebrated economists in the LSE's history, Bill Phillips – he of the Curve – was a New Zealander. Some years back the School gave New Zealand one of the Phillips machines, illustrates in a vivid way the relationship between inflation and unemployment. We don't now think of that relationship quite in the way Bill Phillips did, but many of his insights are still highly relevant today.

The second reason is that I have been, over the last year, working on a book about the future of central banking, and the Reserve Bank has a particular place in the history of central banking in the last 20 years, as the originator of inflation targeting, a monetary policy framework which has now been adopted by over 20 other countries, including the UK. In that book, I shall argue that inflation targeting now needs some further development, in the light of the lessons of the financial crisis, and I shall come on to that in a moment. But there is no doubt that the Reserve Bank has been a highly influential organisation internationally, under Don Brash and Alan Bollard. In central banking, as in rugby union, New Zealand punches above its weight. Only metaphorically in the first case, sometimes literally in the second.

The subject matter I have chosen for this evening is, however, the financial crisis itself, and particularly the big question which remains under debate – whodunnit? When she

opened a new building at the LSE last November, the Queen asked another question – 'why did nobody see it coming?' That is altogether more difficult, and above my pay grade.

Some may argue that now we are two years into the crisis, and attention is focused on finding routes out of it, such a retrospective approach is redundant. Why should we now engage in a useless blame game? Is this not an exercise in touring the battlefield after the action is over, bayoneting the wounded?

I do not think so. After all, this is no ordinary crisis. The financial and economic costs are enormous. The overt cost of the financial rescues is now estimated at around US\$9 trillion in the US, Europe and Japan. In the UK alone, this is now the fourth most expensive fiscal event in British history, after the Napoleonic wars and the two World Wars of the twentieth century. As far as ordinary people are concerned, we have still not seen anything like the full implications. Unemployment is rising sharply across the developed world, and will almost certainly continue to do so for some time. In New Zealand, it is forecast to go above 7 percent next year, twice the rate before the crisis began. So this is not a situation in which we can say, 'No worries, we all make mistakes' and move on.

Also, a clear analysis of the causes of the crisis is needed in order to inform the solutions. My impression is that in some of the current international debates, politicians are proposing solutions in search of problems. I would put the Franco-German initiatives to rein in hedge funds and private equity firms in this category. The same is true of the G20 focus on off-shore centres. I recognise that there may be reasons to wish to tighten up in all these areas, and it is important not to waste a good crisis, but they are hardly at the centre of the problem.

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<sup>1</sup> The views expressed in this speech are those of Howard Davies, and are not necessarily those of the Reserve Bank of New Zealand.

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So I believe it remains worthwhile to try to refine our analysis of the malfunctions in the global financial system, to avoid careering off down blind alleys.

But before I begin to throw stones, let me describe for you the glass house in which I live. In other words, let me take my own share of the blame before dishing out the rest. I was Deputy Governor of the Bank of England in the mid-1990s, and Chairman of the Financial Services Authority up until the summer of 2003. I would argue that it was too early at that stage to identify the inflating bubble, but I would certainly accept that when I was a regulator, I shared the view that the financial system could operate with relatively low levels of capital, and also the view that financial innovation was, by and large, a good thing. Those assumptions have now been challenged.

Since 2003, I have been the Director of the London School of Economics. And it is arguable that the economic profession, and economic teaching, has not been without fault. In a lecture at the LSE last month, Paul Krugman argued that for the last 30 years, macroeconomics has been passing through a Dark Age. One of our own professors – Willem Buiter – wrote a blog in the *Financial Times* recently entitled “The unfortunate uselessness of most ‘state of the art’ monetary economics”. His argument was that economists have become so preoccupied with growth theory, that they have lost interest in the financial sector and in the analysis of economic cycles. They have ignored asset prices, partly because they had too much faith in the efficiency of financial markets. It is a difficult charge to refute convincingly.

Finally, since 2004 I have been a member of the Board and the Audit Committee of Morgan Stanley in the United States. Morgan Stanley has not been the worst-affected bank in this crisis, but certainly it was caught up in the enthusiasm of some of the markets that went pop. I shall have something to say about the responsibility of the boards of big financial institutions in a moment.

That is where I am coming from, as we now say. So my assessment comes from a hybrid insider/outsider perspective.

One rather depressing feature of many current analyses of the causes of the crisis is that people are now retreating into

the positions they held before it started. For a time, there were signs of a very open debate, with financial firms and even politicians showing remarkable open mindedness and willingness to challenge received opinions. Now the initial shock is fading, so the *Wall Street Journal* editorial pages have concluded that they were right all along, and that the problem was excessive government interference in the markets. Politicians on the left have decided that they were right all along, in believing that unbridled capitalism carried within it the seeds of its own destruction. The French have decided that it's the fault of the Anglo-Saxons in New York, and especially London. The English have decided, with some justification, that the real villains of the piece were Scottish bankers. The Tories think the only villain is a Scottish prime minister. No doubt, in New Zealand there are those who blame all your economic ills on your trans-Tasman cousins. The Australians themselves, as is their wont, blame the umpires.

What do ordinary people think? Well, they seem to have a fairly balanced view. A British financial website shows a good distribution of responsibility, with all the main suspects named. Bankers take pride of place, and I would not wish to deny them that accolade.

There are, however, some more wacky claims around. A recent *Boston Globe* survey showed that 25 percent of Americans and 32 percent of Democrats polled believed that the crisis was caused largely by the Jews. And one Oxford professor has advanced the theory that the roots of the crisis lie in violent video games. The inhabitants of trading rooms have been brought up in a kind of virtual reality mode, whereby you can play dangerous games on screen, causing death and destruction, without any risk of genuine harm to yourself. The same philosophy carries over into their trading strategies. Actually, that theory may not be as wacky as it first sounds, but I will not dwell on it this evening.

Instead, I will begin with an heroic attempt to produce a summary of the crisis in about 90 seconds. That should be time enough for a comprehensive analysis.

The crisis was triggered by a re-rating of risk in financial markets, first in the sub-prime mortgage market in the United States. That re-rating pushed down the prices of bonds and

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other financial assets, and generated losses which were too large to be absorbed by the financial system, which had too little capital. The risk that many financial institutions would therefore go bankrupt generated panic, which triggered a collapse in credit, which spread the crisis beyond the markets where it started, and caused a general collapse in economic confidence and then in economic growth.

The collapse was all the more severe because it had been preceded by a massive expansion in credit and in asset prices, especially in the housing markets in the US and elsewhere. Why did those credit and housing bubbles inflate in the first place? Behind them, we can see the impact of what was called "the Great Moderation", which caused policy-makers to believe that productivity growth had jumped to a new trajectory. The emergence of huge global imbalances, especially between China and the oil exporters on the one hand, and the US, the UK and a few other countries on the other, produced huge accumulations of reserves. They had to be invested, which bid up the prices of risky assets and lowered real and nominal interest rates. The export of these huge capital surpluses, and the emergence of highly competitive imports from China, in particular, held down inflation. Monetary policy, which focused narrowly on consumer price inflation, was therefore weak and accommodating. One economist has quipped that CPI was really Chinese Price Inflation during this period.

In this environment of excess liquidity and very easy credit, borrowers went on a borrowing binge. Companies increased their leverage. Households borrowed more and more, so that household debt rose to unprecedented levels in relation to GDP, even higher in the UK than in the US. Banks and other financial firms were happy to accommodate this demand for credit, and were prepared to lend even to very risky and vulnerable borrowers. In the US especially, bank assets and leverage rose very sharply. Securitisations added another massive source of credit creation off-balance sheet. The so-called parallel banking system went into overdrive.

Where were the regulators while all this was happening? They were worrying away, of course, as regulators do, but regulation did not act as an effective brake on this set of bubbles and rapid expansion. Indeed, regulation operated in a pro-cyclical way, with banks allowed to hold less capital

as booming asset prices shielded them from losses. And regulatory arbitrage drove the expansion in off-balance sheet credit.

This whole edifice came crashing down, beginning in the summer of 2007. One vivid measure of that was the total collapse of the securitisation market. Financial markets seized up. A number of very large banks folded entirely. Economic growth collapsed. Since then, governments have been trying to stave off the threat of depression, and have probably succeeded in doing so. Central banks have flooded the market with liquidity and pushed interest rates down. Governments have allowed fiscal deficits to balloon. But we are left with two big headaches. First, how to exit from the very expansionary monetary and fiscal policies which have been put in place, and particularly how to restore some health to the public finances. And, second, what should be done to improve robustness of the financial system in the future?

If this analysis is even partly correct, then it points to a number of the problems we need to resolve.

In the first place, it suggests that there was a problem with the construction of both monetary and fiscal policies in the run-up to the crisis, and maybe in some cases with exchange rates too. It looks, for example, as though the renminbi-dollar rate should ideally have been rather different; in other words, the renminbi should have been higher. That is something which successive US Treasury secretaries did argue, but to little effect. And, in a sense, the Americans and Chinese both enjoyed this unbalanced relationship, for different reasons. The Chinese could build up reserves, which make them feel more secure, while the Americans could continue to live beyond their means.

But starting at the exchange rate end of the story may not be appropriate. The key was that the US, and indeed the UK, were saving too little and spending too much. They were able to do so because monetary policy was loose. After the dot-com boom and bust, the Fed acted decisively to prevent that crisis turning into a full-blown recession. So interest rates were sharply reduced, and held low for some years. One conventional measure of the appropriateness of monetary policy is something called the Taylor Rule, which relates the

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level of interest rates to inflation and capacity utilisation in the economy, which in turn is a good indicator of price pressures. John Taylor himself, the inventor of the rule, has calculated that US interest rates were remarkably divergent from the rule from about 2002 to 2005. He sees that as by a long way the most important cause of the crisis.

He may overstate the case a little, but I believe he is broadly correct. So central bankers must take their place in our rogues gallery. That is a statement which guarantees that I will not be invited back to speak at the Reserve Bank's 150th anniversary, which otherwise I was hoping to do.

But just because credit is available at an attractive price, does not mean that banks have to lend to all the customers who ask for loans, or that customers are obliged to borrow. Individual economic actors, whether households or firms, are not just pawns in a central bankers' chess game. So households and others must also take their share of responsibility. Certainly in the UK, we were living above our means, with a savings rate falling close to zero, a large balance of payments deficit and rapidly growing public spending, with tax cuts implemented by the government in early 2007 worsening the fiscal position and fuelling the biggest consumer boom we had ever seen. In the US, similarly, the Bush Administration's tax cuts gave a spending boost to high-income households, which worsened the financial imbalances further. Both individuals and governments enjoyed this period of expansion and the feel-good factor which it promoted. But there was a very heavy price to pay. That is always the way with excess consumption, whether of cheap Chinese imported manufactures, or of expensive Hawkes Bay Pinot Noir.

It was perhaps natural for borrowers to wish to take advantage of these booming markets. But why were lenders so willing to lend with such gay abandon, and especially to people with very poor credit ratings? That was the big story in the sub-prime market, which was where we came in.

Political pressure was certainly a part of the answer. Politicians saw great advantage in the expansion of home ownership, and encourage it. The two big government loan insurers, Fannie Mae and Freddie Mac, played their part. But they cannot be held responsible for lax lending

practices and, indeed, for the almost total absence of discipline in that market. One important contributory factor was financial innovation. In the sub-prime sector, mortgage brokers, unregulated in the United States, would arrange 100 percent (or even larger) mortgages to borrowers with no credit records and often with no regular jobs. Indeed, they would often lend enough to allow the borrowers to pay interest for a few months, long enough to allow the loan to be securitised by the local bank, sold on to an investment bank who packaged it up and sliced and diced it, and sold it on once again, perhaps to a public sector bank in Germany. The securitisations were given fancy names like super-senior triple A, helpfully provided by obliging ratings agencies, with the assistance of debt insurance provided by monoline insurance companies who themselves were blown away in the first gales.

This lengthy chain broke the crucial link between the lender and the borrower. The ultimate provider of finance had little or no knowledge of the ultimate user, and believed that he was protected from default, through a variety of essentially artificial constructs, which were soon revealed to be flimsy. And when the borrowers began to default, because house prices stopped rising, the whole pack of cards collapsed. The best description of practices in that market comes in a play *Glengarry Glen Ross*, by David Mamet, which was revived in London last year.

The consequences were felt by institutions which had previously been regarded, and certainly regarded themselves, as highly sophisticated. Bear Stearns, Merrill Lynch, UBS and Lehman Brothers all suffered near-death experiences, or expired altogether. Evidently, the techniques of risk management in those institutions went badly wrong. Boards did not exercise appropriate oversight, incentive structures gave extravagant payments to individuals who structured these deals, while the deals themselves exposed their employers to huge losses in subsequent years. So boards of directors might say that their risk appetite was modest and under control, but they put in place, or allowed to be put in place, incentive systems which pushed the firm into riskier strategies than they wanted. That may be a kind way of putting it in the case of some institutions. The G-word, greed, entered the picture too.

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Finally, the regulators did not effectively offset this highly risky behaviour. I do not ascribe as much power to regulators as some commentators and politicians do. Having been one for some years, I am uncomfortably conscious of the difficulty a regulator has in fighting against a tide of market sentiment. When regulators seek to step in when the party is going strong, they are accused of being box-ticking, red-tape-spinning, wet blankets who are constraining the animal spirits of the wealth-creating sector. Also, their tools are quite weak. They are nothing like as powerful as monetary policy in affecting credit conditions. A touch on the tiller, in the form of a modestly higher capital requirement, may have some impact, but it is not front-page news like a hike in interest rates.

All that said, there is powerful evidence to suggest that the capital ratios which regulators imposed were, in retrospect, too low. In particular, there was too little capital to back the trading books of banks. And the methodology used to assess capital requirements tended to be unhealthily backward looking. Regulators typically approach setting capital requirements by taking a bank's book of assets and asking what the losses on that book would have been had it been held in that form over the previous decade or so. Since we had had a decade or more of rising property and asset prices, in benign economic conditions, this analysis typically told banks that capital requirements could be quite low. That did not turn out to be the right answer.

Finance ministries and central banks set the speed limits, run the petrol stations and determine the octane of the petrol available. Regulators can, nonetheless, try to ensure that high-performance vehicles do not skid off the road. They were clearly ineffective in that task.

I hope it is clear from this analysis that we have a complex failure on our hands. That makes designing the solutions rather complex, too. I do not think we can take refuge in the certainties offered by finding a single scapegoat – the greedy banker, the feckless borrower, the regulator asleep at the switch, the insouciant governor, or whoever. Far be it from me to wish to take anything away from our valiant prime minister, but even he could not create this Horlicks single-handed.

I suggest that there are six areas in which system improvements are needed. In some of them, progress is already under way. In others, there is much more work still to do.

The first area concerns monetary policy, the core business of our hosts. We need to find a way of putting financial markets, credit and asset prices back at the centre of monetary policy. Analysts at the Bank for International Settlements, for example, have argued for some time that central banks should take more account of asset prices, and seek to lean against the wind of credit and asset price growth. In recent years, central banks in Australia and Sweden have justified increases in interest rates that way. But the prevailing orthodoxy in the Federal Reserve and in the Bank of England has meant that monetary policy should focus on retail price inflation, and that it is idle to pretend that central bankers can identify asset price bubbles in advance. The best they can do, according to Alan Greenspan, is to mop up afterwards. My own view is that this is not adequate, and that we cannot simply accept that crises on the scale we have seen in the last two years are part of the price we pay for doing business. Quite how one integrates asset and credit analysis into an inflation target framework is not wholly straightforward, but I believe it can be done. There may, from time to time, be a growth trade-off, I acknowledge.

Central banks everywhere are gearing up their financial stability arms. But many talk as though financial stability analysis is designed only to feed into decisions taken by regulators in relation to capital requirements. That is the case whether those regulators are part of the central bank, as here, or outside it, as in the UK or Australia. In my view, this financial stability analysis must look two ways, and that it might point to monetary policy action, as well as to changes in bank capital.

That links to the second area, which has been intensely discussed in international fora in recent months. The conventional wisdom now has it that within financial regulation, we should distinguish between macro-prudential and micro-prudential actions. For the uninitiated, the distinction is that micro-prudential supervision relates to the balance sheets of individual institutions and the risks they run. Macro-prudential oversight looks at the state of

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financial markets overall. So, if you think that the housing market is overvalued generally, you might apply a market supplement to the reserves mortgage banks must hold. Indeed, if you think that credit overall is too loose, you might apply a market supplement even more generally.

But the point of macro-prudential supplements is to constrain credit growth, and they will in practice largely do so through increasing the price. The more unremunerated reserves a bank must hold for a given amount of lending, the higher the cost of that lending will turn out to be. So if that is the point of macro-prudential requirements, then we need to weigh an increase in capital against an overall rise in interest rates, which would have a similar effect.

The point of both measures would be to inject some counter-cyclical element to financial regulation. In other words, we should be trying to get banks to salt away larger reserves in the good times, so that they are more robust when the cycle turns down – and no-one thinks that we can abolish the economic cycle. Gordon Brown famously talked of putting an end to boom and bust. But that trope has disappeared from his political vocabulary in the last two years.

This complex relationship between monetary policy and regulation points to the need for greater coordination between central banks, regulators (where they are separate) and finance ministries. We might add other reasons to justify stronger collaborative mechanisms. The global imbalances story I told earlier, which was one of the major long-term causes of the crisis, clearly had fiscal and exchange rate dimensions to it, which are well beyond the normal concerns of regulators. So globally, we need stronger collaborative structures, and they need to be buttressed by regional and domestic arrangements which feed into them. Before the crisis, the global regulatory system was hopefully complex, with no central authority.

On that front, some progress has been made. No bodies have yet been abolished, but there is now a global Financial Stability Board, which includes the central banks, regulators and finance ministries of all the major countries, and indeed some minor ones too since it has been extended to the G20. That is probably too large a grouping to be effective, but the G7 tried to cling on to a monopoly of power for too long,

which meant that when they brought in others, they had to bring in more countries than they really wanted. In Europe, there will be a European Systemic Risk Board, chaired by the President of the ECB. Beneath that, in the UK, there will be a domestic Financial Stability Committee. Labour says it will be chaired by the Chancellor of the Exchequer: the Conservatives want the Governor in the chair. Financial stability, along with violent video games, is one of the few growth industries left.

The fourth area, where it is harder to discern concrete change yet, concerns our overall attitude to financial innovation. Hitherto, in the major financial centres, governments and their regulators have generally taken a permissive approach to financial innovation. If new instruments are created, which allow more sophisticated trading of financial claims, then in principle they should be allowed to go ahead, unless they are obviously dangerous. That principle does not apply so rigorously in retail markets, where we believe a greater degree of consumer protection is needed. But if consenting adults – and until the crisis we used to regard the big banks as adults – wish to operate complex trading strategies between themselves, who are regulators to argue that they should not be allowed to do so? The economic justification for this approach was that the more flexible our financial markets become, the better that is for economic growth and for the long-term welfare of the population.

The crisis has challenged that comfortable assumption. Financial innovation now appears to have brought with it much greater systemic vulnerability. We cannot definitively prove this, but it would seem that we have created a system where, even if it has generated greater economic growth, the price is much greater volatility. We should not forget that the period up to the crisis was one of unparalleled prosperity, with an extended spurt in economic growth which made some people very wealthy indeed, which bolstered the living standards of the middling sort of people, like most of the population in New Zealand, and also pulled millions of people out of grinding poverty in China, India and elsewhere.

So there is a baby and bathwater point here. We must be careful not to constrain finance markets in a way which prevents them performing their essential economic function.

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But it seems at least arguable that we must question the value of some forms of financial innovation more sharply than we have done in the past.

I might make a brief excursion into happiness economics, which is now studied at the LSE. If you have no money at all, then earning something is likely to improve your view of the world. But beyond a certain level of income, the correlation between wealth and well-being is quite loose. New Zealanders are not as wealthy as Japanese, but are happier. Also, most people prefer a more stable economic environment to one with high peaks and very low troughs. The economic, social and personal costs of bouts of high unemployment are very large. If one could reliably offer the population a choice between, say, growth of two and a half percent a year with modest ups and downs, or growth of two and three quarter percent a year with occasional chronic booms and busts, they might well choose the former. Furthermore, we know that people do not like very wide income inequalities, which the financial boom also generated. So, against that background, we must adopt a more questioning approach to financial innovation in the future. At the moment, the major banks, investment banks and hedge funds are themselves shying away from innovation. But that phase will pass, and in the longer term we will have to depend on regulators to question the benefits of innovation where they do not seem very closely related to customer needs, as was true of some of the instruments created recently have. There is, however, no international consensus on this point yet.

Fifth, we have to find ways of strengthening the governance of financial institutions themselves. Regulation will always be a backstop. Firms themselves have a responsibility to safeguard their shareholders, and arguably boards have done rather badly against that yardstick, whether it is at Citigroup, the Royal Bank of Scotland, Fortis or whoever. There are some interesting ideas emerging, notably from David Walker's review of corporate governance in banks in the UK, which should be taken forward. Overall, there will be a need for greater independence, greater expertise and greater scepticism on financial firms' boards in the future. Non-executive directors will have to spend more time on the job.

Lastly, to bring things back to earth with a bump, there is a need for better understanding of finance on the part of the population as a whole. It is striking just how extended many households had allowed themselves to become in the boom. The stories that have emerged of people with mortgages of five and six times their annual income, with negative net worth, or people buying doubtful properties in Spain, and hoping to live there on a tiny British pension, without paying attention to exchange rate risk, are quite alarming. Financial capability has been neglected for a long time. When I was a regulator, I used to often say that I was married to Prudence, which happens to be true. Gordon Brown had an affair with her in his early years as Chancellor of the Exchequer, but she was unceremoniously dumped in 2001. In the boom, few people invited her out. In the aftermath of the crisis, many more people are eyeing her up, but will it be a one night stand or a long relationship?

The crisis has been, for anyone in financial markets or in the financial authorities, no end of a lesson. Some regulators, some firms, some countries have done better than others. But no one has been spared the consequences entirely. We know from the 1920s and 1930s that an inadequate response to crisis can generate very dangerous political consequences. That was the best justification for the dramatic measures taken by governments in the last two years. But one can still see signs of political discontent, of a rather dangerous kind. The recent European elections saw a burst of interest in fringe parties, some of them with highly unpleasant nationalistic and racist views, views which always find more fertile soil at times of economic disruption. So there is a political as well as a financial stability argument for a major effort to learn the lessons and rebuild the frameworks of capitalism and the fundamentals of finance. The risks of failure are very high indeed.

I am sorry that, in trying to answer my whodunnit question, I have not produced one explanation, like Professor Plum with the candlestick in the library, or one name, like Alan Greenspan, Chuck Prince, Hank Paulson, Fred Goodwin, Rudi Koertzen or Mathieu Bastareaud. But life is not so simple. Fortunately, there is plenty of red ink to share around. But I do apologise if I have inadvertently splattered my hosts.

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# Economic recovery

*Alan Bollard*

This article reproduces the paper for a speech given by Governor Alan Bollard on 14 July 2009 to the Hawke's Bay Chamber of Commerce, Napier, New Zealand. It argues that certain basic factors will promote sustainable growth and reduce the New Zealand economy's vulnerability in the recovery phase following the global economic crisis of 2008-09. These factors are greater savings by households, to reduce the need for foreign funding of the economy; investment in the economy's productive base, particularly in the tradable sector; and greater durability and depth in funding markets, including a lengthened maturity structure for bank funding. The speech also looks at the major drivers of the crisis and world recovery, and the impact of the crisis on New Zealand.

## Introduction

The global financial and economic crisis has confirmed once again that when the world is in shock, it will be turbulent for New Zealand. Good policy frameworks, policy interventions and our economy's structure can help a lot. However, they cannot completely isolate us from the turmoil.

Now, we and the world appear to be on our way to recovery. What shape will recovery take, and what will make it durable? What are the implications for policy? This speech looks at these questions for the global economy, and for New Zealand.

At least for New Zealand, certain basic factors would promote sustainable growth, and reduce the economy's vulnerability, beyond the recovery. First, greater savings by households, to reduce the need for foreign funding of the economy. Second, investment in the economy's productive base, particularly in the tradable sector. Third, greater durability and depth in funding markets, including a lengthened maturity structure for bank funding.

The speech proceeds as follows. First, I review the themes driving the current world recession, and how world recovery appears likely to proceed. Then I turn to New Zealand and look at the impact of the crisis here. Finally, I discuss the path ahead, the lessons learned, and our challenges to make the recovery strong and sustainable.

## The world recession in hindsight

The story of the past decade has now been told many times.

Around the world, liquidity and credit grew hugely until the crisis. The expansion was fed by stimulatory monetary policy in the developed world responding to the 2000-01 global downturn, a 'glut' of international capital pouring out of emerging markets and oil producers, and a proliferation of new financial firms, instruments and practices seeking to ride the credit wave. Risk managers and regulators alike struggled to keep up with the growing complexity. Credit expansion and asset price inflation reinforced each other, and oil and other commodity price inflation followed.

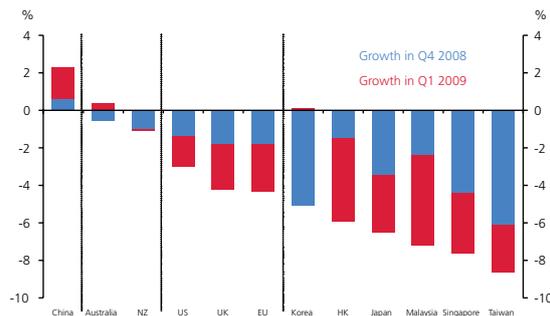
The boom proved to be unsustainable. Around mid-2007, US house prices began to fall, and impairments on mortgage loans began rising sharply. Soon, the quality of a wide range of securities and derivatives based on bank loans came under question. With growing panic about who was exposed and how badly, financial firms stopped dealing with each other in September 2008. Short-term funding markets shut down. Some very large firms, including Lehman Brothers, AIG, and Fannie Mae and Freddie Mac, failed or were restructured. The implosion of liquidity crippled the equity and term funding markets.

The widespread reduction in credit availability to the economy, massive loss of wealth, and plummeting business and consumer confidence drove economic recession. Developed-country consumers and firms slashed expenditure on big-ticket durable items such as cars and machinery. Reflecting this, exports and production in upstream economies in the

global manufacturing supply chain, particularly in East Asia, collapsed (see figure 1) – but commodity exporters such as Australia and New Zealand were less hard hit.

In the six months to March 2009, global economic activity fell more rapidly than at any time since World War II.

**Figure 1**  
Quarterly growth in selected economies, fourth quarter 2008 and first quarter 2009



Sources: Datastream, Statistics New Zealand.

Policy responses around the world have leaned hard on all conventional measures, and many unconventional ones.

To deal with the liquidity crisis in the financial system, central banks broadened their lending facilities to banks. Governments extended bank deposit and liability guarantees, and intervened to restructure or rescue large or 'systemic' institutions. Several countries have now developed programmes to purge bank balance sheets of illiquid assets and strengthen banks' capital positions.

To deal with the economic slump, governments and central banks have rapidly deployed large-scale fiscal and monetary stimulus. The fiscal packages have been on the order of several percentage points of national GDP, while official interest rates have been cut close to zero in the major economies. Central banks in Japan, the US and the UK, among others, have taken unconventional steps to restore credit availability and reduce longer-term borrowing costs, mainly by buying financial securities in large volume on the open market.

It will take some time for the full effect of all these stimuli to come through. For now, they have at least helped to stanch the bleeding.

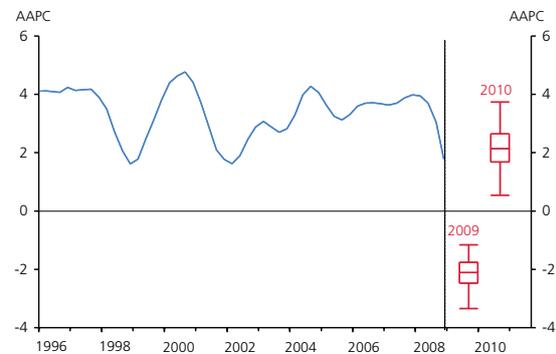
## Recovery and sustainable world growth

Indeed, early signs of global recovery have now emerged. We appear to have avoided a repeat of the Great Depression. After the plummet in activity through to early 2009, production seems to be stabilising (Europe), to have stabilised (US) or even turned around (some Asian economies). The success of domestic policy stimulus has been most noticeable in China.

Business confidence surveys from the various regions suggest further improvement this year. Financial conditions and sentiment have improved perhaps the most.

Financial sentiment typically moves ahead of macroeconomic recovery, but history shows that such moves are often 'false dawns'. Medium-term forecasts for global growth remain in a wide range (see figure 2). The disruptions in the current crisis have already come in waves.

**Figure 2**  
World growth forecasts



Sources: DataStream, Consensus Economics Inc., RBNZ estimates.

Note: Forecasts shown are minima and maxima (outermost lines), upper and lower quartiles (edges of the boxes) and medians (middle lines in boxes).

Our overall sense is that world growth will be fairly subdued for the next one or two years at least. And, with unemployment rates likely to continue rising for some months, recovery will not be obvious to many.

A lesson learnt from deep downturn experiences is that timely policy action can effectively cushion the downturn. The extreme economic weakness in much of the world means that low interest rates and fiscal stimulus are likely

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to be needed for some time. But as activity recovers, the stimulus will need to be removed, possibly quite quickly. Getting the timing right is not simple – premature tightening would prolong the weakness, but late tightening would sow the seeds of later trouble.

On the fiscal side, ‘fiscal consolidation’ – some combination of spending cuts and tax increases – will be needed as soon as the economies concerned can bear it. The reductions in tax revenue due to the slump, and the government spending stimulus in response, have dramatically worsened the public debt outlook in almost all developed countries. The public debt outlook was already worrisome before the crisis, due to the expected large increases in public health and retirement income spending associated with ageing populations. The increased public debt servicing and deterioration in sovereign creditworthiness already risk crowding out private investment, which is sorely needed to restore sustainable growth and the national income needed to support public expenditure. Japan and the UK especially, and to a lesser extent the US, are pushing the limits of manageability in this respect.

On the monetary side, interest rates will need to rise from their current very low levels, as recovery proceeds. Otherwise, the economy may be over-stimulated, risking another credit boom or a return of inflation. In addition, this time around, the world financial system is awash with liquidity, and central banks’ balance sheets are greatly expanded. The challenge will be to reduce liquidity to normal levels and contract central bank balance sheets smoothly, while policy interest rates are raised.

### **Sustainable world growth**

Not all cyclical recoveries are equal. The form a recovery takes matters for its long-term sustainability. A healthy and long-lasting recovery this time is likely to require concerted reduction of the global savings and investment imbalances that set the stage for the current crisis. In turn, this will imply some major shifts in world trade patterns.

It is very early days in the recovery, but we can speculate about the broad shape of a more stable world. Western economies – particularly the US, as the largest deficit-running

country by far – will have to shift their demand away from consumption and public expenditure, and towards exports. Reduced imports by the West means that surplus countries, particularly in Asia, will generally have to grow their own domestic demand.

With these shifts, the flow of savings will be less unidirectional from East to West, and Western economies will fund domestic expenditure with greater reliance on domestic savings. The economies most heavily exposed to the surplus countries, such as commodity exporters, will stand to benefit the most from these shifts.

The progress of countries such as Australia and New Zealand, for example, will probably be relatively steady. We are much less geared towards the export of high-tech manufactured goods to Western markets (and, moreover, do not have enlarged financial services sectors). At least in the early stages, it looks as though Australia, with its industrial commodity emphasis and hence greater exposure to China, will be somewhat better positioned than New Zealand to benefit from the world recovery.

Getting to this more stable world will not be simple. It is likely to require substantial, coordinated government effort, on sensitive matters such as exchange rate alignments, to re-orient the structure of world demand.

Nor will the economic environment be especially conducive to adjustment. The cost of risk capital relative to risk-free rates is likely to be higher than in the lead-up to the crisis, reflecting better risk assessment, greater investor risk aversion and increased financial regulation. Also, the recession has caused deep losses of wealth and skills, and large-scale scrapping of investment. Together, these factors make it likely that the trend rate of world growth will be subdued for some years.

There are some early signs of rebalancing in the US, with their current account deficit declining sharply and the household savings rate having risen from its very low levels. Financial firms are reducing their leverage and their exposure to risky assets. However, the adjustment will need to continue for some years, as significant imbalances remain and the pressure on incomes is limiting the ability to repay debt.

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Moreover, as the recovery proceeds, an additional challenge will be for the Western world to resist the temptation to return to debt-funded consumption, and for the emerging world to avoid excessive emphasis on export-led development. Without the continuation of the adjustment, there would be a recovery that is cyclical only, rather than structural and enduring. This would leave the US and world economy susceptible to future shocks.

For now, financial market prices are promoting the continued rebalancing and adjustment of the US economy. The US dollar is under generalised selling pressure. Its weakness against most other floating currencies is encouraging the US current account deficit to shrink – and before those of other deficit countries that trade with the US, such as New Zealand. Similarly, rising US government bond rates are signalling the need for fiscal consolidation.

Large shifts in the geographic structure of world financial and economic activity along these lines will probably shift the balance of global politics and leadership. It is rather early to say exactly how. Commentators have raised issues as diverse as the status of the US dollar as world reserve currency, the risk of a return to financial and economic protectionism, and whether liberal capitalism has had its day. Such debate can only grow louder as the role of populous Asian and other emerging economies, particularly China, in the global economy continues to grow.

## The New Zealand recession in hindsight

The international financial crisis actually played little role in the early part of New Zealand's economic recession. Rather, it was drought, falling house prices and high petrol prices that dragged New Zealand GDP growth negative over the first three quarters of 2008.

Most people anticipated that the crisis would have strong effects on us, but the effects became apparent only late in 2008. The most obvious signs were the elevated risk to bank funding, the increased cost and reduced availability of credit, and the increased pressure on manufactured and services exports. By the end of the year, the contraction in activity in

New Zealand had become very broad-based.

On our current projections, this recession will be the second-longest for 50 years – second only to the mid-1970s recession. However, we do not expect it to be significantly deeper than average. New Zealand is fitting the pattern seen internationally where economies without large high-tech manufacturing sectors have held up better than economies heavily dependent on those sectors, such as Singapore, Taiwan and Japan.

Nevertheless, everyday New Zealanders have suffered. The unemployment rate is likely to rise above 7 percent by the middle of next year, for an increase of nearly 90,000 in the number of unemployed from its trough in late 2007. And, house prices have fallen by at least 10 percent, with some further limited declines expected over coming months. This translates to a reduction in aggregate household wealth of about \$90 billion – or roughly \$80,000 per home-owning household.

The increase in unemployment reflects the stress on business also. Reduced demand has constrained cashflow and lowered revenue prospects, leading businesses to cut investment considerably. Further declines are expected over the coming quarters.

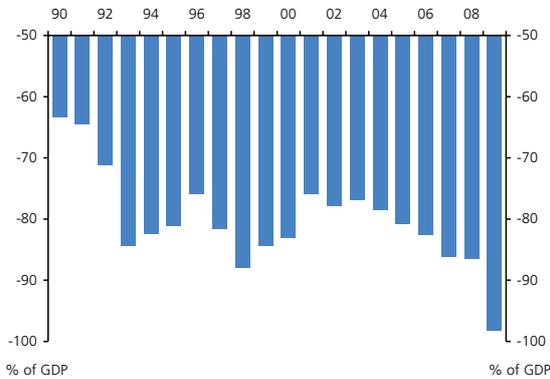
## New Zealand in recovery

New Zealand will enter the recovery phase without the burden of an enlarged financial sector (as in the US and UK), and without an overhang of inventory in the construction industry (as in the US). However, as elsewhere, the global and domestic recessions will still take their toll on trend growth. A rate close to 2 percent per annum is likely over the next few years, as against around 3 percent over the past ten years.

Strong future income growth is therefore unlikely to solve the private debt problems accumulated in New Zealand up until the crisis. During the credit boom, New Zealand households accumulated considerably more debt than other developed Western economies. New Zealand's private borrowing has been so strong that it has offset our good performance on public saving compared to other countries, such that New

Zealand's net external liabilities now approach 100 percent of GDP (see figure 3). This external liability position is one of the largest among developed countries.

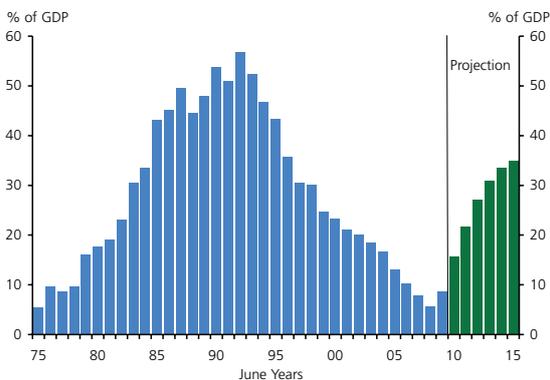
**Figure 3**  
International investment position



Source: Statistics New Zealand.

The reduction in future national income prospects also means that the outlook for New Zealand's fiscal position has deteriorated considerably. The Government's latest *Budget* projections show net government debt increasing by about 30 percent of GDP over the next few years – similar to increases projected for many other OECD economies – before starting to decline thereafter (see figure 4).

**Figure 4**  
Net government debt  
(percent of nominal GDP)



Source: the Treasury.

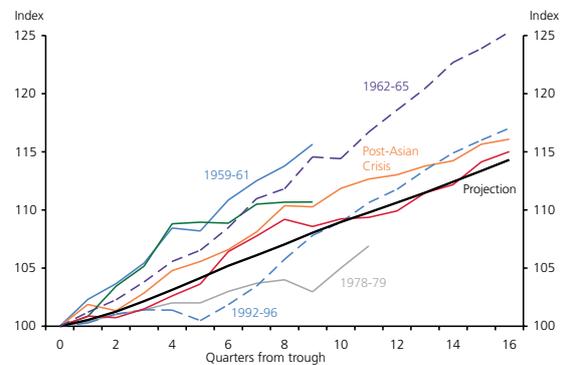
An important difference is that the New Zealand fiscal position is starting from a much stronger position than many other developed economies. The New Zealand business sector also generally has relatively healthy balance sheets and sound risk management, despite strong credit growth

over recent years. And, New Zealand banks, in contrast to many of their Northern Hemisphere counterparts, are in good shape.

The soundness of the banking system is one reason why monetary policy in New Zealand has been quite effective in cushioning the economy. Interest rates faced by most borrowers have fallen quite markedly over the past year and private sector credit has largely kept flowing. Official interest rates remain well above zero and there has been no need for unconventional monetary policy operations to influence monetary conditions.

Overall, the onus on households to constrain their spending and repair their balance sheets, and limited scope for additional government spending, suggests that the New Zealand recovery is likely to be gradual and fragile by our own historical standards (see figure 5). However, we expect it to be somewhat stronger than those recoveries of many of our developed trading partners.

**Figure 5**  
Economic recoveries in New Zealand since 1960  
(quarterly GDP, level at start of recovery = 100)



Source: Hall and McDermott, RBNZ estimates.

Our status as a deficit country with a particularly large net foreign liability position means that, more than for most other countries, our recovery depends on a sustained pick-up in net exports. Such a pick-up, and reduction in the net external liability position, would of course best be facilitated by recovery in global demand and a weak New Zealand dollar, especially against the surplus countries that appear most likely to grow strongly out of this crisis. A weak exchange rate would not only improve export revenues, but also push

up import prices, which would encourage households to switch away from purchasing imports.

A weaker currency is, of course, needed by most deficit-running Western countries to assist in reducing their imbalances. To date, the New Zealand dollar has not shown particularly convincing signs of weakness, like most other floating currencies apart from the US dollar.

### What are the lessons for sustained New Zealand recovery from this world recession?

The crisis has demonstrated again New Zealand's heavy exposure to shocks to the world economy. The most immediate markers of exposure this time have been the sharp fall in commodity export prices, the contraction of demand for manufactured and services exports, and the choppiness of financial conditions.

Let me return to the challenges posed to our economy in the coming recovery phase, to make it as strong and durable as possible. Again, many of these are very similar to those faced by other developed Western countries.

#### Promoting recovery

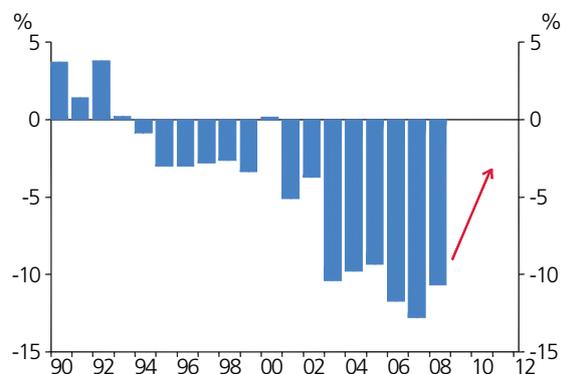
Over the near term, the immediate priority remains to lift the economy out of recession and back towards normal levels of output. As noted, current monetary policy settings are very stimulatory, in view of the downward forces still weighing on activity. Effective interest rates are falling in response. With the improvement in bank funding conditions, we expect any further monetary policy adjustments to be transmitted quickly in lending rates to the economy.

#### Beyond recovery, household behaviour needs to refocus on saving

Once recovery is under way, broader structural adjustments will be necessary to promote sustainability and reduce vulnerability in the future. The household sector most needs to modify its behaviour in this respect. Reliance on past experience of strong house price inflation and easy credit

will be untenable. Leading up to the crisis, the household saving rate plummeted (see figure 6), and falling house prices have left households with a very large debt overhang. This will need to be worked off through lifting the saving rate for some time into the future. Moreover, lower trend growth over the next few years means that the adjustment is going to have to happen mainly via moderating spending, rather than income growth.

Figure 6  
Household saving rate  
(percent of household disposable income)



Source: Statistics New Zealand.

A clear risk beyond near-term recovery is that households resume their 'borrow and spend' habits before bringing their debt levels back to more prudent levels. A premature resumption of strong growth in household spending could be triggered, for example, by renewed moderate house price inflation. This needs to be avoided. Although some lift in spending is to be expected during the early part of recovery (as precautionary savings built up during the recession are unwound), a structural improvement in the household debt position will require a sustained change in household behaviour towards increased saving.

Increased household saving not only reduces the household sector's vulnerability to shocks, it also provides funds for business investment and expansion and reduces the economy's reliance on foreign funding. Both of these effects would, all else equal, mean a lower cost of capital to business. Investment in the economy's productive base, particularly in the tradables sector and oriented towards the medium-term sources of world growth, is especially important given the debt constraints on household and government sector

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spending. Increased investment in income-earning activities will raise New Zealand's trend growth – which will not only relieve the burden of debt, but of course increase our living standards.

### **The role of government saving**

In contrast to the household sector, New Zealand's public finances are starting from a much stronger position, meaning that fiscal policy has been able to provide increased assistance to the economy during the recession. However, as with households, the growth outlook for the New Zealand economy is such that significant fiscal consolidation will be needed once the economy regains its footing. As is the case in most developed economies, the need for fiscal consolidation in New Zealand is increased by the ageing population, which is expected to put considerable strain on the fiscal position over the coming decades due to the associated rise in health and superannuation costs. Private savings plans will need to take account of these pressures in the future.

Increased national saving – the sum of public and private saving – is critical to achieving a sustained improvement in New Zealand's current account deficit and net external liability position. Until this is achieved, New Zealand will remain very vulnerable to changes in the willingness of foreign investors to invest in New Zealand.

The high levels of the current account deficit and net external liabilities were major factors cited by Standard and Poor's when they placed New Zealand's foreign currency credit rating on negative outlook in January. This negative outlook was revised to stable in May following the fiscal consolidation plans set out in the Government's Budget, illustrating that the combination of public and private savings is what matters.

### **Strong banks are necessary, but not sufficient, for stability**

The strength of the banking sector is a key plank in the economy's resilience to future shocks. A large part of New Zealand's gross external liabilities are the result of New Zealand banks borrowing in offshore markets – which they

have had to do as a result of the persistent shortfall of domestic savings. The exposure due to these banking system obligations showed in stark relief late last year, when the banks could no longer borrow in offshore markets for terms longer than a few days. A priority over the coming year or so will therefore be for New Zealand banks to diversify their funding sources more, by increasing the proportion of long-term international funding and building their domestically-sourced funding base. The Reserve Bank's recently released prudential liquidity policy for banks will provide guidance here.

Also, just as households will need to resist a return to 'borrow and spend' as the recovery proceeds, so will banks need a renewed focus on the need to avoid another damaging credit cycle. This is not just a matter of prudent lending by individual banks to individual borrowers, though that is of course always important. New Zealand banks generally have done reasonably well on that score, with the accumulated risk in their loan books well short of the levels afflicting Northern Hemisphere banks. However, the credit surge here leading up to the crisis still caused major macroeconomic stability problems, both at the time in the form of overheated house prices, and in the aftermath with the elevated level of household debt relative to income and now-lower asset prices. A future challenge will be how to feed back systemic stability concerns into individual institutions' lending behaviour, rational and prudent as it may appear at the micro level.

### **The role of financial markets**

Financial markets have an important role to play in promoting rebalancing and sustainable recovery. In an ideal world, exchange rates and the price of risk capital move to correct the vulnerabilities caused by unbalanced spending. Very broadly speaking, this is what has happened in New Zealand since the crisis, with the trade-weighted exchange rate currently down around 20 percent on year-ago levels and thus substantially buffering the New Zealand economy against the internationally-sourced shock. However, day to day and month to month, movements in the exchange rate and other financial prices can be very noisy and unhelpful,

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as has been the case in recent weeks.

As noted above, what is needed is for the New Zealand dollar to be persistently weak over the coming years, to encourage the needed business investment to be export-oriented and supportive of improvement in New Zealand's external liability position.

Over coming quarters, it may be the case that the exchange rate will be 'corrected' to weak levels if the financial markets reappraise its appropriate level in light of our imbalances relative to our trading partners, and the outlook for those imbalances given the fundamentals. This is much as the US dollar is being reappraised currently.

However, history shows that the financial markets cannot necessarily be relied upon to focus on New Zealand's case relative to other economies in a timely and finely-tuned way, and price the New Zealand dollar accordingly. All that can be hoped is that, in the next phase of recovery in financial market sentiment and return of risk-seeking, the markets will be more discriminating about New Zealand. In the meantime, the onus on us is even greater to shift domestic savings behaviour in the right direction.

### **The Reserve Bank will contribute by keeping the macroeconomy and the financial system stable**

Sustainable recovery, with rebalancing in demand and the economy's productive base, is mostly a microeconomic matter. This means households, firms, banks and investors making the right decisions about where to allocate land, labour, capital and funding.

The Reserve Bank's role in this is essentially facilitative.

The global events have seriously challenged beliefs that the stabilising mechanisms in the economy and financial system will work in a crisis, and that risk tends to dissipate, rather than concentrate in markets. But certain principles of monetary management remain proven. Our focus will continue to be on keeping the macroeconomy stable, keeping inflation expectations anchored, keeping system liquidity ample and the financial system stable, so that funds keep flowing and relative price signals work.

Though monetary policy has been an effective way of achieving price stability, it cannot achieve financial stability and economic recovery on its own.

Prudential policy offers a more direct approach to constraining excessive or misdirected borrowing and lending behaviour. The crisis has added a great deal of impetus to the international policy work programme focused on reducing the tendency for financial activity to exacerbate macroeconomic booms and busts. This work programme involves, among other things, attention to minimum capital and other prudential requirements as potential tools to dampen business cycles, the impact of smaller and peripheral financial institutions on financial system behaviour, how cross-border financial activity should be monitored or regulated, and bridging the gap between the micro and the macro consequences of strong lending growth.

The Reserve Bank will be closely following the debate in these areas for insights into improving our own framework. At this point, we are reasonably well positioned to adapt in light of the new thinking, with a conservative approach to bank capital adequacy, the new legislation bringing the regulation of non-bank deposit takers into our responsibilities, and long experience in managing macroeconomic stability, financial stability and prudential policy functions under one roof.

The crisis has left many challenges and many lessons. The New Zealand economy has taken knocks, but some form of recovery is now on the horizon. It is not going to be easy, but it does offer a chance to get New Zealand onto a more economically sustainable track.

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## FOR THE RECORD

### DISCUSSION PAPERS

**DP2009/07**

#### **Developing stratified housing price measures for New Zealand**

*Chris McDonald and Mark Smith, August 2009*

Widely used measures of growth in mean or median housing prices will reflect changes in the composition of dwellings sold as well as changes in demand and supply conditions. Using a suburb-level dataset from the Real Estate Institute of New Zealand we use stratification techniques to adjust for compositional change and derive a timely and robust measure of housing prices for New Zealand. Results suggest this stratified measure produces estimates of housing price inflation that accord closely with the accurate but less timely figures obtained from the QV Quarterly House Price Index.

**DP2009/08**

#### **Evaluating a monetary business cycle model with unemployment for the euro area**

*Nicolas Groshenny, September 2009*

This paper estimates a medium-scale DSGE model with search unemployment by matching model and data spectra. Price markup shocks emerge as the main source of business-cycle fluctuations in the euro area. Key for the propagation of these disturbances are a high degree of inflation indexation and a persistent response of monetary policy to deviations of inflation from the target.

**DP2009/09**

#### **Entrepreneurship and aggregate merchandise trade growth in New Zealand**

*Richard Fabling and Lynda Sanderson, September 2009*

We present a descriptive analysis of firm-level merchandise trade, focussing on the role of entrepreneurial exporting behaviour. We document two aspects of the dynamics of trade – the contribution of novel export activity to aggregate trade growth and, conversely, the substantial exit rates of new

trade relationships. The unique contribution of this paper lies in the detailed and comprehensive data we have available on market and product choices. Specifically, we make use of shipment-level goods trade data, linked to information for the universe of economically active New Zealand manufacturers, to examine trade at the firm-level and at the product-country-firm nexus. Our growth decomposition and survival analysis suggest several themes: (a) novel market entry is a significant contributor to aggregate export growth; (b) the study of international entrepreneurial behaviour should encompass not just de novo entrants, but the broad range of trade innovations initiated by incumbent exporters; (c) much expansion in trade appears to be incremental in nature; (d) despite this, such innovations appear to be inherently risky; and (e) experience and scale appear to be key factors in overcoming these risks (or at least proxies for such factors).

**DP2009/10**

#### **A theoretical foundation for the Nelson and Siegel class of yield curve models**

*Leo Krippner, September 2009*

This article establishes that most models within the popular and widely used Nelson and Siegel (1987, hereafter NS) class, with one notable exception being the Svensson (1995) variant, are effectively reduced-form representations of the generic Gaussian affine term structure model outlined in Dai and Singleton (2002). That fundamental theoretical foundation provides a compelling case for applying certain NS models as standard tools for yield curve analysis in economics and finance: users get the well-established pragmatic benefits of NS models along with an assurance that they correspond to a well-accepted set of principles and assumptions for modelling the yield curve and its dynamics.

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## NEWS RELEASES

### Downturn may be nearing end, but recovery not assured

17 June 2009

Households, businesses, banks and policy-makers should be thinking how they can influence recovery and ensure it is sustainable, Reserve Bank Governor Alan Bollard said today.

Dr Bollard told a Wellington business audience that activity in New Zealand was near its low point, the global economy appeared more stable and trading-partner growth forecasts had stopped falling. New Zealand's large fiscal and monetary policy stimuli had bolstered domestic activity.

"We expect the economy to begin growing again toward the end of the year, but the recovery is likely to be slow and drawn out. It could also be erratic. To many households it may not feel like a recovery at all, with lower employment, house prices and wage increases into next year."

Households and firms were adjusting, cutting back on spending to match slower income growth, less available cheap credit, and falling asset prices. "This adjustment has further to go. It will take a long time to adjust balance sheets, especially for households. While they have largely stopped building up debt, most people have less wealth than before the recession started.

"This shock has been so big the nature of the recovery is hugely uncertain, here and overseas. Potential growth rates around the OECD are likely to be lower, but just how much is unclear."

For the New Zealand recovery and subsequent expansion to be strong and long-lasting further economic rebalancing was needed. "Growth needs to be export and investment led, rather than consumption led. Household and government consumption need to be more restrained. Saving needs to increase, and the current account deficit needs to reduce.

"However, some recent financial market developments, especially the recent upward pressure on the New Zealand dollar, are working against this rebalancing. If markets are buying the New Zealand dollar on the expectation of a strong recovery they may end up being disappointed."

Given the uncertainties surrounding the recovery, it is important fiscal and monetary policy can operate effectively.

"In this context, we are disappointed that banks have not passed on the April reduction in the OCR to short-term lending rates: they have an opportunity to help New Zealand's recovery by doing so," he said.

"Overall, we think the broader tightening in financial conditions seen over recent months risks undermining the recovery before it becomes self-sustaining.

"A premature rebound in household spending could jeopardise the next expansion. There is a risk people see the current stabilising of the housing market as a sign of another house price boom and a reason to borrow and spend up large again. We do not believe that would be sustainable. Investors who rely on this could get hurt. And they could make it harder for businesses to invest in the export-led recovery we need.

"The world is now being swept by influenza A H1N1 09. It looks likely this will impact the economy by hitting staffing, through sickness, childcare and precautionary behaviour. If the incidence is severe, it would delay recovery."

### Reserve Bank *Bulletin* released

26 June 2009

Forecasting the New Zealand economy is the main focus of the June 2009 Reserve Bank of New Zealand *Bulletin*, released today.

The issue opens with an article by Kirdan Lees describing Kiwi Inflation Targeting Technology (KITT), the new Reserve Bank economic model. KITT replaces the decade-old Forecasting and Policy System (FPS) model, and will be an important tool for Reserve Bank forecasting and economic assessment into the future.

KITT is not the only tool available for forecasting. In the second article, Chris Bloor discusses the range of models and approaches the Bank uses to extrapolate the statistical patterns in available economic data.

Another way the Bank obtains information for its economic assessments is through economic indicators. There are thousands of these indicators, covering New Zealand and elsewhere, which demand expert and careful analysis to distil the meaning. In the third article, Tim Aldridge describes

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how this style of analysis applies to business investment.

In the fourth article, Christina Leung looks in detail at how public views on inflation are formed, discussing demographic evidence about how households consistently over-estimate inflation. The Reserve Bank's inflation analysis depends heavily on understanding how the public expects the economy to develop.

The fifth article, by Lynda Sanderson, considers recent Reserve Bank work analysing the impact of exchange rates on export behaviour.

The *Bulletin* concludes with an interview with Prasanna Gai on the causes and consequences of the financial crisis. Gai is a Professor at the Australian National University and consultant to the Bank of England, who visited the Reserve Bank in early 2009.

## **Reserve Bank focused on stability**

**30 June 2009**

The Reserve Bank's focus for the year ahead remains on the stability of the financial system and economy in the face of an uncertain global environment, Acting Governor Grant Spencer said today, releasing the Bank's *Statement of Intent* (SOI) for 2009-2011.

The SOI is an annual document outlining the Bank's plans for the three years ahead, and its budget for the year ahead.

"The New Zealand economy has been under pressure from the international financial crisis, global recession and weak domestic spending," Mr Spencer said. "In this volatile climate, our strategic priorities, as set out in the SOI, are to ensure outcomes that we would take for granted in normal times: that our financial markets and institutions continue to operate effectively and continue to support the financing needs of the real economy.

"Inflation is less of a concern just now, but may present an important challenge once confidence returns to global markets, given the large amount of liquidity that has been injected into the global system."

The SOI describes the Bank's ongoing work program to develop and implement the new regulatory framework for

non-bank deposit takers and insurance companies. Other Bank priorities include upgrading statistical data collection systems, and establishing a small Auckland office to provide backup for essential payments and market operations in the event of a physical disaster in Wellington.

The Bank's budget for 2009-10 shows an increase in operating expenditure from \$52.1 million to \$55.1 million, mainly reflecting the expansion of regulatory responsibilities for non-bank financial institutions, the costs of establishing the Auckland office, and depreciation costs for new systems.

"As a financial institution with approximately \$29 billion in assets, the Bank faces a wide range of financial risks which are carefully managed. However, the global financial crisis, together with the Bank's policy responses, have given rise to increased volatility in the Bank's balance sheet and income." Mr Spencer said.

Key performance indicators for the Bank are included in the SOI, covering the key functions of monetary policy formulation, financial system surveillance and policy, currency, and depository and settlement services.

## **Prudential liquidity policy for banks released**

**30 June 2009**

The Reserve Bank today announced the release of its prudential liquidity policy for banks.

Acting Governor Grant Spencer said the policy sets various balance sheet requirements and disclosure obligations for banks around their internal liquidity management.

"The purpose of the policy is to ensure that banks maintain strong liquidity positions, making them more resilient to both short term and long-lasting funding shocks," Mr Spencer said.

"The vulnerability of the banks to liquidity shocks has been our main concern for the stability of the New Zealand financial system during the international financial crisis.

"While the funding markets have shown encouraging signs of improvement in recent months, we want to ensure that the New Zealand banking system is better protected against

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any future shocks of this sort.”

The Bank began liquidity policy discussions with banks in early 2008, and issued a consultation paper in October 2008. “We received a large number of helpful submissions and have amended the policy in a number of important respects as a result. In particular, we have made substantial changes to some of the key definitions within the original draft policy, to ensure workability and ease of implementation for the banks.”

Mr Spencer noted that, in light of the current pressures faced by banks, the new prudential liquidity requirements will be phased in over a two-year period.

“Some banks will be little affected as they are already close to the new policy requirements. Others will need to continue lengthening the maturity of their funding in a gradual and measured way,” he said.

For more information on the new policy please see the prudential liquidity policy Q & A.

## **RBNZ closes offer to purchase NZ govt July 2009 bonds**

**2 July 2009**

The Reserve Bank has closed its offer to purchase NZ government bonds maturing 15 July 2009, for liquidity management purposes.

The offer was announced on 19 May and closed at 4:00pm 1 July. The Bank repurchased \$329.865 million of the July 2009 bond. The Bank has not on-sold any of the bonds to NZDMO, and will hold the bonds on its balance sheet till maturity.

The Bank said the offer was normal ahead of a government bond maturity. These purchases will help manage the large cash inflow to the banking system on 15 July as a result of the bond maturity (as at 30 April, there were \$4,197 million of the 15 July 2009 bonds on issue in the market).

The operation was undertaken to manage near-term liquidity flows and has no implications for the Bank’s monetary policy stance.

## **New Zealand bank funding costs and margins**

**6 July 2009**

The Reserve Bank today released an analysis of interest rate margins.

Reserve Bank Governor Alan Bollard said: “We have released this analysis to respond to a number of questions we have received regarding our stance on what room there still is for interest rate cuts.

“The paper notes the Reserve Bank is continuing to talk to the banks to clarify recent trends in their funding costs and margins. We will review these matters further in the Bank’s November 2009 *Financial Stability Report*.”

## **Non-bank risk management guidelines released**

**13 July 2009**

The Reserve Bank today released its risk management programme guidelines (PDF 129KB) for non-bank deposit takers.

“The development of these regulations is another positive step forward in implementing the new prudential regime for non-banks which is aimed at improving the future resilience of New Zealand’s non-bank financial sector,” said Reserve Bank Deputy Governor Grant Spencer.

Deposit-taking finance companies, building societies and credit unions are required to have a risk management programme from 1 September 2009. The programme needs to show how they will identify and manage credit risk, liquidity risk, market risk and operational risks, appropriate to each institution’s particular circumstances.

Mr Spencer said risk management programmes will also need to show how an institution plans to address stress events that could disrupt their business, and identify the responsibilities of governing bodies and senior management.

“The Bank received many useful submissions in response to the draft guidelines released for public consultation in June. Submissions were generally supportive of the guidelines,” Mr Spencer said.

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The Reserve Bank has also provided responses to questions raised in submissions, which can be found on the Bank's website ([www.rbnz.govt.nz](http://www.rbnz.govt.nz)).

## Potential impact of swine 'flu low

*14 July 2009*

The Reserve Bank today released a paper on the potential impact of influenza A (H1N1) (swine 'flu) on the New Zealand economy.

Reserve Bank Assistant Governor John McDermott said: "We appreciate there is a real human cost to influenza, as this strain is already unfortunately demonstrating. Given the relatively high rate of contagion of this strain, we considered it appropriate to model the possible impact on the economy from a pandemic."

Dr McDermott said the Bank's baseline result suggests that the economic impact of influenza A (H1N1) is likely to be low, with declines in output of less than 0.6 percent in the first year. These baseline numbers are smaller than some reported recently in the markets, and smaller than the historical experience of Hong Kong with SARS and the US economy with the 1918 episode, for example.

"The baseline numbers are based on Ministry of Health assumptions. We also modelled other more extreme scenarios, which we note are extremely unlikely to occur, since they are predicated on much more aggressive strains of influenza."

The paper can be read on the Reserve Bank's website ([www.rbnz.govt.nz](http://www.rbnz.govt.nz)).

## Savings, investment, funding markets are key to recovery

*14 July 2009*

Household savings, investment in the tradable sector, and deeper funding markets are the key to New Zealand's economic recovery, Reserve Bank Governor Alan Bollard told a Hawke's Bay business audience today.

"Early signs of global recovery have now emerged. We have avoided a repeat of the Great Depression," he said. However,

world growth will probably be subdued for the next one or two years, and the current low international interest rates, expansion of liquidity and central bank balance sheets, and fiscal stimuli will be necessary for some time.

"New Zealand looks likely to start recovering ahead of the pack. But this is an opportunity to rebalance. Getting the sort of sustainable recovery we want will be assisted by: first, greater savings by the household sector, to reduce the need for foreign funding of the economy; second, investment in the economy's productive base, particularly in the tradable sector; and third, greater durability and depth in funding markets, including a lengthened maturity structure for bank funding.

"A clear risk over the medium term is that households resume their 'borrow and spend' habits before they have paid down some of their existing debt. This could be triggered by renewed moderate house price inflation, and needs to be avoided."

With slower growth in household income expected, households would have to reduce spending growth to repay their debt. "Reliance on past experience of strong house price inflation and easy credit will be untenable."

Increased household saving would have the added advantage of providing a more stable source of funds for business investment and expansion, reducing reliance on foreign funding. This would contribute to more stable and lower interest rates, thus promoting a more sustainable growth path.

Stronger world demand and a weaker New Zealand dollar would provide the signal that investment needs to move to the tradable sector to help correct the current account gap. However, financial markets were currently focused on a US dollar correction. "We hope that, in the next phase of recovery in financial market sentiment and return of risk-seeking, the markets will be more discriminating about New Zealand," Dr Bollard said.

A priority over the coming year or so would be for New Zealand banks to diversify their funding sources more, and to increase the proportion of stable funding sources, including long-term wholesale borrowing and retail deposits. The

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Reserve Bank's recently released prudential liquidity policy for banks will reinforce this move.

The Reserve Bank appreciated that interest rates are a blunt instrument to curb excessive borrowing, Dr Bollard said. "We see prudential policy potentially playing a greater role in the future."

Attention is now focused internationally on the potential role of minimum capital and other prudential requirements on banks in dampening business cycles, the impact of smaller and peripheral financial institutions on financial system behaviour, and how cross-border financial activity should be monitored or regulated.

In the recovery, he said, the Bank's focus will be on keeping inflation expectations anchored, the macro-economy stable, system liquidity available and the financial system stable, so that funds keep flowing and relative price signals work.

The Reserve Bank would be closely watching the international debate in these areas for insights into improving its own framework. "At this point we are reasonably well positioned to adapt in light of the new thinking, with a conservative approach to bank capital adequacy, the new legislation bringing the regulation of non-bank deposit takers into our responsibilities, and long experience in managing macroeconomic stability, financial stability and prudential policy functions under one roof.

"The New Zealand economy has taken knocks in this crisis, but some form of recovery is now on the horizon. Our opportunity is to use this time to rebalance the economy for the medium term."

## **75 years for the Reserve Bank of New Zealand**

**15 July 2009**

In August 2009 the Reserve Bank of New Zealand marks its 75th year of operations, three-quarters of a century that span some of New Zealand's most tumultuous decades.

The Reserve Bank was founded in response to developments in the early twentieth century. Britain was eager for its Dominions to establish their own central banks, so they could set their monetary policies to suit specific local conditions. However, in New Zealand the wheels only began

turning with vigour after a 1931 visit by British economic expert Otto Niemeyer, who recommended a central bank to the government of Prime Minister George Forbes.

The Bank opened on 1 August 1934 with little fanfare. "We were launched last Wednesday," founding Governor Leslie Lefeaux wrote to Niemeyer. "But no flags; no trumpets, and no breaking of champagne bottles on the bow. We merely glided gently and noiselessly down the slipway. I felt in the circumstances that that was the best course."

Today's Governor, Alan Bollard, notes that from this almost imperceptible beginning, the functions of the Reserve Bank have taken on significant growth and complexity in the past 75 years. "Although stabilisation is our pressing need at present, we have not lost sight of the need to continue with enhancements to our role as New Zealand's central bank," Dr Bollard said.

The present day role of the Bank is defined by the Reserve Bank Act 1989, which identifies a wide range of functions and powers that have made it one of the few 'full service' central banks in the world.

The Reserve Bank nevertheless had an initial public impact in 1934 – all the old trading bank notes were replaced immediately by Reserve Bank tender. The Bank has supplied New Zealanders with their currency needs since, extending that role to coins in 1989.

To mark the anniversary, Howard Davies, Director of the London School of Economics, and formerly Chairman of the UK Financial Services Authority, will deliver a public lecture entitled: "The Financial Crisis – who's to blame? Problems and remedies". Registrations are necessary and seats are limited. People can register through the Reserve Bank website.

A temporary exhibition marking 75 years of Reserve Bank operations will be open to the public in the Reserve Bank Museum from 3 August 2009.

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## OCR unchanged at 2.50 percent

**30 July 2009**

The Official Cash Rate (OCR) will remain unchanged at 2.50 percent.

Reserve Bank Governor Alan Bollard said: "Despite signs of a leveling off in economic activity, the economy remains weak. We continue to expect to see a patchy recovery get underway toward the end of the year, but it will be some time before growth returns to healthy levels.

"The outlook remains highly uncertain. New Zealand's merchandise exports are heavily weighted to soft commodities. As a result, New Zealand has not benefited to any significant extent from the rebound that has occurred recently in global hard commodity prices.

"Overall economic growth is evolving broadly in line with our forecasts in the June *Monetary Policy Statement* as the low OCR and stimulatory fiscal policy take effect. However, looking forward the level of the New Zealand dollar and wholesale interest rates are higher than assumed in our forecasts. The level of the dollar in particular, is not helping the sustainability of future growth, and brings with it additional economic risks.

"The forecast recovery is based on a further easing in financial conditions. If this easing does not occur, the forecast recovery could be put at risk. In these circumstances we would reassess policy settings.

"Annual CPI inflation is currently well within the target band and it is expected to track comfortably within it over the medium term.

"We consider it appropriate to continue to provide substantial monetary policy stimulus to the economy. The OCR could still move modestly lower over the coming quarters. We continue to expect to keep the OCR at or below the current level through until the latter part of 2010."

## Howard Davies' address available on Bank's website

**31 July 2009**

To mark the Reserve Bank of New Zealand's 75th anniversary, Howard Davies, Director of the London School of Economics,

and formerly Chairman of the UK Financial Services Authority and Deputy Governor of the Bank of England, delivered a public lecture last night.

The webcast of his address, "The Financial Crisis – who's to blame? Problems and remedies", is available on the Bank's website ([www.rbnz.govt.nz](http://www.rbnz.govt.nz)).

A temporary exhibition marking 75 years of Reserve Bank operations will be open to the public in the Reserve Bank Museum from 3 August 2009.

## First exemption notice for deposit takers

**6 August 2009**

The Reserve Bank announced today that it is exempting certain deposit takers from having a mandatory credit rating, under Part 5D of the Reserve Bank of New Zealand Act 1989.

This exemption is available if the consolidated liabilities of the deposit taker are less than \$20 million (measured as an average over a 12-month period).

The exemption notice outlines certain conditions that a deposit taker must comply with in order to benefit from this class exemption. Please note that registered banks are not deposit takers under Part 5D of the Act.

A full copy of the notice can be found on the New Zealand Legislation website.

Details of future exemptions will be available on the Bank's website.

## Development of stratified housing price measures

**7 August 2009**

The Reserve Bank released today a discussion paper on the development of stratified housing price measures using the Real Estate Institute of New Zealand's (REINZ) housing market data.

Reserve Bank Assistant Governor Dr John McDermott said: "By using detailed sale price information collected by REINZ, the Bank has developed a housing price measure

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that provides a timely and regular reading of housing price movements.”

Dr McDermott said the current monthly REINZ median housing price is timely, but changes in the mix of properties sold each month can make it difficult to identify residential property price trends. A changing proportion of more (or less) expensive housing being actually sold in one month can move the median sale price even if the market prices for all properties have not changed.

The REINZ housing price index is put together using a technique known as stratification; basically it is an average of sale prices for common groups.

“Obtaining timely signals on housing prices are important for analysis of the New Zealand economy. Given their close historical linkage with household consumption, changes in housing prices can provide a useful gauge of household demand conditions. This more timely measure of housing price movements will allow the Bank to identify housing market trends more quickly,” Dr McDermott concluded.

The REINZ Monthly Housing Price Index is a new development and is based on detailed suburb-level data. Future improvements, including updating comparison periods, investigating complementary data sources, and the introduction of new regional areas will be introduced periodically.

More information on the new index and how stratification works can be found in the discussion paper “Developing stratified housing price measures for New Zealand” which is on the Bank’s website ([www.rbnz.govt.nz](http://www.rbnz.govt.nz)).

REINZ will start publishing the new monthly housing price index on 14 August.

#### ***How stratification works***

- Dwelling sales from approximately 1800 New Zealand suburbs are ranked according to their median sales price over the relevant comparison period (currently January 2005 – June 2009).
- The suburbs are allocated into ten different groups (or strata). Suburbs accounting for 10 percent of the lowest

sales by price are grouped into stratum 1; suburbs with 10 percent of the most expensive sales price are in stratum 10. The allocation of suburbs to each stratum is fixed over the comparison period.

- The number of sales and median sales prices in each stratum is used to obtain a sales-weighted median price. This puts more weight on suburbs where there are more sales while filtering out sales of very high or low priced properties, giving a more stable measure of price trends for the stratum.
- The sales-weighted median housing price in each stratum is averaged to produce a housing price measure from which the housing price index is derived.

The REINZ Monthly Housing Price Index is based on a value of 1000 in January 1992, the first month for which electronic information is available. Changes in the index represent movements in housing prices, where the mix of sales between the groups is held constant and are more likely to reflect genuine property price movements. Indexes for each of the ten strata used to calculate the REINZ Monthly Housing Price Index will also be published.

Using the same methodology, regional REINZ Monthly Housing Price Indexes have been developed for Auckland, Wellington, the rest of the North Island, Christchurch and the rest of the South Island. A REINZ Monthly Residential Section Price Index will also be published.

#### **RBNZ MPS/OCR dates for 2010**

##### ***19 August 2009***

The following is the Reserve Bank’s schedule for the release of its quarterly *Monetary Policy Statements* and Official Cash Rate announcements for 2010.

Each *Monetary Policy Statement* includes within it an OCR announcement, so, as usual, in total there will be eight OCR announcements during 2010. Each announcement will be made at 9.00 am on the day concerned.

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28 January	OCR announcement
11 March	<i>Monetary Policy Statement</i>
29 April	OCR announcement
10 June	<i>Monetary Policy Statement</i>
29 July	OCR announcement
16 September	<i>Monetary Policy Statement</i>
28 October	OCR announcement
9 December	<i>Monetary Policy Statement</i>

The Reserve Bank reserves the right to make changes to this schedule, if required due to unexpected developments. In that unlikely event, the markets and the media will be given as much warning as possible.

## Lessons from Jackson Hole

*29 August 2009*

*Dr Alan Bollard, Governor, Reserve Bank of New Zealand*

Once a year, Jackson Hole in Wyoming hosts the world's central bankers. Under the craggy ranges of the Teton Mountain Range, we met last weekend to discuss how well monetary and financial policies have worked to save the world from the worst of the crisis, having just been through the biggest economic and financial shock in 80 years. It now looks like we (and the world) have seen the worst, and we are beginning a recovery that many believe will be slow and fragile.

What lessons can be taken from this experience? How well did our policies work? What lies ahead?

### *Prudential soundness*

We were all surprised by the vulnerability of key financial institutions. It is chaos when a country's banking system does not remain stable, as in Iceland and Ireland. Ours proved stable.

A plain vanilla banking system like ours is much easier to regulate than a more complex Northern Hemisphere one. There, the banking system had significant problems with complicated instruments, non-transparent transactions, misaligned incentives and moral hazard.

Our less complex system came through well, helped by sound parent banks, good regulations here and in Australia, good management, and a little luck. Our prudential policies worked well with bank capital holding up against shocks and losses.

However, when international markets became illiquid – where it was difficult to find cash to meet obligations – Australasian banks needed help. We monitored them more closely. Government guaranteed retail deposits and wholesale funding to enable banks to secure funding. And we widened the range of securities that banks could use to access cash from us.

We also accelerated work on a prudential liquidity policy for banks – moving them from heavy reliance on short-term funding to having a bigger proportion of longer-term funding. When implemented, this policy will mitigate risks from sudden illiquidity in offshore markets.

As the recovery takes place we will also be ensuring capital requirements for farm lending are prudent.

Unfortunately, many finance companies found their weak balance sheets and flawed business models inadequate. But building societies and other smaller institutions with a loyal customer base have ridden through this period.

### *Financial system stability*

It may not hurt an economy if some financial institutions fail, provided the system remains stable. But larger economies were surprised so many institutions were too big, or too complex, or too intertwined to be allowed to fail.

In addition, the previous decade's build-up in asset prices (housing, equities, commodities and financial instruments) contributed to instability. At Jackson Hole, central bank governors bewailed how hard it is to stabilise an economy with separate regulators.

We have been in a better position. The Reserve Bank is a broad-span regulator that receives information and influences markets via our economic intelligence, prudential oversight of financial institutions, liquidity management, foreign reserves management, payments systems oversight, and provision of banknotes and coins.

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Internationally and in New Zealand two important new regulatory standards have been introduced recently: International Financial Regulatory Standards, and Basel II risk-weighted capital requirements for banks.

If not carefully implemented, these new standards could be pro-cyclical – encouraging banks to over-lend during economic booms and tighten in a downturn.

We expect new international standards with the G-20 group of countries looking to re-introduce dynamic provisioning (ensuring banks' accounts provide for potential losses as loans are made). They are also considering counter-cyclical capital instruments (with banks building up capital reserves when the economy is growing, that can be drawn down when it contracts). At the Reserve Bank, we have taken a 'through-the-cycle' approach to Basel II, to avoid pro-cyclicality, but we are following international developments with interest.

### ***Macroeconomic Stability***

Monetary and fiscal policies can promote economic stability. They achieved a long period of growth and low inflation (the 'Great Moderation'). However, they did not prevent the build-up of major global imbalances in capital – huge savings and external surpluses in some countries, significant external borrowing and deficits in others – which ultimately contributed to financial collapse.

The Jackson Hole consensus is that the US and some other economies tightened monetary policy too little and too slowly during the early years of this decade. When that happens, small open economies, like New Zealand, feel the stress (e.g. through exchange rate pressures).

When the global crash happened, monetary policies were the first line of defence. Most countries quickly slashed rates. Our nominal interest rates were higher than most: we very quickly cut the official cash rate from 8.25 percent to 2.50 percent in nine months, further and faster than ever before. Unlike some Northern economies we expect this rate to trough well above zero.

This opens the gates to significant monetary stimulus, although it takes time for the effects to flow through the economy.

In bigger Northern economies, this orthodox monetary policy stimulus was not enough. They have also used unorthodox policies, "quantitative easing", pumping liquidity into the economy to stimulate lending and free-up clogged markets. This new, risky approach seems to have eased financial markets.

This unorthodox quantitative easing has not been necessary in New Zealand. The closest we have got is with our new liquidity management and our acceptance of residential mortgage-backed securities as collateral for loans to banks. These securities are in place but likely to be used only in crisis. Our measures will be much easier to exit from, when the time comes.

Governments can also use fiscal policy for stability, and it has been used widely internationally in this crisis.

In New Zealand there has been significant fiscal stimulus by government. But concern for future government debt levels limits its ongoing use.

The mood of the Jackson Hole symposium was that the worst is now over, but we must remain wary of setbacks. New Zealand has come through reasonably well, but the crisis has also exposed some vulnerabilities that may have had harsher consequences had financial markets not stabilised earlier this year. That is why we need to keep focussing on building a stronger, more resilient financial system.

### **New bank registered**

#### ***1 September 2009***

The Reserve Bank today announced that Baroda (New Zealand) Limited has been registered as a bank in New Zealand.

The bank, which is a subsidiary of Bank of Baroda (India), will be changing its name to Bank of Baroda (New Zealand) Limited before it commences operations.

There are now 19 registered banks in New Zealand, which are listed on the Reserve Bank website.

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## OCR unchanged at 2.5 percent

*10 September 2009*

The Reserve Bank today left the Official Cash Rate (OCR) unchanged at 2.5 percent.

Reserve Bank Governor Alan Bollard said: "There is more evidence that the decline in economic activity is coming to an end, and that a patchy recovery is underway.

"This is partly due to recovery in our trading partner economies in the June quarter and these look likely to continue expanding in the short term. Domestically, retail spending appears to have stopped falling, following a rise in net immigration and a pick-up in the housing market over recent months.

"However, the medium-term growth outlook remains weak. We expect household spending to grow only modestly given weak income growth and a reduced appetite to take on debt. Business profits are under pressure because of the low level of activity and the elevated New Zealand dollar; this limits the scope for employment and investment to rebound quickly.

"For growth to be sustained in the medium term there is a need for improved competitiveness in the export sector and a continued recovery of household savings. This rebalancing is required to stabilise New Zealand's external payments position. If the exchange rate were to continue its recent appreciation and/or the recovery in house prices were to undermine the improvement in household savings, then the sustainability of the present recovery will be brought into question.

"Annual CPI inflation is currently well within the target band and is expected to track comfortably within the band over the medium term.

"As we have said previously, the forecast recovery in economic activity is based on monetary policy continuing to provide substantial support to the economy. We expect such support will be needed for some time. As a result, we continue to expect to keep the OCR at or below the current level through until the latter part of 2010."

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## PUBLICATIONS

### Regular publications

*Annual Report*

*Financial Stability Report*

*Monetary Policy Statement*

*Reserve Bank of New Zealand Statement of Intent, 2007-2010*

Published in October each year.

Published six-monthly. A statement from the Reserve Bank on the stability of the financial system.

Published quarterly. A statement from the Reserve Bank on the conduct of monetary policy.

### Recent Reserve Bank Discussion Papers

#### 2009

DP2009/01	Revealing monetary policy preferences <i>Christie Smith</i>
DP2009/02	Real-time conditional forecasts with Bayesian VARs: An application to New Zealand <i>Chris Bloor and Troy Matheson</i>
DP2009/03	Evaluating household expenditures and their relationship with house prices at the microeconomic level <i>Mark Smith</i>
DP2009/04	Forecasting national activity using lots of international predictors: an application to New Zealand <i>Sandra Eickmeier and Tim Ng</i>
DP2009/05	Using wavelets to measure core inflation: the case in New Zealand <i>David Baqaee</i>
DP2009/06	Analysing wage and price dynamics in New Zealand <i>Ashley Dunstan, Troy Matheson and Hamish Pepper</i>
DP2009/07	Developing stratified housing price measures for New Zealand <i>Chris McDonald and Mark Smith</i>
DP2009/08	Evaluating a monetary business cycle model with unemployment for the Euro area <i>Nicolas Groshenny</i>
DP2009/09	Entrepreneurship and aggregate merchandise trade growth in New Zealand <i>Richard Fabling and Lynda Sanderson</i>
DP2009/10	A theoretical foundation for the Nelson and Siegel class of yield curve models <i>Leo Krippner</i>

A full list of Discussion Papers is available from Administration, Economics Department.

### Selected other publications

*Testing stabilisation policy limits in a small open economy: proceedings from a macroeconomic policy forum*  
*Finance and Expenditure Select Committee inquiry into the future monetary policy framework: submission by the Reserve Bank of New Zealand*

### Pamphlets

*Explaining Currency*

*Explaining Monetary Policy*

*The Reserve Bank and New Zealand's Economic History*

*This is the Reserve Bank*

*Your Bank's Disclosure Statement – what's in it for you?*

*Snakes and Ladders – a guide to risk for savers and investors, by Mary Holm*

For further information, go to [www.rbnz.govt.nz](http://www.rbnz.govt.nz), or contact:

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## Articles in recent issues of the Reserve Bank of New Zealand *Bulletin*

### Vol. 71, No. 3, September 2008

#### Inflation

Flexibility and the limits to inflation targeting

Inflation in New Zealand's trading partner economies

The costs of inflation – what have we learned?

Events precede ideas: Bob Gordon on macroeconomics and monetary policy

Financial turmoil and global imbalances: the end of Bretton Woods II?

A user's guide to credit ratings

### Vol. 71, No. 4, December 2008

#### Liquidity and the New Zealand financial system

Evolution of the Reserve Bank's liquidity facilities

The global financial crisis and its transmission to New Zealand – an external balance sheet analysis

The Reserve Bank's payment system oversight role applied to settlement risk in the retail payment system

New legislation for regulation of non-bank deposit takers

Results from the recent survey of *Bulletin* readers

### Vol. 72, No. 1, March 2009

Financial vulnerability of mortgage-indebted households in New Zealand - evidence from the Household Economic Survey

Thinking about more than one thing at a time: Eric Leeper on monetary and fiscal policy interactions

Recent trends and developments in currency

Overview of a recent Reserve Bank workshop: nowcasting with model combination

Coping with global financial and economic stresses

### Vol. 72, No. 2, June 2009

#### Forecasting the New Zealand economy

Introducing KITT: the Reserve Bank of New Zealand's new DSGE model for forecasting and policy design

The use of statistical forecasting models at the Reserve Bank of New Zealand

The Reserve Bank's process for forecasting business investment

The demographics of household inflation perceptions and expectations

Exchange rates and export performance: evidence from micro-data

The evaporation of trust: Prasanna Gai on financial crises