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# Conference summary: New Zealand's macroeconomic imbalances – causes and remedies

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This article reports on a policy forum sponsored by the New Zealand Treasury, the Reserve Bank of New Zealand, and Victoria University of Wellington on New Zealand's macroeconomic imbalances. Chief among these imbalances is New Zealand's large stock of net foreign liabilities, but there are also recurrent concerns about high domestic interest rates, the high exchange rate, and about New Zealand's relatively poor growth performance. The forum highlighted that both private and public sectors contribute to imbalances, and canvassed a wide array of policies that might help reduce the vulnerabilities that these imbalances entail. Such policies include directly improving the government's net saving, and using policies to influence private sector saving and investment behaviour.

## 1 Introduction

On 23-24 June 2011, the New Zealand Treasury, in conjunction with the Reserve Bank of New Zealand and Victoria University of Wellington, hosted a conference titled 'New Zealand's macroeconomic imbalances – causes and remedies'. The conference was attended by a broad spectrum of policy-makers, journalists, academics, and other economists.

Three eminent macroeconomists, Prof. Craig Burnside of Duke University, Prof. Sebastian Edwards of the University of California-Los Angeles, and Prof. Philip Lane of Trinity College Dublin, were commissioned to present papers investigating the causes of, and remedies for, New Zealand's macroeconomic imbalances. Supporting presentations were given by Dr Peter Jarrett of the Organisation for Economic Cooperation and Development (OECD), Prof. Prasanna Gai of the University of Auckland, and Anne-Marie Brook of the New Zealand Treasury. The papers and comments by discussants are available at <http://www.treasury.govt.nz/publications/research-policy/conferences-workshops/macroeconomicimbalances>.

The conference focused on two objectives: i) to identify the reasons for macroeconomic and financial imbalances in New Zealand and the vulnerabilities that arise from these imbalances, and ii) to identify policies and policy frameworks that could unwind or manage the imbalances, or improve cyclical performance. The wider context included trying to understand how macroeconomic imbalances might have influenced longer-run growth outcomes in New Zealand.

This article briefly describes the macroeconomic imbalances

in section 2 and covers further insights from the conference about the sources of the imbalances in section 3. Section 4 then summarises the speakers' policy prescriptions to reduce macroeconomic vulnerabilities and improve cyclical and long-run macroeconomic outcomes. Concluding remarks are presented in section 5.

## 2 What macroeconomic imbalances?

For most of the last 60 years, New Zealand has run large annual current account deficits.<sup>1</sup> Current account deficits imply that the public and private sectors of New Zealand have collectively been investing more than they have been saving, and hence have been borrowing from foreigners, or selling assets, to meet the shortfall. New Zealand's current account deficits have been quite sizable relative to income (gross domestic product, GDP). These current account deficits have cumulated into a large net foreign liability position.<sup>2</sup>

Relative to most other developed countries, New Zealand has a large stock of net foreign liabilities. The net stock of liabilities is now primarily a private sector phenomenon; over time, the private sector in New Zealand has been investing more than it saves. Figure 1 depicts the current account

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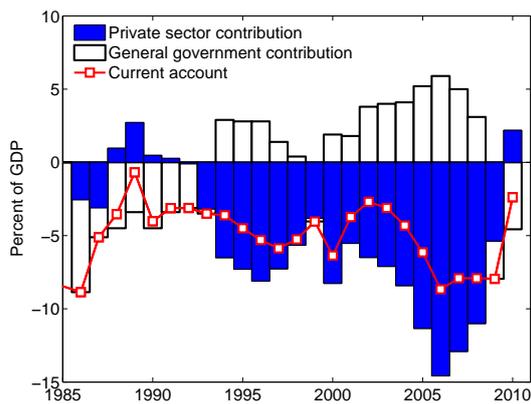
<sup>1</sup> Since 1951, New Zealand has had just seven annual current account surpluses, the last of which was in 1973.

<sup>2</sup> Steenkamp (2010) provides a cross-country perspective on New Zealand's macroeconomic imbalances, while André (2011) provides a New Zealand-specific analysis.

and illustrates the public and private sector contributions to the current account balance. The general government contribution is approximated using the net change in government borrowing/lending and the household contribution is computed as the difference between the current account balance and the government contribution.

It is important to note that New Zealand's private sector investment as a share of gross domestic product has not been particularly high relative to other countries. The investment-saving imbalance thus reflects low private saving rather than high rates of investment. Data on private households show that New Zealand household saving (as a proportion of disposable income) has been very low – possibly even negative – for an extended period of time.

**Figure 1**  
**Current account and fiscal deficits**



Source: OECD, Statistics NZ; author's calculations

Policy-makers worry about macroeconomic imbalances because they may hamper New Zealanders' ability to consume goods and services in some 'states of the world'. If foreigners were no longer willing to lend to New Zealanders or if income failed to eventuate as originally expected, then New Zealand households would have to materially alter their consumption patterns to pay off their debts as they fell due. Funding problems such as these would result in a painful period of economic adjustment as some goods and services were no longer demanded, requiring labour and capital to be reallocated from one activity to another. Such adjustment is not seamless and may result, for example, in elevated levels of unemployment. The welfare or consumption consequences of rises in unemployment fall particularly heavily on those people who lose their jobs, which is one

reason why there are social welfare systems to share the burden across society as a whole.

The cross-country picture is reversed when we focus on the public sector – the New Zealand government currently has a comparatively low level of net indebtedness relative to most other governments. However, there has been substantial variation in the level of New Zealand's fiscal deficits over the last two decades and hence large changes in public indebtedness (again, see figure 1). The New Zealand government ran fiscal deficits between 1978-79 and 1993-94 and annual surpluses from 1994-95 until the beginning of the global financial crisis (GFC). Over the last decade, net core crown debt relative to GDP declined until 2007-08 (see figure 1.21, 2011 Budget Economic and Fiscal Update), but has since increased. The Treasury's latest forecast is for net debt to peak below 35 percent of GDP and for the government to return to surplus in 2014-15.

Although New Zealand public debt is quite low relative to GDP, foreign investor sentiment is still important for the New Zealand government's ability to fund its activities. Non-residents currently hold almost 60 percent of New Zealand government securities (bonds and bills). Even though the outstanding stock of public debt is relatively small and the average maturity of the outstanding debt has lengthened, this debt still makes the New Zealand government vulnerable to external funding shocks that affect foreigners' willingness to lend or invest in New Zealand.

The bulk of New Zealand's private sector liabilities are in the form of debt, and most of this debt is mediated through the banking system.<sup>3</sup> New Zealand banks fund a substantial portion of their lending by borrowing foreign currency from international wholesale markets. The banks then hedge the foreign exchange risk associated with borrowing in foreign currency and lending in New Zealand dollars (NZD). As a result, New Zealanders' liabilities are effectively in the form of NZD loans and their NZD value is not directly vulnerable to changes in the exchange rate. Given that there has been substantial variation in the level of the NZD since it was first floated in 1985, it is unsurprising that New Zealand financial institutions (and the ultimate New Zealand borrowers) want

<sup>3</sup> See Philip Lane's paper for a cross-country perspective on debt levels.

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to have (effective) NZD liabilities rather than foreign currency ones.

The contribution of (the level of) the exchange rate to macroeconomic imbalances remains a point of controversy. In recent years the NZD has attained cyclical highs, and is considered by a number of commentators to be overvalued, contributing to low growth in the tradable goods sector. Commentators on the other side of the debate note that commodity prices and the terms of trade are also near historical highs.

As we finish this section, it is worth highlighting one further, related issue – why are New Zealand income levels now so much lower than those of other developed countries? One possible area of concern is that New Zealand real interest rates have been higher than those observed overseas, and these high rates of interest may have discouraged investment and hence capital growth. High interest rates may reflect concerns about New Zealand's creditworthiness, and its ability to repay the large stock of external debt, or may simply arise out of sustained high domestic demand for credit. Connections between growth and macroeconomic imbalances are revisited later in this article.

### **3 What did we learn about New Zealand's macroeconomic imbalances?**

Sebastian Edwards opened the conference by characterising an 'unofficial-official' narrative of New Zealand's recent macroeconomic experience. This narrative was based on his discussions with government officials and others during a visit to New Zealand in early 2011. Edwards' unofficial-official narrative emphasised loose fiscal policy during the middle of the last decade, resulting in tight monetary policy to curb inflationary pressure. In this narrative, high domestic interest rates prompted a capital inflow, causing the exchange rate to appreciate and remain high for an extended period of time. The capital inflows, intermediated by the banking system, contributed to increased house prices. The counterparts of the capital inflows were current account deficits, which expanded New Zealand's net foreign liabilities.

Edwards' characterisation of the unofficial–official story returns us to the growth/macro-imbalance nexus mentioned at the end of the previous section. Some commentators suggest that the high exchange rate has reduced New Zealand's growth performance by placing downward pressure on tradable goods sector activity relative to the non-tradables sector. Although virtually all goods and services embody both tradable and non-tradable inputs (Obstfeld and Rogoff, 1997, pp. 202-3), firms participating in exporting generally have higher productivity. In Edwards' words "[t]his means, then, that the sectors with the fastest rate of innovation and efficiency gains are stagnating. This, in turn, has implications for growth and well being."

Edwards' paper does not make explicit the inefficiency or distortion that might cause private sector investors to focus too heavily in the production of non-tradables goods and services – given that productivity in the tradables sector is thought to be higher on average, presumably offering higher returns. There are at least two links in this chain. Is the exchange rate mis-priced or overvalued? (If so, why?) And are firms misallocating resources – producing too many non-tradable goods and not enough tradables – in response to the level of the exchange rate? Economists conventionally think of decision-makers as making decisions to maximise their own welfare. In this particular instance, are there reasons to think that the private benefits and costs that decision-makers face diverge from the social benefits and costs, causing inefficient resource allocations? (If so, what are those reasons?)

Edwards performed an empirical cross-country analysis of exchange rates for small commodity-exporting economies. This analysis enabled him to examine the responsiveness of the exchange rate to interest rates (one part of the policy mix) and commodity prices (an important driver of the exchange rate). Broadly speaking, Edwards found that the exchange rates of the commodity countries in his analysis responded to similar forces, suggesting that the behaviour of New Zealand's exchange rate is in some sense fairly normal.

Edwards' empirical model of the exchange rate indicated that New Zealand's trade-weighted real exchange rate would depreciate by 8 percent if the differential between New Zealand and US interest rates declined to a level equivalent

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to the average Australian-US differential. However, his empirical analysis did not identify what measures, or how large a change in fiscal policy would be required to sustainably reduce New Zealand interest rates.

Edwards was not, however, entirely convinced that the high real exchange rate caused the relative reduction in tradable activity. Edwards provided a disaggregated index of competitiveness to illustrate that inefficiencies in the non-tradables sector may also play an important role in hampering New Zealand's export competitiveness.

Edwards' discussant, Dr John McDermott of the Reserve Bank of New Zealand, touched on several themes. First, McDermott noted that Edwards' unofficial-official view did not identify all of the important elements driving the last business cycle. For example, the boom in house prices dated back to 2002, preceding the loosening of fiscal policy in the middle of the decade. To attribute to fiscal authorities a strong causal role in stimulating the recent business cycle was not entirely accurate, though fiscal developments clearly contributed later. (Other discussants mentioned additional factors not captured by Edwards' unofficial-official narrative; see below.) Second, McDermott noted that the drive for efficiency was not solely a non-tradable concern, but remained relevant for both the tradable and non-tradable sectors of the economy. The third observation that McDermott made was that movements in the real exchange rate should reflect both relative productivity (which has trended down in New Zealand for several decades) and the terms of trade (which since about 1985 has broadly trended up). Edwards' empirical model omitted relative productivity, and this omission might affect his results.

The second paper presented at the conference, by Dr Peter Jarrett of the OECD, focused on the role of housing and provided interesting cross-country evidence on New Zealand investment. First, Jarrett's data confirmed the strength of the increase in house prices between 2002 and 2008, with investment in real construction shrinking markedly following the global financial crisis. Jarrett looked at many housing-specific features, such as land availability, house size, the responsiveness of the construction sector, and so forth. Second, Jarrett illustrated that New Zealand household savings rates as a proportion of gross disposable

income have been very low, and the private sector has been the main driver of the large current account deficits. New Zealand household debt (relative to gross disposable income) has climbed higher than levels in other Anglo-Saxon economies, even as debt levels in those countries rose. Third, New Zealand's residential investment rates seem quite high relative to other OECD countries, but this largely reflects strong population growth, including high net migration in the early part of the decade.

New Zealand's business investment as a proportion of GDP has generally been a little low relative to other OECD countries. In contrast, Australia's business investment has been a very large proportion of GDP. As Australia has many similar characteristics to New Zealand (culture, geographical location, colonial history, etc), it is natural to try to identify what factors explain the different investment rates in New Zealand and Australia. Jarrett cited New Zealand Treasury analysis that illustrated that the effective tax rate on owner-occupied housing in New Zealand was zero, whereas the marginal tax rates on other asset classes rose to nearly 50 percent, depending on the income tax bracket of the owner. The tax system may thus have a material effect on the composition of New Zealand investment.

In his discussion of Peter Jarrett's paper, Michael Reddell suggested that the huge increase in net immigration early in the last decade was the major precipitating driver of the upswing in house prices. Reddell also suggested that the policy change that resulted in a large increase in gross inward migration since the early 1990s may have exacerbated imbalances, and helped to explain New Zealand's failure to close the income gaps between New Zealand and other advanced economies. He argued that high rates of investment were required to maintain capital-labour ratios given high levels of immigration, and that high interest rates and a persistently high real exchange rate may have contributed to holding down rates of investment and, hence, per capita GDP growth. However, one of the distinguishing characteristics of open economies is that domestic investment and domestic savings do not need to equate – ie, it is possible to finance higher investment by running current account deficits. An important question for the Reddell story is to explain why cross-border financial

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capital mobility failed to maintain the physical capital-labour ratio at an appropriate level. Further, the endogenous growth and economic geography literatures both emphasise that there can be positive spillovers from size and connectedness that result in greater technological progress and hence growth, although there are few empirical results from the literature relevant to cross-country income comparisons.

In the next keynote speech, Craig Burnside applied the toolbox of modern finance to address two questions: i) what might explain New Zealand's high interest rates? And ii) can high interest rates explain low levels of investment and hence low growth in New Zealand?

Burnside suggested that New Zealanders were charged high interest rates because New Zealand assets provided a low foreign currency return to foreigners in times of financial stress, precisely when foreign lenders most valued returns. Foreign lenders' valuations (their 'stochastic discount factor') matter for returns, because they are the marginal suppliers of loans to New Zealanders. The low foreign currency return from New Zealand assets arises because the New Zealand dollar tends to depreciate when returns are most valued by foreign investors. Consequently, foreign investors demand a premium to lend to New Zealanders as compensation for this risk.

In Burnside's analysis, the ostensibly high ex-post interest rates on New Zealand assets reflect a small sample problem – the sample data on interest rates and exchange rates may not contain enough 'extreme' but low-probability events (such as the global financial crisis). The absence of such extreme events in the data biases one's perspective on the level of New Zealand's interest rates relative to those observed overseas.

To explain the high ex-post returns, foreign currency returns from New Zealand assets have to be negatively correlated with the global investor's stochastic discount factor. Since New Zealand is a small part of the world economy, it is implausible to think that New Zealand shocks can affect the stochastic discount factor of foreigners. Burnside's rationalisation of these facts is that rare foreign shocks cause the NZD to depreciate (reducing the foreign currency return) precisely when returns are valuable to the foreign investor.

New Zealand and Australian interest rates have both been high relative to interest rates in the US, Japan or Europe. Consequently, Burnside also argued that high New Zealand interest rates did not simply represent compensation for a New Zealand-specific risk factor.<sup>4</sup>

As mentioned above, Jarrett's presentation noted that business fixed investment has been very high in Australia. Burnside concluded that, since the behaviour of interest rates in New Zealand and Australia had been broadly similar, differences in Australasian investment rates had to be driven by some other, non-interest, factor.

Burnside's discussant, Christoph Thoenissen, Associate Professor of Economics at Victoria University of Wellington, focused directly on why New Zealand and Australian exchange rates might depreciate in the face of a global shock. Thoenissen noted that, if all countries were alike, then a global shock might conceivably leave exchange rates unchanged. There must therefore be some heterogeneity between New Zealand/Australia and the rest of the world to motivate the depreciation of the NZD in times of financial stress. Thoenissen suggested three possible factors: the Australasian countries are both commodity exporters; they have low saving rates; and they have persistent current account deficits.

Prasanna Gai's presentation was next in the programme, but as it was focused on the macro-prudential policy debate, discussion is deferred until the next section.

Philip Lane's keynote paper proceeded in two parts. The first part of Lane's paper examined New Zealand's international investment position and current account in the context of cross-country experience following the global financial crisis. The second part of the paper explored policy options, and these too are discussed in section 4. Lane's policy advice was heavily influenced by Ireland's experience in the wake of the global financial crisis.

Lane began by noting that countries with large current account deficits and large domestic credit booms generally

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<sup>4</sup> **The financial systems of both countries are highly integrated and this might explain the common treatment of New Zealand and Australia, but it still would not explain the covariance with the global investor's stochastic discount factor.**

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had bigger recessions and bigger falls in domestic demand in the wake of the crisis. A key empirical feature, post Global Financial Crisis (GFC), was the substantial reduction in trade for all countries and compression in current account deficits, with some countries even swinging into current account surplus.

Lane highlighted three features: New Zealand has a high level of net external liabilities; has run large current account deficits; and had a substantial boom in private domestic credit relative to GDP during the first decade of the millennium. Lane also placed the spotlight firmly on the composition of New Zealand's external liabilities, noting that prior to the GFC there was a substantial increase in New Zealand's net indebtedness, and only a modest improvement in New Zealand's net equity position.

Lane noted that New Zealand's growth and consumption performance following the GFC was better than most other countries with similar-sized debt positions or current account imbalances. Lane observed that the flexible exchange rate regime, independent monetary policy, fiscal stimulus, and hedged exchange rate risk had all helped New Zealand to weather the global financial crisis. However, he remained sceptical that these features would, by themselves, ensure future resilience, given the large stock of external liabilities.

The last paper of the conference was presented by Anne-Marie Brook of the New Zealand Treasury. Her paper focused squarely on fiscal policy and examined options to improve the contribution of fiscal policy to macroeconomic stabilisation 'in the next upturn'. Much of the paper was devoted to explaining the evolution of fiscal policy during the 2000s, and deriving policy lessons from that experience. As in Edwards' unofficial-official narrative, a central theme in Brook's paper was that loose fiscal policy had created inflationary pressure elevating interest rates and the exchange rate, worsening the current account. A key policy issue that Brook identified is that a government debt target might be achieved during an upswing in the business cycle, making it difficult to convince politicians and the public that they should 'bank' any revenue windfall. The array of policy options investigated by Brook is discussed in the next section.

Like John McDermott before him, Brook's discussant, David Plank of Deutsche Bank, noted that the boom in the 2000s preceded the expansionary fiscal policy shocks that took place in the middle and latter stages of the decade. The policy issue that Plank thought was most notable was the slow response of the Reserve Bank to the housing market and the rise in non-tradable inflation in 2003. Plank also highlighted the savings lens of the current account, and suggested that large current account deficits could occur even when interest rates and the exchange rate were both low (or vice-versa). The cross-country evidence on the effects of fiscal shocks on the real exchange rate is also subject to empirical and theoretical controversy; see Benetrix and Lane (2009).

#### **4 What policies should be brought to bear on macroeconomic imbalances?**

Edwards' unofficial narrative highlighted a 'perverse' policy mix of loose fiscal policy and tight monetary policy. The natural solution to this problem is to tighten fiscal policy – reducing expenditure or increasing taxes – thereby enabling looser monetary policy.

Fiscal consolidation was an important recommendation highlighted by the Savings Working Group.<sup>5</sup> In the January 2011 report titled 'Saving New Zealand: reducing vulnerabilities and barriers to growth and prosperity', the Savings Working Group recommended a return to fiscal surplus in the order of 2-3 percent of GDP. The Savings Working Group also recommended a variety of policies designed to influence household savings and investment behaviour, including tax reform to broaden the tax base and to reduce distortions (such as those associated with inflation), and various recommendations about Kiwisaver, the New Zealand Superannuation Fund, the development of financial markets, etc.

Edwards agreed that fiscal consolidation was 'eminently reasonable', but argued that fiscal issues were only part of the problem. Like the Savings Working Group,

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<sup>5</sup> See <http://www.treasury.govt.nz/publications/reviews-consultation/savingsworkinggroup>

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Edwards argued that New Zealand needs to address the private sector's incentive to save. Further, he advocated microeconomic reform to improve competitiveness. Edwards also suggested that further analysis was needed to better understand the impact of policies, and to identify the mix of policies that would give 'the most bang for the buck'.

Edwards suggested that the policy debate with regard to macroeconomic vulnerabilities should be cast in terms of an 'insurance' framework. The essence of insurance is that premiums are paid in good 'states of the world' (my house has not burned down) and insurance payouts then help to mitigate 'bad states' (my house has burned down). Good prospective policy interventions will contribute in one of three ways. They will:

1. reduce the probability of bad states of the world and the resultant periods of painful adjustment;
2. reduce the costs of bad states of the world; and
3. appropriately share the burden of these costs, for example, by creditors, debtors, bank shareholders, insurers, and also taxpayers.

This insurance framework – if interpreted broadly – encompasses most of the policies that are available to counter 'macroeconomic vulnerability'.

Insurance usually takes place through explicit financial contracts that match insurance premiums to insurance payouts. One possibility mentioned by Edwards is that the New Zealand government could produce a variation on so-called 'catastrophe bonds'. In catastrophe bonds, a payoff is activated when a particular catastrophe occurs (such a bond is said to be 'state contingent'). For example, catastrophe bonds could be used to deal with natural disasters of a given magnitude, such as a large earthquake or a cyclone.<sup>6</sup> Edwards noted a suggestion by Ricardo Caballero and others that bonds could be issued that are indexed to the terms of trade, since movements in the terms of trade would affect fiscal revenue.

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<sup>6</sup> Reconstruction following New Zealand's 2010-11 earthquakes in Christchurch is largely being funded by foreign reinsurance of claims against domestic insurers and government funding of infrastructure.

Financial contracts such as those described above will only make sense as insurance devices if the price of the insurance is sufficiently close to being efficient/fair. Roughly speaking, the insurance premium should equal the payout, times the probability of the payout. The global financial crisis and the recent earthquakes in Christchurch highlight that both the cost and the probability of a payout can be difficult to determine a priori. This problem pervades macroeconomic policy choices. Consequently, it is difficult to know what size premiums we should be prepared to pay. It may also be difficult to know what outcomes would have occurred in the absence of a particular policy choice, making it difficult to know how large a premium is implicit in a given policy. For example, a policy that reduces credit growth may increase financial stability, but it may come at the cost of slower capital investment and growth.

In the absence of efficient insurance markets, self-insurance may be preferable. Rather than taking on board explicit financial contracts, individuals can choose to 'pay the premium to themselves', accumulating assets in good times in order to run down assets in bad times. Likewise, prudent fiscal authorities might choose to pay down outstanding liabilities or accumulate assets in good years in order to have the financial resources to be able to deal with bad future events. Accumulating assets to fund expenses arising from a future natural disaster is an example of a self-insurance strategy.

Access to lines of credit provides another way to stabilise expenditure patterns. Access to credit ensures that consumption can still be undertaken when times are bad. Edwards suggested that one possibility would be to sign up for an International Monetary Fund flexible credit line.<sup>7</sup> Similarly, Lane noted that New Zealand could pre-position credit lines, such as foreign currency swap lines.<sup>8</sup> The use of credit or debt can be thought of as a mechanism to trade off consumption at different points in time. Of course, if a shock is particularly severe or long-lasting, then some change in behaviour will ultimately be required.

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<sup>7</sup> See <http://www.imf.org/external/np/exr/facts/fcl.htm>  
<sup>8</sup> Since New Zealand banks hedge their foreign currency obligations, in times of financial stress they require NZD liquidity to support New Zealand asset values. If necessary, NZD liquidity could be supplied by the Reserve Bank.

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Edwards briefly touched on a range of other policy options including the possibility of raising more foreign exchange reserves, macro-prudential policies aimed at financial institutions, and international capital controls. Edwards was agnostic about the appropriate level of foreign reserves and supportive of the development of macro-prudential policies, but he suggested that capital controls were likely to be of questionable effectiveness.

Philip Lane's policy discussion focused on four broad areas: monetary policy, macro-prudential financial regulation, structural economic policies and fiscal policy.

With respect to monetary policy, Lane saw no reason to question the inflation-targeting regime with floating exchange rates that currently prevails in New Zealand. Lane did note that exchange rate intervention could play a short-term role in restoring exchange rate stability if short-term speculative pressures were pushing the exchange rate to excessively strong or weak values. However, he also noted that "currency intervention has no influence over the medium-term trend for the exchange rate, such that the impact of persistent external imbalances cannot be undone through this type of policy".

In relation to structural policies, Lane noted that vulnerabilities were moderated if trend economic growth was higher. Policies to enhance growth are thus important to reduce macroeconomic vulnerability. Lane also noted that having flexible labour markets that enabled adjustment of real wages may also be important, to regain competitiveness in the event of economic shocks.

The bulk of Lane's policy advice focused on fiscal policy and fiscal institutions. Like Edwards, Lane supported fiscal consolidation, noting that it was very important for fiscal policy to preserve medium-term fiscal sustainability by ensuring that the level of public debt converges on a 'safe' low level.

Lane also suggested that fiscal policy had a role in addressing external imbalances. He made three main points:

1. Fiscal policy can (amongst other objectives) target the external account to avoid the emergence of excessive imbalances.
2. Fiscal interventions can facilitate adjustment of the external balance to a sustainable level (if an imbalance already exists).
3. Fiscal policy can play a central role in crisis management.

Given that much of the net foreign liability position reflects private sector indebtedness, it might seem a bit backhanded to highlight fiscal consolidation to offset the imbalance.<sup>9</sup> However, reflecting the Irish experience, Philip Lane noted that there are important dependencies between the public and private sector. In Ireland's case, major banks failed and the government chose to bail out depositors. Whether this was an appropriate policy response is still up for debate, but it does illustrate that private sector financial problems can quickly end up on the public balance sheet. Further, an economic slowdown as the result of a private sector downturn will also affect fiscal revenues, worsening any pre-existing fiscal imbalances.

Lane also noted that the interdependence between public and private sectors runs both ways. If the government accumulates assets, then this implies a reduction in future tax obligations (unless future tax expenditures are also increased). Private sector individuals may respond to higher future disposable income by increasing debt to fund current expenditure. The current account will only improve overall if the increase in public sector saving exceeds the decline in private sector saving.<sup>10</sup> Empirical evidence from Lane and Milesi-Ferretti (2011) suggests that the offset is not perfect – the current account and the fiscal balance appear to move together.

Lane noted that intertemporal models of the current account show that temporary changes in government consumption can affect the current account balance. Likewise, empirical evidence shows that a reduction in government spending improves the trade balance.<sup>11</sup> To implement fiscal

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<sup>9</sup> Edwards also noted that it was important to reduce distortions and encourage greater savings. Designing the incentives to get private sector agents to reduce their indebtedness may of course be rather challenging.

<sup>10</sup> Ricardian equivalence is the proposition that, for a given path of government expenditure, changes in public and private saving might offset each other perfectly. See Seater (1993) for discussion of why Ricardian equivalence might not hold.

<sup>11</sup> See Benetrix and Lane (2009), Lane and Perotti (1998) and Beetsma *et al* (2009).

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consolidation, Lane suggested that a 'rainy day fund' could be instituted to invest in liquid assets to cope with any crisis that impedes a government's ability to borrow. As Lane pointed out, an inherent problem with such funds, or with fiscal policy that seeks to stabilise the business cycle, is knowing when contributions or payouts are truly warranted.

Lane suggested that changing the composition of fiscal expenditure – reducing the demand for non-tradables – can help to reduce the relative price of non-tradables, and hence depreciate the real exchange rate. Again, some empirical evidence is consistent with this claim.<sup>12</sup>

Finally, Lane advocated a formal fiscal framework with numerical rules to guide overall fiscal policy, and a monitoring role for an independent fiscal council of the sort adopted recently in many developed countries. Such a council would be responsible for providing impartial advice on the medium-term sustainability of fiscal policy and on the macroeconomic stabilisation properties of proposed fiscal paths.

In his discussion of Lane's paper, Dr Norman Gemmill, of the New Zealand Treasury, made several observations about Lane's fiscal policy advice. First, he agreed that it was appropriate to have a low, medium-term debt target. Second, Gemmill noted that the optimal level of external imbalances was far from obvious, and a proper cost-benefit analysis of proposed policies would be required – to avoid paying an excessive premium in the context of Edwards' insurance framework. Lastly, Gemmill agreed that there was a need for better institutional mechanisms to guide fiscal policy. However, he was sceptical that an independent fiscal council would survive a cost-benefit analysis.

Craig Burnside covered similar ground to Edwards and Lane with his policy prescriptions. In brief, he suggested that fiscal policy should aim to reduce the stock of outstanding debt; policies that favour increased private saving should be continued or extended; and tax policies should be amended so that housing is not favoured over other asset classes. Christoph Thoenissen made similar policy recommendations about the tax treatment of saving and investment in housing.

Anne-Marie Brook's paper considered institutional mechanisms that could be introduced in New Zealand to reduce the political incentives for procyclical fiscal policy. She considered an array of options including: a sharper mandate in the Public Finance Act relating to the macroeconomic dimensions of fiscal policy stability; multi-year spending caps; more explicit de-linking of expenditure decisions from revenue out-turns; tax policy reform; the introduction of an independent fiscal council; and the possibility of a stabilisation fund.

In his comments on Brook's paper, David Plank was supportive of changes to the Public Finance Act to improve the mix of stability and sustainability objectives for fiscal policy. He also noted that the New Zealand Superannuation Fund (designed to deal with the rising superannuation payments stemming from demographic changes) could also be used as a stabilisation fund of sorts – akin to Lane's rainy day fund – particularly if contributions were varied over the business cycle.<sup>13</sup> In the context of insurance, such funds offset the costs arising from bad states of the world.

Professor Prasanna Gai of the University of Auckland discussed the debate about macro-prudential policy and its implications for New Zealand. The connection to macroeconomic imbalances is that private sector debt makes up a large proportion of New Zealand's net foreign liabilities, and such debt is mediated through the financial system. As Jarrett discussed, the expansion of domestic credit played an important role in driving up New Zealand house prices (and perhaps other financial asset prices too). Furthermore, any macroeconomic disruption or crisis can have a material effect on the financial system, as witnessed recently during the global financial crisis.

Gai noted that macro-prudential policy was generally considered to be system-wide prudential policy. Macro-prudential policies are concerned about the cross-sectional resilience of the financial system – the possibility that problems in one financial institution may affect others, particularly the financial system as a whole – and about 'procyclicality'. Procyclicality is the concern that

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<sup>12</sup> See Ricci *et al* (2008), Galstyan and Lane (2009), Lane and Perotti (2003), Beetsma *et al* (2009), and Benetrix and Lane (2009).

<sup>13</sup> Brook noted that, given its different purpose, a stabilisation fund might need to hold a more liquid portfolio of assets relative to the portfolio held by the New Zealand Superannuation Fund.

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developments in financial markets might amplify cyclical fluctuations in the real economy.

The standard presumption in economics is that markets will provide optimal allocations of goods and services when private agents pursue their own interests. However, this presumption will no longer be true if a variety of assumptions do not hold. In particular, if there are externalities – costs borne by others and not by the decision-maker – resources might not be allocated in a socially optimal way.

Gai noted that individual financial agents may not take account of the spillover effects of their own actions on the stability of the financial system. For example, an asset fire sale may cause dramatic declines in asset values, which may adversely affect the net worth of other firms and perhaps also their ability to access credit. Such costs will not be internalised by the firm selling the assets. As Gai noted, the traditional solutions to externalities are taxes or constraints to realign private decisions with socially optimal outcomes.

Macro-prudential policy can involve instituting stronger rules at times the financial system appears overheated (such as a countercyclical capital ratio) or tougher rules for systemically important financial institutions. The Reserve Bank has been developing a framework to consider the degree of ‘cyclical stretch’ in the financial system, and the scope for macro-prudential policy in the New Zealand context (see e.g. Ha and Hodgetts, 2011). The debate on macro-prudential tools is ongoing, and the international community is still in the process of developing a benchmark set of macroprudential policies. In the interim, the Reserve Bank of New Zealand has instituted a ‘core funding ratio’, which limits commercial banks’ exposure to short-term funding from wholesale financial markets.<sup>14</sup>

Gai noted two recommendations provided by staff of the International Monetary Fund (IMF): ‘[authorities should] consider the merits of gradually raising bank capital to levels well above the Basel III requirements’ and ‘[s]taff recommended explicitly including funding risk in future scenarios, encompassing a disruption to bank funding and a large increase in longer-term interest rates’. Higher bank capital provides a larger buffer to absorb the loan losses that

might arise in bad states of the world. Consequently, the potential cost to depositors and to the government from financial failures will also be reduced. Bank capital ratios in New Zealand have been increasing, well ahead of the Basel III implementation timetable, and the Reserve Bank has indicated that it wants this progress to be maintained (see the May 2011 *Financial Stability Report*).

Prof. Gai’s discussant, Dr Toni Gravelle of the Bank of Canada, took up two areas related to the IMF recommendations. He described the Bank of Canada’s efforts to incorporate funding risks into its stress testing and he discussed efforts to minimise the fiscal costs of bank failures by having credible failure resolution mechanisms. Lane, too, noted the need for well organised resolution regimes for financial institutions to avoid excessive costs to governments from financial distress. The Reserve Bank has taken steps in this direction, releasing a consultation paper on ‘Open Bank Resolution’ in March 2011.<sup>15</sup>

A final point to note, from Philip Lane, is that financial regulation of financial intermediaries on its own is insufficient to tackle external imbalances, since non-bank corporations and governments may accrue external liabilities directly. New Zealand banks currently play a central role in intermediating funds from abroad, but they may be displaced from this role if bank-based intermediation becomes too costly as a result of regulatory pressures.

## 6 Conclusions

One of the goals of the June conference was to identify macroeconomic imbalances, and develop our understanding of their more intrinsic features. The conference was successful on this front, helping to deepen our understanding of the imbalances by illustrating the interdependencies between private and public sector decisions, and the intertemporal nature of all debt-related decisions.

The second objective was to propose policies and policy frameworks that might help to remedy the imbalances. The New Zealand macroeconomic policy framework was considered to be broadly sound and there was no consensus

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<sup>14</sup> Details of the core funding ratio can be found at <http://www.rbnz.govt.nz>

<sup>15</sup> See <http://www.rbnz.govt.nz/finstab/banking/4430900.html>

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that a radical overhaul of the macroeconomic policy framework would improve macroeconomic outcomes. However, the conference did identify a wide range of policies that could affect macroeconomic imbalances, ranging from fiscal policy and fiscal institutions, structural policies aimed at growth, through to macro-prudential policies aimed at influencing the behaviour of financial institutions.

Much work remains to be done to identify specific policies that would improve outcomes. There was, however, a consensus that fiscal consolidation – paying down public debt and perhaps ultimately accumulating assets – would be beneficial, given ongoing global uncertainties and concerns about New Zealand's sovereign credit rating. However, New Zealand's external imbalances are deeply connected to private sector behaviour, and policy-makers must therefore also consider the incentives faced by households and firms to save and invest.

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