

# **New Zealand's net foreign liabilities: What lies beneath, and ahead?**

**A speech delivered to MOTU, at the Royal Society of New Zealand, Wellington**

**On 17 July 2017**

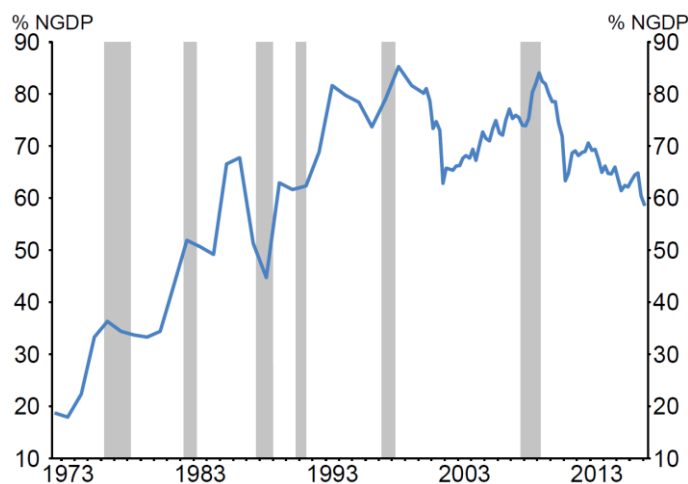
**By Geoff Bascand, Deputy Governor<sup>1</sup>**

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<sup>1</sup> I am very grateful to Rebecca Williams for her considerable help in the preparation of this speech, along with assistance from Sarah Drought and other Bank colleagues.

New Zealand's net foreign liabilities (NFL) – what we owe the rest of the world, broadly speaking – reached nearly 85 percent of GDP at the start of 2009. Eight years later, they sit at 58.5 percent of GDP, their lowest level since the late-1980s (figure 1). Today I'm going to put this improvement into some international and domestic context. I'll discuss some of the reasons for the improvement, and offer some thoughts on how sustainable the improvement might be.

**Figure 1: New Zealand's NFL since 1972 (share of annual GDP, recessions indicated by grey bars)**

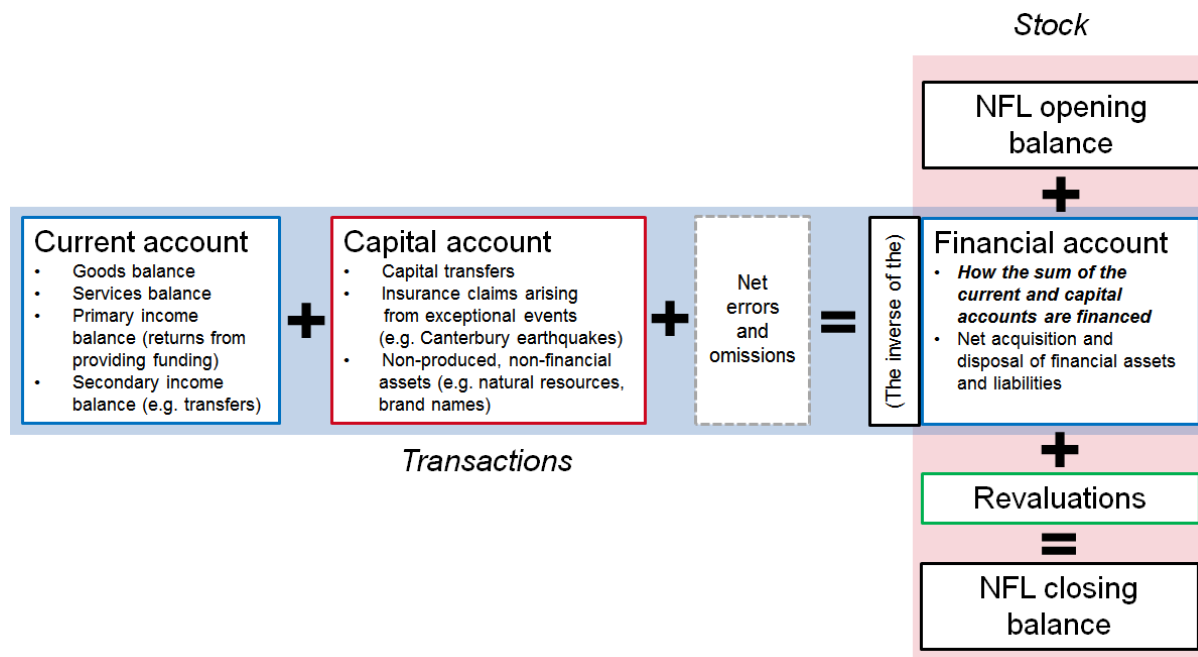


**Source:** Statistics New Zealand, RBNZ estimates, Lane and Milesi-Ferretti (2007) for data prior to 1989. Recessions based on estimates by Hall and McDermott (2016).

What are 'net foreign liabilities', and why should New Zealanders care about them? Essentially, one can think of NFL as being New Zealand's net external debt. NFL are the difference between what we owe the rest of the world (our liabilities) and what the rest of the world owes us (our assets).<sup>2</sup> These assets and liabilities include equity (direct investment in companies, for example) and debt (e.g. loans), but in New Zealand's case in net terms they are largely made up of debt (55 percent of GDP). NFL change through our transactions with the rest of the world and through revaluations of the stock of assets or liabilities (figure 2 provides an overview of these dynamics). Most of our international transactions are through the current account, which essentially reflects the difference between what people in New Zealand save (current income less current expenditure) and invest. Nationally, we've invested more than we've saved, with the difference being met by the savings of non-residents. This has accumulated into a large NFL position over several decades.

<sup>2</sup> Statistics New Zealand terms net foreign liabilities as the net international investment position (NIIP). Since New Zealand's NIIP is negative, we describe it as net foreign liabilities.

Figure 2: The external accounts



**Source:** Adapted from Statistics New Zealand.

Borrowing from the rest of the world isn't automatically 'bad'. It can be a good thing if it leads to productive investment that enhances New Zealand's economic performance and leads to high per-capita incomes over time, but debt-fuelled consumption is less sustainable.<sup>3</sup> However, relying on non-residents to fund our level of investment makes us vulnerable to changes in the availability or cost of that funding.<sup>4</sup> That vulnerability may be exposed in times of acute financial stress – triggered by global or domestic events – if non-residents become much less willing to provide funding. For example, we saw during the Global Financial Crisis (GFC) how quickly previously liquid sources of funding dried up, with access to funding cut off or available only at much higher interest rates. Because financial intermediaries – particularly banks – facilitate most of the financial flows between New Zealand and the rest of the world, high levels of offshore debt increase the risk that the

<sup>3</sup> Measurement of net foreign liabilities should not be confused with measures of net worth. New Zealand's notional balance sheet is a much more comprehensive concept that would include tangible, intangible, and contingent assets and liabilities, such as physical assets/liabilities (e.g. roading, housing, plant and machinery, disaster risks), natural assets (e.g. land, water and atmospheric emissions), human capital and social capital (e.g. legal and communal). New Zealand's NFL reflects cross-border investments in, and income and debt servicing flows associated with, these assets and liabilities. For the household sector alone, net worth as at December 2016 is estimated at \$1,365 billion. This comprises financial assets of \$801 billion (which includes net equity in rental properties held by unincorporated businesses) and non-financial assets (owner-occupied housing and land) of \$758 billion, offset by financial liabilities of \$195 billion.

<sup>4</sup> See Steenkamp (2010) and Smith (2011) for further discussion of the vulnerability arising from high net foreign liabilities, and the importance of the composition of the gross positions underlying it.

banking sector and financial system more broadly come under pressure in times of financial stress. In that type of situation, the Reserve Bank would act in the usual way, providing liquidity to the banking sector, and lowering the Official Cash Rate to mitigate the impact on interest rates faced by households and businesses in order to meet our inflation target. Nonetheless, households and businesses might still have difficulty in accessing finance. Of course, just how vulnerable we are is also influenced by the type of offshore funding – with equity generally seen as less risky than debt – and by the maturity and currency denomination of that funding.<sup>5</sup> Our floating exchange rate would also act as a buffer in the event of deterioration in market sentiment.

### **How significant is the improvement in New Zealand's NFL?**

In dollar terms the value of NFL has not fallen substantially – it stood at NZ\$159 billion in March 2009, and at NZ\$155 billion in March 2017. But relative to GDP, over the same period, NFL fell by 25 percentage points, from nearly 85 percent to just below 60 percent. How does this improvement compare to other countries?

Figure 3 illustrates that New Zealand's improvement is unexceptional amongst the advanced economies shown.<sup>6</sup> That several other countries have seen an improvement could reflect common/global factors such as low rates of investment since the GFC,<sup>7</sup> and lower global interest rates. An improvement across many economies also implies deterioration in the position of others (as conceptually the NFL positions of all countries should sum to zero).

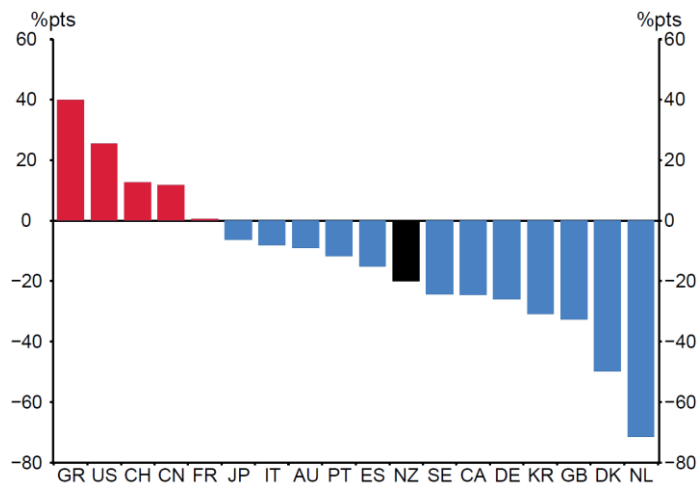
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<sup>5</sup> Hargreaves and Watson (2011) discuss some of these mitigating factors, such as New Zealand's liabilities largely either being denominated in domestic currency or hedged so that they effectively are.

<sup>6</sup> Other advanced economy central banks have also recently investigated changes in their external positions since the GFC. See Bruneau, Leboeuf and Nolin (2017) and Debelle (2017) for Canada and Australia respectively.

<sup>7</sup> Bascand (2016), "Changing dynamics in household behaviour: what do they mean for inflationary pressure?"

Figure 3: Change in NFL between December 2009 and December 2016 (percentage points of GDP)

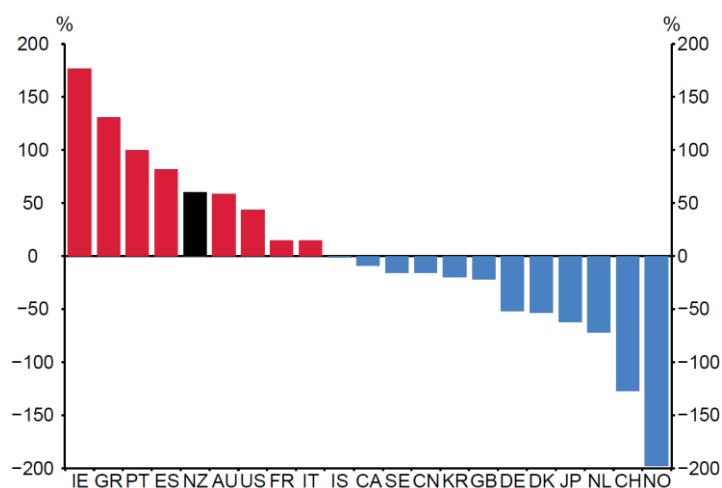


**Source:** IMF, Statistics New Zealand, Ireland Central Statistics Office, Statistics Norway, RBNZ estimates.

**Note:** A decline in NFL is equivalent to an increase in the net international investment position (NIIP) and vice versa. The China value is the change in NFL between December 2010 and December 2016, due to comparable IMF data being unavailable prior to 2010.

New Zealand's NFL relative to GDP remains large compared to that of many advanced economies, albeit similar to that of Australia and the United States (figure 4).

Figure 4: NFL as at the December 2016 quarter (share of annual GDP)



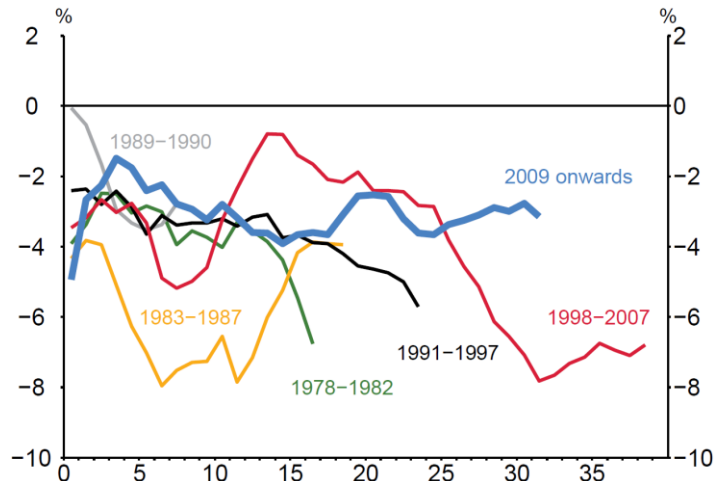
**Source:** IMF, Statistics New Zealand, RBNZ estimates.

**Note:** A negative NFL position (shown in blue) is equivalent to a positive NIIP.

While the improvement in our NFL is moderate by international standards, it is unusual when compared to New Zealand's experience in past expansions. Changes of a similar magnitude have been seen in the past, but have been partially reversed by this point in the economic

cycle. In the current expansion the current account deficit has remained fairly stable relative to GDP, whereas it had usually begun to widen at this point in previous expansions (figure 5). Indeed, reflecting these episodes, the Bank and others had been forecasting the current account deficit to widen throughout most of the post-GFC period (figure 6).

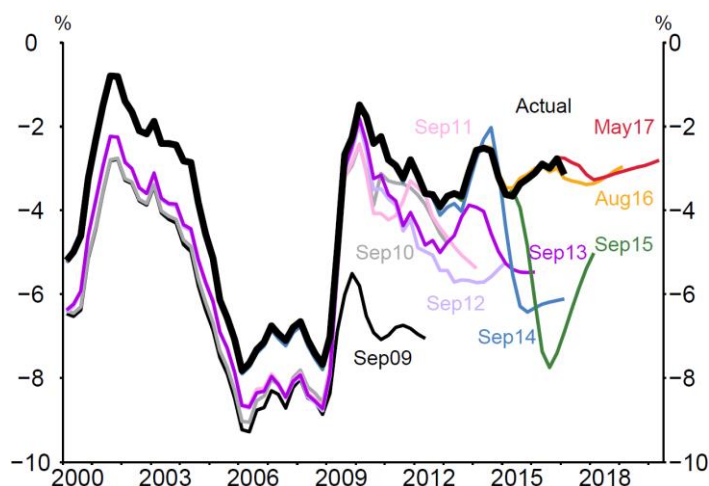
**Figure 5: Current account over GDP expansions (annual total, share of GDP)**



**Source:** Statistics New Zealand, RBNZ estimates.

**Note:** Expansions based on estimates from Hall and McDermott (2016), with data shown as quarters from the trough. Comparisons with earlier expansions are complicated by significant structural changes – for example, restrictions on New Zealand's then capital account (now known as the financial account) were removed at the end of 1984, and the exchange rate was floated in early 1985.

**Figure 6: RBNZ current account forecasts (annual total, share of GDP)**



**Source:** Statistics New Zealand, RBNZ estimates.

**Note:** This figure includes any statistical revisions to the current account.

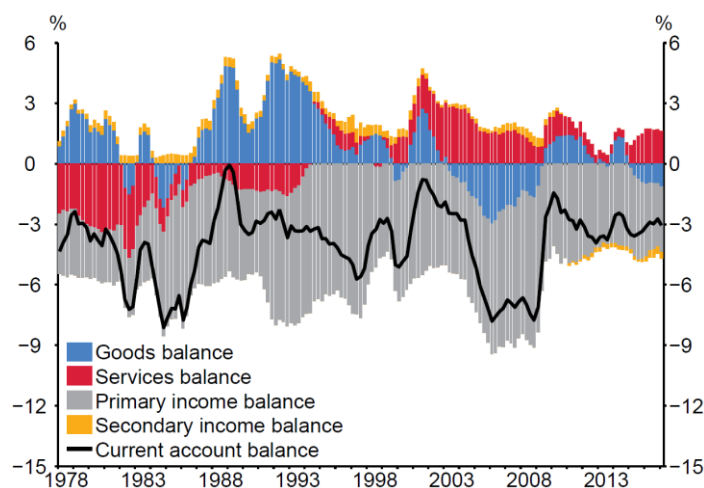
## What accounts for the improvement in our NFL position?

Understanding what has driven the improvement can help us assess how sustainable the improvement might be. I will explore this through two lenses: a balance of payments perspective and a saving and investment perspective.

### (i) Balance of payments perspective

A balance of payments perspective reveals that much of the improvement in our NFL can be accounted for by lower interest payments on our debt, the recent strength in tourism and education exports, and favourable net revaluations. Figure 7 decomposes the current account balance into the goods, services and investment income balances (primary and secondary – see figure 2 or the note below figure 7).

Figure 7: Current account decomposition (annual total, share of GDP)



**Source:** Statistics New Zealand, RBNZ estimates.

**Note:** The primary income balance includes transactions such as interest payments, dividends from owning shares and profits from directly owning a company; the secondary income balance includes current transfers such as taxes and donations.

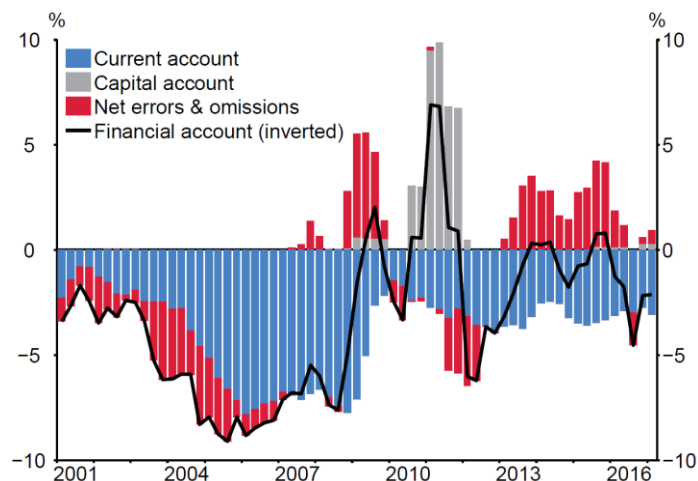
The narrowing of the primary income deficit (which reflects what we are repaying/paying non-resident lenders and investors) as a share of GDP since the GFC is a key reason why the current account deficit has not widened as in the past. Since 2009, the primary income deficit has averaged just over 4 percent of GDP (and has been closer to 3 percent more recently) – a marked improvement from the average deficit of nearly 6 percent over the previous decade. This improvement mainly reflects reduced interest payments offshore, as global interest rates have fallen and have remained low and the stock of our external debt

has fallen as a share of GDP. In contrast, the income New Zealand has earned from investment abroad (an inflow) has been stable relative to GDP.

In the years following the GFC, the improvement in the goods balance also contributed to the narrowing of the current account deficit, supported by the recovery in the terms of trade (the price of our exports relative to our imports). Although the annual goods balance has been in deficit over the past two years – but not to the same extent as prior to the GFC – it has been more than offset by an improvement in the services balance (figure 7). This improvement is due to the strong performance of the tourism and education export sectors.

While most of our international transactions occur through the current account, there are other channels. For example, offshore insurance claims arising from the Canterbury earthquakes resulted in a large increase in the capital account in 2010/11 (figure 8).<sup>8</sup> Between 2013 and 2015, net errors and omissions also played a large role. This can be due to coverage issues (it may take some time for new firms to be captured in surveys) or measurement errors (misreporting by survey respondents, or errors during compilation). A risk is that these net errors and omissions reflect an inflow of non-resident funding not captured in the financial account, which would imply a larger NFL position than current data suggest.

**Figure 8: Decomposition of the financial account (annual total, share of GDP)**



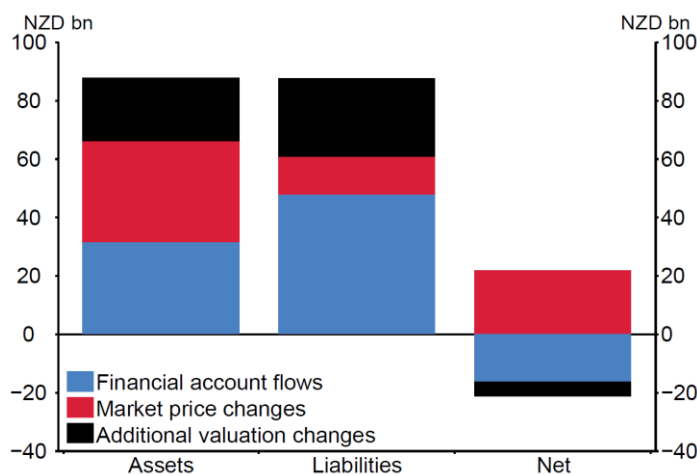
**Source:** Statistics New Zealand, RBNZ estimates.

<sup>8</sup> While this resulted in a material improvement in NFL immediately following the earthquakes, it was subsequently unwound through the current account as reconstruction took place. Statistics New Zealand (2011) explains how the insurance claims arising from the Canterbury earthquakes have been treated in the international accounts.



Our NFL position can also be significantly affected by revaluations of the stock of domestic and foreign assets and liabilities. Figure 9 shows the cumulative value of transactions (through the financial account) together with revaluations between March 2009 and March 2017. This figure highlights that revaluations caused by market price changes have played a large role in how our NFL position has evolved since 2009. In particular, the market values of our foreign assets were revised higher to a much greater extent than our foreign liabilities, resulting in a positive net valuation effect. That likely reflects the relatively sharp increase in global equity markets over this period (including relative to New Zealand), and the fact that equity accounts for a higher share of New Zealand's foreign assets than foreign liabilities. Were it not for these favourable revaluations, our NFL as a share of GDP would have been about 8 percentage points larger.

**Figure 9: Cumulative contributions of financial account flows and revaluations to New Zealand's NIIP, March 2009 to March 2017**



**Source:** Statistics New Zealand, RBNZ estimates.

**Note:** Additional valuation changes include exchange rate changes, financial derivative valuation changes and other valuation changes.

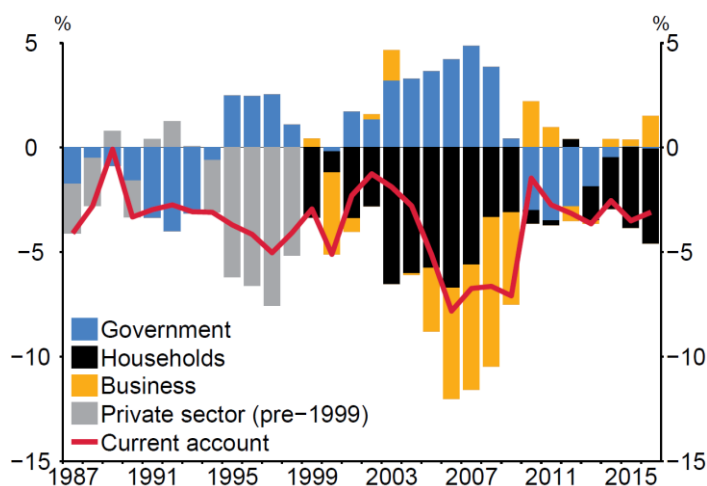
## (ii) Saving and investment perspective

Figure 10 illustrates the contributions of the government, household and business sectors to the current account.<sup>9</sup> Underlying these contributions is what I'll refer to as net saving – the

<sup>9</sup> Recent statistical developments, including the release of institutional sector accounts, have supported better understanding of sectoral contributions. 'Business' includes producer enterprises (corporate and non-corporate), private non-profit institutions serving households and financial intermediaries. Producer enterprises make up most of the gross saving and investment in 'business'.

difference between gross saving and investment in each sector.<sup>10</sup> Overall, improved contributions from the business and government sectors have offset the widening gap between household saving and investment in recent years.

Figure 10: Sectoral contributions to the current account (March year, share of GDP)



**Source:** Statistics New Zealand (Income and Expenditure account), RBNZ estimates.

**Note:** (1) Income and Expenditure data by sector is available only to March 2016. Within this, business sector data is only available to March 2015, so the March 2016 contribution is estimated as a residual; (2) consistent gross saving and investment data for non-government sectors are only available from 1999, so their contribution is captured in the 'private sector' data prior to this.

During the mid-2000s, the imbalance in the saving and investment positions of the household and business sectors weighed heavily on the current account, whereas the net saving of the general government sector provided some offset. While investment by the household and business sectors increased only modestly as a share of GDP over this period, the saving of each sector declined by over 5 percentage points of GDP. The result was a large saving-investment gap that needed to be met by external funding.

Since 2009, the business sector has provided a small boost to the current account. This has largely been due to increased saving as a share of GDP, although investment as a share of GDP remains lower than in the mid-2000s. The government sector net saving position began

<sup>10</sup> Technically the difference between gross saving and investment is referred to as net lending, and it captures current and capital transactions. Capital transactions have been removed from this chart to illustrate the contributions of each sector to the current account only. The capital account is almost entirely dominated by insurance flows resulting from the Canterbury earthquakes. Note that I use the term 'net saving' differently to Statistics New Zealand that defines net saving as gross saving less consumption of fixed capital.

to reverse in the aftermath of the GFC, due to the fiscal stimulus provided during the recession and following the Canterbury earthquakes in 2010/11. Since 2012, government investment has remained steady as a share of GDP, and along with the gradual fiscal consolidation has meant that the government's contribution to the current account has improved from being negative to neutral currently.

Increased saving and lower investment by the household sector after the GFC meant that the sector's contribution to the current account was fairly neutral until 2012. Since 2013, the household sector's net saving position has reversed (due to both a decline in saving and an increase in investment) and the sector's imbalance is again weighing on the current account. In part, this may reflect the positive supply shock from high levels of migration, which raises the demand for capital and thereby would be expected to boost investment (by both households and businesses) relative to saving in the short term.

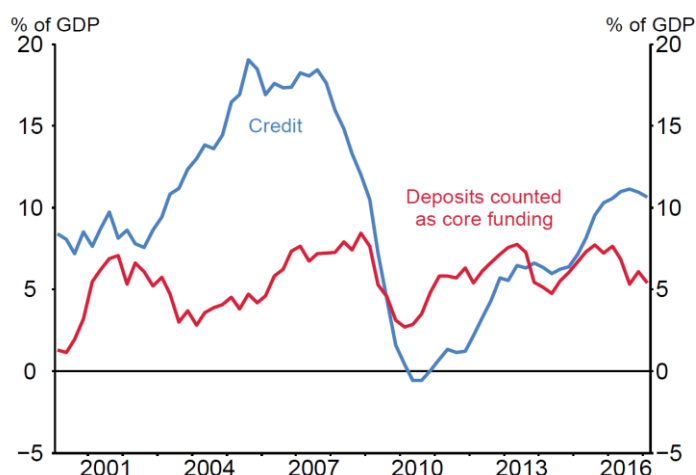
### **What might the improvement in New Zealand's NFL position mean for the Bank?**

From a financial stability standpoint, the reduction in NFL-GDP has helped lower risks to the financial system. That's because financial intermediaries – particularly banks – facilitate most of the financial flows between New Zealand and the rest of the world, accounting for most of the offshore borrowing. Banks decide how much credit to provide to households and businesses, how to fund the provision of credit, and how much to charge relative to their cost of funding. As the predominant financial intermediaries, banks have accounted for much of the reduction in NFL-GDP since 2009, as credit growth was funded to a greater extent by domestic deposits than was the case prior to the GFC (figure 11).<sup>11</sup>

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<sup>11</sup> The acceleration in deposit growth post-GFC was boosted by insurance inflows from the Canterbury earthquakes.

Figure 11: Annual increase in credit and deposit funding



**Source:** Statistics New Zealand, RBNZ SSR, RBNZ liquidity survey.

**Note:** Deposits counted as core funding includes haircuts made as part of the liquidity policy, which increase according to the size of the deposit.

It remains unclear how much of the reduction in NFL as a share of GDP reflected changes in bank behaviour and how much reflected lower demand for credit. Banks actively reduced reliance on offshore funding – particularly at short maturities<sup>12</sup> – in order to reduce risk and respond to regulatory changes (such as the liquidity policy introduced by the Bank in 2010). However, lower demand for credit and relatively strong growth in retail deposits also meant that less offshore funding was required in the wake of the GFC. Taken together, the reduced reliance on offshore funding and the lengthening maturity of banks' offshore borrowing have helped reduce the risks to the financial system from a funding shock.

Since a large NFL position generally makes the economy more vulnerable to domestic and global shocks, the improvement in our NFL-GDP after 2009 suggests that New Zealand might have become a slightly less risky proposition for overseas lenders and investors. However, the perceived riskiness of the New Zealand economy and its institutions should be reflected in its credit ratings, which have not yet improved.<sup>13,14</sup> In part, this reflects that the reduction in New Zealand's NFL-GDP is average compared to other countries, and the absolute level remains high. In theory, lower perceived risk would put downward pressure on the risk premium component of interest rates that New Zealand faces on its external

<sup>12</sup> The share of New Zealand's non-equity liabilities with residual maturity of one year or less declined from over 50 percent just prior to the GFC to 31 percent in the March 2017 quarter.

<sup>13</sup> See Widdowson and Wood (2008) for discussion on credit ratings.

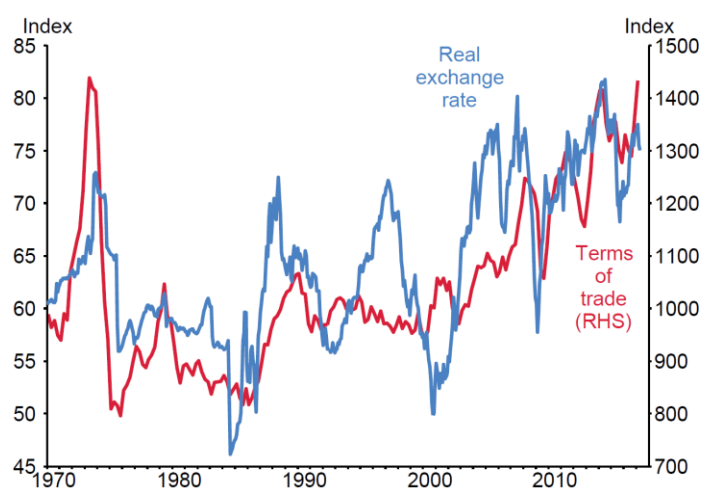
<sup>14</sup> New Zealand's sovereign credit rating has been stable since a downgrade by two rating agencies in 2011. The credit ratings of New Zealand's four largest banks were also downgraded by two rating agencies in 2011, with a further downgrade by one agency in June 2017 as a result of the downgrade to their Australian parent banks.

funding.<sup>15</sup> However, the effect is likely to be small compared to all of the other factors that influence New Zealand's interest rates, and in practice it is very difficult to identify such effects – especially in a world of quantitative easing and other unconventional policies.

To the extent that the lower NFL position reflects an enduring improvement in New Zealand's savings-investment balance, there are wider impacts. If sustained, higher domestic savings relative to investment demands would help to lower New Zealand's neutral real interest rate. Estimates of neutral rates have been declining internationally (including in New Zealand) in response to changes in saving and investment trends since the GFC.

A striking feature of the improvement in New Zealand's NFL relative to GDP since 2009 is that it has occurred despite the real exchange rate being high over much of this period compared to previous expansions.<sup>16</sup> We typically expect a higher real exchange rate to contribute to a widening of the current account deficit, as exports become less competitive and lower import prices encourage substitution away from domestically produced goods and services. However, the strength of the real exchange rate since 2010 is partly related to the increase in the terms of trade over this period (figure 12), which provided some offset to the dynamics noted above.

**Figure 12: Real TWI and the merchandise terms of trade (OTI)**



**Source:** RBNZ (real analytical TWI 17 post-1984, real analytical TWI 5 pre-1984), Statistics New Zealand.

The improvement in NFL-GDP suggests that the exchange rate may be more sustainable than previously assumed. However, the improvement has been from a very high starting

<sup>15</sup> See Orr, Edey and Kennedy (1995) and OECD (2013).

<sup>16</sup> See figure 5 in Williams (2017).

point. NFL-GDP near 60 percent remains high by international standards, and continues to be a concern of rating agencies, especially given our exposure to commodity exports that can be subject to large price swings. There are a number of ways to look at whether a real exchange rate is in equilibrium, including the assessment from various models, and whether growth and debt servicing paths are sustainable. One model (of several) the Bank uses is the macro-balance model, which assesses the degree to which the exchange rate is currently too high or low in order to stabilise NFL-GDP at its current level.<sup>17</sup> This model indicates that the current level of the real exchange rate is consistent with NFL remaining at about 60 percent of GDP, given the Bank's medium-term outlook for key economic variables (including a continuing upward trend in the terms of trade and a slight improvement in the household saving rate). However, it yields no further reduction from the current NFL-GDP level. A lower New Zealand dollar would be needed to lower NFL-GDP and our external vulnerabilities further. Indeed, from a growth point of view, a lower exchange rate would help rebalance growth towards the tradables sector, especially as not all traded industries are benefitting from the current high terms of trade.

### **How sustainable do we believe the improvement in New Zealand's NFL position might be?**

Turning from the past to the future, where might New Zealand's external position head from here?

Our current medium-term forecast (from the May 2017 *Monetary Policy Statement*) has NFL-GDP remaining at about its current level of just below 60 percent over the forecast horizon (to 2020). Many assumptions about the domestic and global economy underlie this forecast; some of the most relevant are that:

- the terms of trade continues its gradual upward trend;
- exports of services continue to increase at the same rate as GDP;
- the implied interest rate on our foreign debt increases only gradually, and remains below its pre-GFC peak;
- annual household consumption growth moderates gradually over the medium term, and is outpaced by income growth (implying a slight improvement in the household saving rate); and,
- nominal business investment remains low as a share of GDP.

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<sup>17</sup> Graham and Steenkamp (2012) provide an updated description of the RBNZ's macro-balance model of the exchange rate, which was previously presented in Brook and Hargreaves (2000).

The Bank has used scenario analysis to test the sensitivity of the NFL-GDP outlook to changes in these (and other) assumptions, through the lens of its main forecasting model, NZSIM.<sup>18</sup> Running a series of scenarios, each with various adjustments (either higher or lower) to the main forecast assumptions listed above,<sup>19</sup> doesn't imply a dramatic change to our NFL-GDP forecast. It would require a combination of these factors, moving NFL in the same direction, to see a material change in the medium-term outlook.

That said, NZSIM is a business cycle model designed to aid the Bank in its monetary policy formation and communications, and is not naturally well-suited to assessing longer-term or structural issues such as NFL sustainability. Another way to consider the sustainability of the improvement is by looking at some of the broader risks around it. Over history, the underlying factor behind large changes in NFL appears to be big swings in the saving and investment behaviour of the various sectors. For example, the sharp deterioration in New Zealand's NFL position in the first half of the 1990s occurred at a time of declining government saving (that resulted in large fiscal deficits) and a surge in private-sector investment.<sup>20</sup> The mid-2000s also saw NFL rise notably as a share of GDP and, as noted earlier, this was a period of declining saving from both the household and business sectors. Revaluations also play a role in changes in NFL over time, with their importance increasing as the stock grows larger.<sup>21</sup>

In the absence of a large economic shock, we can be fairly confident that government will provide a positive contribution to New Zealand's current account going forward. The main political parties are committed to prudent fiscal management. The Government plans to reduce its net debt from about 24 percent of GDP currently to between 10 and 15 percent of GDP over the long term,<sup>22</sup> and the Labour Party's stated objective is to reduce net debt to 20 percent of GDP within five years if elected.<sup>23</sup>

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<sup>18</sup> See Austin and Reid (2017) for a description of NZSIM.

<sup>19</sup> For example, the terms of trade being 5 percent higher or lower than assumed in the *May Statement*, or the implied interest rate on NFL rising back to its 2003-08 average.

<sup>20</sup> The earlier liberalisation of capital flows and easing of restrictions on foreign investment played an important role in facilitating the rise in investment in the 1990s. Given New Zealand's historically low savings rate, it seems unlikely that the surge in investment could have been funded from domestic sources. See Brook, Collins and Smith (1998).

<sup>21</sup> Fidora, Schmitz and Tcheng (2017) examined 138 episodes of sizeable NFL reductions across advanced and emerging economies to identify the factors underlying those reductions that were sustained over the medium term. The authors conclude that sustained reduction in NFL is more likely for advanced economies when a current account surplus and strong real GDP growth are experienced.

<sup>22</sup> Fiscal Strategy Report, published 25 May 2017. The Government intends to be within the 10-15 percent of GDP band by 2025.

<sup>23</sup> Labour and Greens Party Budget Responsibility Rules in government after the 2017 election, accessed at <http://www.labour.org.nz/budgetresponsibility>.

The business sector has been providing a small boost to the current account in recent years mostly through an increase in saving as a share of GDP. Business investment relative to GDP has remained broadly stable. While this dynamic has contributed to the narrowing of New Zealand's current account deficit, it may not necessarily be a desirable feature over the longer term. Lower business investment as a share of the economy would likely lead to a deterioration in the capital stock and lower growth in productivity. Over the long term, such a development would lower potential GDP growth and could result in a higher NFL-GDP ratio as actual GDP growth slowed.

A key source of risk surrounding the outlook for New Zealand's NFL – and the economy and financial system more widely – is the saving and investment behaviour of households. Real household consumption has been less responsive to housing wealth since the mid-2000s, and household consumption was weaker than the Bank anticipated in recent years, particularly on a per capita basis.<sup>24</sup> However, household spending has been much stronger in the past few quarters, and recent downwards revisions to household saving estimates<sup>25</sup> have led to a widening of the household sector's saving-investment gap (as seen in figure 10).

Much of the investment undertaken by the household sector is in the form of new house builds and renovations to existing homes.<sup>26</sup> If the housing demands associated with population pressure and existing shortages cannot be met by increased household sector or domestic saving more broadly, it will be reflected in a deterioration in our NFL position.

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<sup>24</sup> Bascand (2016) and Wong (2017).

<sup>25</sup> These downward revisions were included in the annual Income and Expenditure accounts for the year to March 2016. Household saving was revised significantly lower for the years 2013 to 2015, in part due to a correction in how income was allocated across sectors (the income was reallocated from the household to the business sector).

<sup>26</sup> Purchase of existing homes is not regarded as investment by the household sector as a whole, as buying and selling of existing homes is a transfer between households.



This brings me to my final observation, which is the role the financial system plays in these dynamics. Domestic deposit growth has slowed over the past year and continues to be outpaced by credit growth, meaning the banking system's exposure to offshore funding markets has increased recently, albeit at longer maturities. If the gap between credit and deposit growth is sustained, banks will likely become more dependent on offshore markets to sustain credit growth and replace expiring funding. However, banks have recently begun to compete more aggressively for deposits and tighten lending standards, which should help alleviate offshore funding pressures and prevent a significant increase in NFL. The Bank will be following closely the extent to which banks:

- source required funding domestically (which could be driven by 'sector-led' behaviour and/or the incentives provided by higher deposit rates);
- tighten lending standards to constrain credit growth; or
- return to a situation similar to that of the previous expansion, when banks met demand for credit through increasing reliance on offshore funding.

## **Conclusion**

In summary, the large improvement in New Zealand's NFL-GDP since 2009, and the stability of the current account deficit through a prolonged expansion, provide tentative evidence of reduced vulnerability of the New Zealand economy and the sustainability of the current growth phase. New Zealand's reliance on offshore funding has fallen over the past decade, and the maturity of bank borrowing has lengthened, reducing the risks from a funding shock. The macroeconomic factors that have driven the improvement in our NFL position are varied, some potentially more transient or fortuitous than others. At least in part, however, it reflects a lower saving-investment imbalance, relative to the mid-2000s. Looking ahead, it appears that it would take a combination of factors, working together, to see NFL-GDP diverge materially from its current level of about 60 percent.

That said, we have seen big changes in NFL-GDP in the past, and these appear to have been driven by large swings in the saving and investment behaviour of the various sectors. Significant uncertainty remains regarding household behaviour and the contribution of the sector to New Zealand's saving-investment gap, and the extent that banks as intermediaries might increase their reliance on offshore funding. As always, the Bank will be monitoring these developments closely. We welcome the improvement in New Zealand's NFL position since the GFC, but do not see it is a reason to become complacent.

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