INTERNATIONAL MONETARY FUND

IMF Country Report No. 17/111

NEW ZEALAND

May 2017

2017 ARTICLE IV CONSULTATION—PRESS RELEASE; STAFF REPORT; AND STATEMENT BY THE EXECUTIVE DIRECTOR FOR NEW ZEALAND

Under Article IV of the IMF's Articles of Agreement, the IMF holds bilateral discussions with members, usually every year. In the context of the 2017 Article IV consultation with New Zealand, the following documents have been released and are included in this package:

- A **Press Release** summarizing the views of the Executive Board as expressed during its May 3, 2017 consideration of the staff report that concluded the Article IV consultation with New Zealand.
- The **Staff Report** prepared by a staff team of the IMF for the Executive Board's consideration on May 3, 2017, following discussions that ended on March 8, 2017, with the officials of New Zealand on economic developments and policies. Based on information available at the time of these discussions, the staff report was completed on April 18, 2017.
- An **Informational Annex** prepared by the IMF staff.
- A **Statement by the Executive Director** for New Zealand.

The document listed below will be separately released.

Financial Stability System Assessment

The IMF's transparency policy allows for the deletion of market-sensitive information and premature disclosure of the authorities' policy intentions in published staff reports and other documents.

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May 8, 2017

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700 19th Street, NW
Washington, D. C. 20431 USA

IMF Executive Board Concludes 2017 Article IV Consultation with New Zealand

On May 3, 2017, the Executive Board of the International Monetary Fund (IMF) concluded the Article IV Consultation[1] with New Zealand.

Since early 2011, New Zealand has enjoyed an economic expansion that has gained further broad-based momentum in 2016, with GDP growth accelerating to 4 percent, and the output gap roughly closing. Reconstruction spending after the 2011 Canterbury earthquake was an important catalyst, but the expansion has also been supported by accommodative monetary policy, a net migration wave, improving services exports, and strong terms of trade. Some weakening of the momentum in the fourth quarter of 2016, due to softer private consumption and a sharp drop in exports, is expected to be only temporary, with growth rebounding and then moderating toward trend in the medium term as in particular net migration normalizes.

The unemployment rate fluctuated around the natural rate of unemployment of 5 percent in 2016, as strong employment growth absorbed the migration-induced increase in the labor force. While the latter also contained wage pressures, headline inflation edged up, into the Reserve Bank of New Zealand (RBNZ)'s target range of 1 to 3 percent, driven both by tradable and non-tradable price dynamics. Going forward, inflation is expected to stabilize at the midpoint of the target range.

The current account deficit has remained generally below its longer-term average in the expansion. It is assessed to be moderately below its fundamental level, with the exchange rate moderately overvalued. The net foreign liability ratio, among the highest in advanced economies, has been broadly stable. Commercial banks intermediate much of the foreign liabilities domestically, and the fact that the four biggest banks are subsidiaries of large Australian banks contributes to stable external funding.

[1] Under Article IV of the IMF's Articles of Agreement, the IMF holds bilateral discussions with members, usually every year. A staff team visits the country, collects economic and financial information, and discusses with officials the country's economic developments and policies. On return to headquarters, the staff prepares a report, which forms the basis for discussion by the Executive Board.

With strong economic expansion and rapid labor force growth, housing markets have remained buoyant. Real house prices increased by more than 10 percent in 2016, and housing credit growth has remained strong as well. Loan characteristics are mixed: while loans with high loan-to-value ratios have decreased, debt-to-income ratios for new loans have gone up. Household savings have fallen along with rising household wealth, and the household debt-to-income ratio stands at 168 percent. Tighter macroprudential policies, higher interest rates, lower rates of net migration, and increasing housing supply should help moderate house price inflation and stabilize household debt vulnerabilities in the medium term.

Monetary policy remains accommodative, with the RBNZ lowering the policy rate in three 25 basis point steps to 1.75 percent in 2016. The counter-cyclical fiscal stance going forward will balance the macroeconomic policy mix, and the fiscal position is expected to strengthen further, with net debt decreasing to below 20 percent of GDP in 2020/21. And a third round of macroprudential measures has likely been the main driver for some cooling in housing market conditions toward the end of 2016.

Executive Board Assessment[2]

Executive Directors welcomed New Zealand's continued solid growth performance underpinned by strong construction activity, an accommodative monetary policy, and high net migration. Directors noted that growth is expected to stay above trend in the near term before gradually moderating. They saw risks as broadly balanced with upside risks largely related to strong net migration. However, they noted that downside risks stemming from a booming housing market, as well as the potential for tighter external financial conditions, lower demand from trading partners, or disruptions to international trade have increased vulnerabilities. They endorsed the authorities' flexible exchange rate policy and overall macroeconomic policy stance. Directors agreed that going forward priority should be placed on strengthening macrofinancial resilience and harnessing the opportunities provided by strong economic and population growth.

Directors concurred that the current accommodative monetary policy stance is appropriate for addressing low inflation. They welcomed the Reserve Bank of New Zealand's (RBNZ) readiness to adjust policy in either direction if warranted by new developments.

Directors welcomed the authorities' continued focus on strengthening fiscal buffers while investing in infrastructure and other growth-friendly initiatives. Looking ahead, they supported the planned slightly contractionary stance as it would help balance the macroeconomic policy mix in an economy that is operating broadly at capacity.

[2] At the conclusion of the discussion, the Managing Director, as Chairman of the Board, summarizes the views of Executive Directors, and this summary is transmitted to the country's authorities. An explanation of any qualifiers used in summings up can be found here: http://www.imf.org/external/np/sec/misc/qualifiers.htm.

Directors agreed that New Zealand's banking system remains sound and resilient to severe shocks, as reflected in the Financial Sector Stability Assessment (FSSA). They noted that a broadening of the macro-prudential toolkit would help the RBNZ in managing housing-related macrofinancial risks, and suggested that an instrument related to debt-to-income ratios would directly target an important dimension of household-related risks to financial stability. The new instrument should be activated if the effects of the most recent macroprudential package on credit growth prove to be temporary.

Directors encouraged the authorities to pursue the structural upgrades to oversight and crisis resolution regimes recommended in the FSSA. Increasing the weight of regulatory discipline relative to self and market discipline in New Zealand's three-pillar approach to bank and insurance supervision and enhancing the credibility of the Open Bank Resolution framework, among other measures, would add to financial system resilience.

Recognizing the steps being taken by the authorities to address the demand-supply imbalance in housing markets, Directors generally highlighted that further tax measures related to housing could be considered to reduce incentives for leveraged real estate investments by households. Such measures could help redirect savings to other, potentially more productive, investments and, thereby, support deeper capital markets.

Directors agreed that measures to lift potential growth should focus on leveraging the benefits from high net migration and interconnectedness. Implementing productivity-enhancing tax reforms and ensuring additional support for innovation could provide a basis for further diversification.

Table 1: Main Economic Indicators, 2010-2022

(Annual percent change, unless otherwise indicated)

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
								Projections					
NATIONAL ACCOUNTS													
Real GDP (production)	1.7	1.8	2.5	2.2	3.4	2.5	3.1	3.1	3.0	2.6	2.6	2.6	2.5
Real GDP (expenditure)	2.0	1.9	2.5	2.1	2.8	3.1	4.0	3.1	2.9	2.6	2.6	2.6	2.5
Domestic demand	3.7	3.3	2.8	3.6	4.2	2.2	4.7	4.3	3.2	2.8	2.7	2.7	2.7
Private consumption	3.1	2.7	2.7	3.3	3.1	2.9	4.2	4.1	3.5	3.2	3.1	3.1	3.1
Public consumption	0.4	2.8	-0.5	1.4	3.3	2.6	2.3	1.6	0.8	0.8	0.8	0.8	0.8
Investment	8.4	5.3	6.5	6.8	9.9	0.7	6.5	5.4	4.3	3.4	3.2	3.1	3.0
Public	2.5	0.8	-6.9	6.7	10.7	5.4	0.8	2.4	1.4	1.1	1.0	1.0	1.0
Private	-0.3	9.0	11.7	8.5	7.6	0.9	7.5	7.0	5.6	4.2	3.9	3.8	3.7
Private business	-0.9	13.4	10.2	4.5	6.0	0.4	5.7	7.9	5.8	4.1	4.1	4.1	4.1
Dwelling	0.9	-0.2	15.3	17.5	10.9	2.0	11.0	5.5	5.1	4.5	3.7	3.2	3.0
Inventories (contribution to growth, percent)	1.5	-0.2	0.1	-0.2	0.4	-0.3	0.2	-0.1	0.0	0.0	0.0	0.0	0.0
Net exports (contribution to growth, percent)	-1.9	-1.3	-0.3	-1.6	-1.6	0.8	-0.9	-1.1	-0.5	-0.4	-0.3	-0.3	-0.3
Real gross domestic income	4.0	2.7	1.1	4.3	5.0	0.8	4.8	3.8	2.6	2.7	2.6	2.7	2.8
Investment (percent of GDP)	20.2	19.9	21.1	21.9	22.6	22.7	23.4	24.1	24.5	24.6	24.8	24.9	24.9
Public	6.2	6.0	5.5	5.6	5.9	6.2	6.0	6.0	6.0	5.9	5.8	5.7	5.6
Private	14.1	13.9	15.6	16.4	16.7	16.6	17.4	18.1	18.5	18.8	19.0	19.2	19.4
Savings (gross, percent of GDP)	24.6	19.8	17.4	19.0	19.3	19.4	20.6	21.6	21.3	21.3	21.3	21.4	21.5
Public	0.9	1.1	2.0	3.3	4.0	4.1	0.6	0.6	1.5	2.1	2.6	2.8	2.8
Private	23.8	18.8	15.4	15.8	15.5	16.0	20.0	21.0	19.9	19.3	18.8	18.5	18.6
Potential output	1.3	1.5	2.0	2.3	2.8	2.7	2.7	2.6	2.6	2.6	2.6	2.6	2.6
Output gap (percent of potential)	-1.4	-1.1	-0.7	-0.8	-0.3	-0.5	-0.1	0.4	0.8	0.7	0.7	0.6	0.5
LABOR MARKET													
Employment	0.5	1.4	0.2	1.5	3.5	2.2	4.6	3.0	1.8	1.3	1.3	1.3	1.3
Unemployment (percent of labor force)	6.2	6.0	6.4	5.8	5.4	5.4	5.1	5.0	4.8	4.8	4.8	4.8	4.9
Wages (nominal percent change)	1.2	2.9	3.0	2.4	2.5	2.3	1.9	1.8	2.2	2.3	2.4	2.4	2.4
PRICES													
Terms of trade index (goods, % change)	8.8	3.9	-6.3	8.5	5.6	-5.2	2.4	1.1	-1.1	0.7	0.2	0.4	0.9
Consumer prices (avg, % change)	2.3	4.0	1.1	1.1	1.2	0.3	0.6	1.5	2.0	2.0	2.0	2.0	2.0
GDP deflator (avg, % change)	3.2	3.0	-0.3	3.2	1.8	0.8	2.4	2.1	1.7	2.1	2.0	2.2	2.2
MACRO-FINANCIAL													
Reserve Bank of New Zealand Policy Rate (percent, avg)	2.7	2.6	2.5	2.5	3.1	3.2	2.1	1.8	2.3	2.7	3.0	3.0	3.0
Credit to the private sector (percent change)	0.5	1.7	3.7	5.1	4.5	8.4	7.5	6.1	5.5	4.8	4.7	4.8	4.8
House prices (percent change, avg)	2.1	1.1	4.9	9.0	6.5	11.6	12.7	9.0	6.1	4.6	4.2	4.0	4.0
Interest payments (percent of disposable income)	10.4	9.4	8.8	8.5	9.1	9.4	8.7	9.4	9.7	10.3	10.4	10.6	10.9
Household savings (percent of disposable income)	5.1	5.4	3.9	3.5	2.2	1.4	1.5	1.7	1.9	2.1	2.2	2.4	2.6
Household debt (percent of disposable income)	153	147	148	151	155	162	164	170	171	171	170	169	168
CENTRAL GOVERNMENT (percent of GDP) 1/													
Revenue	34.0	33.9	34.0	33.9	33.9	34.9	34.8	34.2	34.0	34.0	34.1	34.1	34.0
Expenditure	39.9	39.3	35.9	34.9	34.2	34.2	34.2	33.7	32.6	32.0	31.5	31.2	31.2
Net lending/borrowing	-5.9	-5.4	-1.9	-1.0	-0.3	0.6	0.6	0.6	1.5	2.1	2.6	2.8	2.8
Operating balance	-4.9	-4.6	-1.3	-0.3	0.5	1.6	1.8	1.7	2.4	2.8	3.3	3.5	3.5
Cyclically adjusted balance	-5.0	-4.4	-0.9	-0.3	0.1	1.2	1.4	1.3	2.1	2.7	3.1	3.4	3.4
Gross debt	26.0	30.8	31.3	30.0	29.5	29.6	29.5	27.4	23.7	21.2	18.7	15.5	12.4
Net debt	2.5	6.3	7.9	7.9	7.2	6.4	6.1	5.2	3.5	2.1	0.2	-2.6	-5.3
Net worth	38.1	27.2	24.2	26.9	30.5	32.4	31.9	33.3	35.2	36.5	37.8	39.6	41.3
BALANCE OF PAYMENTS													
Current account (percent of GDP)	-2.3	-2.8	-3.9	-3.2	-3.2	-3.4	-2.7	-2.5	-3.1	-3.3	-3.4	-3.5	-3.5
Export volume	3.3	2.6	1.9	0.8	3.0	6.9	1.6	3.3	3.3	3.4	3.6	3.6	3.6
Import volume	10.8	7.0	2.8	6.2	7.9	3.7	4.0	6.3	4.2	4.1	4.0	4.0	4.1
Net international investment position (percent of GDP)	-71.8	-69.0	-70.6	-64.9	-65.9	-62.2	-59.9	-59.4	-59.9	-60.5	-61.3	-62.0	-62.6
Gross official reserves (bn US$)	16.4	17.2	17.7	16.5	15.8	14.3	...	...	...	...	...	...	...
MEMORANDUM ITEMS													
Nominal GDP (bn NZ$)	201	211	216	228	240	247	261	275	288	302	316	331	347
Percent change	4.9	4.9	2.2	5.4	5.2	3.3	5.5	5.3	4.7	4.8	4.7	4.8	4.9
Nominal GDP per capita (US$)	33,222	37,989	39,554	41,738	43,698	37,281	38,345	41,108	42,431	43,939	45,469	47,075	48,779
Real gross national disposable income per capita (NZ$)	43,737	44,563	44,981	46,403	47,729	47,781	49,250	50,602	51,212	51,926	52,626	53,372	54,200
Percent change	2.7	1.9	0.9	3.2	2.9	0.1	3.1	2.7	1.2	1.4	1.3	1.4	1.6
Population (million)	4.3	4.4	4.4	4.4	4.5	4.6	4.6	4.7	4.8	4.9	4.9	5.0	5.1
US$/NZ$ (average level)	0.7	0.8	0.8	0.8	0.8	0.7	0.7	...	...	...	...	...	...
Nominal effective exchange rate	100	103	108	112	117	111	112	...	...	...	...	...	...
Real effective exchange rate	100	104	108	111	115	109	109	...	...	...	...	...	...

Sources: Authorities' data and IMF staff estimates and projections.
1/ Calendar year.

INTERNATIONAL MONETARY FUND

NEW ZEALAND

STAFF REPORT FOR THE 2017 ARTICLE IV CONSULTATION

April 18, 2017

KEY ISSUES

Context. Since 2011, New Zealand has enjoyed a solid expansion. Construction has been a major driver, while strong net migration and low interest rates have added momentum. Macro-financial vulnerabilities have increased with a booming housing market.

Outlook and risks. Growth is expected to move above trend rates in the near term and to moderate toward trend in the medium term, in the face of net migration normalizing, earthquake reconstruction declining, and residential investment weakening. The output gap likely closed in late 2016, and inflation should gravitate toward the midpoint of the Reserve Bank of New Zealand's 1-3 percent target range. External shocks are the main source of downside risks. They could interact with or trigger housing-related vulnerabilities.

Policy recommendations. Macroeconomic policy settings are broadly appropriate. The priorities should be to strengthen macro-financial resilience and reduce vulnerabilities, and to leverage the opportunities from strong economic and population growth.

- **Monetary policy.** Current monetary policy settings appropriately address low inflation. While risks to inflation are broadly balanced, downside risks remain a bigger concern after a long period of inflation below target.
- **Fiscal policy.** The strong fiscal position provides room to accommodate the needs from strong population growth. The planned slightly contractionary fiscal stance will balance the macroeconomic policy mix.
- **Macro-financial policies**. High and rising household debt remains a risk to financial stability. The RBNZ macroprudential toolkit should be broadened to include a debt-to-income instrument, which should be activated in the event that the effects of the most recent macroprudential package on credit prove to be temporary. The financial sector oversight and crisis resolution regimes should be upgraded.
- **Managing growth opportunities.** Policy efforts should focus on enabling increased housing supply; implementing productivity-enhancing tax reform; and raising productivity through innovation, and competition particularly in the services sectors.

Approved By
Odd Per Brekk and Daria Zakharova

Discussions were held in Auckland and Wellington during February 23 - March 8, 2017. The staff team comprised Thomas Helbling (head), Adil Mohommad, Dirk Muir, and Siegfried Steinlein. Alejandro Lopez Mejía (FSAP mission chief, MCM) participated in the policy discussions. Grant Johnston (OED) joined the discussions. Ioana Hussiada and Nadine Dubost assisted from HQ.

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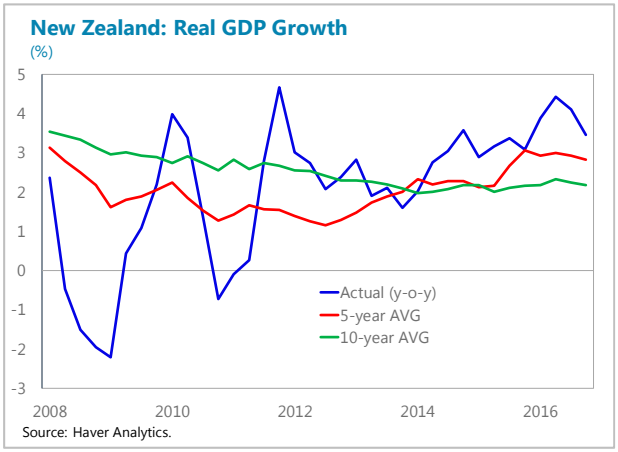
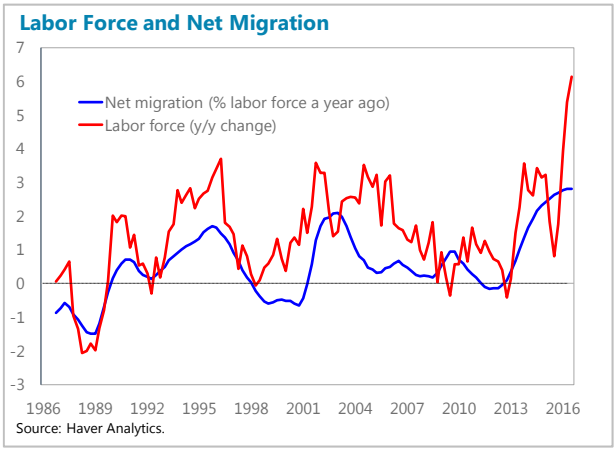
ANNEXES

CONTEXT

1. Since early 2011, New Zealand has enjoyed a solid expansion. Reconstruction spending after the 2011 Canterbury earthquake was an important catalyst, but the expansion has also been supported by accommodative monetary policy and a net migration wave, which have reinforced momentum in residential investment, improving services exports, and continued strong terms of trade by historical standards.



2. Containing macro-financial vulnerabilities related to a booming housing market has been challenging. Rapid housing credit expansion has been the flipside to the strong growth in residential investment and buoyant house prices, with already high household debt ratios rising again. As for other vulnerabilities, the current account deficit has remained below average in the expansion, and the net foreign liability ratio, which is among the highest in advanced economies, has been broadly stable (Annex I—External Balance Sheet). Commercial banks intermediate much of the foreign liabilities domestically. The fact that the four biggest banks are subsidiaries of large Australian banks contributes to stability in external funding.



RECENT DEVELOPMENTS, OUTLOOK AND RISKS

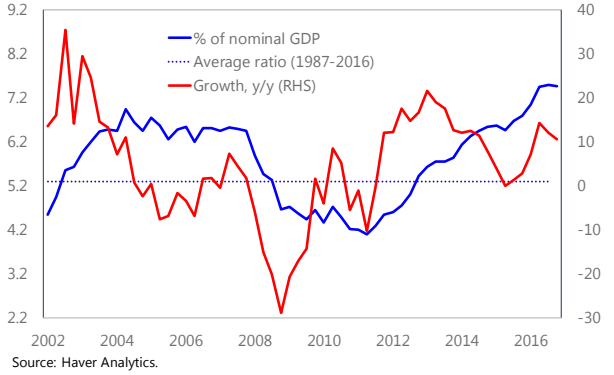
A. Recent Developments

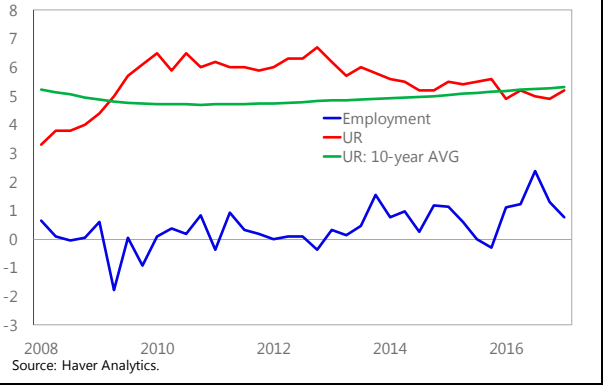
3. Economic activity picked up momentum through much of 2016, rather than weakening as expected earlier.

- ***GDP growth has accelerated to 4 percent —some 1½ percentage points above trend.*** On the expenditure side, stronger growth has reflected upticks in private consumption, and residential and public investment. The momentum weakened in the fourth quarter, including because of a softening in private consumption and a sharp drop in exports. But this weakness is expected to be temporary, mainly reflecting weather- and earthquake-related disruptions.

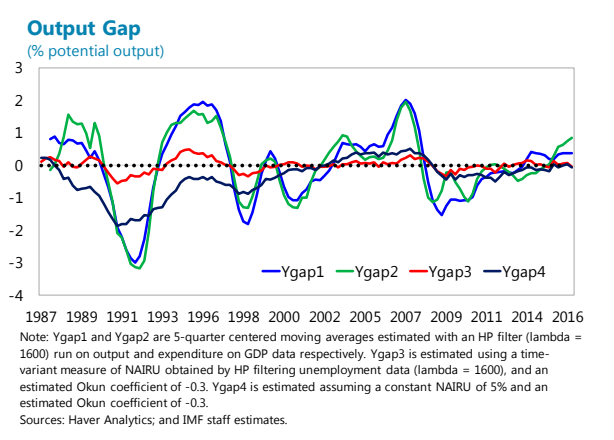
- ***Labor market conditions have improved.*** Employment growth averaged over 4½ percent in 2016, up from about 2¼ percent in 2015 and well above average.[1] Net migration flows remained high in 2016 at 2¾ percent of the labor force, partly due to continued weakness in Australian labor markets. With the resulting increase in labor force growth, the unemployment rate fluctuated around the NAIRU of about 5 percent in 2016.

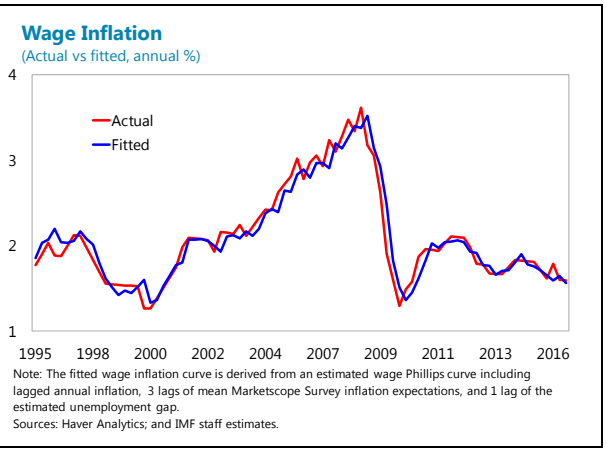
- ***Headline inflation moved back into the bottom of the target range in 2016Q4 though it still remains below the midpoint, now for five years.*** Tradable price deflation has risen to near zero with the recent global oil price increase, notwithstanding further real currency appreciation in 2016. Non-tradable inflation has strengthened in the second half of 2016.





4. Economic slack has largely been worked off. IMF staff and RBNZ estimates suggest that output was broadly back at capacity as of 2016Q4. General wage pressures have not yet emerged, given strong labor force growth. That said, conditions vary across sectors, and capacity constraints are emerging in some sectors, including in the construction sector.



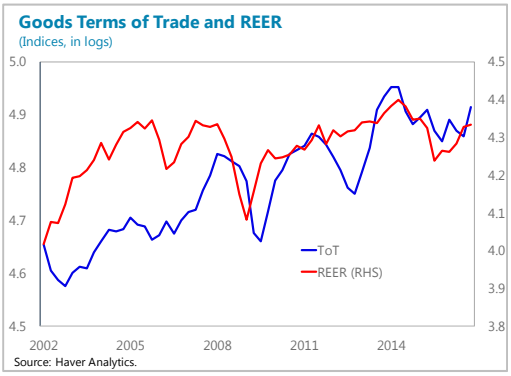


[1]Changes in the methodology led to a structural break in the series in 2016Q2.

5. The RBNZ lowered the policy rate in three 25 basis point steps to 1.75 percent in 2016. In its *Policy Statements*, the RBNZ noted that the New Zealand dollar was too strong for balanced growth and contributed to deflation in domestic tradables prices.

6. The current account balance is moderately weaker than its fundamental level, and the exchange rate remains moderately overvalued (Annex II—External Sector Assessment).

- ***The trade surplus and the current account deficit have remained broadly stable*** as a percent of GDP even though the expansion has been mostly domestic-demand driven. The steady decline in import prices since mid-2012, continued relatively strong exports prices, and lower world interest rates have helped to offset a small deterioration in real net exports.

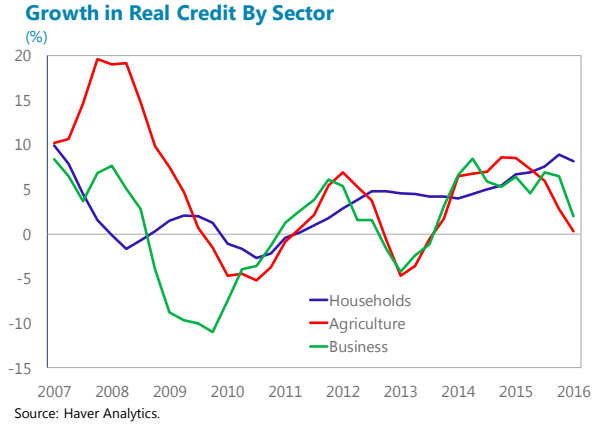


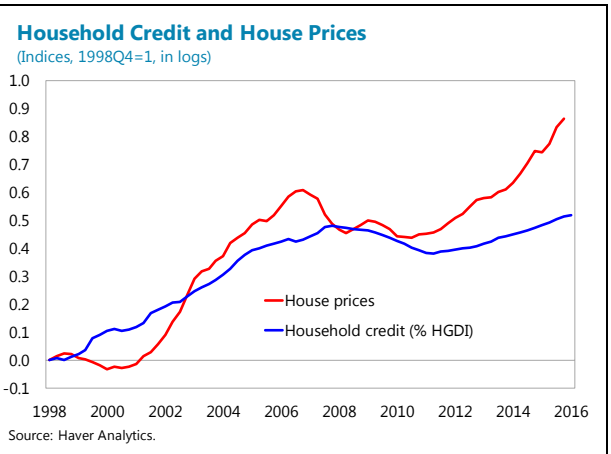
- ***The real exchange rate has remained above its longer-term average***—some 14 percent as of end-2016—but has come some 7 percent off its 2014 peak. Currency strength mirrors terms of trade that are still high in historical perspective; the latter are only 10 percent below their 2014 peak. It has also been supported by the relatively favorable return differentials on domestic assets.

7. Housing markets have remained buoyant. Demand for housing has remained strong. Real house prices increased by more than 10 percent in 2016, a further increase in the residential investment ratio notwithstanding. Standard metrics of house price overvaluation have thus edged up further and position New Zealand in the top range across OECD countries. Recent readings in housing market indicators, including sales and building approvals, suggest some cooling in market conditions toward the end of 2016. A third round of tightening macroprudential measures in October 2016 has likely been the main driver.

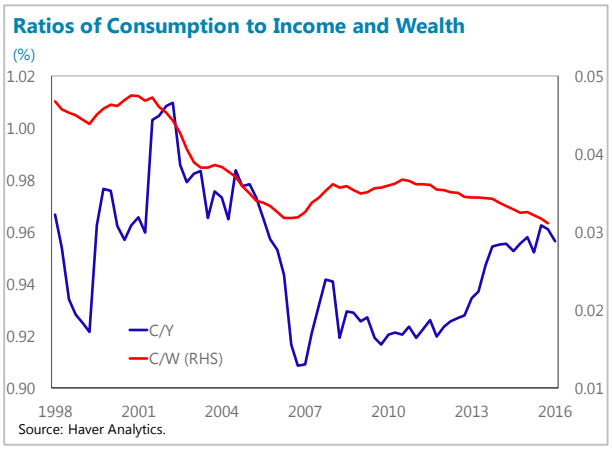
8. Macro-financial vulnerabilities related to households have increased despite improvements along some margins.

- ***Growth in real credit to households has remained strong with booming house prices.*** While surveys suggest that banks have followed an increasingly conservative approach to lending, the risk profile of new loans has not improved in all dimensions. The share of loans with very high loan-to-value ratios (LVR) has fallen, as has the share of investor lending, which reflects the tightening of macroprudential policy instruments. Some debt serviceability indicators, however, have deteriorated. Debt-to-income (DTI) ratios in particular have risen for all buyer categories.





- ***Household saving has decreased with rising housing wealth.*** The value of household assets has risen faster than their debt, and their net worth has thus increased and leverage has trended slightly down. The household saving ratio has decreased steadily since 2012 and is estimated at around 1 percent of gross disposable income. The sector's saving-investment balance is now negative, implying net lending by other sectors and highlighting the feedback from credit to aggregate demand. That said, consumption as a fraction of household net worth has decreased slightly, suggesting that not all wealth increases are seen as permanent.



B. Outlook

9. The outlook is for continued strong growth and inflation gravitating toward the midpoint of the target range, with macro-financial vulnerabilities stabilizing in the medium term.

- ***After temporary weakness in 2016Q4, growth is expected to rebound and then moderate toward trend.*** Near-term growth in the baseline outlook will be supported by continued high net migration, reconstruction following the Kaikoura earthquake, and stronger business investment. Services export growth is expected to remain robust. Over the medium term, net migration is expected to moderate as Australian labor markets strengthen. This moderation, together with rising interest rates, also dampens growth in residential investment and in aggregate demand.

- ***Inflation should strengthen.*** While wage pressure should remain muted with continued high migration in the near term, other cost and price pressures are likely to emerge as capacity constraints increasingly take hold over the next one to two years.

- ***The macro-financial baseline outlook is for gradual moderation of house price inflation and stabilizing housing vulnerabilities in the medium term.*** Tighter macroprudential policies, higher interest rates, lower rates of net migration, and increasing supply are the main drivers of the moderation in house price increases. As credit growth slows, banks' international net wholesale funding will moderate, containing related vulnerabilities.

C. Risks

10. Risks to the near-term growth outlook have become more balanced. There are upside risks from both stronger net migration and terms of trade (Annex III—Risk Assessment Matrix). This could result in faster debt reduction, which in turn could increase the likelihood of tax cuts and encourage further spending on infrastructure. On the downside, tighter external financial conditions or macroprudential constraints could slow credit, investment, and growth more than expected. Lower external demand and commodity prices, including potentially because of increasing protectionism, would also result in lower growth. A stronger pickup in dairy production in the rest of the world could lead to lower global dairy prices and setbacks to domestic dairy production, exports, and, ultimately, domestic demand, as well as financial stress in the diary sector.

11. Macro-financial downside risks remain a concern. Rising household debt in particular remains a risk to financial stability. It would amplify a high-impact downside shock—which would likely be external— through household deleveraging and a housing correction. There would be feedback effects to the financial sector and, possibly, bank balance sheet stress in a drawn-out downturn, including through the impact on other borrowers as aggregate demand falls. The shock in such a scenario is likely to be common to both Australia and New Zealand and could negatively affect parent banks in the former, with spillovers to subsidiaries in the latter.

D. Authorities' Views on Outlook and Risks

12. Authorities broadly shared staff's views on the outlook. They agreed that spare capacity in the economy had shrunk, and inflation is expected to rise gradually to the middle of the target range over the near-to-medium term. Drivers of growth would include strong net migration, which would continue to support consumption and construction activity, and strong service exports. The narrower current account in 2016 partly reflected very low global interest rates; some further depreciation of the exchange rate, which remained stronger than consistent with medium-term fundamentals, would also help boost tradable sector growth. The recovery in dairy prices would help restore farm incomes, but would translate into more spending with some lag, as farmers must first repay debt from loss financing during the decline in dairy prices.

13. External downside risks continue to be the major concern. These include slower trading partner growth, particularly China; uncertainties around the timing and extent of the recovery in the United States and rate tightening; and around global trade policy shifts towards increasing protectionism. The authorities see domestic risks are more balanced, with elevated net migration supporting growth, and economic disruption from the Kaikoura earthquake is expected to be minor. They acknowledged that high household debt could play an amplifying role in the event of a large negative shock.

POLICY DISCUSSIONS

14. Discussions focused on three broad issues: (i) the appropriate macroeconomic policy mix; (ii} policies to contain macro-financial vulnerabilities and strengthening financial sector resilience, building on the FSAP recommendations[2]; and (iii) policies to manage opportunities from strong economic and population growth.

A. Monetary and Fiscal Policy

Context

15. The current net migration wave has posed fewer challenges to demand management because of its unusual composition (Annex IV—Migration). Fewer, including lower-skilled, New Zealanders are emigrating, while more immigrants arriving are students and members of younger age cohorts relative to past waves. The latter likely explains weaker aggregate demand effects in this wave, while the former has helped to keep wage pressures in check despite the current construction boom.

16. The current monetary policy setting addresses low inflation and currency strength. Currency overvaluation and upward pressure from return differentials pose risks. They could exacerbate external imbalances, prolong low inflation, and be an obstacle to higher productivity in tradables sectors, a concern considering New Zealand's remote location and small market size. However, the output gap has closed and broader capacity constraints could be emerging.

17. The fiscal position is expected to strengthen further. Strong revenue growth is forecast across all revenue sources. The central government's spending plans for the next four years are based on conservative forecasts for inflation and real GDP (consistent with those of IMF staff). Net debt should decrease below 20 percent of GDP by FY2020/21.

[2] See IMF (2017), New Zealand – Financial System Stability Assessment, IMF Country Report No. 17/110.

Staff Views

18. The current accommodative monetary policy setting is appropriate until inflation is firmly within the target range, but the RBNZ should stand ready for an unexpected upshift in the inflation path.

- ***Costs of inflation risks will remain asymmetric in the near term***. Downside risks to inflation still are a bigger concern after a long period of inflation below target, strong labor force growth, the possibility of a renewed currency appreciation, and the fact that some of the recent uptick in inflation was temporary because of higher oil prices. If there was an unexpected upshift in the inflation path, domestic financial conditions would tighten in expectation of a monetary policy response, thereby reducing further upside risks to actual inflation. While low interest rates have contributed to rising house prices, macroprudential policies are better placed to tackle risks to financial stability from housing-related vulnerabilities (see below).

- ***A change in the global environment or domestic conditions could require an earlier policy tightening than it is implied by the RBNZ's current forecasts***. Financial conditions are already less accommodative with recent currency appreciation and the upward pressure on banks' lending and funding rates from a widening gap between credit and deposit growth as well as deposit competition. Nevertheless, in the improving global environment, and with the economy already at capacity, there could be an unexpected upshift in the inflation path in New Zealand with the current policy setting.

19. A slightly contractionary fiscal policy stance will balance the macroeconomic policy mix in the near term.

- ***The baseline expenditure path incorporates higher infrastructure spending and new growth-friendly measures***, compared to the previous budget and Article IV consultation. This is expected to result in a positive fiscal impulse in the current fiscal year. With the economy approaching capacity, this impulse is helpful in the current macroeconomic context with still low inflation.

- ***Current budget plans appropriately imply a slightly contractionary fiscal stance going forward***. Consolidation leading to increases of about ½ percent of GDP in the cyclically-adjusted primary balance is consistent with growth moderating to trend under current baseline projections. It would also contribute to moderating the upward pressure on the currency.

- ***With a stronger-than-expected economic momentum, revenue is likely to continue to surprise on the upside.*** Some of the surprise will, however be structural, given higher-than-expected recent labor force growth, and be accompanied by increased demand for infrastructure and other essential government services. New Zealand has the fiscal space to

accommodate the needs from stronger-than-expected population growth. Cyclical revenue windfalls, however, should be used to reduce public debt.

Authorities' Views

20. The RBNZ feels that all the conditions are in place for a slow, orderly rise in inflation. Because of its past record, inflation expectations remain very well anchored at around 2 percent in the medium term, while short-term expectations are now also approaching 2 percent. Wage pressures are contained by the ongoing positive labor supply shock. Officials acknowledge that tradables inflation is beginning to accelerate because of the broader international trends, with mitigating influences from the ongoing, slow appreciation of the free-floating exchange rate. Against this backdrop, current expectations are that the overnight cash rate (OCR) need not be raised until late 2018 to prevent any overshooting of the target range for inflation. The RBNZ stands ready, though, to move the OCR in either direction if warranted by shocks.

21. The authorities consider that their fiscal plans are appropriate, given the current upswing in migration and related demands on government services and capacity. The government has increased spending on infrastructure nationally, and created the Housing Infrastructure Fund to help address housing capacity constraints. Going forward, the authorities continue to focus on strengthening fiscal buffers while the economy is in an upturn by reducing net public debt to around 20 percent of GDP by 2020.

B. Strengthening Macro-Financial Resilience

Context

22. Housing-related macro-financial vulnerabilities could increase further in the short term. The factors underpinning the strong real house price gains of the past years are expected to ease in the medium term, given policy measures to enable more supply and a prospective turn in real interest rates. In the near term, however, real house prices and household debt ratios will likely continue increasing.

23. The major commercial banks have resilient capital and liquidity buffers but their wholesale funding needs are rising again. Preliminary RBNZ estimates suggest that, given in particular relatively more conservative risk weights in New Zealand, common equity tier 1 (CET-1) ratios on an internationally comparable basis would be at least 1 to 2 percentage points above published headline figures. This would still leave them below the upper quartile of international peers. In addition, while recent FSAP stress tests indicate that banks have sufficient capital buffers to withstand major shocks, with the CET-1 ratio remaining above 7 percent, total capital requirements including conservation buffers could be breached. And after several years during which funding needs could largely be met though domestic deposits, banks increasingly had to resort to wholesale funding in 2016, of which about 60 percent was foreign.

Staff Views

24. With the housing boom, the RBNZ's macroprudential toolkit needs broadening to manage related vulnerabilities effectively, as recommended by the FSAP.

- ***Policies other than macroprudential are unlikely to slow the housing boom in the near term.*** The authorities have been proactive in applying the available macroprudential policies. Exposure limits to high LVRs have reduced the potential bank losses in case of household defaults. But they have not been fully successful in reining in housing credit growth or reducing banks' vulnerabilities related to household debt (Annex V—Macroprudential Measures), as reflected in increasing debt-to-income ratios that imply higher household default probabilities.

- ***To strengthen household balance sheet resilience and reduce the probability of household defaults under downside shocks,*** the macroprudential toolkit should be extended to include a DTI or (stressed) debt service to income (DSTI) instrument, in line with FSAP recommendations. Such an instrument would directly target the most acute household vulnerability. Other macroprudential instruments available to the RBNZ are approaching their practical limit (LVRs) or are addressing the problem only indirectly, with lower effectiveness and higher risks of unintended consequences.

- ***The new instrument should be activated*** in the event that the effects of the October 2016 macroprudential package on credit growth or credit risk profile prove to be temporary.

25. Housing supply and tax measures could further dampen house price pressures. An orderly resolution of the demand-supply imbalance in housing, particularly in Auckland, will require policies to boost housing supply (discussed below). Tax measures, such as a broader taxation of capital gains in real estate and limitations to subtract negative gearing losses from other income sources, would reduce incentives for leveraged real estate investments by households and help redirect saving incentives to other, potentially more productive investments.

26. Bank balance sheet resilience should be strengthened further through increases in bank capital requirements under the ongoing RBNZ capital review.

- ***The large banks feature a strong similarity in business models*** with a high risk concentration in mortgage lending and the dairy sector and significant reliance on foreign funding, which all imply significant negative externalities in a stress situation.

- ***The RBNZ is currently undertaking a bank capital review*** to determine adjustments to the overall level of required capital, its definition, and risk weights, including in light of international regulatory developments. Consultations will take place in 2017.

- ***In staff's view, the review should recommend higher capital ratios for the larger banks, given the systemic risk dimension.*** A reasonable benchmark could be capital adequacy ratios for New Zealand's large banks that are somewhat higher than the Australian

Prudential Regulation Authority's (APRA's) "unquestionably strong" capital targets for the large Australian banks, as systemic risks relative to peers seem somewhat more pronounced. Higher capital requirements could be instituted by a surcharge for domestic systemically important institutions or, given likely moral hazard concerns of the authorities, by generally higher minimum capital requirements.

27. With an upward trend in wholesale funding needs, banks may need to further improve their funding structure. Credit growth is expected to exceed deposit growth at least in the short term. In addition, the newly introduced funding exposure limits for Australian parents to their New Zealand subsidiaries introduced by APRA will lead to additional re-financing needs for some banks, although the transition period is relatively long (end-2020).

28. Upgrades to oversight and crisis resolution regimes would add to financial system resilience. The FSAP has identified several areas in which structural upgrades would help, including to: (i) increase the weight of regulatory discipline relative to self and market discipline in New Zealand's three-pillar approach to bank regulation; (ii) foster even stronger home-host supervisory cooperation with APRA; (iii) adopt current reform plans to align the regulatory and supervisory framework for financial market infrastructures with international standards; (iv) broaden the regulatory perimeter for the asset management industry; and (v) enhance the credibility of the Open Bank Resolution (OBR) framework, including by higher *de minimis* exemptions from freezing and haircutting deposits under the OBR in lieu of the first-best solution of a deposit insurance.

29. The authorities have taken steps to meet outstanding AML/CFT standards. They have introduced legislation to Parliament, which would subject several designated non-financial businesses and professions, such as lawyers and real estate agents, to AML/CFT requirements. As of February 2017, they also introduced new disclosure requirements for foreign trusts, designed to provide for accurate and up-to-date on beneficial ownership.

30. The authorities have adopted a supportive approach toward the remittance corridors to Pacific Island States and are exploring further policy options. The RBNZ issued a statement in 2015 clarifying AML obligations and regulatory expectations and advocating a measured risk management approach by banks towards money transfer operators (MTOs). In addition, authorities participate in international fora, and government agencies are providing technical assistance to Pacific Island States, including on improving AML/CFT compliance, modernizing payments infrastructure, and supporting innovative remittance transfer solutions.

Authorities' Views

31. The authorities noted that the extension of the RBNZ's toolkit with a debt-to-income instrument was under review. The rationale for the extension was well understood, but any change in the toolkit must be agreed with the Minister of Finance, as outlined in the *Memorandum of Understanding* on macroprudential policy between the Minister of Finance and the RBNZ Governor. The next step would be the publication of a consultation document by the RBNZ by mid-May. The RBNZ also clarified that it would not apply the new instrument immediately upon availability but

only if the most recent round of macroprudential tightening proved to be ineffective. There was strong agreement about the necessity of measures to strengthen housing supply, but the authorities were not convinced that additional housing-related tax changes are warranted, particularly as changes to the tax rules for property transactions were implemented in October 2015.

32. The authorities concurred on the need for strong bank capital positions. They expected that, based on their supervisory approach and banks' risk profile, the forthcoming capital review would deliver conservative capital requirements relative to the Basel III standards and international peers. They also indicated that their approach would tend to be more conservative than the one for Australian parent banks, which would at least indirectly imply a benchmarking against the upper quartile of international peers. On bank funding and liquidity, the RBNZ informed that they were planning a review of related regulatory requirements. They noted that their post-GFC funding and liquidity ratio regime, which had been introduced ahead of the Basel III regime, had already resulted in substantial improvements in banks' funding structure.

33. The authorities took the view that New Zealand's supervisory approach to bank oversight has performed relatively well, but were in the process of examining the merits of some re-balancing. Their approach aimed to ensure that risk is well understood by market participants and the primary responsibility for management and investment decisions rested with them, not least to avoid moral hazard. They noted, however, that an increased weight of regulatory discipline was already in train, pointing to the forthcoming capital review as an example. They also agreed on the benefits of an even stronger home-host supervisory cooperation with APRA and a more pro-active role during on-site visits by APRA, while seeing less value in initiating stand-alone visits. Regulatory reforms of the current oversight regime for financial market infrastructures are under discussion. On other FSAP recommendations, the authorities indicated that they would keep the regulatory perimeter of securities markets under review and consider an adequate *de minimis* exemption from freezing and haircutting deposits under the OBR policy in lieu of a deposit insurance scheme. They also confirmed their pro-active approach on issues related to correspondent banking with Pacific Island States and AML/CFT issues.

C. Supporting Growth Opportunities

Context

34. New Zealand's structural policy settings are close to or mark best practice among OECD economies, but persistent per capita income and productivity gaps remain.[3] Income is lower than predicted by these policy settings, by an estimated 20 percent. Growth in labor productivity has declined, with multifactor productivity growth slowing from the early 2000s, and capital intensity has stagnated recently. Structural features can explain income and productivity

[3] See Mohommad, 2016, "Prospects for Potential Growth in New Zealand," *New Zealand Selected Issues*, IMF Country Report No. 16/40.

gaps—a remote location and small size of domestic markets, lack of interconnectedness, and gaps in technology diffusion. New Zealand remains an attractive destination for skilled migrants.

35. The authorities have taken steps to alleviate housing supply bottlenecks. The Auckland Unitary Plan, which came into effect in November 2016, provides a uniform set of zoning rules for Auckland, where housing demand-supply imbalances remain large. The Housing Infrastructure Fund supports infrastructure development by local councils, thereby alleviating financing constraints encountered at this level of government (see Box 1).

Staff Views

36. Targeting housing supply bottlenecks more broadly would safeguard the attractiveness for high-skilled immigration and business. Recent measures, such as the Housing Infrastructure Fund, should be complemented by other reforms, including a comprehensive reform of urban planning legislation and reform of the relationship between the local and central governments in the fiscal framework. Much of the financing required for local infrastructure falls on local councils. Additional sources of revenues, such as an ad-valorem component for property taxes devoted to infrastructure maintenance, could be useful. Such a system of taxation could also be applied more generally by the central government, and distributed more equally across all local governments, allowing smaller communities to manage larger infrastructure needs in this time of more rapid population growth.

37. There is scope for productivity-enhancing fiscal reforms. The 2016/17 budget announced the "Innovative New Zealand" program, which appropriately focuses on increased financing for science and some R&D subsidies and increased subsidies for tertiary education. However, the program will only spend NZ$761 million over the next four years. Spending could be ramped up if the pilot proves to be successful, including by adding tax incentives for R&D spending.[4] As discussed during the last Article IV mission, there is also scope for tax reform to raise incentives for private saving and discourage real estate investment as a saving vehicle.[5] This could also contribute to enhance the depth of domestic capital markets and lower risk premiums.

38. Trade liberalization could help to strengthen competition and productivity, including in the services sectors. New Zealand firms in the services sector tend to be furthest from the international productivity frontier in relative to firms in goods producing sectors. While product market restrictions are generally low, there is room for reform in some areas, including occupational licensing and similar regulations restraining competition. The government's agenda for continuing efforts toward further trade liberalization may also be helpful, by raising competition including in the services sector, and increasing production interconnectedness thereby unlocking productivity gains. Broader market access for agricultural products would also help, including by raising incentives for diversification and innovation in the sector.

[4] See "Fiscal Policies for Innovation and Growth," Chapter 2, April 2016 IMF *Fiscal Monitor*.

[5] See Pitt, 2016, "New Zealand – Options for Tax Policy Reform", *New Zealand Selected Issues*, IMF Country Report No. 16/40.

Authorities' Views

39. The authorities agreed that alleviating housing supply constraints would support growth in the long run. They expected the recently implemented measures to ease housing supply constraints (the Auckland Unitary Plan, and the Housing Infrastructure Fund) to produce positive results over time. The authorities consider that further measures to increase housing supply responsiveness are desirable and they are pursuing reforms to the planning system.

40. Authorities drew attention to steps taken to boost productivity and innovation in New Zealand. The government's ongoing Business Growth Agenda (BGA) aims to help overcome the disadvantages of distance and small market size, in particular by deepening international connections, with a focus on increasing the share of exports in GDP to 40 percent by 2025, and diversifying the export base. A central part of the recently updated trade strategy is to pursue deeper economic integration – notwithstanding recent setbacks to the TPP – on a broad range of fronts, including, for example, by deepening existing free trade agreements (FTAs) and working to reduce non-tariff barriers to trade. The BGA also aims to support innovation through establishing technology incubators, strengthening communications networks, and boosting technical capabilities in the workforce, supplemented by measures in "Innovative New Zealand".

STAFF APPRAISAL

41. Context. New Zealand has enjoyed a solid economic expansion, driven by high net migration and strong construction, and helped by accommodative monetary policy**.** The economy is now broadly at capacity, and headline inflation has returned into the target range. Macro-financial vulnerabilities in the household sector have increased, with high house price inflation, and the household debt to GDP ratio high and still rising. The trade surplus and current account deficit have remained broadly stable. With commodity prices off their peaks, the real effective exchange rate has depreciated somewhat, but remains moderately overvalued relative to medium-term fundamentals.

42. Outlook and risks. Economic growth should remain above trend into 2018, before moderating. Inflation is projected to rise gradually toward the 2 percent midpoint of the RBNZ target range. Tighter macroprudential policies, higher interest rates, moderating net migration, and easing housing supply constraints should result in lower house price increases and, as credit growth slows, the stabilization of household debt relative to income. Risks to the near-term growth outlook have become more balanced. There are upside risks from both stronger net migration and terms of trade. On the downside, there are risks from tighter external financial conditions and macroprudential constraints. Nevertheless, high-impact downside shocks which would result in a drawn-out downturn could pose risks to financial stability because of the amplification effects and possible bank balance sheet stress from high household debt.

43. Economic policies should focus on managing risks and harnessing opportunities from strong economic and population growth. Macroeconomic policy settings are broadly appropriate. Containing household balance sheet vulnerabilities will be critical for financial sector stability while underlying demand-supply imbalances in the housing market are being addressed. Providing infrastructure and the services needed to promote human and knowledge-based capital will be essential for maintaining growth opportunities.

44. Current monetary policy settings appropriately address low inflation. Inflation is expected to return gradually to the midpoint of the target range. While risks to inflation are broadly balanced, downside risks still are a bigger concern after a long period of inflation below target, strong labor force growth, and the fact that some of the recent uptick in inflation was temporary because of higher oil prices.

45. The strong fiscal position provides room to accommodate the needs from strong population growth. The latest budget update already incorporates higher infrastructure and social spending in response to higher-than-expected population growth, while still providing for a slightly contractionary fiscal stance going forward that will balance the macroeconomic policy mix in an economy that is now operating broadly at capacity. There is fiscal space to allow for higher structural spending if needed. Stronger-than-expected revenue for cyclical reasons should be used to reduce public debt.

46. To manage housing-related macro-financial vulnerabilities, the RBNZ's macro-prudential toolkit should be broadened. To reduce the probability of bank balance sheet distress from rising household debt defaults under downside shocks, the macroprudential toolkit should be extended to include a DTI or (stressed) DSTI instrument, in line with recommendations by the FSAP. These would directly target the most acute household vulnerability. Other macroprudential instruments available to the RBNZ are approaching their practical limit or address the problem indirectly. The new instrument should be activated in the event that effects of the most recent macroprudential package on credit growth prove to be temporary.

47. Financial system resilience should also be strengthened through higher bank capital requirements and upgrades to oversight and crisis resolution regimes. The large banks feature a strong similarity in business models with a high-risk concentration and significant reliance on foreign funding, which adds a systemic risk dimension. In staff's view, the on-going RBNZ capital review should recommend capital adequacy ratios for New Zealand's large banks that are somewhat higher than the Australian Prudential Regulation Authority's (APRA's) "unquestionably strong" capital targets for the large Australian banks could be a reasonable benchmark. Implementation of pertinent FSAP recommendations would further strengthen the oversight and crisis resolution regimes.

48. Measures to lift potential growth should focus on leveraging the benefits from high net migration, innovation, and interconnectedness. These benefits could help compensate for New Zealand's remoteness and small market size. Targeting housing supply bottlenecks more broadly would safeguard the attractiveness for high-skilled immigration and business. Redirecting saving incentives from housing to other investments would lower the incentives for investment in housing and contribute to deeper capital markets. Providing additional support for innovation could provide a basis for diversification and lift productivity. Continuing efforts toward further trade liberalization, in regional and multilateral fora, as intended, could also help in this respect.

49. It is expected that the next Article IV Consultation with New Zealand will be held on the standard 12-month cycle.

Box 1. Local Governments and the Housing Supply Constraints

Local councils play a key role in alleviating current housing demand-supply imbalances. This box discusses how some features of the current framework for local governments can result in constraints on housing supply.

The property tax-based revenue structure of local councils can lead to constraints on new housing supply. Property taxes are the primary tax revenue source for local councils (along with user charges and other fees). They are typically determined by the local councils' budget needs. This can promote insider-outsider dynamics in local communities, as existing homeowners may be reluctant to pay for the infrastructure needed for new housing if they do not benefit directly.

Development charges reduce the need for property taxes to cover infrastructure needs. Local councils rely on development charges, or agreements with developers for provision of these services. But development charges most often do not provide the revenue for the infrastructure upgrades needed in existing neighborhoods from new housing (e.g., to deal with congestion).

Rules about zoning for housing (and development in general) differ across local councils. Zoning rules are another avenue through which insiders may constrain outsiders from constructing new supply. However, rules in Auckland have been simplified into 6 zones under the Auckland Unitary Plan, entering into force (in part) in November 2016.[1] As Auckland accounts for much of the national housing demand-supply imbalances, the Unitary Plan may now provide for their faster correction.

Many local councils face constraints on debt financing. They can issue debt to meet infrastructure needs. Local councils pool their debt issuance under the New Zealand Local Government Funding Agency (LGFA), implicitly guaranteed by the central government (as a 20 percent shareholder; the rest is held by 31 local councils). Consequently, the LGFA's credit rating equals that of the central government, which it maintains by imposing relatively strict debt and deficit guidelines on members. The latter have constrained some highly-indebted councils.

The central government has stepped in to relax local financing constraints. It introduced the NZ$ 1bn Housing Infrastructure Fund in the FY2016/17 Budget, available to finance high growth local councils' infrastructure needs related to new housing (only Auckland, Christchurch, and eight other local councils qualify), repayable without interest over 10 years.

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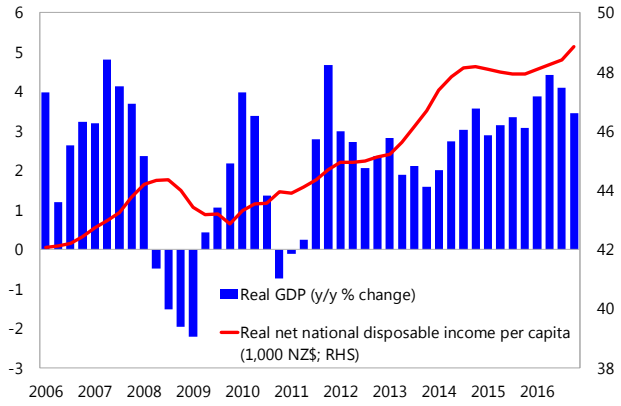
[1] The simplified zoning followed the unification of local authorities in the Auckland region in 2011 into one Council.

Figure 1. Output and Prices

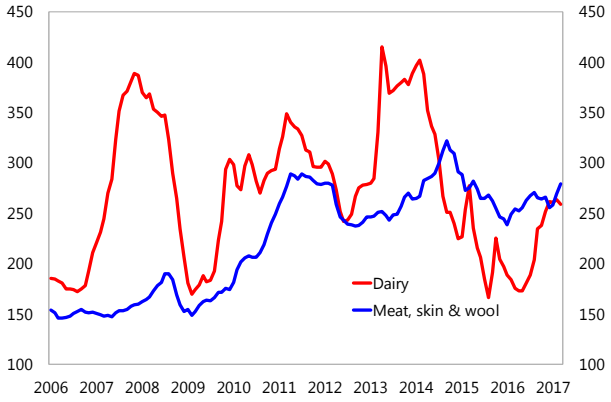
The momentum in economic activity picked up…

Growth Performance



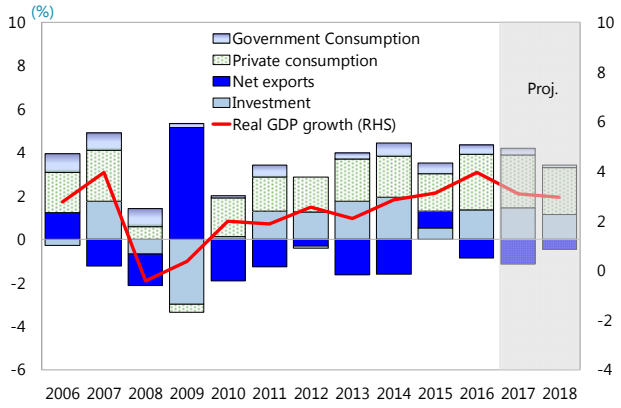
… supported in part by still strong commodity prices…

Export Commodity Price Indices



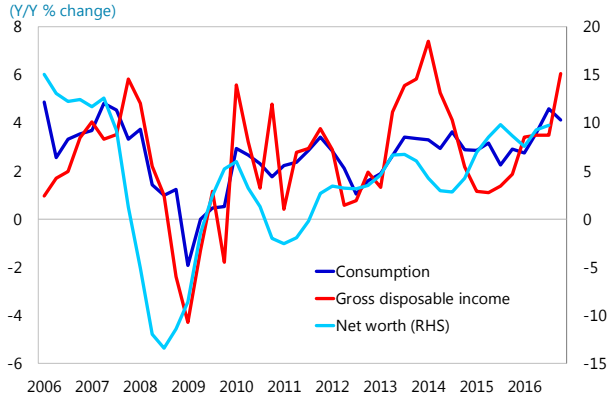
… and buoyant domestic demand.

Contribution to Growth



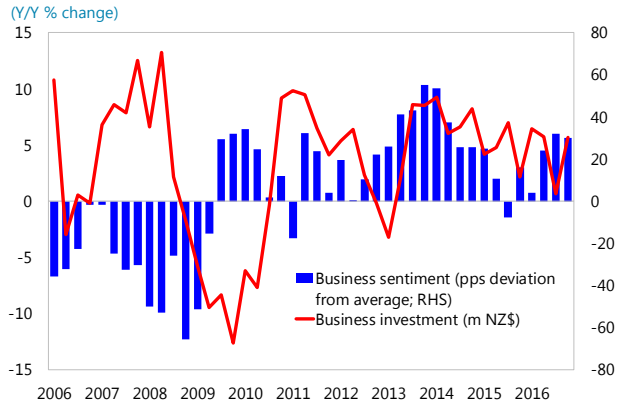
Consumption has improved with real income and net worth…

Real Household Consumption, Income, and Wealth



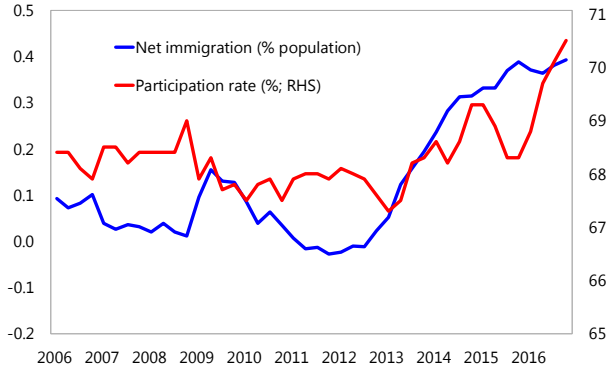
… while business investment has remained relatively weak …

Business Sentiment and Investment



…despite rising labor force participation and net immigration.

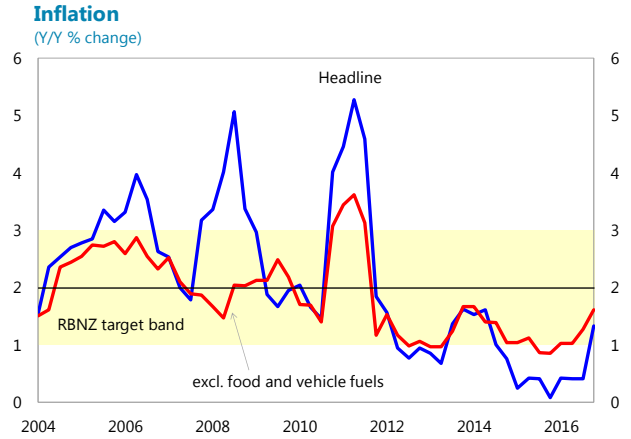
Labor Market Indicators



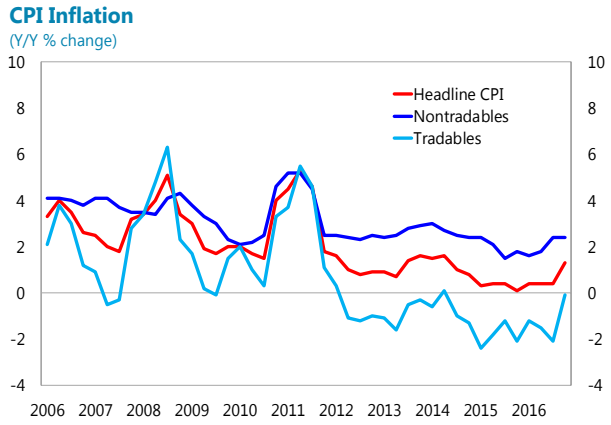
Source: Haver Analytics.

Figure 2. Considerations for Monetary Policy

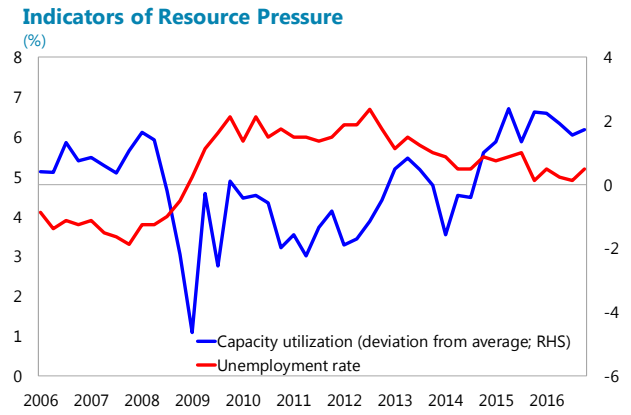
Underlying inflation has been below the target band…



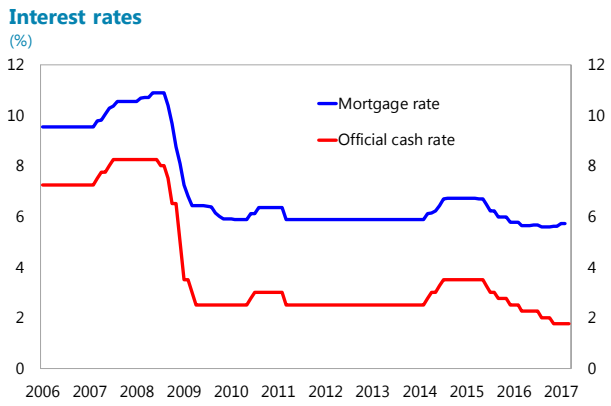
… on account of both tradables and non-tradables.



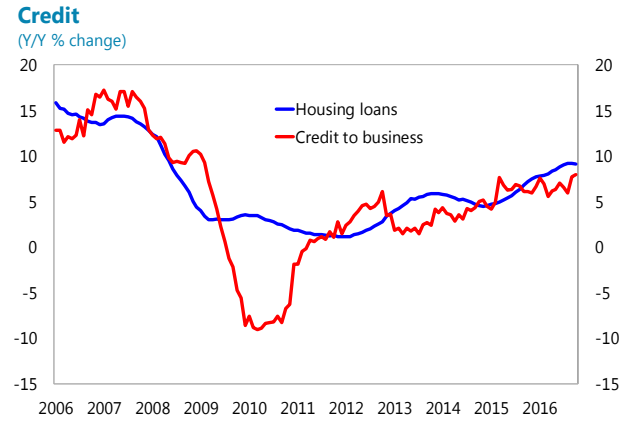
Capacity utilization is high and unemployment is declining.



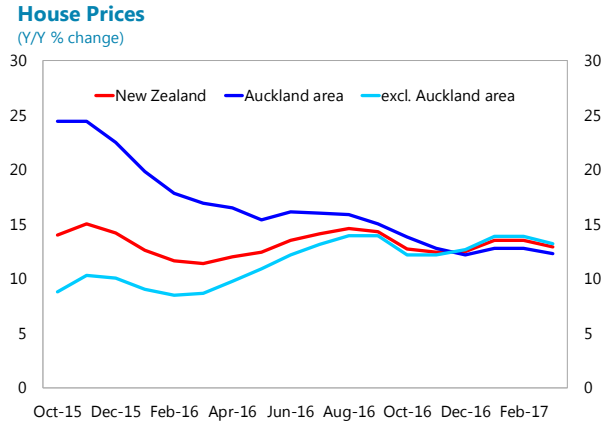
The RBNZ's easing has led to lower mortgage rates…



… while credit growth has picked up…



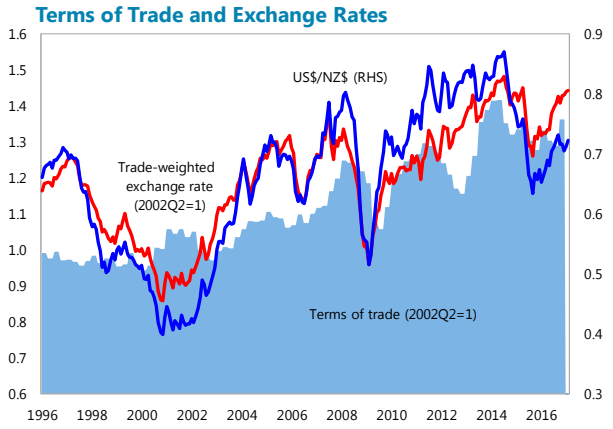
…both reflecting and supporting strong house price inflation.



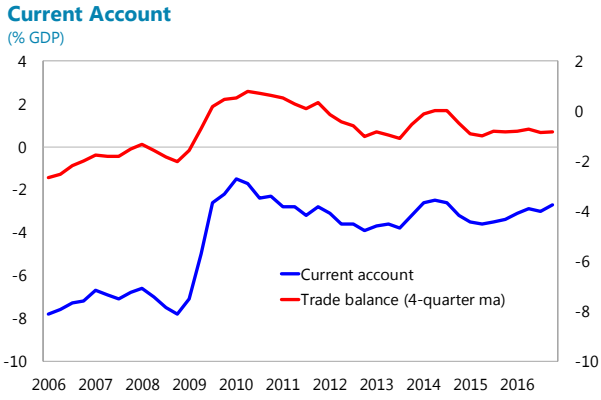
Sources: Reserve Bank of New Zealand; Haver Analytics; CoreLogic; and IMF staff estimates.

Figure 3. External Developments

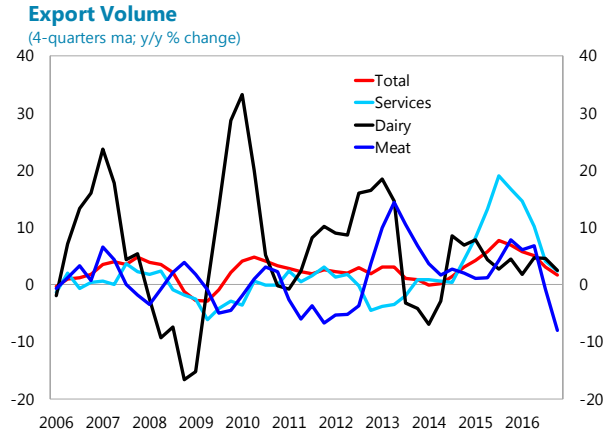
The terms of trade and the exchange rate are still high…



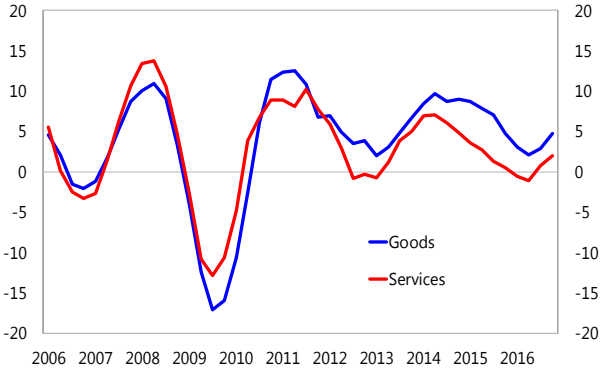
… and the current account has improved recently…



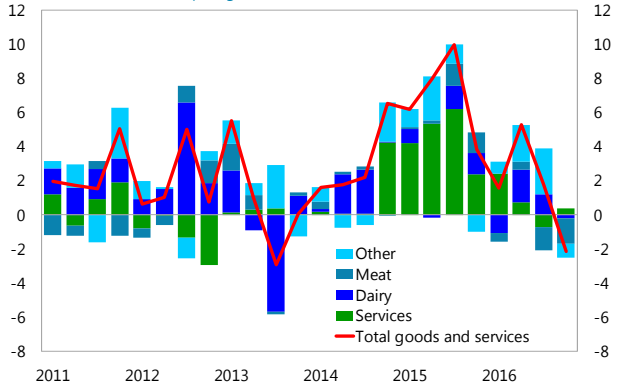
… helped by rising services exports …



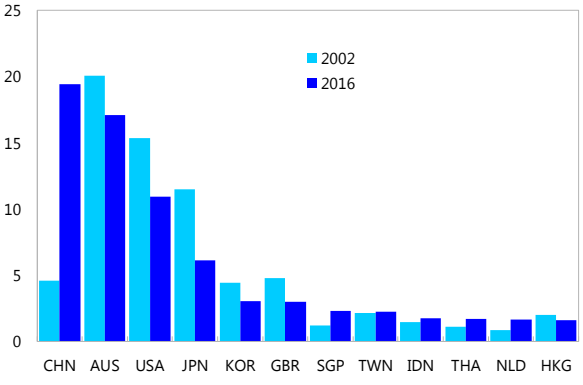
… and a gradual slowing in import growth.



The contribution of services to export growth has increased…



… while China has become the largest export destination.

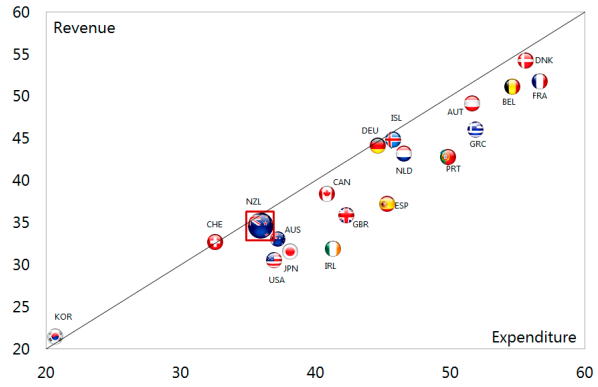


Sources: The Reserve Bank of New Zealand; Haver Analytics; and IMF staff calculations and projections.

Figure 4. Fiscal Developments

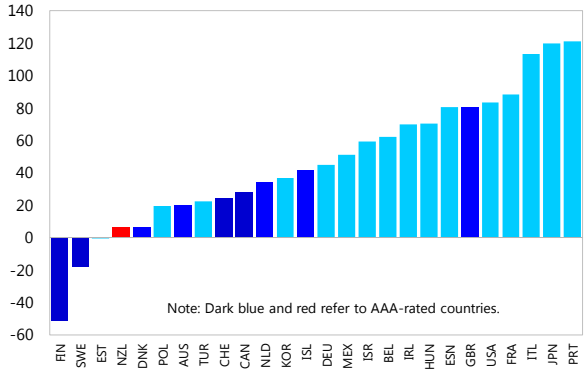
New Zealand has a relatively small government…

Revenue and Expenditure
(% GDP; average 2010-16)



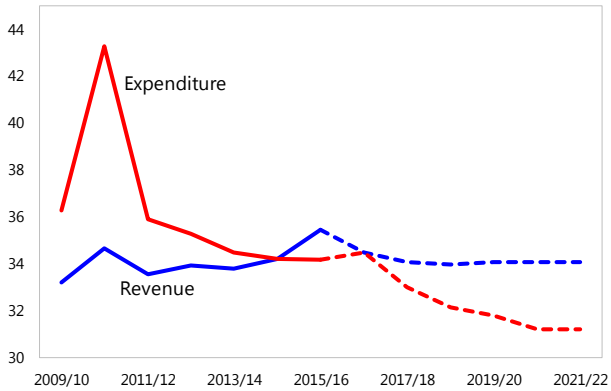
… and a low level of public debt.

Net Public Debt
(% GDP; 2016)



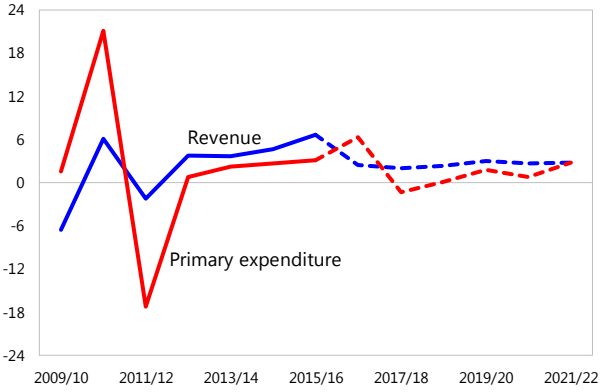
Expenditure restraint …

Central Government Revenue and Expenditure
(% GDP)



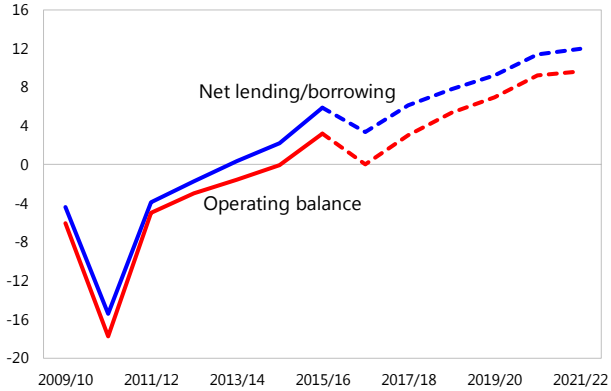
… aided by low borrowing costs and solid revenue growth…

Real Revenue and Real Primary Expenditure
(Y/Y % change)



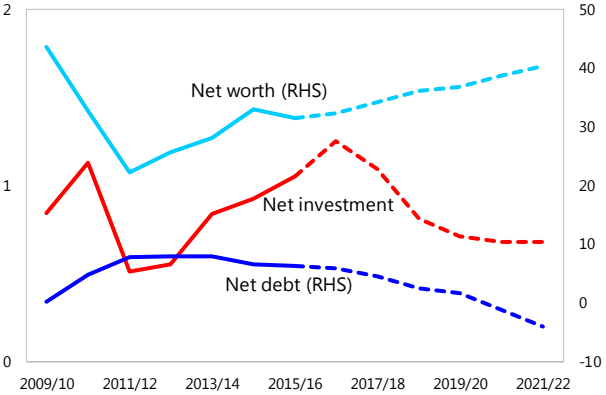
…is expected to yield sizable consolidation going forward…

Overall and Operating Balance
(% GDP)



… and a reduction in net debt.

Central Government Investment and Balance Sheet
(% GDP)



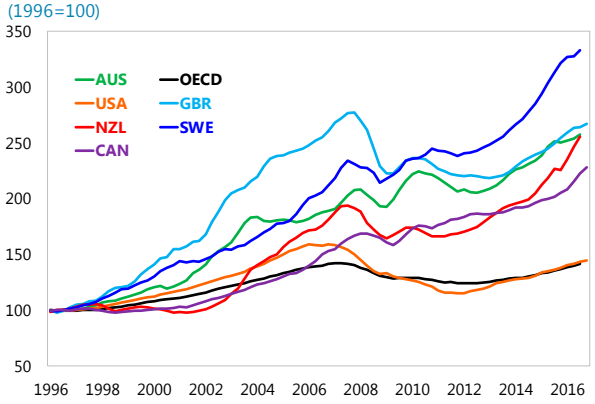
Sources: The Treasury, Budget 2016; and IMF staff estimates.

Figure 5. Housing Market

House price increases are above the OECD average ...

Real House Prices vs OECD

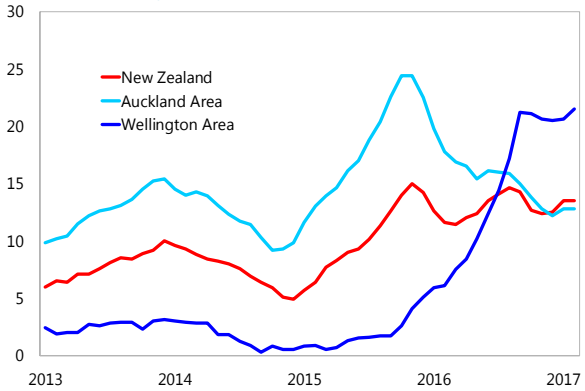
(1996=100)



... and regionally differentiated.

Residential House Prices: Regional Differences

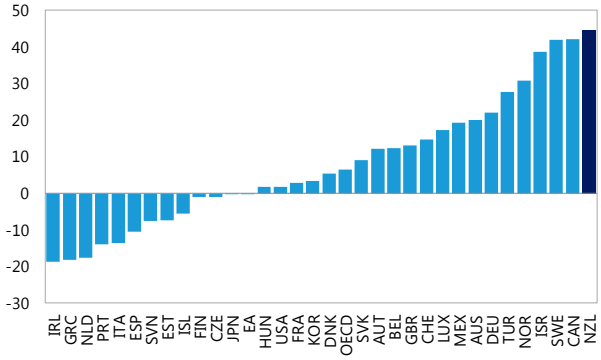
(Y/Y percent change)



Standard house price valuation metrics ...

Price-to-Rent Ratio

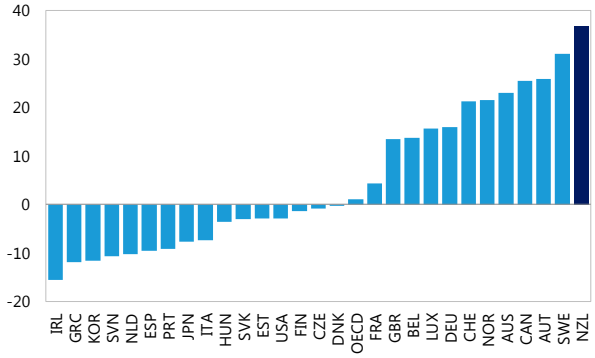
(Nominal house prices over rent prices, 2010=100; Deviation from average, 2000 to latest available)



... put New Zealand on top of the OECD.

House Price-to-Income Ratio

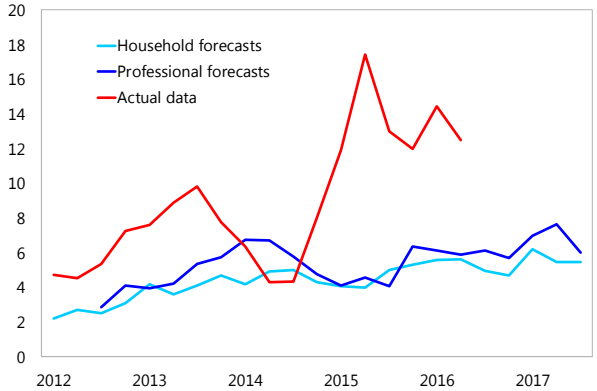
(Nominal house prices over nominal disposable income per head, 2010=100; Deviation from average, 2000 to latest available)



Nevertheless, house price expectations remain contained ...

House Price Expectations

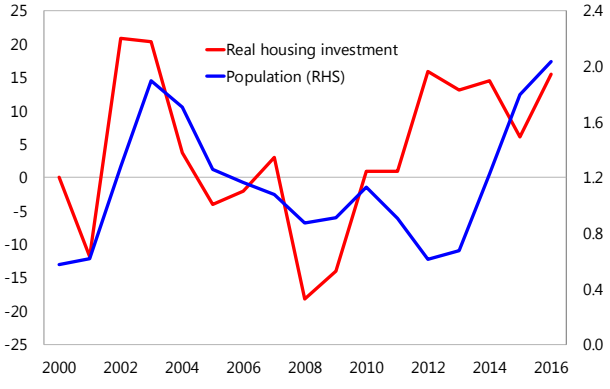
(Y/Y % change)



... and a lack of housing supply also plays a role.

Population and Real Housing Investment

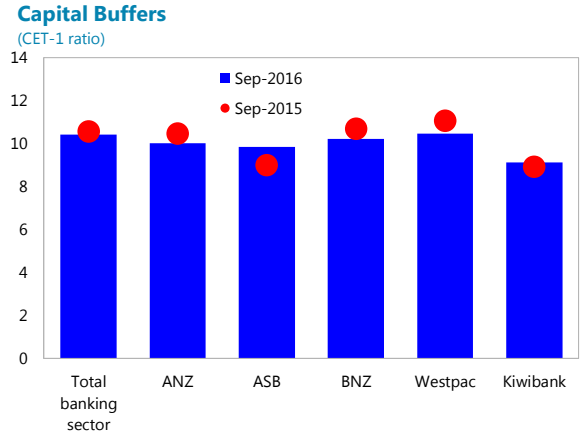
(Y/Y % change)



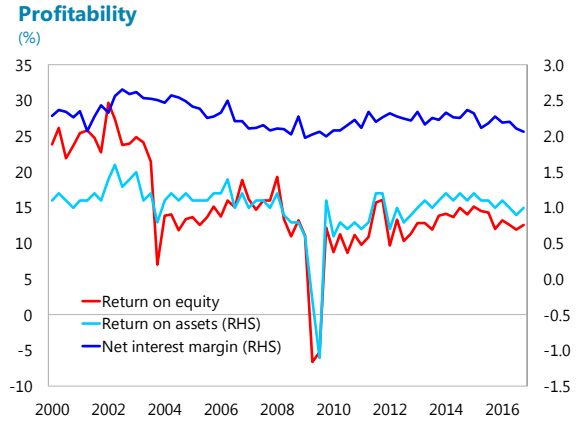
Sources: Reserve Bank of New Zealand; OECD; QV via Corelogic; and Haver Analytics.

Figure 6. Banking Sector

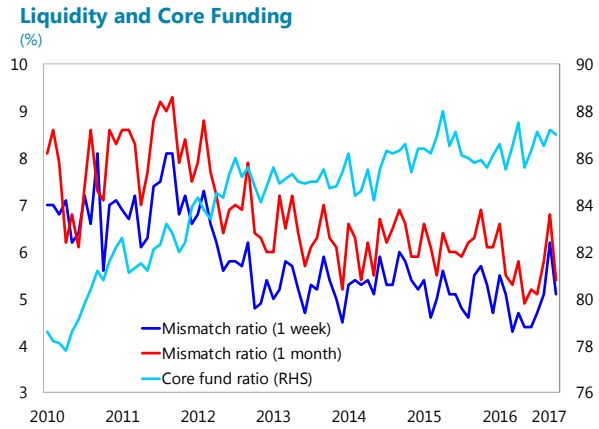
Headline capital buffers have not increased recently …



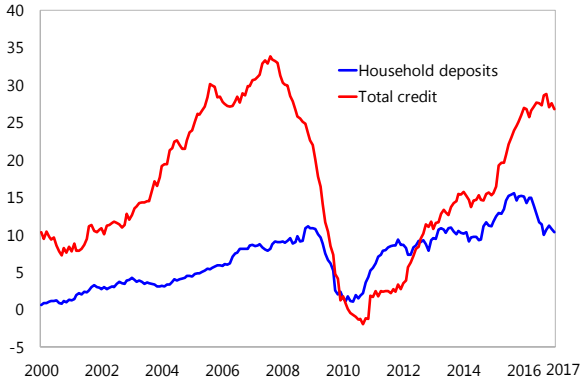
… although profitability remains high.



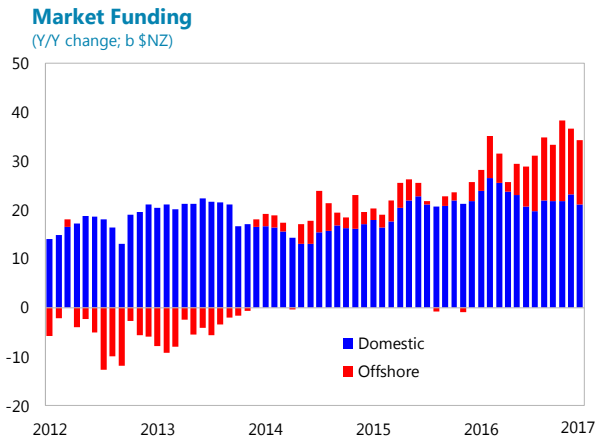
Liquidity and core funding ratios remain stable.



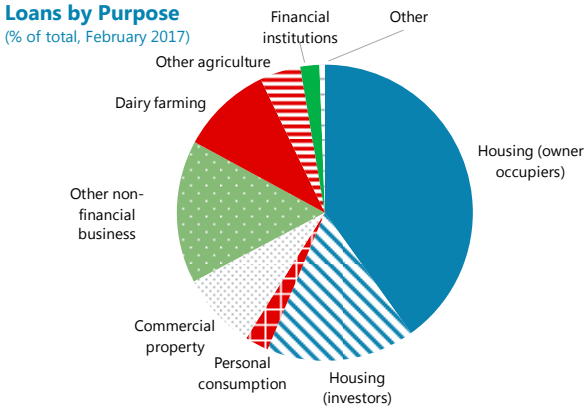
Credit growth exceeds deposit growth…



… leading to higher market funding needs.



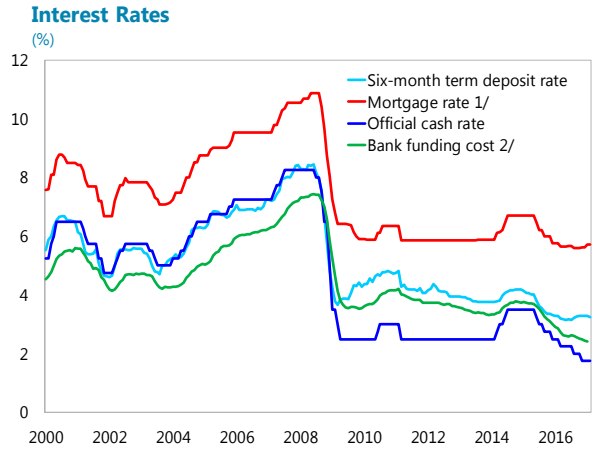
Exposures are concentrated in the housing market.



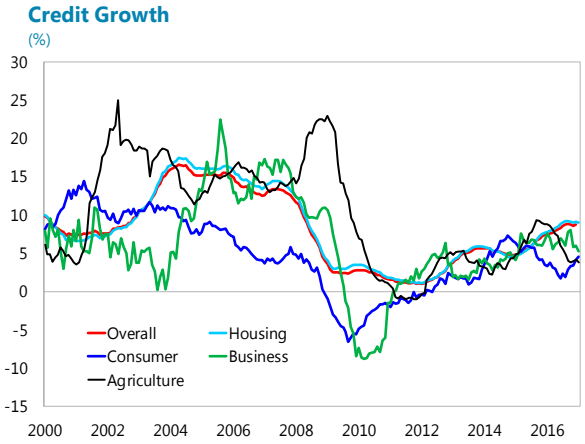
Source: Reserve Bank of New Zealand.

Figure 7. Key Macro-Financial Trends

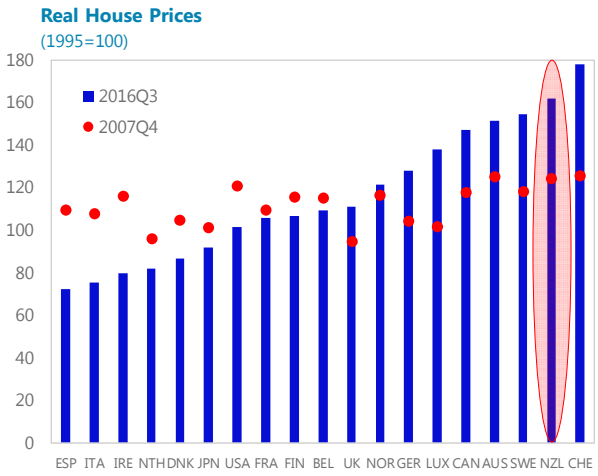
Low interest rates …



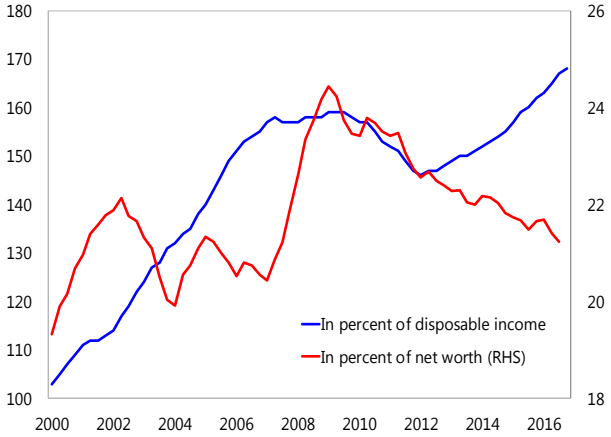
… have supported high housing credit growth …



… leading to a strong increase in house prices …



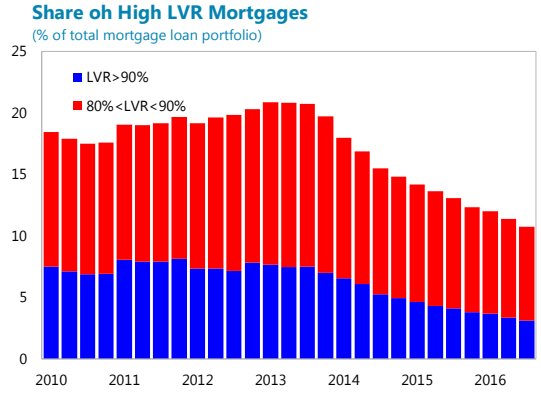
…and higher household debt.



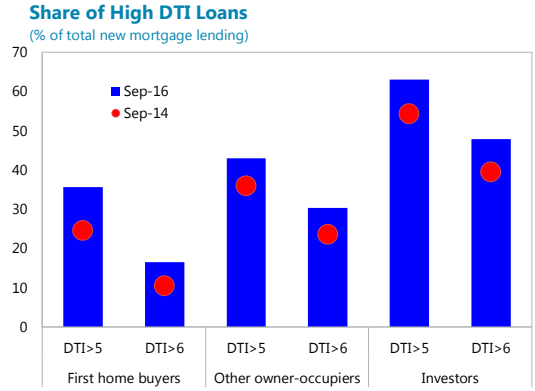
Sources: Reserve Bank of New Zealand; and Haver Analytics.
1/ Floating first mortgage new customer housing rate.
2/ M3 institutions prior to Nov 2004 and registered banks afterwards.

Figure 8. Residential Housing Loans: Risk Profile

While the share of high loan-to-value mortgages has fallen…



… there are more and more loans with high debt service.



Source: Reserve Bank of New Zealand.

Table 1. New Zealand: Main Economic Indicators, 2010-2022

(Annual percent change, unless otherwise indicated)

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
								Projections					
NATIONAL ACCOUNTS													
Real GDP (production)	1.7	1.8	2.5	2.2	3.4	2.5	3.1	3.1	3.0	2.6	2.6	2.6	2.5
Real GDP (expenditure)	2.0	1.9	2.5	2.1	2.8	3.1	4.0	3.1	2.9	2.6	2.6	2.6	2.5
Domestic demand	3.7	3.3	2.8	3.6	4.2	2.2	4.7	4.3	3.2	2.8	2.7	2.7	2.7
Private consumption	3.1	2.7	2.7	3.3	3.1	2.9	4.2	4.1	3.5	3.2	3.1	3.1	3.1
Public consumption	0.4	2.8	-0.5	1.4	3.3	2.6	2.3	1.6	0.8	0.8	0.8	0.8	0.8
Investment	8.4	5.3	6.5	6.8	9.9	0.7	6.5	5.4	4.3	3.4	3.2	3.1	3.0
Public	2.5	0.8	-6.9	6.7	10.7	5.4	0.8	2.4	1.4	1.1	1.0	1.0	1.0
Private	-0.3	9.0	11.7	8.5	7.6	0.9	7.5	7.0	5.6	4.2	3.9	3.8	3.7
Private business	-0.9	13.4	10.2	4.5	6.0	0.4	5.7	7.9	5.8	4.1	4.1	4.1	4.1
Dwelling	0.9	-0.2	15.3	17.5	10.9	2.0	11.0	5.5	5.1	4.5	3.7	3.2	3.0
Inventories (contribution to growth, percent)	1.5	-0.2	0.1	-0.2	0.4	-0.3	0.2	-0.1	0.0	0.0	0.0	0.0	0.0
Net exports (contribution to growth, percent)	-1.9	-1.3	-0.3	-1.6	-1.6	0.8	-0.9	-1.1	-0.5	-0.4	-0.3	-0.3	-0.3
Real gross domestic income	4.0	2.7	1.1	4.3	5.0	0.8	4.8	3.8	2.6	2.7	2.6	2.7	2.8
Investment (percent of GDP)	20.2	19.9	21.1	21.9	22.6	22.7	23.4	24.1	24.5	24.6	24.8	24.9	24.9
Public	6.2	6.0	5.5	5.6	5.9	6.2	6.0	6.0	6.0	5.9	5.8	5.7	5.6
Private	14.1	13.9	15.6	16.4	16.7	16.6	17.4	18.1	18.5	18.8	19.0	19.2	19.4
Savings (gross, percent of GDP)	24.6	19.8	17.4	19.0	19.3	19.4	20.6	21.6	21.3	21.3	21.3	21.4	21.5
Public	0.9	1.1	2.0	3.3	4.0	4.1	0.6	0.6	1.5	2.1	2.6	2.8	2.8
Private	23.8	18.8	15.4	15.8	15.5	16.0	20.0	21.0	19.9	19.3	18.8	18.5	18.6
Potential output	1.3	1.5	2.0	2.3	2.8	2.7	2.7	2.6	2.6	2.6	2.6	2.6	2.6
Output gap (percent of potential)	-1.4	-1.1	-0.7	-0.8	-0.3	-0.5	-0.1	0.4	0.8	0.7	0.7	0.6	0.5
LABOR MARKET													
Employment	0.5	1.4	0.2	1.5	3.5	2.2	4.6	3.0	1.8	1.3	1.3	1.3	1.3
Unemployment (percent of labor force)	6.2	6.0	6.4	5.8	5.4	5.4	5.1	5.0	4.8	4.8	4.8	4.8	4.9
Wages (nominal percent change)	1.2	2.9	3.0	2.4	2.5	2.3	1.9	1.8	2.2	2.3	2.4	2.4	2.4
PRICES													
Terms of trade index (goods, % change)	8.8	3.9	-6.3	8.5	5.6	-5.2	2.4	1.1	-1.1	0.7	0.2	0.4	0.9
Consumer prices (avg, % change)	2.3	4.0	1.1	1.1	1.2	0.3	0.6	1.5	2.0	2.0	2.0	2.0	2.0
GDP deflator (avg, % change)	3.2	3.0	-0.3	3.2	1.8	0.8	2.4	2.1	1.7	2.1	2.0	2.2	2.2
MACRO-FINANCIAL													
Reserve Bank of New Zealand Policy Rate (percent, avg)	2.7	2.6	2.5	2.5	3.1	3.2	2.1	1.8	2.3	2.7	3.0	3.0	3.0
Credit to the private sector (percent change)	0.5	1.7	3.7	5.1	4.5	8.4	7.5	6.1	5.5	4.8	4.7	4.8	4.8
House prices (percent change, avg)	2.1	1.1	4.9	9.0	6.5	11.6	12.7	9.0	6.1	4.6	4.2	4.0	4.0
Interest payments (percent of disposable income)	10.4	9.4	8.8	8.5	9.1	9.4	8.7	9.4	9.7	10.3	10.4	10.6	10.9
Household savings (percent of disposable income)	5.1	5.4	3.9	3.5	2.2	1.4	1.5	1.7	1.9	2.1	2.2	2.4	2.6
Household debt (percent of disposable income)	153	147	148	151	155	162	164	170	171	171	170	169	168
CENTRAL GOVERNMENT (percent of GDP) 1/													
Revenue	34.0	33.9	34.0	33.9	33.9	34.9	34.8	34.2	34.0	34.0	34.1	34.1	34.0
Expenditure	39.9	39.3	35.9	34.9	34.2	34.2	34.2	33.7	32.6	32.0	31.5	31.2	31.2
Net lending/borrowing	-5.9	-5.4	-1.9	-1.0	-0.3	0.6	0.6	0.6	1.5	2.1	2.6	2.8	2.8
Operating balance	-4.9	-4.6	-1.3	-0.3	0.5	1.6	1.8	1.7	2.4	2.8	3.3	3.5	3.5
Cyclically adjusted balance	-5.0	-4.4	-0.9	-0.3	0.1	1.2	1.4	1.3	2.1	2.7	3.1	3.4	3.4
Gross debt	26.0	30.8	31.3	30.0	29.5	29.6	29.5	27.4	23.7	21.2	18.7	15.5	12.4
Net debt	2.5	6.3	7.9	7.9	7.2	6.4	6.1	5.2	3.5	2.1	0.2	-2.6	-5.3
Net worth	38.1	27.2	24.2	26.9	30.5	32.4	31.9	33.3	35.2	36.5	37.8	39.6	41.3
BALANCE OF PAYMENTS													
Current account (percent of GDP)	-2.3	-2.8	-3.9	-3.2	-3.2	-3.4	-2.7	-2.5	-3.1	-3.3	-3.4	-3.5	-3.5
Export volume	3.3	2.6	1.9	0.8	3.0	6.9	1.6	3.3	3.3	3.4	3.6	3.6	3.6
Import volume	10.8	7.0	2.8	6.2	7.9	3.7	4.0	6.3	4.2	4.1	4.0	4.0	4.1
Net international investment position (percent of GDP)	-71.8	-69.0	-70.6	-64.9	-65.9	-62.2	-59.9	-59.4	-59.9	-60.5	-61.3	-62.0	-62.6
Gross official reserves (bn US$)	16.4	17.2	17.7	16.5	15.8	14.3	...	...	...	...	...	...	...
MEMORANDUM ITEMS													
Nominal GDP (bn NZ$)	201	211	216	228	240	247	261	275	288	302	316	331	347
Percent change	4.9	4.9	2.2	5.4	5.2	3.3	5.5	5.3	4.7	4.8	4.7	4.8	4.9
Nominal GDP per capita (US$)	33,222	37,989	39,554	41,738	43,698	37,281	38,345	41,108	42,431	43,939	45,469	47,075	48,779
Real gross national disposable income per capita (NZ$)	43,737	44,563	44,981	46,403	47,729	47,781	49,250	50,602	51,212	51,926	52,626	53,372	54,200
Percent change	2.7	1.9	0.9	3.2	2.9	0.1	3.1	2.7	1.2	1.4	1.3	1.4	1.6
Population (million)	4.3	4.4	4.4	4.4	4.5	4.6	4.6	4.7	4.8	4.9	4.9	5.0	5.1
US$/NZ$ (average level)	0.7	0.8	0.8	0.8	0.8	0.7	0.7	...	...	...	...	...	...
Nominal effective exchange rate	100	103	108	112	117	111	112	...	...	...	...	...	...
Real effective exchange rate	100	104	108	111	115	109	109	...	...	...	...	...	...

Sources: Authorities' data and IMF staff estimates and projections.

1/ Calendar year.

Table 2. New Zealand: Fiscal Accounts, 2011/12-2021/22 1/

(In percent of GDP, unless otherwise indicated)

	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
						Projections					
CENTRAL GOVERNMENT 2/											
Revenue	**33.6**	**33.9**	**33.8**	**34.2**	**35.1**	**34.5**	**34.1**	**34.0**	**34.1**	**34.1**	**34.1**
Tax revenue	27.1	27.7	27.6	28.4	28.8	29.2	29.4	29.4	29.4	29.7	29.7
Direct taxes	16.6	17.2	17.1	17.8	18.0	18.7	18.9	18.9	19.1	19.4	19.4
Individual and withholding	11.8	12.2	12.2	12.5	12.6	13.3	13.3	13.3	13.4	13.4	13.4
Corporate	4.8	5.0	5.0	5.2	5.4	5.4	5.5	5.6	5.8	6.0	6.0
Indirect taxes	10.5	10.5	10.5	10.7	10.8	10.4	10.5	10.4	10.3	10.2	10.2
Of which: GST	7.0	7.1	7.1	7.2	7.4	7.8	7.9	7.9	7.8	7.8	7.8
Non-tax revenue	6.5	6.2	6.2	5.8	6.3	5.3	4.7	4.6	4.6	4.4	4.4
Expenditure	**35.9**	**35.3**	**34.5**	**34.2**	**33.8**	**34.5**	**33.0**	**32.1**	**31.8**	**31.2**	**31.2**
Expense	35.4	34.7	33.6	33.3	32.8	33.2	31.9	31.3	31.1	30.5	30.5
Employee expenses	8.9	8.7	8.5	8.5	8.4	8.4	8.0	7.6	7.3	7.1	7.1
Other operating expenses (excl. depreciation)	4.0	3.9	4.0	3.9	3.9	4.0	4.0	4.0	4.0	4.0	4.0
Social benefits	15.2	15.0	14.6	14.4	14.2	14.3	14.0	13.9	13.9	13.9	13.9
Other transfers	4.3	4.2	3.9	3.8	3.0	2.8	2.7	2.7	2.7	2.6	2.6
Interest	1.7	1.7	1.5	1.5	1.4	1.4	1.4	1.3	1.2	1.2	1.2
Other	1.2	1.2	1.2	1.2	1.9	2.4	1.8	1.8	2.0	1.7	1.7
Net acquisition of nonfinancial assets	0.5	0.6	0.8	0.9	1.1	1.3	1.1	0.8	0.7	0.7	0.7
Of which: Gross fixed capital formation	1.8	1.7	1.8	2.0	2.0	2.2	1.8	1.5	1.7	1.6	1.6
Operating balance	-1.8	-0.8	0.2	0.9	2.3	1.3	2.2	2.6	3.0	3.5	3.5
Primary balance	-0.7	0.4	0.8	1.5	2.7	1.4	2.5	3.1	3.5	4.0	4.0
Net lending (+)/borrowing (-)	**-2.4**	**-1.3**	**-0.7**	**0.0**	**1.3**	**0.0**	**1.1**	**1.8**	**2.3**	**2.8**	**2.8**
CENTRAL GOVERNMENT BALANCE SHEET 2/											
Liabilities	**65.9**	**60.6**	**57.6**	**56.7**	**59.0**	**57.3**	**51.9**	**47.7**	**45.4**	**41.0**	**36.7**
Gross debt	32.1	30.0	29.9	29.3	29.5	29.5	25.5	22.0	20.3	17.1	13.9
Other liabilities 3/	33.8	30.5	27.7	27.4	29.5	27.7	26.3	25.7	25.0	23.9	22.8
Assets	**88.1**	**86.2**	**85.8**	**89.8**	**90.5**	**89.6**	**86.1**	**83.8**	**82.2**	**79.6**	**77.1**
Financial assets	54.8	53.6	52.7	56.2	55.3	55.0	52.0	50.5	49.6	47.9	46.2
Debt relevant	24.3	22.1	22.0	22.7	23.2	23.6	20.9	19.5	18.6	18.3	17.9
Other	30.5	31.5	30.7	33.5	32.1	31.3	31.1	31.0	31.0	29.6	28.2
Other assets	33.3	32.6	33.1	33.5	35.2	34.6	34.1	33.3	32.5	31.8	31.0
Net financial worth	**-11.0**	**-7.0**	**-4.9**	**-0.5**	**-3.7**	**-2.3**	**0.2**	**2.8**	**4.2**	**6.9**	**9.4**
Net debt 4/	**7.8**	**7.9**	**7.9**	**6.6**	**6.3**	**5.9**	**4.6**	**2.5**	**1.7**	**-1.2**	**-4.0**
Net worth	**22.3**	**25.7**	**28.1**	**33.1**	**31.5**	**32.3**	**34.2**	**36.2**	**36.8**	**38.7**	**40.4**
MEMORANDUM ITEMS											
Cyclically adjusted balance (percent of potential GDP)	-2.0	-1.1	-0.7	0.0	1.5	0.2	1.1	1.8	2.2	2.8	2.9
Change in real revenue (percent)	-2.2	3.8	3.7	4.7	6.7	2.4	2.0	2.3	3.0	2.6	2.8
Change in real primary expenditure (percent)	-17.2	0.8	2.3	2.6	3.1	6.3	-1.4	0.1	1.8	0.8	2.8
New Zealand Superannuation Fund											
Budget transfers (+ = receipts)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net assets	8.8	10.2	11.1	12.1	11.4	12.0	12.2	12.4	12.6	12.9	13.0
Contributed capital	7.0	6.7	6.4	6.1	5.9	5.6	5.3	5.0	4.8	4.6	4.4
Local governments											
Revenue	4.1	4.1	3.9	4.0	4.1	4.1	4.1	4.1	4.1	4.1	4.1
Expenditure	4.3	4.6	4.2	4.3	4.1	4.1	4.1	4.1	4.1	4.1	4.1
Net lending (+)/borrowing (-)	-0.2	-0.5	-0.3	-0.3	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
Net debt	2.7	3.1	3.1	3.3	3.7	3.6	3.5	3.4	3.4	3.3	3.2
Net worth	43.0	42.0	4.5	4.4	4.1	4.5	4.8	5.1	5.4	5.7	6.0
GDP (in billion NZ$)	214	222	234	243	254	268	281	295	309	323	339

Sources: Authorities' data and IMF staff estimates and projections.

1/ The fiscal year runs from July to June.
2/ Accrual basis; GFS. Comprises Core Crown (excl. Reserve Bank of New Zealand) and Crown entities. Includes New Zealand Superannuation Fund.
3/ "Other liabilities" include government pension liabilities, and the Accident Compensation Corporation (ACC) liabilities (roughly 85 percent funded by assets, and projected to be fully funded by 2019/2020).
4/ "Net debt" is gross debt less debt-relevant financial assets - cash and equivalents, marketable securities, etc. (often held to cover pension liabilities).

Table 3. New Zealand: Balance of Payments, 2010-2022

(In percent of GDP, unless otherwise indicated)

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
								Projections					
BALANCE OF PAYMENTS													
(% GDP)													
Current account	-2.3	-2.8	-3.9	-3.2	-3.2	-3.4	-2.7	-2.5	-3.1	-3.3	-3.4	-3.5	-3.5
Balance on goods and services	2.3	2.1	0.5	1.0	1.1	0.6	0.7	0.3	-0.2	-0.3	-0.5	-0.5	-0.4
Exports of goods and services	29.8	30.8	29.0	28.5	28.3	28.2	26.8	26.7	26.6	26.8	26.8	26.7	26.6
Exports of goods	21.8	22.8	21.5	21.3	21.1	19.9	18.5	18.5	18.6	19.0	19.3	19.5	19.6
Exports of services	8.0	8.0	7.5	7.2	7.3	8.3	8.3	8.2	8.0	7.8	7.5	7.2	6.9
Imports of goods and services	27.5	28.7	28.6	27.5	27.3	27.6	26.1	26.4	26.8	27.1	27.3	27.2	27.0
Imports of goods	20.4	21.5	21.5	20.7	20.6	20.8	19.5	19.9	20.1	20.3	20.5	20.4	20.3
Imports of services	7.0	7.3	7.1	6.8	6.6	6.8	6.6	6.6	6.7	6.8	6.8	6.8	6.7
Primary income, net	-4.6	-4.7	-4.1	-3.9	-4.0	-3.7	-3.0	-3.3	-3.3	-3.4	-3.4	-3.4	-3.5
Inflows	2.9	2.9	3.1	3.1	3.0	3.0	3.0	3.2	3.2	3.2	3.2	3.2	3.2
Outflows	7.5	7.6	7.2	6.9	7.0	6.7	6.0	6.5	6.5	6.6	6.6	6.6	6.6
Secondary income, net	0.0	-0.1	-0.2	-0.2	-0.2	-0.1	-0.3	0.5	0.4	0.4	0.4	0.4	0.4
Inflows	0.7	0.6	0.6	0.5	0.7	0.8	0.8	1.1	1.0	1.0	1.0	1.0	1.0
Outflows	0.7	0.7	0.8	0.7	0.9	1.0	1.2	0.6	0.6	0.7	0.6	0.6	0.6
Capital and financial account													
Capital account, net	3.0	6.8	0.0	0.0	0.0	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Financial account, net	0.6	0.9	-4.0	0.3	-1.8	0.8	-2.0	-2.5	-3.1	-3.3	-3.4	-3.5	-3.5
Direct investment	0.7	-0.1	-0.1	-0.7	0.7	0.1	-0.4	0.7	0.6	0.6	0.6	0.6	0.6
Equity	0.3	0.0	-0.1	0.5	0.2	0.0	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Debt	0.4	0.0	0.0	-1.3	0.5	0.1	-0.8	0.3	0.2	0.2	0.2	0.3	0.3
Portfolio investment	1.5	0.6	1.6	4.0	4.8	2.1	4.0	2.4	2.1	2.1	2.1	2.2	2.2
Equity	1.3	-0.3	-0.1	2.7	1.6	0.8	2.2	1.5	1.3	1.3	1.3	1.3	1.4
Debt	0.2	0.9	1.8	1.3	3.2	1.3	1.7	0.9	0.8	0.8	0.8	0.8	0.8
Financial derivatives	0.1	0.1	0.2	-0.3	-1.0	-2.8	-2.1	0.5	0.4	0.4	0.4	0.4	0.5
Other investment	1.5	2.0	-2.2	-1.5	-1.4	0.3	-1.4	0.6	0.5	0.5	0.5	0.5	0.5
Reserve assets	0.6	0.2	0.3	-0.5	-0.2	-0.6	1.8	...	...	...	...	...	...
Net errors and omissions	-0.2	-3.1	0.0	3.5	1.4	4.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0
BALANCE SHEET													
Net international investment position	-71.8	-69.0	-70.6	-64.9	-65.9	-62.2	-59.9	-59.4	-59.9	-60.5	-61.3	-62.0	-62.6
Equity, net	4.0	0.0	-2.3	-2.1	-5.6	-4.8	-4.1	-3.9	-4.1	-4.2	-4.4	-4.6	-4.8
Assets	32.0	28.5	28.9	31.5	32.8	35.6	37.3	37.3	37.3	37.3	37.3	37.3	37.3
Liabilities	28.1	28.5	31.2	33.6	38.4	40.5	41.4	41.3	41.4	41.6	41.8	42.0	42.1
Debt, net	-86.6	-79.5	-78.2	-71.5	-68.8	-66.0	-65.7	-65.3	-65.6	-66.1	-66.6	-67.2	-67.6
Assets	40.3	44.4	42.6	37.8	40.6	46.6	45.0	45.0	45.0	45.0	45.0	45.0	45.0
Liabilities	126.9	123.8	120.8	109.4	109.4	112.6	110.7	110.3	110.7	111.1	111.6	112.2	112.6
External assets (gross)	83.1	83.3	81.4	78.1	81.8	90.9	92.1	92.1	92.1	92.1	92.1	92.1	92.1
Equity	32.0	28.5	28.9	31.5	32.8	35.6	37.3	37.3	37.3	37.3	37.3	37.3	37.3
Debt	40.3	44.4	42.6	37.8	40.6	46.6	45.0	45.0	45.0	45.0	45.0	45.0	45.0
External liabilities (gross)	154.9	152.3	152.0	143.0	147.8	153.1	152.1	151.6	152.1	152.7	153.4	154.1	154.8
Equity	28.1	28.5	31.2	33.6	38.4	40.5	41.4	41.3	41.4	41.6	41.8	42.0	42.1
Debt	126.9	123.8	120.8	109.4	109.4	112.6	110.7	110.3	110.7	111.1	111.6	112.2	112.6
Of which: NZ$ denominated	62.6	64.6	67.4	68.1	61.0	64.5	67.0	59.7	59.8	60.0	60.3	63.4	63.7
FX denominated	60.9	57.7	51.3	45.7	43.6	45.6	45.8	45.9	46.0	46.1	46.4	48.7	48.9
Short-term	49.7	48.5	47.5	39.8	35.6	35.1	35.8	35.7	35.8	36.0	36.1	36.3	36.5
MEMORANDUM ITEMS													
Gross official reserves (bn NZ$)	16.4	17.2	17.7	16.5	15.8	14.3	18.2	...	...	...	...	...	...
In months of prospective imports	4.3	4.3	4.1	3.7	3.6	3.8	4.2	...	...	...	...	...	...
In percent of short-term external debt	21.7	21.5	20.9	22.0	23.7	24.7	27.3	...	...	...	...	...	...

Sources: Authorities' data and IMF staff estimates and projections.

Table 4. New Zealand: Monetary and Financial Sector, 2014-2022

(In billion NZ$, unless otherwise indicated)

	2014	2015	2016	2017	2018	2019	2020	2021	2022
						Projections			
BANKING SYSTEM (M3 Institutions)									
Assets	427	467	496	520	544	570	597	625	656
Government securities and cash	23	22	23	24	25	27	28	29	31
NZ Government bonds and Treasury bills	13	12	13	14	14	15	16	16	17
NZ notes and coin	1	1	1	1	1	1	1	1	1
Claims on the Reserve Bank	9	9	9	9	10	10	11	11	12
NZL dollar claims	365	395	425	450	475	498	521	546	573
M3	14	14	15	16	17	18	19	20	21
Non-M3	341	365	393	416	439	460	482	505	529
Non-resident	10	16	17	18	19	20	21	22	23
Foreign currency claims	11	13	13	14	15	16	16	17	18
NZ resident	4	4	4	4	4	4	5	5	5
Non-resident	7	9	10	10	11	11	12	12	13
Other assets	28	37	40	42	44	46	48	50	52
Liabilities	427	467	496	520	544	570	597	625	656
Capital and reserves	32	34	36	38	40	42	44	46	48
NZL dollar funding	295	317	339	357	374	392	410	430	451
Resident	262	283	304	320	335	351	368	385	404
Non-resident	33	33	35	37	39	41	43	45	47
Foreign currency funding	74	79	81	83	87	91	96	100	105
Resident	8	10	10	11	11	12	12	13	13
Non-resident	66	69	71	73	76	80	83	87	92
Other liabilities	27	37	39	41	43	45	47	50	52
MEMORANDUM ITEMS									
Private sector credit (percent of GDP)	147	154	157	158	159	159	159	159	159
Private sector credit (percent change)	4.5	8.4	7.5	6.1	5.5	4.8	4.7	4.8	4.8
Mortgage lending	194	210	228	245	260	272	284	295	307
Mortgage lending (percent change)	4.4	7.8	8.9	7.5	6.1	4.6	4.2	4.0	4.0
Loan-to-deposit ratio (percent)	140	138	139	140	141	141	141	141	141
Nonresident funding (percent of total liabilities)	23.1	22.0	21.4	21.1	21.1	21.1	21.1	21.1	21.1
Nominal GDP	240	247	261	275	288	302	316	331	347

Sources: RBNZ and IMF staff calculations.

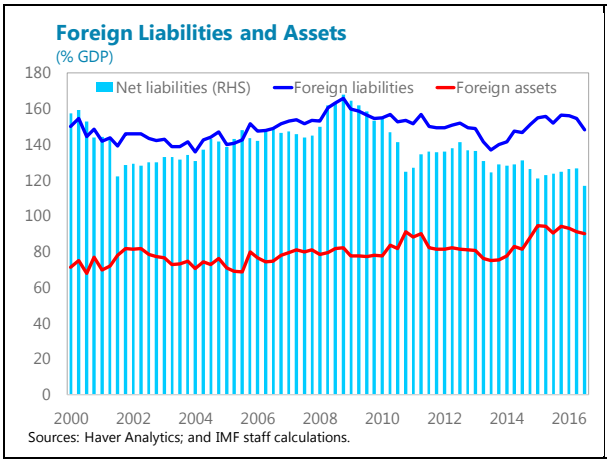
Table 5. New Zealand: Financial Sector Indicators, 2010-2016Q3

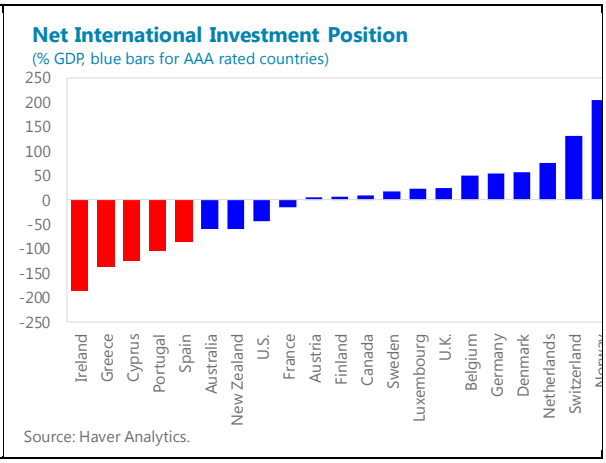
	2010	2011	2012	2013	2014	2015	2016Q3
Interest rates (percent end-year)							
90-day bank bill rate	3.0	2.8	2.7	2.7	3.4	3.2	2.5
90-day bank bill rate, real	0.7	-1.2	1.6	1.5	2.2	2.9	2.2
Stock market index (percent change, end-year)	2.4	-1.0	24.2	16.5	17.5	13.6	8.8
Capital adequacy (in percent)							
Regulatory capital to risk-weighted assets	12.8	13.3	13.1	12.5	12.4	13.5	13.1
Tier I capital to risk-weighted assets	9.8	10.6	11.5	11.4	11.4	12.1	11.9
Capital to assets	7.4	7.9	8.2	8.7	8.4	8.2	8.0
Asset quality (in percent)							
Non-performing loans to total loans	2.1	1.7	1.4	1.0	0.8	0.5	0.5
Non-performing loans net of provisions to capital	18.7	13.7	9.8	6.9	5.4	3.9	4.2
Non-performing loans (in millions of NZ$)	6,255	5,239	4,312	3,380	2,790	2,000	2,087
Liquid assets to total assets	16.5	16.9	16.2	16.2	15.7	15.0	14.0
1-month maturity mismatch (in percent)	7.3	9.3	7.9	7.0	6.9	6.3	5.2
Core funding ratio	81.2	82.8	85.6	85.5	86.3	85.8	86.3
Customer deposits to total loans	-	69.6	70.6	72.6	73.4	73.7	71.8
Off-shore wholesale funding to total liabilities 1/	27.4	24.3	21.6	20.3	20.1	19.6	19.8
Asset composition (share of total)							
Agricultural	15.8	15.5	15.7	15.5	15.5	15.6	15.3
Business	24.2	24.3	24.3	24.0	24.0	23.8	23.7
Households	60.0	60.1	60.0	60.5	60.5	60.5	61.0
Of which: Housing	55.6	55.8	55.7	56.3	56.3	56.4	57.1
Profit Ratios (%)							
Return on assets	0.8	1.2	0.9	1.1	1.1	1.0	0.9
Return on equity	11.2	16.1	11.4	13.9	14.1	12.0	11.9
Net interest margin	2.2	2.3	2.2	2.2	2.4	2.3	2.1

Sources: Data provided by the New Zealand authorities; and IMF staff estimates.
Note: Capital adequacy measures, NPLs net of provisions to capital, liquid assets, 1-month mismatch ratio, core funding ratio, and return on equity are calculated for locally incorporated banks only.
1/ Proxied by the share of foreign-currency-denominated liabilities to total liabilities.

Annex I. New Zealand's External Balance Sheet: Developments and Risk Profile

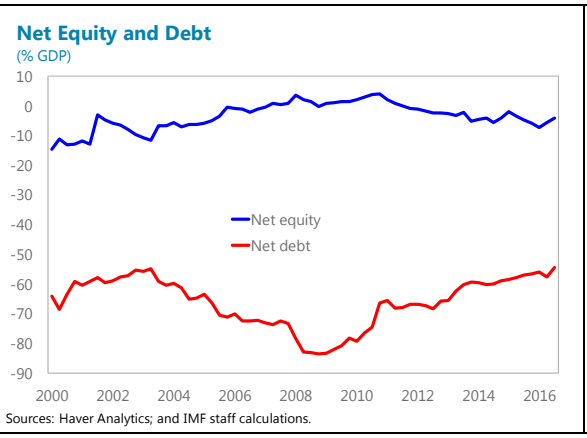
1. Large net foreign liabilities. New Zealand's net international investment position (NIIP) amounted to minus 63.3 percent of GDP at the end of 2016Q3. With this ratio, the country has the largest net foreign liabilities relative to GDP among AAA-rated countries. This reflects long-standing current account deficits and exposes the country to changing conditions in international financial markets ("external funding shocks"), although external balance sheet vulnerabilities do not only depend on the net level, but also on the structure of assets and liabilities. Another issue this annex considers is whether the impact of changes in asset prices and exchange rates on the value of outstanding foreign assets and liabilities—so-called valuation effects—have exacerbated or mitigated the impact of persistent current account deficits.



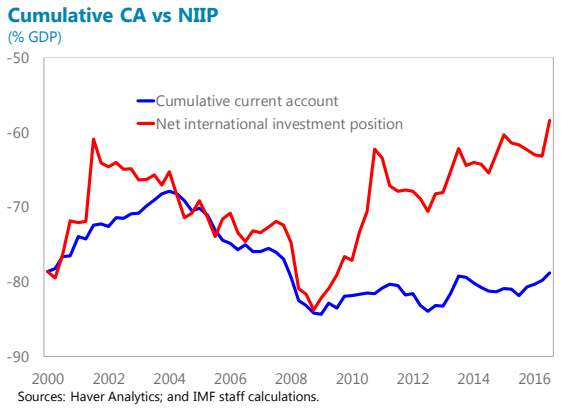


2. Valuation effects have mitigated the impact of persistent current account deficits on New Zealand's net external liabilities. Without valuation effects, net foreign liabilities would have been larger. The cumulated current account deficits since 2000Q2, using the initial value of the NIIP, would have implied net foreign liabilities of close to 80 percent of GDP at the end of 2016Q3, although this difference also includes other, non-valuation factors.

3. Total returns on external assets are higher than those on liabilities. Valuation effects influence the total return on assets and liabilities. Analysis along the lines of Gourinchas and Rey (2015) suggests that New Zealand has benefited from higher total returns earned on its external assets compared to those on its external liabilities. On average, the total return on the former has been 2.2 percent during 2000Q3-2016Q3, the period for which data are available, while that on the latter has been 1.8 percent. With external liabilities considerably larger, the total return differential was not large enough to prevent a positive net payoff to nonresidents on the net liabilities. Still, the latter has been small compared to the average growth rate of nominal GDP. If these trends in total returns continued, New Zealand's net foreign liabilities would not increase if the current account deficit remained relatively small as a percent of GDP. Indeed, since the global financial crisis, the net foreign liability position has remained broadly stable for this reason.



Sources: Haver Analytics; and IMF staff calculations.

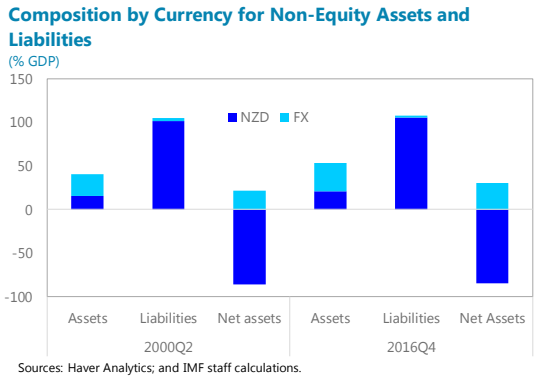


Sources: Haver Analytics; and IMF staff calculations.

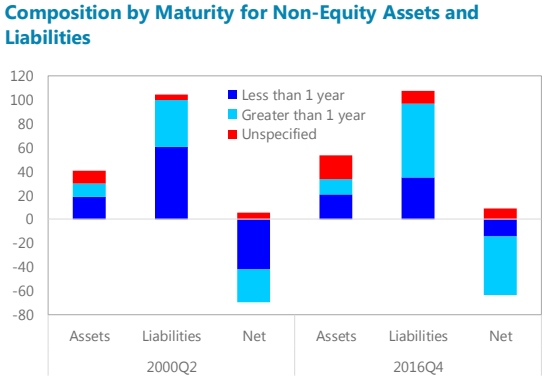
4. The structure of the external balance sheet has contributed to its resilience. It has remained broadly stable in terms of currency and asset composition.

- **Currency denomination.** As of mid-2016, almost 98 percent of the external liabilities were effectively denominated in domestic currency, reflecting the domestic currency denomination of government debt and banks' active hedging of foreign currency liabilities. About 58 percent of assets are foreign currency-denominated. Under the assumption that foreign assets in foreign currency are not hedged, New Zealand has a net long foreign currency position of close to 30 percent of GDP. Currency depreciation thus leads to improvements in the external balance sheet. Traditional concerns about adverse balance sheet effects from currency depreciation do therefore not apply, which helps to contain vulnerabilities in case of an external shock.

- **Maturity and instruments.** At the end of 2016Q3, 58% of non-equity liabilities were medium- to long-term debt instruments, with maturities of more than 1 year. The share of short-term debt liabilities decreased by some 20 percentage points since the early 2000s, reducing short-term refinancing risks. 24% of assets were held in long-term debt instruments. The net equity position has been broadly balanced at around zero, while the net debt position closely matches the net foreign liability position in magnitude.

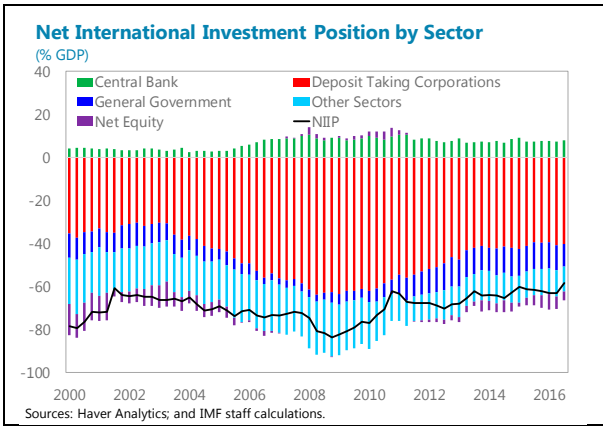


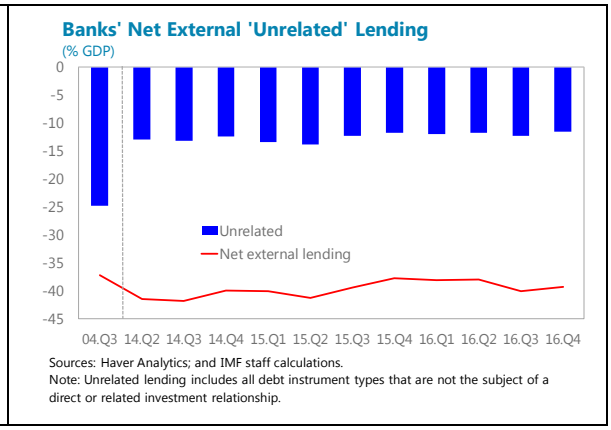
Sources: Haver Analytics; and IMF staff calculations.



Sources: Haver Analytics; and IMF staff calculations.

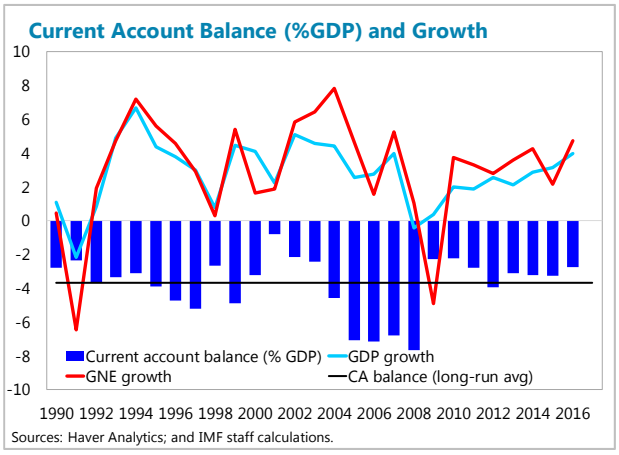
- **Sectors and the role of banks.** The net external liabilities of government accounts for 18 percent of the total at 2016Q3. Non-residents hold close to two-thirds of outstanding government securities as of 2016Q3, with much of those holdings in long-term bonds. Banks have been main channel for the intermediation of external financing to the other sectors in the economy. They account for and are responsible for about two-thirds of net external liabilities as of 2016Q3. Some 70 percent of banks' net foreign liabilities (and roughly 60 percent of gross foreign liabilities) can be traced to related parties, with Australian parent banks being the main source. As long as Australian banks remain resilient, this source should be stable, likely associated with a better understanding of local market conditions than many unrelated external creditors.



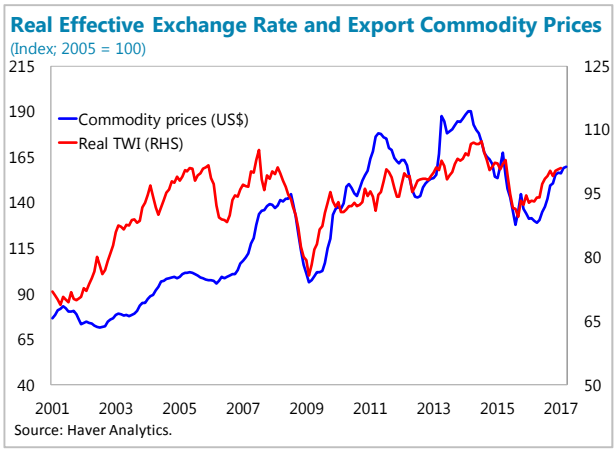


Annex II. External Sector Assessment

1. New Zealand has historically run a sizeable current account deficit, averaging around 3¾ of GDP. These deficits reflect a long-standing structural savings-investment imbalance, particularly low savings. They have resulted in a sizeable net negative international investment position (IIP). Developments and the risk profile of New Zealand's External Balance Sheet are discussed in Annex I.



2. During the boom of the early 2000s, domestic absorption grew ahead of output, partly driven by the sustained income gains from stronger prices for export commodities. These income gains were amplified by the currency appreciation from the commodity currency adjustment mechanism. The current account deficit widened, exceeding the long-run average by an increasing margin. In the course of the global financial crisis, however, the deficit narrowed abruptly, reflecting external financial constraints and weaker global demand, as well as a sizeable output gap in New Zealand. Domestic absorption contracted more than output, as households and firms had to deleverage, and national savings increased.



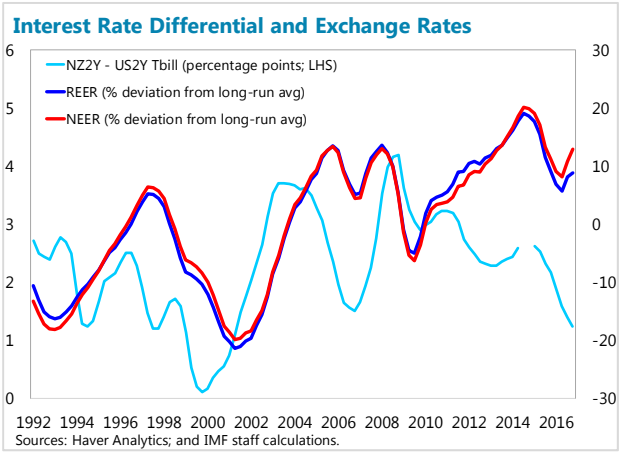
3. In the current expansion, which has again been mostly driven by domestic demand, the current account deficit as a percent of GDP initially widened, but it has since stabilized, and has remained below the long-run average throughout. This contrasting behavior reflects frequent reversals in the terms of trade and moderated private consumption growth compared to the early 2000s, and a sizeable pickup in the volume of service exports, particularly in tourism.

4. In 2015, the deficit widened temporarily with the sharp drop in dairy prices over 2014-2015, but with those prices recovering from the trough in April 2016, continued strength in service exports, and improvement in the primary income balance, the current account deficit narrowed to 2.7 percent of GDP in 2016 from 3.4 of GDP in 2015.

5. The IMF's model based assessments of the external balance suggest that the cyclically-adjusted current account balance in 2016 (estimated at minus 2.1 percent of GDP) exceeds the

estimated norm based on fundamentals and policy settings by 1.1 percent. [1] The cyclical adjustment mainly reflects a positive output gap relative to the rest of the world, given that the New Zealand economy is estimated to be broadly at capacity. Given recent improvements in commodity prices in 2016Q4, the contribution of terms of trade to the cyclical adjustment is small. Based on the estimated current account gap, the real effective exchange rate (REER) is overvalued by 4 percent (Table 1), assuming an EBA-estimated elasticity of the current account-to-GDP ratio and the REER of -0.25.

6. Except in 2009, New Zealand's trade weighted real effective exchange rate (REER) has been running 5-20 percent above its long-run average (over 1989 – 2016), which is often seen as indication of overvaluation. This strength has been supported by the improvements in the terms of trade and, especially since the global financial crisis, the relative attractiveness of New Zealand assets. Some of the recent fluctuations seem to have been associated with those in the terms of trade, consistent with the New Zealand's dollar status as a commodity currency. Indeed, with the terms of trade below their 2014Q2 peak, the REER is some 7 percent below its peak reached around the same time, notwithstanding some recent appreciation accompanying the improvement in commodity prices. As of December 2016, the REER was still nearly 15 percent above the long run average.



Text Table 1. EBA Exchange Rate Assessments

	2014	2015	2016
REER index regression	14%	6%	8%
Current account regression	2%	10%	4%
External sustainability	12%	7%	2%

Source: IMF EBA estimates.

7. The IMFs other model-based assessments of the REER also suggests that the extent overvaluation has narrowed recently. The range around the estimated degree of overvaluation has declined from around 0-15 percent in 2014 to around 0-10 percent according to the latest assessment (See Table 1), although there is substantial uncertainty associated with these estimates.

- **REER index regression.** This approach suggests that the exchange rate was overvalued by nearly 8 percent in 2016.

- **The External sustainability**. This approach, which determines the level of the current account consistent with an unchanged IIP position, suggests that the current account deficit should be about ½ percentage points lower in the medium term than it is currently projected (minus 2.9 percent of GDP, relative to the medium-term projection of minus 3.5 percent). This relatively

[1] The estimated norm for New Zealand has a standard deviation of 0.7, which would imply a current account gap in the range -1.7 and -0.3 percent of GDP within one standard deviation of the norm.

small gap implies that the REER would need to depreciate by around 2 percent to be consistent with medium-term fundamentals.

8. Overall, given that the REER still remains above the long-run average, and taking the estimated range of the current account gap, and the various IMF EBA estimates of the REER gap into account, the external position in 2016 is assessed to be moderately weaker than implied by fundamentals and policy settings.

Annex III. Risk Assessment Matrix

	Source of risks	Likelihood	Time horizon	Impact	Policies to reduce impact
	Domestic risks				
	Stronger growth because of higher net migration or stronger terms of trade	**M**	Short term to medium term	**M** This could lead to overheating and accelerating house price growth, thereby increasing vulnerabilities.	Accelerated fiscal consolidation, monetary policy tightening and tighter macroprudential policies if needed.
	Slower growth because of lower dairy price or tighter credit constraints	**M**	Short to medium term	**M** While this may cool housing market dynamics, it also increases disinflation risks. Weaker investment would hurt medium-term growth.	Monetary policy easing, coupled with fiscal policy easing if economy hits the zero lower bound.
	Housing market downturn	**L**	Short to medium term	**H** A sharp housing market correction would lower residential investment and private consumption. Financial accelerator effect would amplify the downturn.	Monetary and selective macroprudential policy easing; fiscal policy stimulus; measures to facilitate mortgage debt restructuring, including selected fiscal intervention.
	External Risks				
	Significant China slowdown (or other potential dairy price shock)	**L/M**	Short to medium term	**H** A hard landing in China would lower exports and lead to large commodity price declines, which could also affect dairy prices, potentially causing a major downturn in New Zealand, which could also trigger a hard landing in the housing market.	Combined monetary, selective macroprudential, and fiscal policy easing as economy could reach the zero lower bound quickly.
	Structurally weak growth in major advanced and emerging economies	**H/M**	Medium term	**M** Lower growth in these economies could result in lower exports and inhibit medium-term growth performance.	Temporary monetary and fiscal policy easing (especially if economy hits the zero lower bound). Structural reforms, including fiscal ones, to raise productivity.
	Tighter and more volatile global financial conditions	**M**	Short term	**M** Depending on investor sentiment towards New Zealand, deteriorating external funding conditions for banks, and spillovers from the broader effects on global growth and commodity prices.	Monetary, selective macroprudential policy, and fiscal policy easing (especially if economy hits the zero lower bound).
	Economic fallout from political fragmentation and protectionism.	**H**	Short to medium term	**M** New Zealand would in particular be negatively affected by a reversal in trade liberalization, as well as by reduced global growth, lower food and commodity prices, and exacerbated financial volatility.	Temporary monetary and fiscal policy easing (especially if economy hits the zero lower bound). Continued pursuit of open market policies.

Annex IV. Macroeconomic Effects of Migration

A. Introduction

1. New Zealand experiences high rates of international migration relative to other OECD countries (Figure IV.1). Over 1990-2014, net migration measured as annual net flow of foreign-born population averaged about 0.9 percent of previous-year population, which is around twice the OECD average and comparable to Australia and Canada.[1] That said, total net migration overall into New Zealand typically is lower, about 0.4 percent of population annually (over 1992-2016).[2] The reason for the difference is that there is typically substantial net outflow of New Zealand-born citizens.

2. Net migration in New Zealand appears to occur in waves. In Australia and in Canada, net migration and its main components are relatively stable (Figure IV.2). In New Zealand both inflows and outflows fluctuate markedly over time, which has a resulted in more volatile net migration compared to most other OECD countries.

3. The volatility in in- and outflows has also been observed in the current net migration wave. The latter, which started in 2013, has been driven both by stronger inflows from other countries and by declining net outflows of New Zealand citizens, especially to Australia. The latter has been the main destination of emigrating New Zealand citizens, given the free flow of labor allowed between Australia and New Zealand first formalized in the reciprocal Trans-Tasman Travel Arrangement in 1973. The changes in flows reflect weaknesses in Australian labor market conditions, relatively strong labor market conditions in New Zealand, in particular with the ongoing construction boom, and the strong growth in international student inflows (RBNZ 2016).

4. The composition of immigration into New Zealand has varied across waves. The current wave of net migration has included a larger share of young working age population adults in the 15-29 age-group, which seems to be related to the increased inflows of international students since 2014. With the importance of Asian markets in this sector, particularly India and China, net immigration from these countries has also increased (Figure IV.3). With a relatively high share of working age adults in net migration (80 percent on average), increased net migration results not only in higher population growth but also in higher labor force growth, including from international students who are permitted to work part-time in New Zealand.

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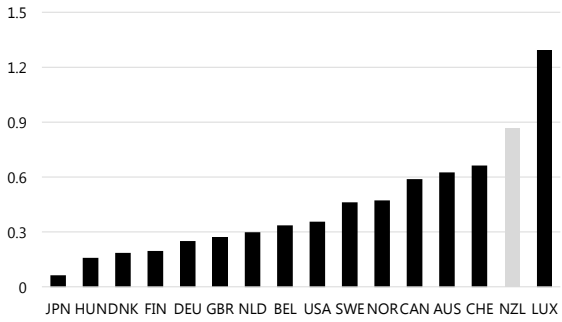
[1] Net overseas migration (NOM) in Australia is based on a "12/16" rule, which counts a traveler if she has stayed in or been absent from Australia for a period of 12 months or more over a 16-month period. This is broadly comparable to the New Zealand definition of net migration. For Canada, net international migration is defined as: immigrants - emigrants + returning emigrants - net temporary emigrants + net nonpermanent residents. This can include short-term flows, and is thus less comparable to the New Zealand measure.

[2] Net permanent and long-term migration is derived by subtracting permanent and long-term departures from permanent and long-term arrivals. Permanent and long-term arrivals include overseas migrants who arrive in New Zealand intending to stay for a period of 12-months or more (or permanently), plus New Zealand residents returning after an absence of 12-months or more. Permanent and long-term departures include New Zealand residents departing for an intended period of 12-months or more (or permanently), plus overseas visitors departing from New Zealand after a stay of 12-months or more. (Source: Haver Analytics database).

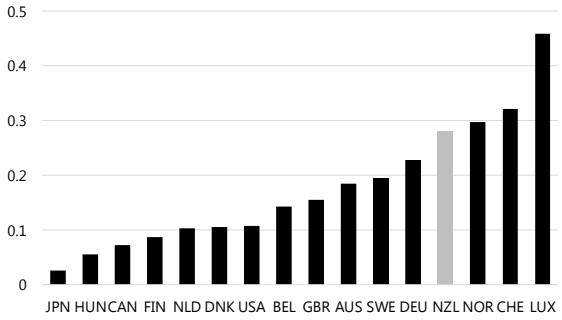
Figure AIV.1. Net Migration Flows

Migration-to-Population Ratio
(Percent, average 1990-2014)



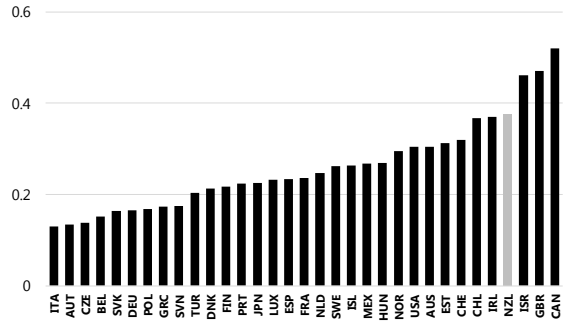
Sources: OECD migration statistics; and IMF staff estimates.

Migration Volatility
(Standard deviation of migration-to-population ratio; 1990-2014)



Sources: OECD migration statistics; and IMF staff estimates.

Skilled Migrants
(Percent of migrant population with BA degree or higher in 2010/11)

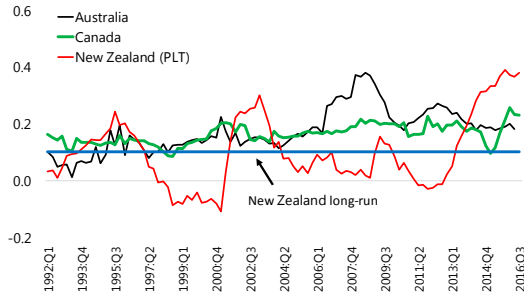


Sources: OECD migration statistics; and IMF staff estimates.

Note: Migration is defined as the net inflow of foreign born population.

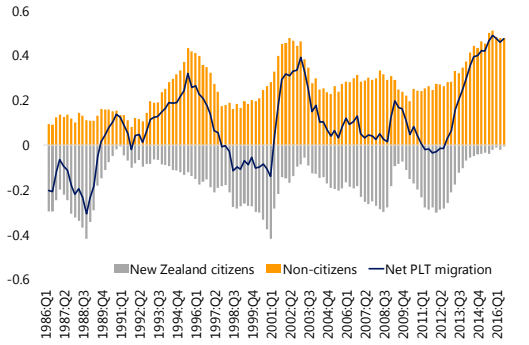
Figure AIV.2. Net Migration and Components

Net Migration Flows
(In percent of previous-quarter working age population)

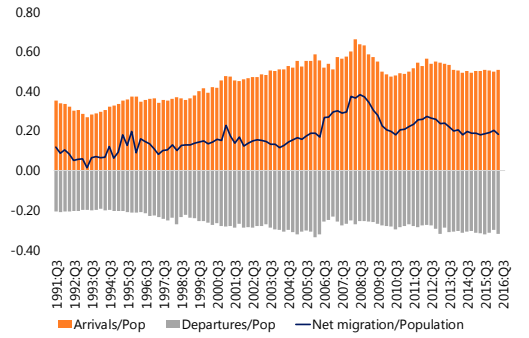


Sources: Haver Analytics; and IMF staff estimates.

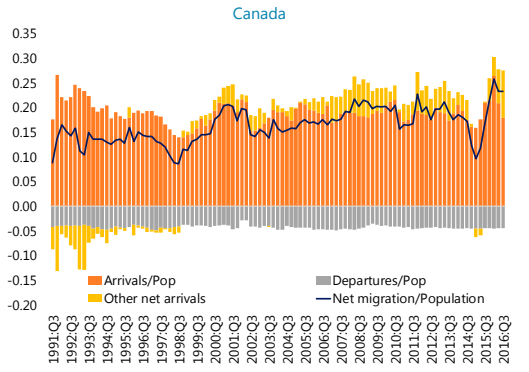
New Zealand



Australia

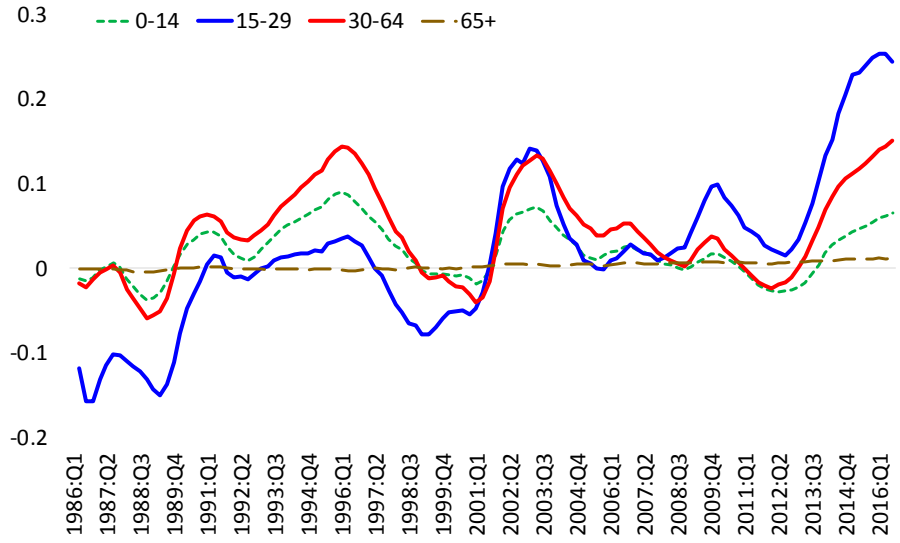


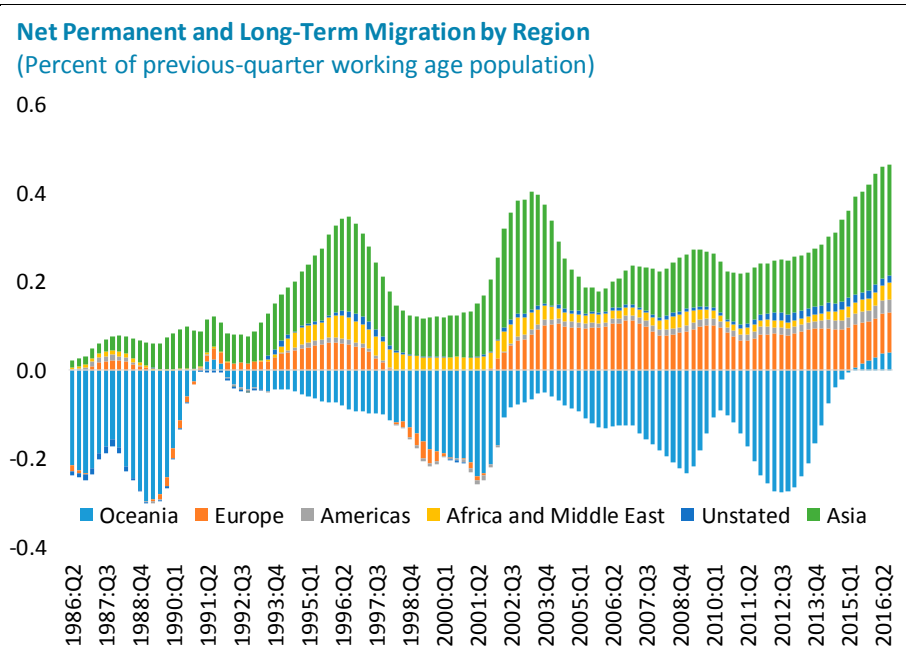
Canada



Sources: Haver Analytics database; and IMF staff calculations.

Figure AIV.3. Migration by Age and Source





Sources: Haver Analytics database; and IMF staff calculations.

5. The educational attainments of New Zealand's migrant population suggest that migration policy has contributed to raising human capital (Figure IV.1, panel 3). New Zealand shifted to a fully merit based immigration policy with the passage of the Immigration Act in 1987, which offered admission to any immigrant meeting certain standards irrespective of nationality (OECD 2014). To the extent that migration policy in New Zealand promotes complementarity with the native labor force and is geared to addressing skill shortages, migration should not only have long-term economic benefits but also short-term ones.

B. The Cyclical Effects of Net Migration

6. Positive net migration raises both actual and potential output, with the balance depending on the composition of migration and the extent of labor market rigidities. Migrants contribute to domestic demand upon arrival. As they integrated into the labor force, they also raise potential output. If the labor market absorption is rapid, the demand and supply effects would be expected to broadly balance. Slow adjustment of supply (say because of labor market rigidities) could lead to actual output rising ahead of potential and inflationary pressures.

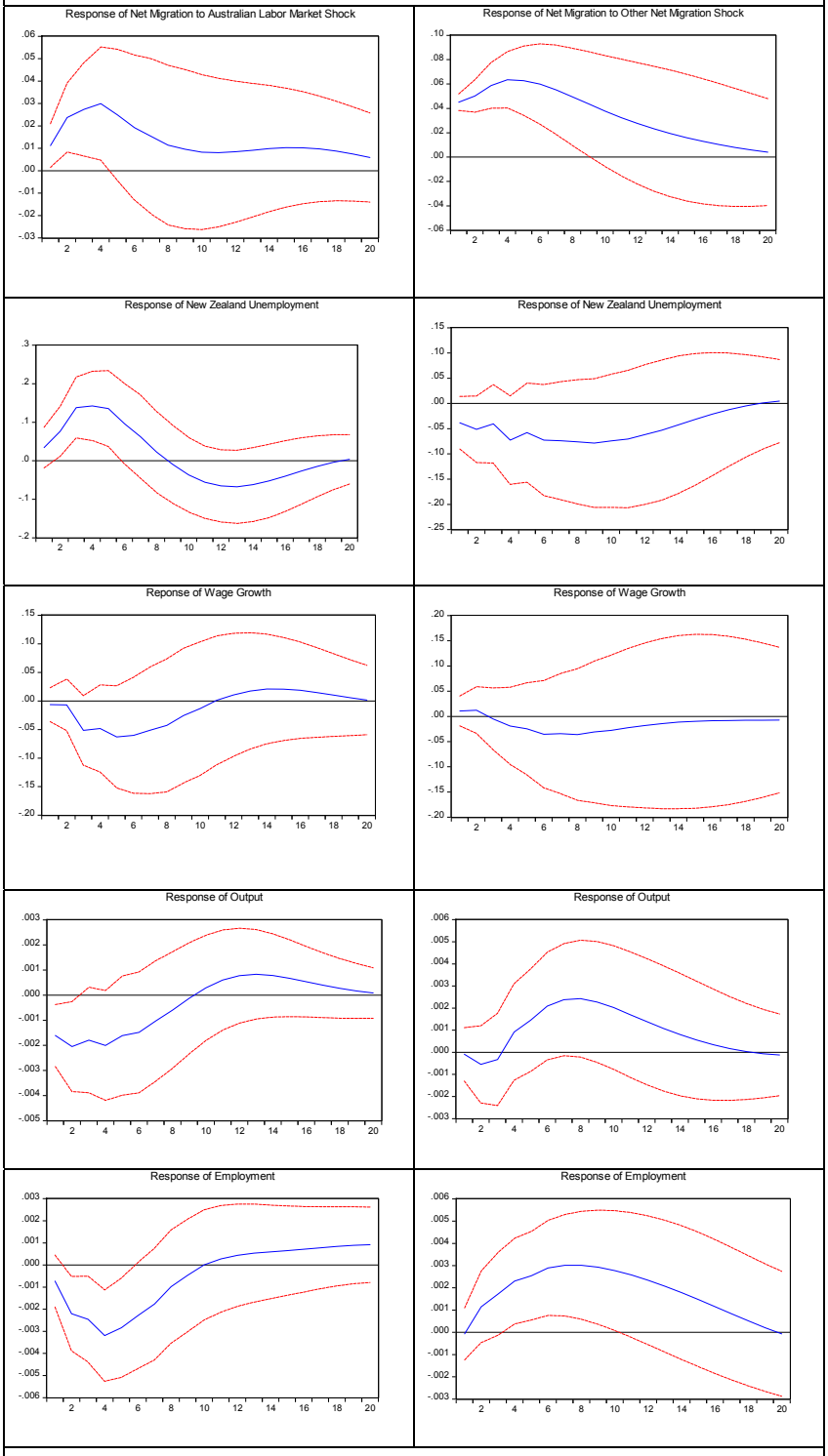
7. The macroeconomic economic impact also depends on the underlying drivers. If driven by push factors in source countries, an unexpected increase in net migration should be seen as a shock to labor supply. Such a shock could result in a period of slack with weak wages and higher unemployment, as the economy absorbs the shock. The magnitude and persistence of such subpar outcomes would depend on the impact on the capital-labor ratios (lower in the short term) and the extent of nominal and real rigidities. Alternatively, an unexpected increase in migration may also reflect an elastic labor supply response to stronger local demand conditions, thereby dampening upward pressure on wages. As migrants arrive into jobs in this case, there may be little or no upward pressure on the unemployment rate.

8. Business cycle fluctuations in Australia are an important driver of fluctuations in net migration. Given high labor mobility between Australia and New Zealand, it is natural to distinguish between economic conditions in Australia, and other drivers of migration. Following Armstrong and McDonald (2016), this annex presents results from VAR analysis based on quarterly data (1994Q4 – 2016Q3) for the de-trended Australian unemployment rate, net migration (as a percent of the working age population in the previous quarter), de-trended New Zealand unemployment rate, and annual private wage growth. The identification of the shocks relies on the assumption that fluctuations in Australian unemployment are exogenous and a number of other assumptions.[3]

9. The VAR results corroborate that the short-term macroeconomic impact of net migration depends on the underlying drivers. The impulse response functions (IRFs) suggest different dynamic effects, depending on whether net migration driven is by Australian unemployment rate shocks or by other shocks (Figure IV.4). An unexpected increase in the Australian unemployment rate tends to be associated with an increase in the unemployment rate in New Zealand and wage growth appears to decline. Other shocks to net migration appear to drive unemployment lower, and there is little impact on wage growth. As a variation, VARs including de-trended output and de-trended employment (in place of the unemployment rate) also produce

[3] The identification scheme is recursive (applying a Cholesky decomposition to the variance-covariance matrix). The ordering of the variables is as follows: Australian unemployment rate; net migration into New Zealand; the New Zealand unemployment rate (output, and employment in variants), and annual wage inflation. This ordering reflects the following assumptions. Firstly, the Australian labor market shock could reflect not only Australia-specific conditions but also conditions that affect demand in New Zealand directly, such as a global shock to commodity demand. Secondly, assuming that migration responds to changes in local conditions only with a lag, other net migration shocks would reflect push factors in source countries, or local factors other than labor market conditions, such as changes in the attractiveness of New Zealand as a migration destination. Thirdly, two remaining shocks are taken to reflect a local labor market shock unrelated to Australian conditions or other net migration shocks described above.

Figure AIV.4. IRFs of Shocks to Migration



Source: staff estimates.

qualitatively similar results. Output and employment tend to decline quickly below trend following an unexpected increase in Australian unemployment, whereas they both tend to rise above trend with other shocks.

10. Against this backdrop, recent labor market developments suggest that conditions in Australia have not been the main driver of the current net migration wave. The overall impact on the economy is consistent with the notion that demand effects are larger. The closing output gap, the decline in unemployment, and broadly stable wage growth would support this argument. However, the composition of migration also suggests that the demand impact of the current wave is muted compared to previous waves, given that it features more student inflows likely consume fewer durable goods such as housing in the near term (Vehbi 2016 provides evidence on the composition effects).

11. Slowing of net migration to below historic high levels will in part depend on Australia's labor markets strengthening. In the absence of a rapid improvement in trans-Tasman conditions, upward pressure on net migration from that source is likely to remain. On the other hand, a decline in construction activity levels as major earthquake reconstruction activity unwinds should help ease migration gradually to more normal levels.

C. Employment, Investment, and Productivity Effects

12. Below we examine how migration affects growth, factor accumulation, and productivity in a sample of OECD countries. To address the question of whether migration effects labor productivity (and thus real wages) through capital intensity and/or total factor productivity, the approach builds on Ortega and Peri (2009), examining the effect of migration flows in percent of population in turn on each component of a standard Cobb-Douglas production function. The sample includes 16 OECD countries over 1990 – 2014, with OECD data on inflows and outflows of foreign born population, and employment, and IMF data on output and capital stock (including both public and private capital stocks).

13. The regressions are of the form:

$$\Delta Y_{i,t} / Y_{i,t} = \beta(mig_{i,t} / pop_{i.t-1}) + D_t + \varepsilon_{i,t} \quad (1)$$

where the dependent variables include growth rates of output, employment, hours worked, average hours per worker, aggregate capital stock (as a measure of flow of capital inputs), and TFP.[4] The explanatory variable is constructed as the difference between inflows and outflows of foreigners over a year, as a percent of the population at the start of the year. Time dummies capturing common year effects are included, while the difference specification removes individual intercepts, which are assumed to exist in the levels specification.[5] In addition to the above list of dependent

[4] TFP is estimated as a residual, assuming a labor income share of 0.66, and given output, employment, and capital stock data.

[5] A specification including fixed effects in the difference specification produced qualitatively very similar results, except for finding a negative and significant effect of migration on public capital per employed worker.

variables we also include output per worker, and capital intensity. We apply OLS and 2-stage least square estimators. In the latter, migration is instrumented by its own lags.

14. In this framework, migration is assumed to have effects on the level of capital and TFP. Additional labor supply creates opportunities for new investment in capital stock, and resource reallocation and labor market competition effects can generate efficiency gains resulting in higher TFP. It could also induce skill bias in technology, promoting less capital intensive techniques that result in lower TFP. Also, while migration adds directly to the potential labor force, the effect on aggregate labor input depends on whether domestic labor is crowded out (say with fewer average hours of work), or if migrant employment rates are lower than in the domestic work force. The presence of such effects on capital and labor inputs, and on TFP, can be tested directly in this framework. However, the static framework only allows inference on short-run effects from year-to-year variations in migration.

15. The results show that migration has a positive impact on output growth, and on input growth (Table IV.1). [6] A net migration flow of 1 percent of total population is associated with an increase in output of nearly 1.5 – 2 percent, driven by an increase in both employment and the capital stock.

Table IV.1. Effects of Yearly Migration Flows

Growth rate of:	(1)	(2)
Output	1.84**	1.54**
Employment	2.01**	1.73**
Hours	1.82**	1.72**
Hours per worker	0.13	0.18
Capital	1.82**	1.94**
Output per worker	-0.16	-0.16
TFP	-0.10	-0.25
Capital deepening	-0.22	0.20
Private capital	-0.21	0.18
Public capital	-0.38	0.15

Note: **, * significant at 5%, 10%. Migration is measured as net flow of foreign born population in a year. Column (1) shows panel estimates by OLS. Column (2) shows panel estimates with migration instrumented by its own lags. The sample includes Australia, Belgium, Canada, Germany, Denmark, Finland, Hungary, Japan, Luxembourg, Netherlands, Norway, New Zealand, Sweden, Switzerland, the U.K., and the U.S., over 1990 - 2014.

- The results show no evidence of crowding out of domestic labor, with hours worked and employment responding positively, and no decline in average hours per worker.
- Capital stock adjusts quickly in response to migration. As Ortega and Peri noted, to the extent that migration is predictable and not too large relative to the population, it can be accommodated by modest adjustments in investment.
- The effect on capital deepening depends on the relative effects on employment and capital stock. The evidence is inconclusive in this regard. In the OLS results, with relatively more employment growth, capital intensity declines, though the effect is not significant. In the 2-SLS results, with a larger increase in capital than employment, capital deepening increases, but the effect again is not significant.
- Finally, there appear to be negative short-term effects on TFP growth, which are, however, not significant. Growth in output per worker is unaffected by migration.

[6] Note that Ortega and Peri find one-for-one increase in output in response to migration in the short-run, whereas here the effect is larger (though with no impact on output per worker). While the directions of the effects found here in the panel is similar, the effect size is likely over-estimated, as lags of migration as instruments may not adequately account for persistent factors that both increase migration and output in the recipient country.

16. The results suggest that migration is accompanied by a relatively quick adjustment in output and inputs among OECD countries. Migration flows in New Zealand, however, do appear to differ from those in most other OECD countries at least in one respect – that they occur in waves. The implied greater volatility of migration in New Zealand could have a role in the adjustment process. For instance, more volatile migration could weaken the short-run employment and investment response if high inflows in one period are likely to be reversed by high outflows in a future period, imposing costly factor adjustment on firms.

17. To examine the effect of volatility of migration, we implement regressions of the form:

$$\overline{\Delta Y_{i,t}} = \beta(migpop_{i,t} * D.migvolatility_{i,t}) + \mu D_t + \nu D_i + \varepsilon_{i,t} \quad (2)$$

where the dependent variables are 5-year averages of output growth, input (employment and capital stock) growth, and TFP growth, for each of five 5-year sub-periods between 1990-2014, for the same 16 OECD countries included in the preceding analysis. The key regressor is the interaction term between the average level of migration flows and a dummy variable that indicates whether the standard deviation of migration flows in a given country exceeds the sample average of all 16 countries in the relevant sub-period.

18. Table IV.2 shows the results. The coefficient on the interaction for output and input growth are negative, and the magnitudes of the effect are sizeable, suggesting that volatility could dampen the output and input response to migration. Although the coefficients are not significant at conventional levels, the coefficient on the interaction term in the capital stock equation is significant at just above 10 percent, lending some support to the Ortega and Peri (2009) intuition that size and volatility of migration may play a role in the adjustment of capital stock. In the specific case of New Zealand, other factors may also play a role in slowing the adjustment of capital stock. For instance, the concentration of migration in a single major city (Auckland) with constrained capacity to expand infrastructure quickly could slow the short-run adjustment process in New Zealand.

Table IV.2. Effects of Migration Volatility

	Output	Employment	Capital
Migration	1.765	1.885*	2.295**
D.Migvolatility	0.178	0.23	0.594
Migration X D.Migvolatility	-1.021	-0.682	-1.217
Constant	0.945*	-0.752	1.07**
R^2	0.41	0.3	0.42
N	79	79	79

Notes: **,* significant at 5%, 10%, t-statistics in *italics*. The sample includes 5 periods of 5-year length over 1990-2014. Each variable is measured as the average over a 5-year period. The 16 counties included in the sample are Australia, Belgium, Canada, Germany, Denmark, Finland, Hungary, Japan, Luxembourg, Netherlands, Norway, New Zealand, Sweden, Switzerland, the U.K., and the U.S. Fixed effects are included in all cases.

D. Conclusions

19. In this note we examined some of the macroeconomic effects of migration on the New Zealand economy. From a cyclical perspective, the drivers of migration matter. Presently, both weaker Australian labor markets and stronger local conditions are at work driving both low emigration and high immigration levels. Economic conditions in New Zealand suggests that demand effects have played a more dominant role in the current wave, although the demand effects may be more muted than they have been in past waves. The decline to more normal levels of net migration

is expected to be gradual, in part due to the anticipated gradual improvement in Australian labor market conditions.

20. The evidence also suggests that output per worker remains unaffected, with investment adjusting quickly in response to migration, and no negative effects on TFP. However, volatility of migration flows could play a role in dampening this rapid adjustment in factor inputs, though the effects of volatility only appear significant at near conventional levels in the case of capital stock.

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Annex V. Macroprudential Measures

A. Context

1. New Zealand has proactively used macroprudential measures against housing market related macro-financial vulnerabilities. After the global financial crisis, New Zealand's house price and credit growth started to speed up again in 2011/12 and currently stand at almost 12 and 10 percent (year-on-year), respectively. International experience shows that the combination of strong house price and credit growth often creates macro-financial vulnerabilities that can act as an accelerator in an economic downturn or, less likely in New Zealand, increase the risks of a financial crisis. Against this backdrop, New Zealand has become a very prominent user of housing sector-related macroprudential tools, with a predominant focus on loan-to-value ratios (LVRs). Complementing analysis in the context of the recent New Zealand FSAP (see IMF (2017a)), this annex describes first the macroprudential measures taken; it then analyzes the effects on house prices, credit growth, credit composition, and household balance sheets; and, finally, compares New Zealand's experience with some international lessons from housing-related macroprudential policies.

B. Macroprudential Measures

2. Real house prices in New Zealand have been rising faster than the OECD average, albeit not out of line with other buoyant markets. Common measures of housing valuation, such as the house price-to-rent and the house price-to-income ratios, are among the highest in the OECD (see Figure 5 above). House price dynamics have to a large extent been driven by the Auckland area, which counts for about one third of the population, but have recently picked up in other regions as well. In parallel, mortgage credit growth has accelerated (see Figure 7 above).

3. In response to the acceleration of house price and credit growth, the authorities have pro-actively deployed macroprudential measures, mainly LVR-related. These measures have predominantly consisted of caps on the share of loans with high LVRs in banks' loan portfolios ("speed limits"). Such exposure limits were first introduced in October 2013 and have been modified twice since. The first modification in November 2015 introduced a differentiation between loans to owner occupiers and investors and a regional differentiation between Auckland and the rest of the country. The regional differentiation was abandoned again with the second modification in October 2016, when the stricter Auckland rules were extended to the rest of the country and the LVR threshold, at which the exposure limit kicks in, was lowered to 60 percent for investors.

Table V.1. Macroprudential Measures		
	Investor loans	Loans to owner occupiers
October 2013	10 percent limit on the share of residential mortgage loans with an LVR above 80 percent	
November 2015	Auckland: 5 percent limit on the share of residential mortgage loans to property investors with an LVR above 70 percent	Auckland: 10 percent limit on the share of residential mortgage loans to owner occupiers with an LVR above 80 percent
	Rest of New Zealand: 15 percent limit on the share for residential mortgage loans with an LVR above 80 percent	
October 2016	5 percent limit on the share of residential mortgage loans to property investors with an LVR above 60 percent	10 percent limit on the share of residential mortgage loans to owner occupiers with an LVR above 80 percent

4. In addition to the introduction of the exposure caps, the authorities have also increased capital requirements for loans with high LVRs and to investors. They did so either by increasing risk weights for banks using the standardized approach, or by introducing minimum requirements for some of the parameters used by banks for their internal-ratings-based approach for the calculations of risk weights.

5. Tax and housing supply measures have also been taken. Macroprudential measures have been complemented by tax measures: specifically, capital gains from the re-sale of non-primary residences within two years became income-taxable as of 2016, and reporting and taxation rules for foreign buyers have been tightened. In addition, measures are under way to strengthen housing supply in Auckland, with a focus on promoting high-density housing, but will likely take a while to have a significant impact on housing market dynamics.

C. Effects

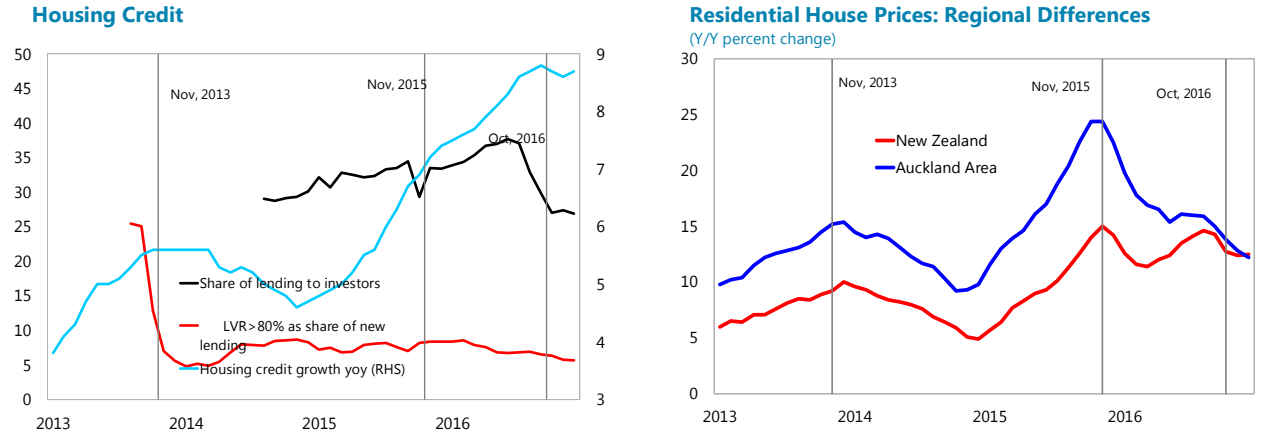
6. LVR-related measures affect financial stability through different channels. Restrictions on LVRs constitute borrowing constraints for households and work mostly through the credit demand channel. By lowering housing credit growth and therefore housing demand, LVR limits can also rein in house price growth and dampen expectations about future house price increases. The major drawback of LVR restrictions is that they tend to be less restrictive for overall credit growth. For instance, as housing values rise in a housing boom, they allow for larger borrowing by existing home owners, potentially used for financing additional housing demand. Nevertheless, LVR restrictions help render household balance sheets more resilient and strengthen bank balance sheets by reducing borrowers' incentives for and probability of default and in particular bank losses in case of default. Bank exposure limits to high LVR loans – as introduced in New Zealand – have similar effects as they at least increase the number of loans and households that are subject to LVR caps. This makes the overall composition of banks' loan portfolio less risky.

D. Credit and House Prices

7. Developments in New Zealand suggest that macroprudential measures have had some at least temporarily moderating influence on mortgage lending and house price growth. A moderation of housing credit growth can in particular be observed after the end-2013 measures and, tentatively, after the recent October 2016 package (see Figure V.1). As regards house price expectations, those seem to have been successfully contained (see Figure 5 above), and the active use of macroprudential policies and anticipation thereof may have prevented over-exuberance.

8. A moderating effect on house prices and credit growth is also corroborated by counterfactual analysis. Building on work by Price (2014), IMF (2017a) estimates the effects of the exposure limits for high LVR loans on credit and house price growth in a counterfactual VAR analysis. The results of this analysis suggest that actual credit and house price growth remained below a counterfactual without LVR restrictions, after both the 2013 and the 2015 measures, even though the difference is only statistical significant for house price developments in Auckland. The lack of stronger and statistically significant effects may be due to the limited restrictiveness of LVR measures on credit growth explained above. In addition, it is noteworthy that the regional differentiation of LVR rules between Auckland and the rest of the country introduced in November 2015 seems to have led to inter-regional spillovers: while house price growth has been steadily trending down in Auckland since, it has been more resilient and actually rose in the rest of the country before the country-wide October 2016 tightening.

Figure AV.1. Housing Credit and Prices



Source: Reserve Bank of New Zealand.

E. Loan Composition

9. With respect to the risk composition of loans, effects are mixed. The share of loans with an LVR above 80 percent in total new loans went down drastically in conjunction with the first macroprudential package and has stayed low since. Investor lending has been specifically targeted since the November 2015 measures but its share in new loans fell only slightly and temporarily at

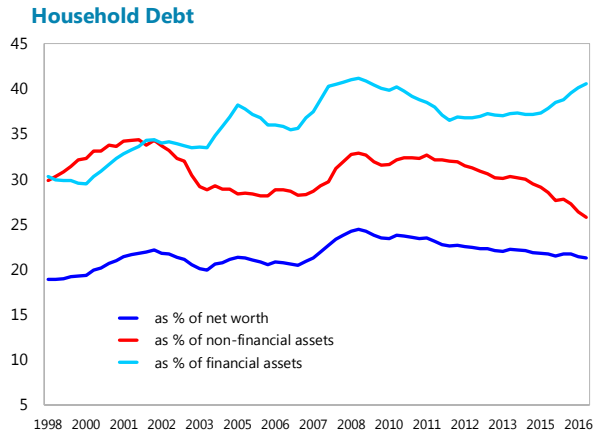
that time. It seems to have been reduced more substantially in connection with the further tightening in October 2016. The picture with respect to other risky loans is less clear: most mortgage loans are either variable-interest loans or have their interest rate fixed for less than one year, creating debt serviceability risks when interest rates rise. And most importantly, debt-to-income ratios (DTI) have increased across the board, in particular for residential property investor loans, one third of which have a DTI greater than 7. This begs the question how household balance sheets have been affected (see next section).

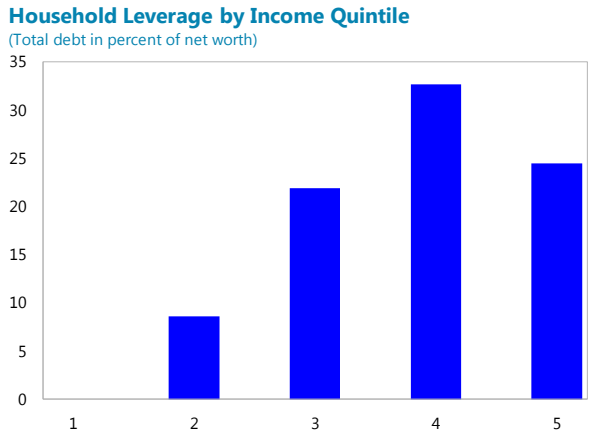
F. Household Balance Sheets

10. Household balance sheet resilience impacts financial sector stability. Household balance sheet resilience affects the financial stability of banks directly by determining probabilities of household loan defaults and the amount of losses if household loan defaults actually happen. And, household balance sheet resilience can affect banks indirectly as households under balance sheet stress tend to cut their consumption, and this may reverberate throughout the rest of the economy, including through increased corporate balance sheet stress and defaults.[1]

11. Due to the increase in housing values, household leverage does not seem to have worsened. Household leverage, as measured by household debt in percent of net worth, is one measure of household balance sheet resilience. In the aggregate, looking at all households – i.e. borrowers and non-borrowers – household leverage has slightly trended downward since the GFC (see Figure V.2): While gross debt has increased, the value of assets has increased even more. The latter is mainly due to the rising value of real estate assets and is a direct reflection of the housing boom, meaning that a correction in house prices could easily reverse these trends. Furthermore, household leverage seems higher in upper income quintiles, which could potentially be an indication for higher investor activity and leverage at those income levels.

Figure AV.2. Household Debt and Leverage





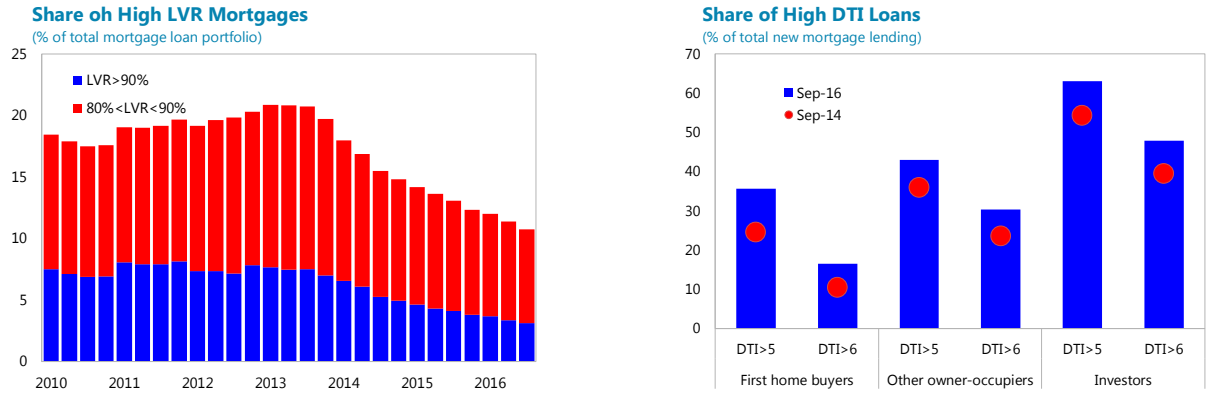
Source: Reserve Bank of New Zealand.

[1] As regards the resilience of bank balance sheets, see IMF (2017b).

12. In contrast, household debt-to-income ratios have increased. New Zealand's housing market boom and the associated strong residential mortgage credit growth have been reflected in a continuous increase in the aggregate household debt-to-income ratio. The gross debt-to-income ratio across all households stands now at around 168 percent, thus exceeding its pre-GFC peak of around 160 percent (see Figure 7, above). This places New Zealand above most other OECD countries.

13. Even more worrying, loan flow data suggest that debt-to-income ratios associated with new loans have increased across all borrower categories over recent years (see Figure V.3)**.** This suggests that debt-to-income ratios in the sub-group of borrowing households with mortgage debt are much higher and increasing, as flow characteristics feed through quite rapidly into stocks, given prevailing patterns of frequent refinancing. These developments expose borrowing households to debt serviceability risks if they are subjected to interest rate increases – a likely scenario over coming years given the short interest rate fixation periods for most mortgage loans in New Zealand – or income shocks, for instance due to unemployment in an economic downturn. As mentioned above, even if households do not default in those cases, they may nevertheless have to cut back on consumption expenditure to keep up with their mortgage payments, with detrimental effects on the overall economy and the overall loan book of banks.

Figure AV.3. Residential Housing Loans: Risk Profile



Source: Reserve Bank of New Zealand.

G. International Experience

14. Meanwhile accumulated international experience with housing-related macroprudential measures allows to draw some key lessons and guidance – as distilled in IMF (2014), for instance. IMF (2014) also includes an overview of empirical studies related to the effects of LVR and DTI caps, which are the most prominent instruments in this area (see annex box 1). Indeed, New Zealand's experience with housing-related macroprudential measures is not unique. The two most important lessons pertinent to the current New Zealand context are as follows:

Box 1. Effectiveness of Limits to Loan-to-Value and Debt-to-Income Ratios 1/

Limits on LVRs and DTI ratios have been successful in targeting financial accelerator mechanisms that otherwise lead to a positive two-way feedback between credit growth and house price inflation. A number of studies have found that a tightening of LVRs and DTI ratios is associated with a decline in mortgage lending growth, thereby reducing the risk of an emergence of a housing bubble. Lim and others (2011) find that credit growth declines after limits on LVRs and DTI ratios are introduced, and the LVR limits reduce substantially the procyclicality of credit growth. Igan and Kang (2011) show that limits on LVRs curb speculative incentives among existing house owners, validating the expectation channel. Crowe and others (2013) confirm the positive association between LVRs at origination and subsequent price appreciation using state-level data in the U.S.—a ten percentage point increase in the maximum LVR is associated with a 13 percent increase in nominal house prices. Duca and others (2011) estimate that a ten percentage point decrease in the LVR of mortgage loans for first-time buyers is associated with a ten percentage point decline in the house price appreciation rate. Krznar and Morsink (2014) find that four measures to tighten macroprudential instruments (LVRs in particular) in Canada were associated with lower mortgage credit and house price growth. IMF (2011) finds that lower LVRs reduce the transmission of real GDP growth shocks and shocks to population growth to house prices. Kuttner and Shim (2013) find that an incremental tightening in DTI ratios is associated with a four to seven percentage point deceleration in credit growth over the following year. Ahuja and Nabar (2011) find that limits on LVRs in Hong Kong SAR, where monetary policy is constrained as a small open economy with exchange rate pegs, reduced house prices and transaction volumes, albeit with a lag.

A growing body of evidence points to the benefit of LVRs and DTI ratios in enhancing resilience and reducing fire-sale dynamics, when the housing market turns downwards. Lee (2012) shows that house prices in Korea fell from 2008, but the delinquency ratio on household loans remained below one percent well into 2012, and claims that this implies that strict implementation of limits on LVRs and DTI ratios prevented household defaults even as house prices fell, thus reducing financial institution losses. Financial Services Authority (2009) finds evidence of a correlation between higher LVRs and higher default rates during 2008 in the U.K. Hallissey and others (2014) find that, based on loan-level data in Ireland, the default rate was higher for loans with higher LVR and loan-to-income (LTI) levels at origination, and that this relationship is stronger for the loans issued at the peak of the housing boom. They also show a positive relationship between loss given default (LGD) and LVRs for loans with an LVR greater than 50 percent, with a sharp increase in the losses of defaulted loans at LVRs greater than 85 percent. Wong and others (2011) present cross-country evidence that, for a given fall in house prices (one percent), the incidence of mortgage default is higher for countries without an LVR ratio limit (1.29 basis points) than for those with such a tool (0.35 basis points). The paper also notes that in the wake of the Asian financial crisis, property prices in Hong Kong SAR dropped by more than 40 percent from September 1997 to September 1998, but the mortgage delinquency ratio remained below 1.43 percent, which suggests that limits on LVRs reduced the probability of defaults faced by lenders.

_____
1/ See IMF (2014).

15. Both LVR and DTI measures help contain house price and credit growth, although LVR measures tend to lose impact over time. If house prices rise further, LVRs become less binding, allowing for continued investor leveraging. Such developments seem to have been at play in New Zealand after the first two macroprudential packages as well, making the effects of these packages only temporary and requiring an additional tightening round in the third package. In contrast to LVR caps, DTI measures provide a more permanent anchor.

16. LVR and DTI measures target different household vulnerabilities and are complementary to each other. LVR caps help contain household leverage, make households less vulnerable against house price shocks, and limit bank losses in case of household default. For given default probabilities, losses tend to fall. In contrast, DTI limits focus more on household liquidity and debt servicing capacity and provide buffers against higher debt servicing cost or income loss, reducing primarily default probabilities. Given the complementarities between the two measures, they have been deployed simultaneously by an increasing number of countries.[2]

H. Conclusion

17. New Zealand's mainly LVR-related housing market-specific macroprudential measures would appear to have had some moderating influence on mortgage lending, expected and actual house price growth, and the quality of loan composition. In addition, they have also helped to contain household leverage. However, they do not seem to have prevented a continuous deterioration of borrower households' vulnerability against debt servicing capacity risks, such as higher interest rates or income shocks.

[2] Ireland is a recent example where both instruments were introduced. See IMF (2016), Ireland – Financial Sector Assessment Program – Technical Note "Macroprudential Policy Framework"

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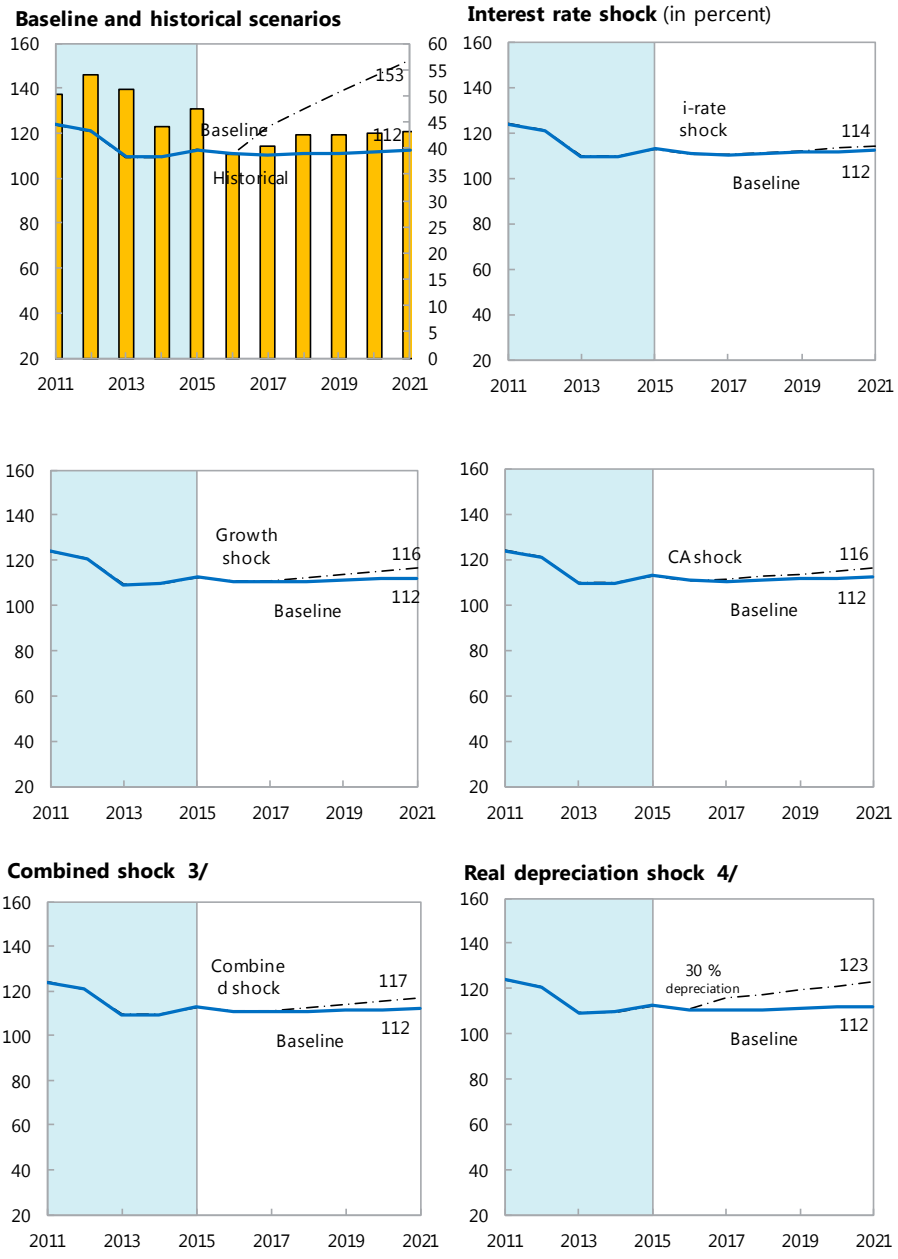
Annex VI. New Zealand: External and Fiscal DSAs

Figure 1. New Zealand: External Debt Sustainability: Bound Tests 1/ 2/
(External debt in percent of GDP)



Sources: International Monetary Fund, Country desk data, and staff estimates.
1/ Shaded areas represent actual data. Individual shocks are permanent one-half standard deviation shocks. Figures in the boxes represent average projections for the respective variables in the baseline and scenario being presented. Ten-year historical average for the variable is also shown.
2/ For historical scenarios, the historical averages are calculated over the ten-year period, and the information is used to project debt dynamics five years ahead.
3/ Permanent 1/4 standard deviation shocks applied to real interest rate, growth rate, and current account balance.
4/ One-time real depreciation of 30 percent occurs in 2010.

Table 1. New Zealand: External Debt Sustainability Framework, 2011-2021

(In percent of GDP, unless otherwise indicated)

	Actual							Projections						
	2011	2012	2013	2014	2015			2016	2017	2018	2019	2020	2021	Debt-stabilizing non-interest current account
Baseline: External debt	123.8	120.8	109.4	109.4	112.6			**110.7**	**110.3**	**110.7**	**111.1**	**111.6**	**112.2**	**-17.6**
Change in external debt	-3.1	-3.0	-11.5	0.0	3.2			-1.9	-0.4	0.3	0.4	0.5	0.5	
Identified external debt-creating flows (4+8+9)	-13.8	-6.8	-12.5	-14.3	-5.0			-15.3	-15.4	-14.7	-14.2	-14.2	-14.2	
Current account deficit, excluding interest payments	0.7	2.1	1.5	1.6	1.8			1.4	0.1	0.7	0.9	1.0	1.1	
Deficit in balance of goods and services	-2.1	-0.5	-1.0	-1.1	-0.6			-0.7	-0.3	0.2	0.3	0.5	0.5	
Exports	30.8	29.0	28.5	28.3	28.2			26.8	26.7	26.6	26.8	26.8	26.7	
Imports	28.7	28.6	27.5	27.3	27.6			26.1	26.4	26.8	27.1	27.3	27.2	
Net non-debt creating capital inflows (negative)	-5.4	-6.6	-8.9	-11.6	-13.5			-14.8	-14.7	-14.8	-14.8	-14.9	-15.0	
Automatic debt dynamics 1/	-9.1	-2.3	-5.1	-4.3	6.7			-2.0	-0.7	-0.7	-0.3	-0.3	-0.3	
Contribution from nominal interest rate	2.1	1.8	1.7	1.7	1.5			1.3	2.4	2.4	2.5	2.5	2.5	
Contribution from real GDP growth	-2.0	-3.0	-2.4	-3.5	-3.1			-3.3	-3.2	-3.1	-2.7	-2.7	-2.7	
Contribution from price and exchange rate changes 2/	-9.2	-1.1	-4.3	-2.4	8.3			...	...	...	...	...	...	
Residual, incl. change in gross foreign assets (2-3) 3/	10.8	3.8	1.0	14.3	8.2			13.4	15.0	15.1	14.7	14.7	14.7	
External debt-to-exports ratio (in percent)	402.0	416.3	384.2	385.9	399.8			413.4	412.4	415.4	415.1	416.0	419.8	
Gross external financing need (in billions of US dollars) 4/	84.0	94.5	95.8	87.6	82.2			70.7	80.2	87.7	92.4	97.4	102.7	
in percent of GDP	50.3	54.0	51.3	44.0	47.5	10-Year	10-Year	38.8	40.5	42.4	42.6	42.9	43.2	
Scenario with key variables at their historical averages 5/								**110.7**	**122.9**	**130.4**	**138.1**	**145.5**	**152.7**	**-12.6**
Key Macroeconomic Assumptions Underlying Baseline						Historical Average	Standard Deviation							
Real GDP growth (in percent)	1.8	2.5	2.2	3.4	2.5	1.9	1.5	3.1	3.1	3.0	2.6	2.6	2.6	
GDP deflator in US dollars (change in percent)	13.0	2.2	4.4	3.1	-15.1	3.0	11.2	1.9	5.5	1.5	2.2	2.1	2.2	
Nominal external interest rate (in percent)	1.9	1.5	1.5	1.6	1.2	1.9	0.6	1.2	2.4	2.3	2.3	2.3	2.3	
Growth of exports (US dollar terms, in percent)	18.9	-1.3	4.7	6.1	-13.5	5.0	13.3	-0.1	8.7	4.0	5.3	5.0	4.3	
Growth of imports (US dollar terms, in percent)	20.3	4.2	2.8	5.7	-12.0	4.6	14.7	-0.7	10.5	6.0	5.8	5.5	4.4	
Current account balance, excluding interest payments	-0.7	-2.1	-1.5	-1.6	-1.8	-2.1	1.7	-1.4	-0.1	-0.7	-0.9	-1.0	-1.1	
Net non-debt creating capital inflows	5.4	6.6	8.9	11.6	13.5	8.3	2.8	14.8	14.7	14.8	14.8	14.9	15.0	

1/ Derived as [r - g - r(1+g) + ea(1+r)]/(1+g+r+gr) times previous period debt stock, with r = nominal effective interest rate on external debt; r = change in domestic GDP deflator in US dollar terms, g = real GDP growth rate, e = nominal appreciation (increase in dollar value of domestic currency), and a = share of domestic-currency denominated debt in total external debt.

2/ The contribution from price and exchange rate changes is defined as [-r(1+g) + ea(1+r)]/(1+g+r+gr) times previous period debt stock. r increases with an appreciating domestic currency (e > 0) and rising inflation (based on GDP deflator).

3/ For projection, line includes the impact of price and exchange rate changes.

4/ Defined as current account deficit, plus amortization on medium- and long-term debt, plus short-term debt at end of previous period.

5/ The key variables include real GDP growth; nominal interest rate; dollar deflator growth; and both non-interest current account and non-debt inflows in percent of GDP.

6/ Long-run, constant balance that stabilizes the debt ratio assuming that key variables (real GDP growth, nominal interest rate, dollar deflator growth, and non-debt inflows in percent of GDP) remain at their levels of the last projection year.

New Zealand Public Sector Debt Sustainability Analysis (DSA) - Baseline Scenario

(in percent of GDP unless otherwise indicated)

Debt, Economic and Market Indicators [1/]

	Actual		Estimate	Projections					
	2009-2014 [2/]	2015	2016	2017	2018	2019	2020	2021	2022
Nominal gross public debt	28.1	29.6	28.9	26.9	24.1	20.9	17.2	13.3	9.4
Public gross financing needs	2.8	-0.6	-0.6	-0.5	-1.6	-2.6	-4.0	-5.5	-6.6
Net public debt	28.1	29.6	28.9	26.9	24.1	20.9	17.2	13.3	9.4
Real GDP growth (in percent)	2.0	3.1	4.0	3.1	2.9	2.6	2.6	2.6	2.5
Inflation (GDP deflator, in percent)	2.3	0.8	2.4	2.1	1.7	2.1	2.0	2.2	2.3
Nominal GDP growth (in percent)	4.0	3.3	5.5	5.3	4.7	4.8	4.7	4.8	4.9
Effective interest rate (in percent) [4/]	6.2	5.1	5.0	5.0	4.9	5.0	5.2	5.5	5.9

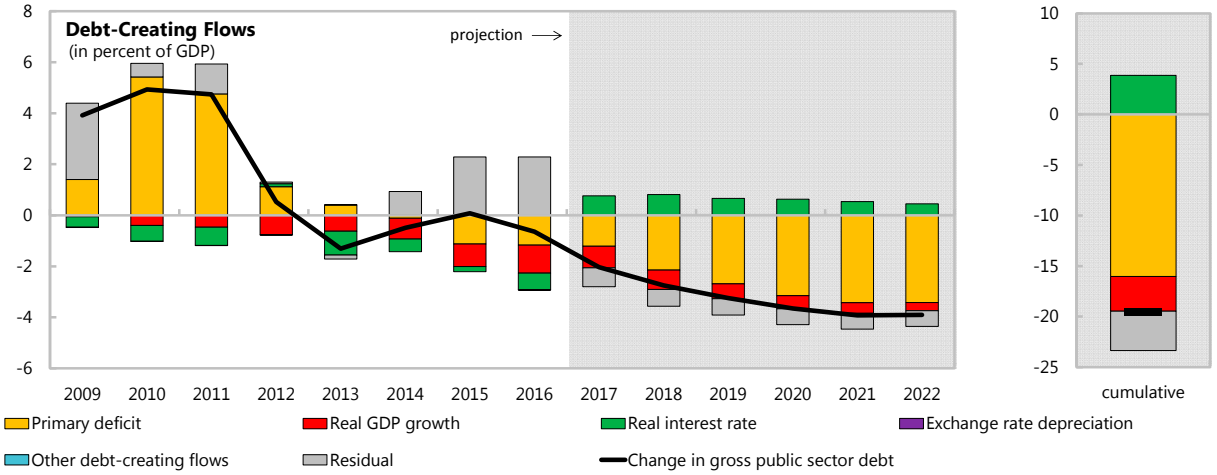
As of January 30, 2017

Sovereign Spreads	
U.S. 10-yr (bp) 3/	105
5Y CDS (bp)	87

Ratings	Foreign	Local
Moody's	Aaa	Aaa
S&Ps	AA	AA+
Fitch	AA	AA+

Contribution to Changes in Public Debt

	Actual		Estimate	Projections							
	2009-2014	2015	2016	2017	2018	2019	2020	2021	2022	cumulative	debt-stabilizing primary balance [9/]
Change in gross public sector debt	2.1	0.1	-0.6	-2.0	-2.8	-3.2	-3.7	-3.9	-3.9	-19.5	0.1
Identified debt-creating flows	1.1	-2.2	-2.9	-1.3	-2.1	-2.6	-3.0	-3.3	-3.3	-15.6	
Primary deficit	2.2	-1.1	-1.2	-1.2	-2.2	-2.7	-3.2	-3.4	-3.4	-16.0	
Primary (noninterest) revenue and grants	33.1	33.9	33.9	33.5	33.4	33.4	33.5	33.5	33.4	200.7	
Primary (noninterest) expenditure	35.2	32.8	32.8	32.3	31.2	30.7	30.3	30.0	30.0	184.6	
Automatic debt dynamics [5/]	-1.0	-1.1	-1.8	-0.1	0.1	0.1	0.1	0.1	0.1	0.4	
Interest rate/growth differential [6/]	-1.0	-1.1	-1.8	-0.1	0.1	0.1	0.1	0.1	0.1	0.4	
Of which: real interest rate	-0.5	-0.2	-0.7	0.8	0.8	0.7	0.6	0.5	0.5	3.9	
Of which: real GDP growth	-0.5	-0.9	-1.1	-0.8	-0.8	-0.6	-0.5	-0.4	-0.3	-3.4	
Exchange rate depreciation [7/]	0.0	0.0	0.0	...	...	...	...	...	...	...	
Other identified debt-creating flows	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Net privatization proceeds (negative)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Contingent liabilities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Please specify (2) (e.g., ESM and Euroare	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Residual, including asset changes [8/]	0.9	2.3	2.3	-0.7	-0.7	-0.6	-0.6	-0.6	-0.6	-3.9	



Source: IMF staff.

1/ Public sector is defined as central government.

2/ Based on available data.

3/ Long-term bond spread over U.S. bonds.

4/ Defined as interest payments divided by debt stock (excluding guarantees) at the end of previous year.

5/ Derived as [(r - π(1+g) - g + ae(1+r)]/(1+g+π+gπ)) times previous period debt ratio, with r = interest rate; π = growth rate of GDP deflator; g = real GDP growth rate; a = share of foreign-currency denominated debt; and e = nominal exchange rate depreciation (measured by increase in local currency value of U.S. dollar).

6/ The real interest rate contribution is derived from the numerator in footnote 5 as r - π (1+g) and the real growth contribution as -g.

7/ The exchange rate contribution is derived from the numerator in footnote 5 as ae(1+r).

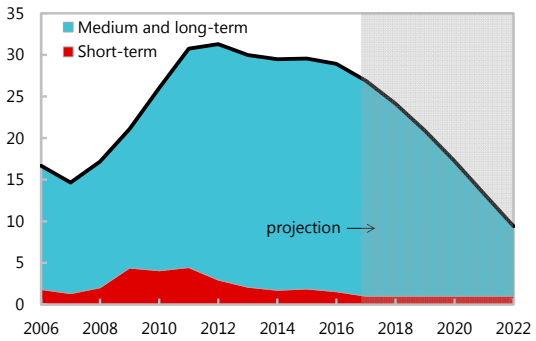
8/ Includes asset changes and interest revenues (if any). For projections, includes exchange rate changes during the projection period.

9/ Assumes that key variables (real GDP growth, real interest rate, and other identified debt-creating flows) remain at the level of the last projection year.

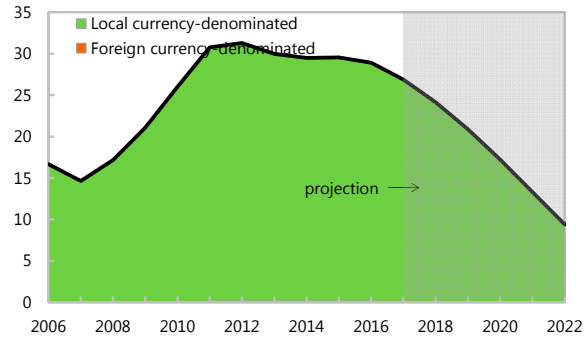
New Zealand Public DSA - Composition of Public Debt and Alternative Scenarios

Composition of Public Debt

By Maturity
(in percent of GDP)



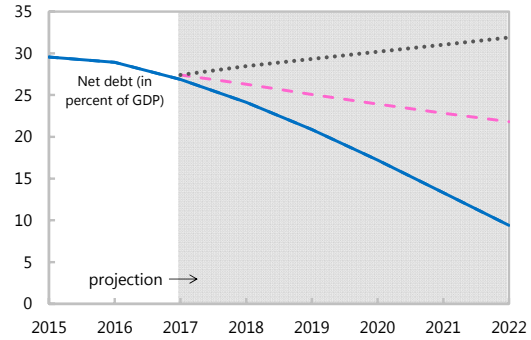
By Currency
(in percent of GDP)



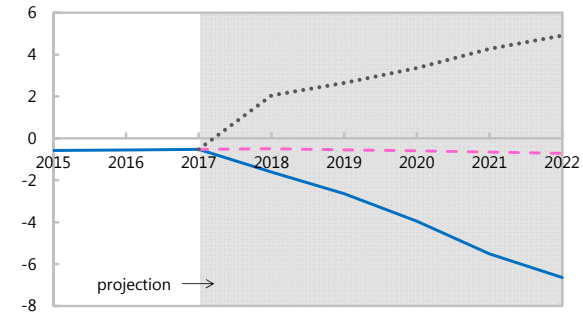
Alternative Scenarios

Baseline Historical Constant Primary Balance

Gross Nominal Public Debt
(in percent of GDP)



Public Gross Financing Needs
(in percent of GDP)



Underlying Assumptions
(in percent)

Baseline Scenario	2017	2018	2019	2020	2021	2022
Real GDP growth	3.1	2.9	2.6	2.6	2.6	2.5
Inflation	2.1	1.7	2.1	2.0	2.2	2.3
Primary Balance	1.2	2.2	2.7	3.2	3.4	3.4
Effective interest rate	5.0	4.9	5.0	5.2	5.5	5.9
Constant Primary Balance Scenario						
Real GDP growth	3.1	2.9	2.6	2.6	2.6	2.5
Inflation	2.1	1.7	2.1	2.0	2.2	2.3
Primary Balance	1.2	1.2	1.2	1.2	1.2	1.2
Effective interest rate	5.0	5.0	5.0	5.0	5.0	5.0

Historical Scenario	2017	2018	2019	2020	2021	2022
Real GDP growth	3.1	2.2	2.2	2.2	2.2	2.2
Inflation	2.1	1.7	2.1	2.0	2.2	2.3
Primary Balance	1.2	-1.3	-1.3	-1.3	-1.3	-1.3
Effective interest rate	5.0	5.0	5.0	4.9	4.8	4.8

Source: IMF staff.

INTERNATIONAL MONETARY FUND

NEW ZEALAND

STAFF REPORT FOR THE 2017 ARTICLE IV CONSULTATION —INFORMATIONAL ANNEX

April 18, 2017

Prepared By

Asia and Pacific Department
(In Consultation with Other Departments)

CONTENTS

FUND RELATIONS

(As of March 31, 2017)

Membership Status: Joined: August 31, 1961; Article VIII

General Resources Account:	SDR Million	Percent Quota
Quota	1,252.10	100.00
Fund Holdings of Currency	1,122.59	89.66
Reserve position in Fund	129.55	10.35
Lending to the Fund	58.98	
New Arrangements to Borrow		

	SDR Million	Percent Allocation
SDR Department:		
Net cumulative allocation	853.76	100.00
Holdings	753.65	88.27

Outstanding Purchases and Loans: None

Financial Arrangements: None

Projected Payments to Fund [1/]

	Forthcoming				
	2017	2018	2019	2010	2021
Principal					
Charges/Interest	0.33	0.44	0.44	0.44	0.44
Total	**0.33**	**0.44**	**0.44**	**0.44**	**0.44**

[1/] When a member has overdue financial obligations outstanding for more than three months, the amount of such arrears will be shown in this section.

Exchange Arrangement:

New Zealand accepted the obligations of Article VIII on August 5, 1982. The New Zealand dollar has floated independently since March 1985 and the de facto exchange rate arrangement is free floating. New Zealand maintains an exchange system that is free of restrictions on the making of payments and transfers for current international transactions, other than restrictions notified to the Fund in accordance with Decision No. 144-(52/51).

Article IV Consultation:

New Zealand is on the 12-month consultation cycle. The 2015 Article IV consultation was concluded by the Executive Board on February 5, 2016.

FSAP Participation and ROSCs:

New Zealand has participated in two FSAPs to date.

- The FSSA from the 2003 FSAP mission and the Detailed Assessments of Observance of IOSCO Objectives and Principles of Securities Regulation and FATF Recommendations for Anti-Money Laundering and Combating the Financing of Terrorism were published under Country Reports No. 04/126, No. 04/417, and No. 05/284, respectively.
- New Zealand participated again in 2016, with one FSAP mission in August 2016 and another FSAP mission in November 2017. The FSSA will be discussed by the Executive Board at the time of the discussion of the Staff Report for the 2017 Article IV Consultation with New Zealand.

Technical Assistance: None

STATISTICAL ISSUES

Data provision is adequate for surveillance. The authorities are continuing to enhance data quality and expand the range of data available, and are making progress towards subscribing to the IMF's Special Data Dissemination Standard (SDDS).

Table of Common Indicators Required for Surveillance
(As of April 5, 2017)

	Date of latest observation	Date received	Frequency of Data[6]	Frequency of Reporting[6]	Frequency of Publication[6]
Exchange Rates	4/5/17	4/5/17	D	D	D
International Reserve Assets and Reserve Liabilities of the Monetary Authorities[1]	2/17	3/30/17	M	M	M
Reserve/Base Money	2/17	3/30/17	M	M	M
Broad Money	2/17	3/30/17	M	M	M
Central Bank Balance Sheet	2/17	3/30/17	M	M	M
Consolidated Balance Sheet of the Banking System	2/17	3/30/17	M	M	M
Interest Rates[2]	4/5/17	4/5/17	D	D	D
Consumer Price Index	Q4 2016	3/16/17	Q	Q	Q
Revenue, Expenditure, Balance and Composition of Financing[3]– Central Government	2015/16	12/8/16	A	A	A
Stocks of Central Government and Central Government-Guaranteed Debt[4]	2015/16	12/8/16	A	A	A
External Current Account Balance	Q4 2016	3/15/17	Q	Q	Q
Exports and Imports of Goods and Services	Q4 2016	3/15/17	Q	Q	Q
GDP/GNP	Q4 2016	3/16/17	Q	Q	Q
Gross External Debt	Q4 2016	3/15/17	Q	Q	Q
International Investment Position[5]	Q4 2016	3/15/17	Q	Q	Q

[1] Includes reserve assets pledged or otherwise encumbered as well as net derivative positions.
[2] Both market-based and officially determined, including discount rates, money market rates, rates on treasury bills, notes, and bonds.
[3] Foreign, domestic bank, and domestic non-bank financing.
[4] Including currency and maturity composition.
[5] Includes external gross financial asset and liability positions vis-à-vis nonresidents.
[6] Daily (D), Weekly (W), Monthly (M), Quarterly (Q), Annually (A), Irregular (I); Not Available (NA).

Statement by Grant Johnston, Alternate Executive Director for New Zealand
May 3, 2017

On behalf of our New Zealand authorities, we welcome the 2017 Article IV consultation reports. In particular, this year, the authorities are pleased to have hosted an FSAP review, which they strongly support as a means of promoting and improving both the quality of financial sector regulation and the outcomes this regulation aims to achieve. We thank the mission teams for their hard work and productive engagement.

Outlook

The authorities broadly agree with the outlook presented in the staff report. Drivers of growth include high levels of net migration, strong services exports (mainly tourism and education services) and low interest rates. These factors are supporting consumer spending, housing construction and business investment. Dairy prices have increased over the last year and the terms of trade remain at a historically high level. Employment growth has been strong and labor market participation reached a record high 70.5 percent in the December quarter.

The authorities forecast growth of between 3 and 4 percent over the current fiscal year and the next, before gradually easing. The economy is estimated to be operating close to its potential level. The current account deficit is expected to widen moderately as imports pick up and the income deficit widens, the latter reflecting rising global interest rates. A key domestic uncertainty is the outlook for net migration—currently at a record high—with history indicating that the cycle can reverse sharply. External risks include a slowdown in trading partner growth and uncertainties around trade and fiscal policy in major economies.

High net inward migration, due in part to an unusually low outflow of New Zealanders to Australia, has helped fuel demand for housing, particularly in Auckland. Strong house price growth over recent years has softened slightly following tighter loan-to-value restrictions and higher mortgage interest rates, and is expected to ease further as new supply comes into the market. Household debt-to-income is at a historically high level (over 160 percent), although debt serviceability remains relatively affordable while interest rates are low.

The fiscal outlook is positive, with a growing economy driving growth in tax revenue at a greater rate than government spending. Budget surpluses are forecast to rise and public debt to reduce as a proportion of GDP.

Monetary and fiscal policy

Annual consumer inflation returned to the midpoint of the 1 to 3 percent target band in the March quarter of 2017, partly reflecting an increase in petrol prices and tobacco excise.

Measures of core inflation are mixed. Headline CPI is likely to be variable over the next year due to one-off effects but future inflation is expected to stabilize at around 2 percent. The RBNZ has signaled that monetary policy will remain accommodative for a considerable period. Since numerous uncertainties remain, however, particularly in respect of the international outlook, the RBNZ stands ready to adjust policy in either direction.

A key anchor for fiscal policy is the Government's intention to reduce net debt to around 20 percent of GDP in 2020, and to between 10 and 15 percent of GDP by 2025. A low level of public debt is an important buffer given New Zealand's exposure to external shocks and natural disasters, and its relatively high private and external indebtedness. Once net debt has fallen below 20 percent, the Government intends to resume contributions to the New Zealand Superannuation Fund, which prefunds a portion of future public pension costs.

Strong economic growth, underpinned by elevated net migration, has improved the outlook for tax revenue since the last Article IV. However, high population growth also contributes to demand for public services and infrastructure. Fiscal policy is calibrated to rebuild fiscal buffers while also investing appropriately in infrastructure and other growth-friendly initiatives, funding cost pressures on public services and meeting the fiscal costs of last year's Kaikoura earthquake. When conditions permit, the Government intends to lower income taxes, as income tax rates and thresholds have not changed since 2010 while wages have continued to rise. The fiscal stance is expected to be slightly expansionary in the short term, with a tighter stance currently forecast from 2018/19. This overall stance is expected to be broadly supportive of monetary policy.

Financial sector

The 2016 FSAP mission was the first conducted in New Zealand since 2004. Over the intervening period, significant progress has been made in developing New Zealand's regulatory system. A prudential regime has been introduced for the insurance sector, for example, overseen by the RBNZ. The Financial Markets Authority was created in 2011 as the conduct regulator for the financial sector. The legislative framework for the conduct of financial market participants was also overhauled, most notably resulting in the passing of the Financial Markets Conduct Act 2013.

The authorities welcome the recognition in the FSSA that New Zealand's financial system remains sound and resilient to severe shocks. The FSSA highlights well-known risks to the financial system, as well as areas where a distinctive approach to prudential regulation and supervision has been taken to reflect New Zealand's own particular situation and circumstances. It recognizes the work already underway in many areas where recommendations have been made. The RBNZ, for example, is reviewing bank capital requirements to ensure, among other things, that New Zealand capital requirements are conservative relative to international peers. Reviews are being conducted of the legislation

governing prudential supervision of insurers, as well as the regulatory regime for financial advice. The authorities are also improving the regulation and supervision of financial market infrastructures.

Consideration is currently being given to including debt-to-income limits on mortgage borrowing in the RBNZ's macroprudential toolkit. Consistent with good regulatory principles, a cost-benefit analysis and public consultation will be undertaken before a final decision is taken. The authorities are also considering the proposal that an enhanced *de minimis* in the Open Bank Resolution regime could provide protection for most depositors without the costs and risks to government of a full deposit insurance scheme.

The RBNZ will look carefully at the recommendations on bank supervision, including the extent to which these support an approach to regulation and supervision that also includes self- and market discipline. It has begun, for example, reviews of its enforcement strategy and attestation regime, which will include consideration of the FSSA's recommendations in these areas.

Structural reforms

As staff observe, New Zealand's structural policy settings are close to, or mark, best practice. Lifting productivity, in the face of New Zealand's small size and isolation, therefore requires incremental reforms across a broad range of areas. Recognizing this, the Government has established the Business Growth Agenda as an ongoing program of work to build a more productive and competitive economy, focused on six key inputs for businesses - exports, investment, innovation, skills, natural resources and infrastructure. Among other things, the Government is working to attract more high-quality foreign business investment to New Zealand, raise public investment in research and development to 0.8 percent of GDP, and progress a range of trade-supportive measures including modern free trade agreements and removing red tape for businesses. The Government's capital spending will be substantially higher over the next five years, relative to the previous five years, with major investments in transport, schools, hospitals, defense and housing.

In response to housing pressures, the focus remains on increasing supply. Reform of the Resource Management Act has recently been legislated, the Government will continue to work with Auckland Council to ensure the successful implementation of the city's unitary plan, and more underutilized public land will be made available to support an increase in residential building. A new Housing Infrastructure Fund has been established to help address housing capacity constraints. The Government is considering the Productivity Commission's report on urban planning, which recommends fundamental reforms to the planning system. Tax changes to more clearly identify when capital gains from property sales should be subject to taxation were introduced only 18 months ago, and the effects of these changes are still being monitored. The Government is committed to a broad-based, low-rate tax system

that has low compliance and administrative costs, and biases economic decisions as little as possible, including on investment in different classes of assets.

The public sector makes up around a quarter of New Zealand's GDP, so increasing the productivity of government services is an important contribution to improving productivity overall. The Government is committed to using its resources in a more effective way to deliver services that make a difference to the lives of New Zealanders and make transactions with government as easy as possible. It has, for example, set a series of challenging targets aimed at reducing long-term welfare dependence, increasing educational participation and achievement, reducing recidivist and violent crime, and improving businesses' and individuals' interaction with government.