FIPS

Financial Institutions Performance Survey

December 2018 Quarterly Results

Overview

Capital

In our recent publication *FIPS Banks: Review of 2018* released on 12 February 2019[1], we discussed the consultation paper released by the Reserve bank of New Zealand (RBNZ) in December 2018 on capital required by registered banks in New Zealand, asking "how much capital is enough?". This analysis looked at the RBNZ's rationale behind the proposed changes in the consultation, some of the potential impacts on the banks and the economy if these changes were to be implemented, and some initial reactions from various participants to this consultation.

These new proposed capital requirements would drive up the minimum level of capital needing to be held to up to 16%, and reduce the amount of 'lower' types of capital that can be used. As can be seen on page 10, some banks will require significantly higher amounts of capital to meet these new requirements, especially when you note that the figures on page 10 include tier two and types of tier one capital that may no longer be permissible capital under the proposed changes.

Some of the key possible impacts from these changes were lower rates on deposits; higher rates on lending; a possible reduction of available credit in the economy, particularly in certain industries; and lower shares prices of banks (with flow on impacts to KiwiSaver funds that invest in banks) than before.

Since *FIPS Banks: Review of 2018* was released, further commentary has been published from various participants, from both angles of providing further rationale for the proposed changes (from the RBNZ) and possible impact estimates from other market observers.

On 26 February 2019, the RBNZ Deputy Governor, Geoff Bascand, spoke at Victoria University in Wellington, highlighting that "increasing the amount of capital banks must have would help to improve the safety of New Zealand's financial system and wellbeing" where the proposal aims to "make bank failures less likely, ensure that bank shareholders have a meaningful interest in their bank's business, and are able to absorb a greater share of any loss if they occur"[2].

On the other hand, UBS released a report on 1 March 2019, stating that it believes it is "highly unlikely" that the RBNZ will change its proposal in the consultation paper as a result of the consultation period, and that the economic impact from these changes will be greater than the impact assumed by the RBNZ. The RBNZ is expecting that banks' net interest margins (NIM) will need to increase by approximately 20-40 basis points (bps) as a result of the capital changes, whereas UBS expects that mortgage rates will at least need to rise by between 38 – 75 bps (a rate which assumes the RBNZ's lower implied return on equity target for banks, as a result of the bank being greater capitalised and thus a 'safer investment')[3]. Previous estimates from UBS have estimated the impact on borrowers to be an increase in rates paid on lending by up to 125 bps[4].

Further to this, on 6 March 2019, an ex-central bank official said he expected that the proposed capital changes will cost the New Zealand economy $1.5 – $2 billion a year, and will not actually make the banks much safer. He also alleges the RBNZ set the proposed risk profile of banks in the consultation paper, being a one in a two hundred year event, to reach a pre-determined outcome of increasing bank capital, where a one in a one hundred year event would not require the banks to hold additional capital[5].

Various market participants have published their own impact assessment of the proposed capital changes, such as Harbour Asset Management Partners[6] and Hobson Wealth[7]. A memo from the RBNZ to the government was also released where the RBNZ warned the government to expect intensive lobbying from the big four banks[8].

With the consultation period ending on 3 May 2019, and a final decision expected in the third quarter of 2019, this issue still has a while to run, with no doubt more views and research to be expressed from various parties.

Again, we reiterate the RBNZ's desire to hear from everyone in the economy as part of this consultation process, as part of this process is reviewing the credit appetite of the community, and the effects of these proposed capital changes will impact the wider economy, not just the banks.

Tax Working Group final report

On 21 February 2019, after many months of speculation and debate, the Tax Working Group (TWG) issued its much anticipated final report *Future of Tax: Final Report*[9]. In the final report, the TWG presented various recommendations on different areas of taxation, such as businesses, savings and personal income. However, the biggest area of interest for many was the recommendations regarding the taxing of capital gains.

The biggest area of interest for many was the recommendations regarding the taxing of capital gains.

© 2019 KPMG, a New Zealand partnership and a member firm of the KPMG network of independent member firms affiliated with KPMG International Cooperative ("KPMG International"), a Swiss entity. All rights reserved.

The members of the TWG reached consensus that there "should be an extension of the taxation of capital gains from residential rental investment properties"; however, only eight of the eleven members of the TWG support the introduction of "a broad approach to the taxation of capital gains… a realisation-based tax that is applied to capital gains on a broad range of assets, at full rates, with no allowance for inflation". The difference in view on this matter derived from the belief in whether the benefits gained from this broader tax approach would offset the costs and any inefficiency created.

Other areas of focus in the final report concentrated on the following topics:

– encouraging environmental and ecological outcomes;
– simplifying business tax;
– buildings and housing;
– encouraging retirement savings; and
– progressivity in the income tax.

Reactions to the recommendations from the TWG's final report have been both extreme and varied, with many supporters and detractors on both sides of the political spectrum. For instance, the leader of the Opposition, Simon Bridges, called the capital gain tax recommendations "an attack on the Kiwi way of life"[10], while Finance Minister Grant Robertson hit back at capital gain tax critics saying "it's change and change is always challenging for people" and "it's a different type of tax and I'm not sure that is something that people have got their head around yet"[11].

The proposals and recommendations from the TWG are neither final nor binding on the government. The government coalition partners will take on board the recommendations put forward and will present a proposed tax reform package in April 2019. However, it is expected that implementation of any new tax would not come into force until 2021, or possibly 2022 (after the next general election, to be held in 2020). As such, the next general election is likely to also be a referendum on the country's support of the proposed tax reform package. It will be interesting to see what the differences are between the TWG recommendations and the final proposed tax reform package, as certain areas of the recommendations (such as the impacts on small businesses and farming) have become hotly debated and potentially could sway key voting blocks in the next election.

For a more comprehensive analysis of what the TWG recommended in its final report on 21 February 2019, KPMG's summary of, and initial views on, the TWG's final report can be found at the following link: https://assets.kpmg/content/dam/kpmg/nz/pdf/February/tax-working-group-final-report.pdf.

New RBNZ monetary policy committee remit

On 14 February 2019, Finance Minister Grant Robertson and RBNZ Governor Adrian Orr signed both the first 'remit' which sets out the RBNZ's dual employment and price stability objectives, and the 'charter' that will govern the decision making of the RBNZ's new Monetary Policy Committee (MPC). These are changes and actions that arose from the Phase 1 review of the Reserve Bank Act[12].

The 'remit' replaces the Policy Targets Agreement (PTA) that has historically been in place between the Minister of Finance and the RBNZ Governor, with the MPC making monetary policy decisions under the transparency requirements and decision-making procedures set out in the 'charter'. These rules and agreements come into force from 1 April 2019.

The 'remit' agreed set monetary policy objectives of the following areas:

– Keep inflation between one and three percent over the medium term, with a focus on keeping inflation near the two percent mid-point; and
– Support maximum sustainable employment.

These objectives are in line with the previous PTA.

While the 'remit' is largely in line with the previous PTA, one of the bigger changes is the inclusion of non-RBNZ staff on the MPC. The MPC will consist of between five and seven members where the majority is made up of RBNZ staff. Previously the RBNZ committee that made monetary policy decisions was solely made up of RBNZ staff.

One concern regarding non-RBNZ staff being included in these meetings was the risk that RBNZ decisions were influenced by the political party in power, as the Minister of Finance appointed the MPC members based on the RBNZ Board's recommendations. However, with the majority of MPC being RBNZ staff and with decisions being made by the majority, this step is likely to help safeguard the independence of the RBNZ's decisions from politics.

© 2019 KPMG, a New Zealand partnership and a member firm of the KPMG network of independent member firms affiliated with KPMG International Cooperative ("KPMG International"), a Swiss entity. All rights reserved.

Where consensus is not reached, those making decisions in the MPC will have meeting minutes noting where differences exist and the balance of votes where consensus is not reached. These notes will be interesting to follow, especially to see whether non-consensus decisions become split across internal and external divides.

While these changes seem relatively small and procedural, this aspect is just the first implementation of the Phase 1 review of the Reserve Bank Act; however, this change is just the first of several changes as a result of both this review, and the Phase 2 review commenced in November 2018. Phase 2 is likely to result in some more significant areas, such as consideration of deposit insurance, separation of the prudential supervision responsibilities of the RBNZ, and what is 'in' and 'out' of the RBNZ prudential regulation responsibility[13].

Lending and housing

After a period of relative calm, the competition for mortgages appears to have heated up, with HSBC dropping their two year mortgage rate to just 3.69%. This rate is 50 bps lower than Kiwibank which has the next lowest rate for the two-year term at the time of the announcement. The 'Premier' special is the lowest-ever fixed home loan rate from any bank to be offered in New Zealand in the last fifty years. However, this rate is only available to existing premier customers who borrow an additional $100,000, or new premier customers who take out a combined home loan of at least $500,000 or put $100,000 into savings and investments in HSBC New Zealand[14]. HSBC NZ's CEO explained the campaign is aiming to stimulate demand in a softening market following the house prices decreasing in Sydney and Melbourne.

After a period of relative calm, the competition for mortgages appears to have heated up.

TSB is also looking to more overtly compete with the big Australian banks, offering to match any one-year home loan rate advertised by the Australian banks and encouraging customers to keep their loans in New Zealand so the customers' bank's profits can benefit the local economy[15].

With this recent spike in competitive rates being offered after a period of relative calm, customers are benefiting from a long period of low interest rates. However, possibly due to the low interest rates, more households are having debt secured against their house, with only one third of homes being mortgage free. The percentage of homeowners over 65 (retirement age) who have no mortgage on their home has dropped from 78% in the mid 2000's to a 72% average between 2015 and 2017, and the latest household expenditure survey shows only 38% of people between the ages of 55-64 own freehold homes[16].

New mortgage lending in January was up 9.6% to $4.05 billion from January 2018.

New mortgage lending in January was up 9.6% to $4.05 billion from January 2018, while the number of new borrowers only increased by 0.94% to 18,774, moving the average mortgage lending per borrower up to $215,777 for January 2019 from $198,710 in January 2018. First home buyers increased the most of all groups, rising 26.68% to 1,771 borrowers and increasing lending by 24.11% to $700 million in January, while their average borrowing decreased from $403,433 to $395,257.

First home buyers also accounted for 9.43% of new mortgage borrowers in January 2019, up from 7.52% in January 2018, and in value terms accounting for 17.28% of total new mortgage lending in January 2019, up from 15.26% a year earlier[17]. This trend shows that the amount being borrowed is still relatively stable, while they are doing more of the overall borrowing; such a trend also starts to indicate fairly stable, or slightly dropping, house prices, with less competition from other buyers (borrowers).

Interestingly, lending to investors in the month of January 2019, by numbers and value, both dropped compared to lending in January 2018, down 10.43% to 2,309 borrowers and down 6.80% to $726 million of lending. There are various reasons that could be impacting these figures, with the most likely scenario being a combination of factors. These are the foreign buyer bans that commenced in October 2018, possible changes in capital gains tax, and new anti-money laundering rules that have been in place since 1 January 2019, where real estate agents are now required to investigate sources of funding in order to prevent illegal money being used to purchase property in New Zealand[18].

Based on lending data from January 2019, it appears that first home buyers were able to make the most of some of this relaxation. First home borrowers with higher than 80% loan-to-value ratios (LVRs) increased by 78.59% to 634 borrowers, and lending increased as well, up 91.78% to $134 million of lending, bringing the average new mortgage lent to first home buyers to $441,640 in January 2019, up from $411,267 in January 2018.

© 2019 KPMG, a New Zealand partnership and a member firm of the KPMG network of independent member firms affiliated with KPMG International Cooperative ("KPMG International"), a Swiss entity. All rights reserved.

Owner occupiers with over 80% LVRs also saw increases in both the number of borrowers (23.94%) and value of lending (46.00%), bringing their average lending from $303,030 to $356,968. However, the amount lent to first home buyers with LVR above 80% was 40% of total lending to first home buyers for the month, and the amount lent to existing owner occupiers with LVR above 80% was just 5.66% of total lending to existing owner occupiers for the month.

For first home buyers, borrowing $400,000 is quite a large amount, assuming a 20% ($100,000) deposit, when the average annual household income before tax was $105,719 for the year ended June 2018[19]. Combined with the considerable cost of living, especially in Auckland where the average house price is $800,000[20] and would require a $160,000 deposit (20%), more and more New Zealanders are using their KiwiSaver funds to finance their first home. First home withdrawals from KiwiSaver in January 2019 increased by 6.5% to $59.4 million when compared to those of the previous January[21]. New homeowners borrowed a combined total of $700 million this month, with an implied deposit of $175 million (conservatively assuming 20% deposit), suggesting at least approximately 33.94% of this amount is being met with KiwiSaver funds. This trend is possibly due to New Zealanders feeling as if digging into their retirement funds is the only way to get on to the property ladder, but this feeling and impact is far from limited to first home buyers, as more people at retirement age are still paying off their mortgages, as noted earlier.

Looking at property sales, the driver of mortgage lending, Barfoot & Thompson's sales for February 2019 were down 29% from February last year, dropping to 474 sold properties, and the lowest since the global financial crisis in December 2008. Barfoot and Thompson also noted that the market appeared to be shifting in the buyer's favour; however, more vendors have been choosing to take their properties off the market rather than reducing their price expectations. The true test of the market will be based on how many people can choose to do withdraw their property from the market, and how long they can do it for, before they need to sell. Barfoot & Thompson also noted the median selling price has decreased, dropping 3.2% from $827,500 in February 2018 to $801,000 this year; while the number of new listings plummeted, dropping 10.5%, the lowest for the month since February 2012[22]. However, 1,563 properties were listed in the month of February 2019 and still had 4,600 properties available for sale at the end of February 2019, thus showing that many sellers are still looking for buyers. The decrease in property values seen by Barfoot and Thompson is supported by Quotable Value figures, showing a 0.9% dip in the average property value in Auckland for February 2019 compared to that of February 2018, thus becoming the third consecutive drop in values[23].

Analysis of results

We have presented our analysis of the results for the quarter ended 31 December 2018 on pages 6 to 14. The highlights from this analysis are that net profit has dropped by 10.36% ($154 million) to $1,335 million, off the back of a 4.59% increase in the September 2018 quarter and a 14.59% increase in the June 2018 quarter. This result has been driven by a decrease in non-interest income of $214 million, a decrease in impaired asset expense of $102 million, and a slight dip in operating expenses of $7 million partially offset by an increase in interest income of $86 million and a reduction in tax expense of $83 million.

Loan growth has continued its path of steady modest increases. Kiwibank saw strong growth in the quarter, up 2.93%, while Heartland had a significant drop of 14.95%, a drop driven by the transfer of its Australian operations out of the New Zealand registered bank into the ultimate holding company. For the year-to-date, TSB continues to be the strongest performer of all the banks, with growth of 9.71%; however, this quarter's performance has boosted Kiwibank into the top three year-to-date for loan growth. Of the major four banks, CBA saw the strongest growth in the quarter of 1.76%, while Westpac had the lowest growth of 0.68%.

Asset quality has slightly worsened over the quarter, albeit off a very low base. Impaired asset expense is up $102 million; but this is an increase from a recovery of $22 million in the prior quarter to an impairment expense of $80 million in the current quarter. Provision levels continue to remain fairly low and stable, with a small drop in individually assessed provisions and a small increase in collectively assessed provisions.

© 2019 KPMG, a New Zealand partnership and a member firm of the KPMG network of independent member firms affiliated with KPMG International Cooperative ("KPMG International"), a Swiss entity. All rights reserved.

Net profit after tax

Net interest income

3.42%

to $2,613 million

Driven by

Net interest margin	
Westpac	20 bps
ANZ	10 bps
BNZ	10 bps

Movement in net profit

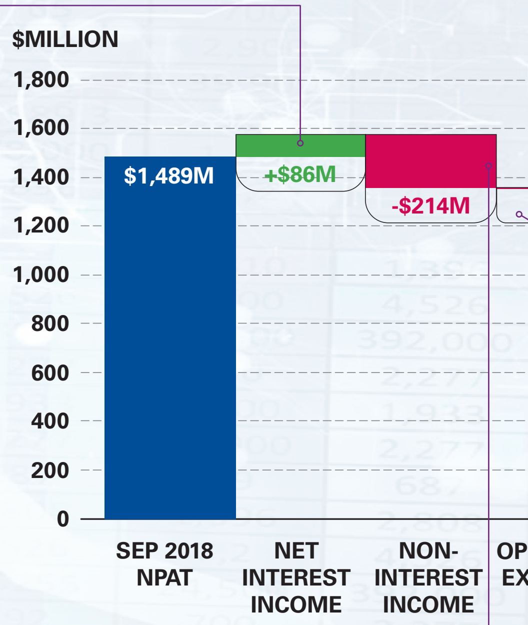


TABLE 1: Movement in interest margin

	31 Dec 18 quarter ended (%)[26]	Mvmt. during the quarter (bps)	Mvmt. for the 6 months (bps)	Mvmt. for the 12 months (bps)
ANZ	2.2%	10	0	1
BNZ	2.2%	10	10	10
CBA	2.0%	0	-10	-4
Heartland Bank	4.3%	-10	-10	-7
Kiwibank	2.1%	-10	-10	5
SBS Bank	2.5%	-10	-10	-18
The Co-operative Bank	2.3%	-10	-10	1
TSB Bank	1.9%	0	10	10
Westpac	2.3%	20	20	34

Non-interest income

Driven by

ANZ

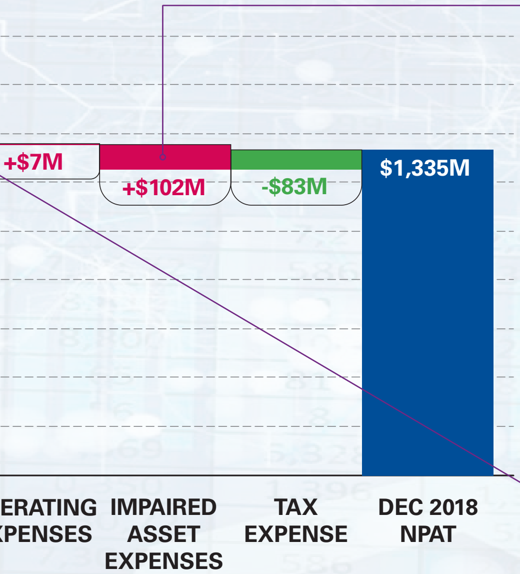
BNZ

Westpac

© 2019 KPMG, a New Zealand partnership and a member firm of the KPMG network of independent member firms affiliated with KPMG International Cooperative ("KPMG International"), a Swiss entity. All rights reserved.

10.36%

to $1,335 million



Impaired asset expenses

462.9%

up $102 million

Driven by

ANZ	$36M
Westpac	$28M
CBA	$25M

25.13%

down $214 million

-$119M
-$70M
-$43M

Operating expenses

0.56%

up $7 million

Driven by

Westpac	$9M
CBA	$8M
ANZ	-$11M

© 2019 KPMG, a New Zealand partnership and a member firm of the KPMG network of independent member firms affiliated with KPMG International Cooperative ("KPMG International"), a Swiss entity. All rights reserved.

Lending

Loans

1.16%

to $420,860 million

Quarterly

Kiwibank	2.93%
SBS Bank	2.20%
Heartland	14.95%

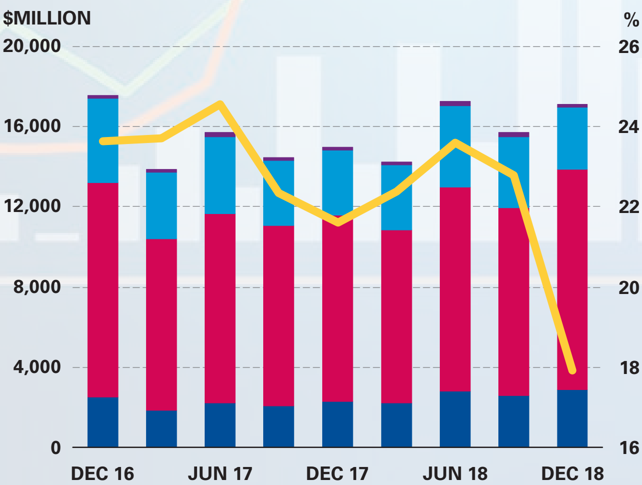
Year on year

TSB	9.71%
The Co-operative Bank	7.56%
Kiwibank	7.54%

TABLE 2: Analysis of gross loans

Quarterly analysis	31 Dec 18 quarter ended $Million	30 Sep 18 quarter ended $Million	% Increase
ANZ	130,542	129,194	1.04%
BNZ	85,022	83,800	1.46%
CBA	88,525	86,990	1.76%
Heartland Bank	3,521	4,140	-14.95%
Kiwibank	19,428	18,874	2.93%
SBS Bank	3,963	3,878	2.20%
The Co-operative Bank	2,441	2,390	2.17%
TSB Bank	5,685	5,579	1.88%
Westpac	81,734	81,184	0.68%
Total	**420,860**	**416,028**	**1.16%**
Annual analysis	**31 Dec 18 quarter ended $Million**	**31 Dec 17 quarter ended $Million**	**% Increase**
ANZ	130,542	125,803	3.77%
BNZ	85,022	80,408	5.74%
CBA	88,525	83,801	5.64%
Heartland Bank	3,521	3,815	-7.71%
Kiwibank	19,428	18,065	7.54%
SBS Bank	3,963	3,782	4.77%
The Co-operative Bank	2,441	2,270	7.56%
TSB Bank	5,685	5,181	9.71%
Westpac	81,734	78,527	4.08%
Total	**420,860**	**401,652**	**4.78%**

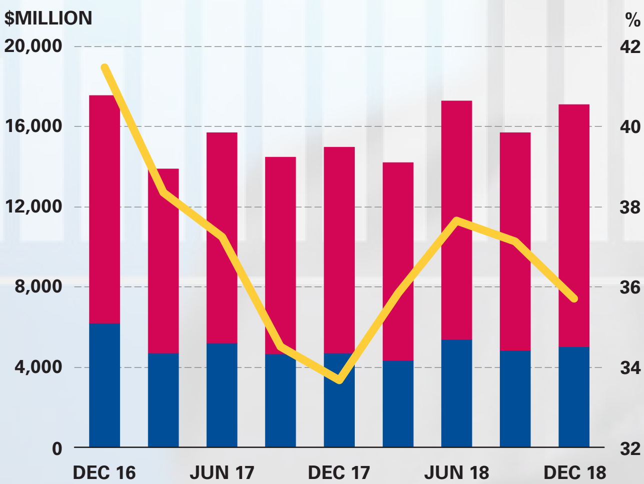
1 NEW MORTGAGE LENDING BY BORROWER TYPE



FIRST HOME BUYER (LHS)
OTHER OWNER OCCUPIER (LHS)
INVESTOR (LHS)
BUSINESS PURPOSES (LHS)
INVESTOR LENDING (%) (RHS)

SOURCE: RESERVE BANK OF NEW ZEALAND STATISTICS

2 NEW MORTGAGE LENDING BY PAYMENT TYPE



INTEREST ONLY (INCLUDING REVOLVING CREDIT) (LHS)
PRINCIPAL AND INTEREST (LHS)
PROPORTION OF NEW LENDING INTEREST ONLY – INVESTOR (%) (RHS)

SOURCE: RESERVE BANK OF NEW ZEALAND STATISTICS

© 2019 KPMG, a New Zealand partnership and a member firm of the KPMG network of independent member firms affiliated with KPMG International Cooperative ("KPMG International"), a Swiss entity. All rights reserved.

Asset quality

Individually assessed provisions

4.61%

down $15 million

Driven by

ANZ $16M

CBA $12M

Collectively assessed provisions

2.47%

up $40 million

Driven by

Westpac $35M

Heartland $7M

ANZ $12M

3 MOVEMENT IN PROVISIONING

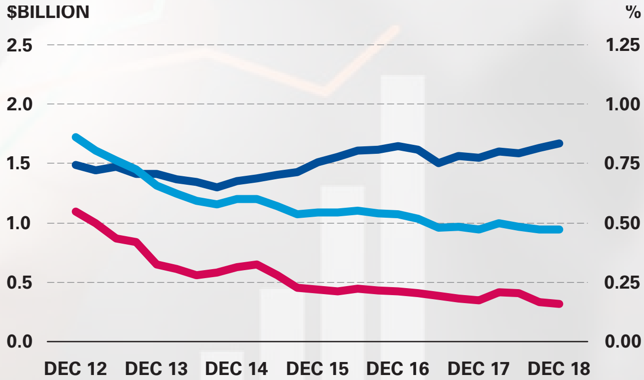
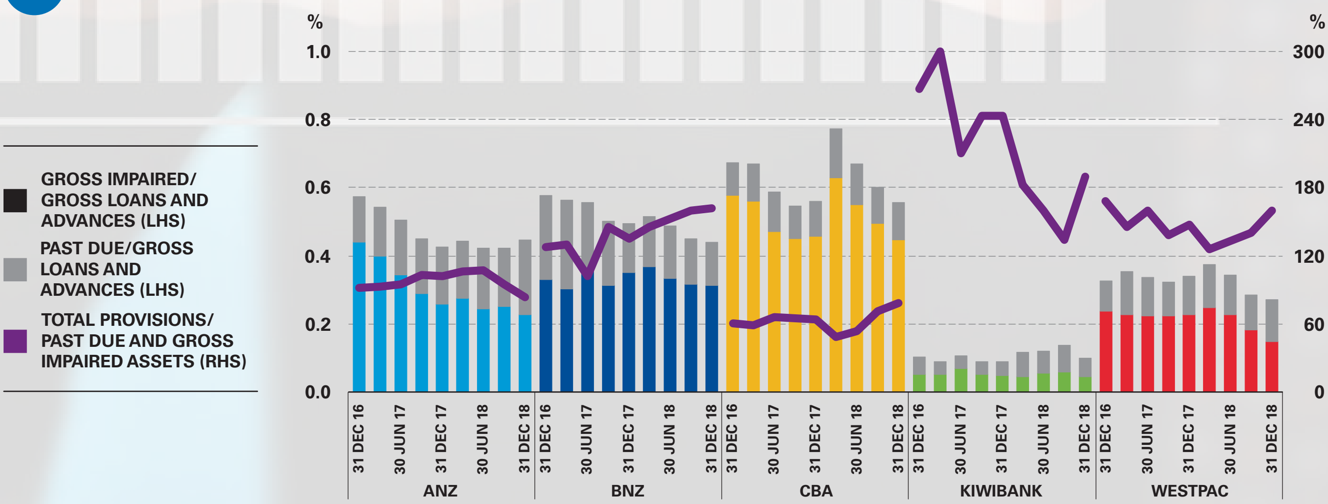


TABLE 3: Movement in impaired asset expense/ Average gross loans

	31 Dec 18 quarter ended (%)	Movement during the quarter (bps)	Movement for the 12 months (bps)
ANZ	0.04%	11	0
BNZ	0.06%	3	5
CBA	0.16%	11	4
Heartland Bank	0.79%	18	22
Kiwibank	0.07%	6	29
SBS Bank	0.38%	-2	-7
The Co-operative Bank	0.13%	-2	2
TSB Bank	-0.16%	-26	-26
Westpac	0.03%	17	0
Average	**0.08%**	**10**	**3**

4 MAJOR BANKS: PAST DUE AND GROSS IMPAIRED ASSETS VS. GROSS LOANS AND ADVANCES



© 2019 KPMG, a New Zealand partnership and a member firm of the KPMG network of independent member firms affiliated with KPMG International Cooperative ("KPMG International"), a Swiss entity. All rights reserved.

Major banks - Quarterly analysis

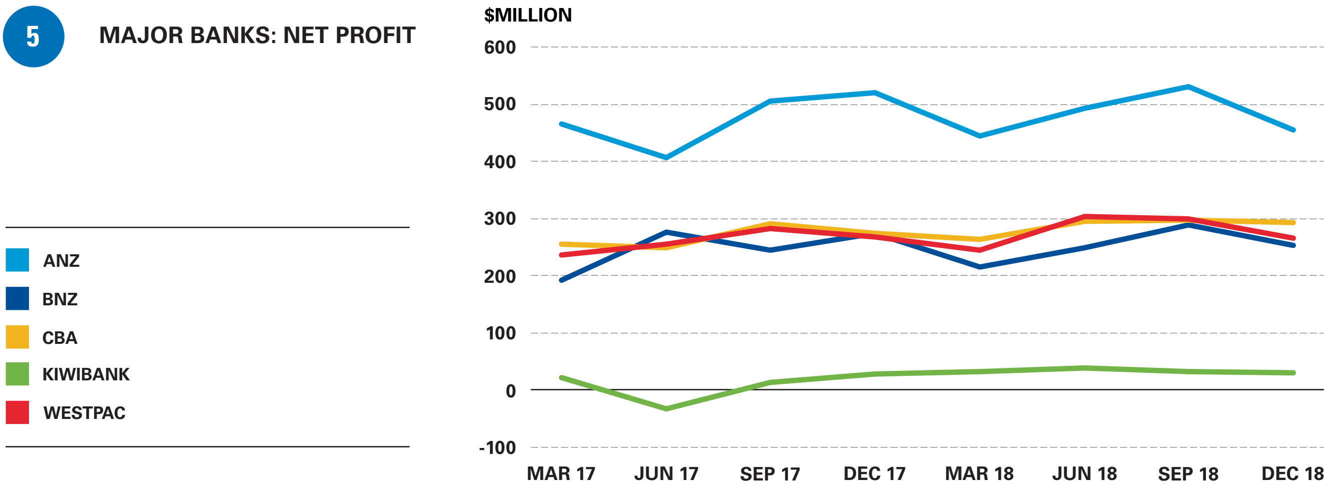
Entity	Size & strength measures							
	31 Mar 17	30 Jun 17	30 Sep 17	31 Dec 17	31 Mar 18	30 Jun 18	30 Sep 18	31 Dec 18
	Total assets[25] ($Million)							
ANZ	161,007	164,071	158,185	160,583	159,719	164,588	161,416	164,698
BNZ	94,023	95,324	95,315	97,742	97,065	101,678	99,991	102,536
CBA	92,077	92,828	92,801	97,762	98,643	101,338	101,906	103,157
Heartland Bank	3,896	4,035	4,222	4,307	4,388	4,496	4,596	4,018
Kiwibank	20,428	20,616	20,449	20,381	20,498	20,715	20,935	22,040
SBS Bank	3,994	4,060	4,237	4,347	4,455	4,501	4,574	4,660
The Co-operative Bank	2,364	2,449	2,527	2,589	2,629	2,661	2,697	2,786
TSB Bank	6,803	6,958	7,072	7,278	7,416	7,454	7,527	7,733
Westpac	92,533	94,215	95,666	96,041	96,216	98,438	96,656	98,537
Total	**477,125**	**484,555**	**480,474**	**491,031**	**491,030**	**505,868**	**500,298**	**510,164**
	Increase in Gross Loans and Advances (%)							
ANZ	0.90	0.93	0.64	0.36	0.82	1.69	0.17	1.04
BNZ	1.19	1.86	1.68	0.63	0.51	2.01	1.64	1.46
CBA	1.06	1.37	0.82	1.93	0.97	1.68	1.11	1.76
Heartland Bank	3.62	2.64	3.78	2.81	2.48	2.69	3.12	-14.95
Kiwibank	2.25	-0.08	0.21	0.96	1.01	0.93	2.49	2.93
SBS Bank	5.10	3.45	4.53	2.07	1.11	1.02	0.37	2.20
The Co-operative Bank	3.00	3.25	2.00	2.26	1.21	1.51	2.48	2.17
TSB Bank	4.79	2.97	4.16	3.21	2.95	2.66	1.88	1.88
Westpac	1.03	0.69	0.20	0.64	1.79	0.89	0.67	0.68
Average	**1.19**	**1.18**	**0.89**	**0.90**	**1.04**	**1.58**	**0.93**	**1.16**
	Capital adequacy (%)							
ANZ[24]	14.50	14.20	14.80	15.10	14.40	14.80	14.40	15.20
BNZ	13.29	12.79	13.32	13.47	13.10	13.20	13.60	13.30
CBA[24]	13.80	14.20	14.10	14.80	13.60	13.90	13.90	14.80
Heartland Bank	13.19	13.56	13.04	14.76	14.10	14.10	13.40	13.30
Kiwibank	13.50	13.40	16.00	15.00	15.40	15.80	15.70	15.30
SBS Bank	12.56	11.91	11.35	11.80	12.80	13.00	13.10	14.10
The Co-operative Bank	16.90	16.60	16.60	16.70	16.80	16.70	17.20	17.20
TSB Bank	14.60	14.85	14.55	14.54	14.30	14.70	14.50	14.80
Westpac[24]	14.00	14.00	14.80	14.30	16.60	17.10	16.60	16.90
	Net profit ($Million)							
ANZ	466	406	505	520	444	492	530	456
BNZ	193	276	245	275	215	250	289	253
CBA	255	248	292	275	264	296	297	292
Heartland Bank	16	16	16	15	18	19	17	13
Kiwibank	22	-32	14	28	33	39	32	30
SBS Bank	6	7	6	7	7	8	8	8
The Co-operative Bank	2	3	3	3	1	3	3	3
TSB Bank	5	11	17	10	14	14	13	13
Westpac	237	255	282	268	246	305	299	266
Total	**1,202**	**1,190**	**1,380**	**1,401**	**1,242**	**1,423**	**1,489**	**1,335**

© 2019 KPMG, a New Zealand partnership and a member firm of the KPMG network of independent member firms affiliated with KPMG International Cooperative ("KPMG International"), a Swiss entity. All rights reserved.

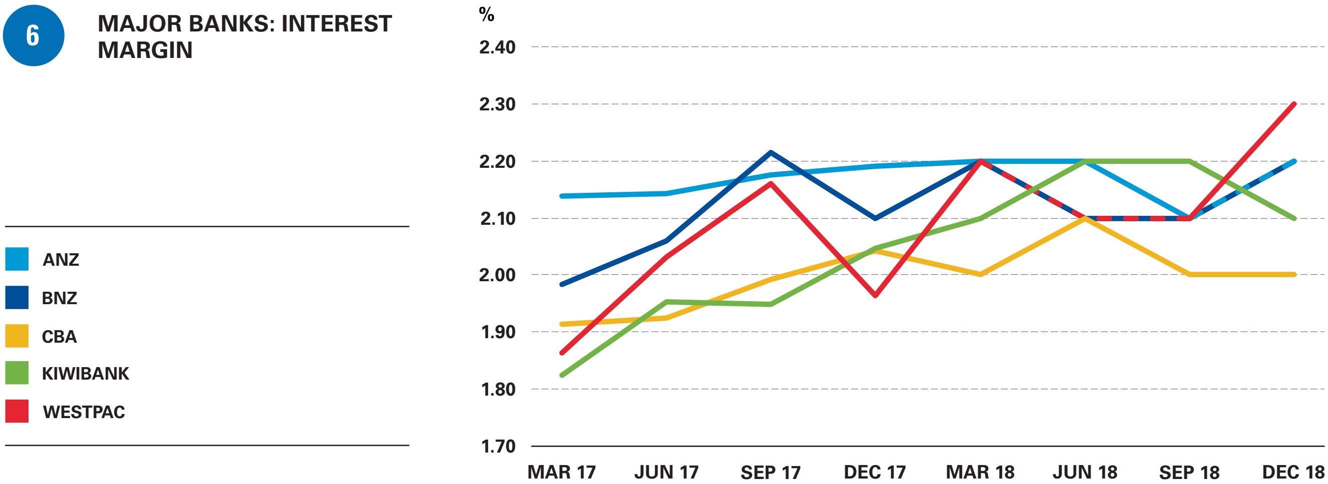
Entity	Profitability measures							
	31 Mar 17	30 Jun 17	30 Sep 17	31 Dec 17	31 Mar 18	30 Jun 18	30 Sep 18	31 Dec 18
	Interest margin[26] (%)							
ANZ	2.14	2.14	2.18	2.19	2.20	2.20	2.10	2.20
BNZ	1.98	2.06	2.21	2.10	2.20	2.10	2.10	2.20
CBA	1.91	1.92	1.99	2.04	2.00	2.10	2.00	2.00
Heartland Bank	4.35	4.54	4.49	4.37	4.50	4.40	4.40	4.30
Kiwibank	1.82	1.95	1.95	2.05	2.10	2.20	2.20	2.10
SBS Bank	2.38	2.43	2.52	2.68	2.60	2.60	2.60	2.50
The Co-operative Bank	2.25	2.22	2.24	2.29	2.30	2.40	2.40	2.30
TSB Bank	1.80	1.82	1.84	1.80	1.80	1.80	1.90	1.90
Westpac	1.86	2.03	2.16	1.96	2.20	2.10	2.10	2.30
	Non-interest income/Total assets[25] (%)							
ANZ	0.62	0.45	0.72	0.82	0.62	0.64	0.76	0.46
BNZ	0.35	0.74	0.54	0.65	0.63	0.55	0.64	0.36
CBA	0.63	0.61	0.64	0.64	0.62	0.67	0.63	0.71
Heartland Bank	0.37	0.30	0.18	0.39	0.32	0.67	0.27	0.23
Kiwibank	0.51	0.66	0.58	0.69	0.99	1.14	0.98	0.91
SBS Bank	0.79	0.77	0.78	0.85	0.85	0.82	0.88	0.92
The Co-operative Bank	0.58	0.95	0.84	0.89	0.67	0.71	0.63	0.69
TSB Bank	0.21	0.25	0.79	0.29	0.71	0.28	0.35	0.33
Westpac	0.68	0.73	0.57	0.78	0.48	0.74	0.60	0.43
Average	**0.57**	**0.60**	**0.63**	**0.73**	**0.61**	**0.66**	**0.68**	**0.50**
	Impaired asset expense/Average gross loans and advances (%)							
ANZ	0.01	0.04	0.03	0.04	0.19	0.02	-0.07	0.04
BNZ	0.12	-0.01	0.21	0.01	0.20	0.14	0.03	0.06
CBA	0.05	0.06	-0.08	0.12	0.16	0.06	0.05	0.16
Heartland Bank	0.46	0.47	0.56	0.57	0.60	0.60	0.61	0.79
Kiwibank	0.05	-0.13	0.25	-0.22	0.03	-0.04	0.01	0.07
SBS Bank	0.33	0.30	0.32	0.45	0.55	0.40	0.40	0.38
The Co-operative Bank	0.11	0.11	0.10	0.11	0.12	0.17	0.15	0.13
TSB Bank	0.06	0.08	0.06	0.10	0.08	-0.01	0.10	-0.16
Westpac	0.01	-0.07	-0.14	0.03	0.10	-0.01	-0.14	0.03
Average	**0.05**	**0.01**	**0.03**	**0.05**	**0.17**	**0.05**	**-0.02**	**0.08**
	Operating expenses/Operating income (%)							
ANZ	35.67	39.28	34.30	34.46	35.08	35.28	35.64	38.14
BNZ	42.91	38.65	37.99	38.69	46.85	40.48	37.85	40.42
CBA	36.25	38.02	35.00	35.19	37.05	37.20	35.39	35.22
Heartland Bank	41.23	42.93	43.70	44.54	39.76	41.07	41.60	47.60
Kiwibank	73.04	138.17	78.74	79.41	69.43	69.20	72.87	71.71
SBS Bank	62.36	60.78	67.09	64.26	61.60	61.38	60.91	62.97
The Co-operative Bank	79.33	76.96	74.55	73.32	86.39	76.50	75.00	76.33
TSB Bank	77.37	55.00	47.54	59.48	53.44	50.77	53.75	60.63
Westpac	42.26	43.81	40.03	40.00	39.29	36.77	38.26	39.89
Average	**40.92**	**44.82**	**38.96**	**39.34**	**41.20**	**39.46**	**39.15**	**40.91**

© 2019 KPMG, a New Zealand partnership and a member firm of the KPMG network of independent member firms affiliated with KPMG International Cooperative ("KPMG International"), a Swiss entity. All rights reserved.

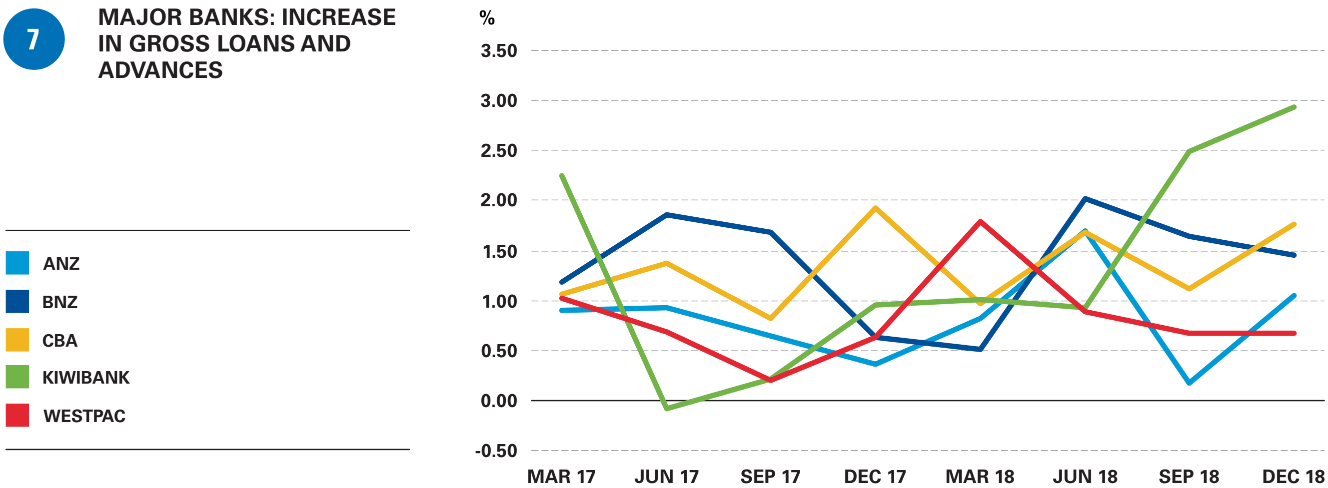
5 MAJOR BANKS: NET PROFIT



6 MAJOR BANKS: INTEREST MARGIN

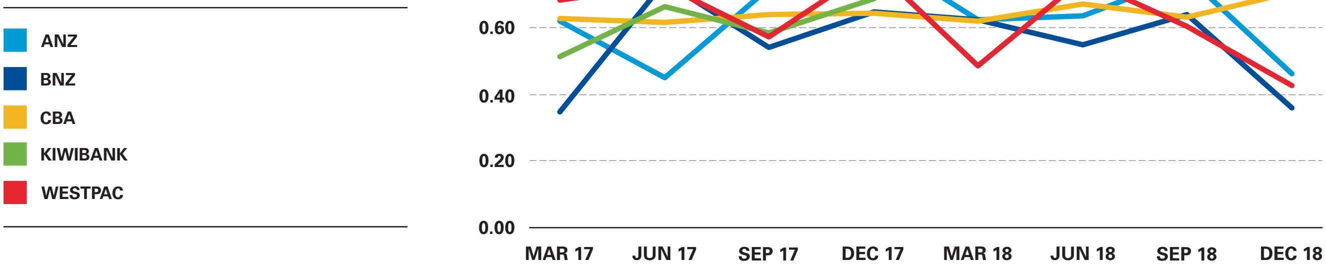


7 MAJOR BANKS: INCREASE IN GROSS LOANS AND ADVANCES

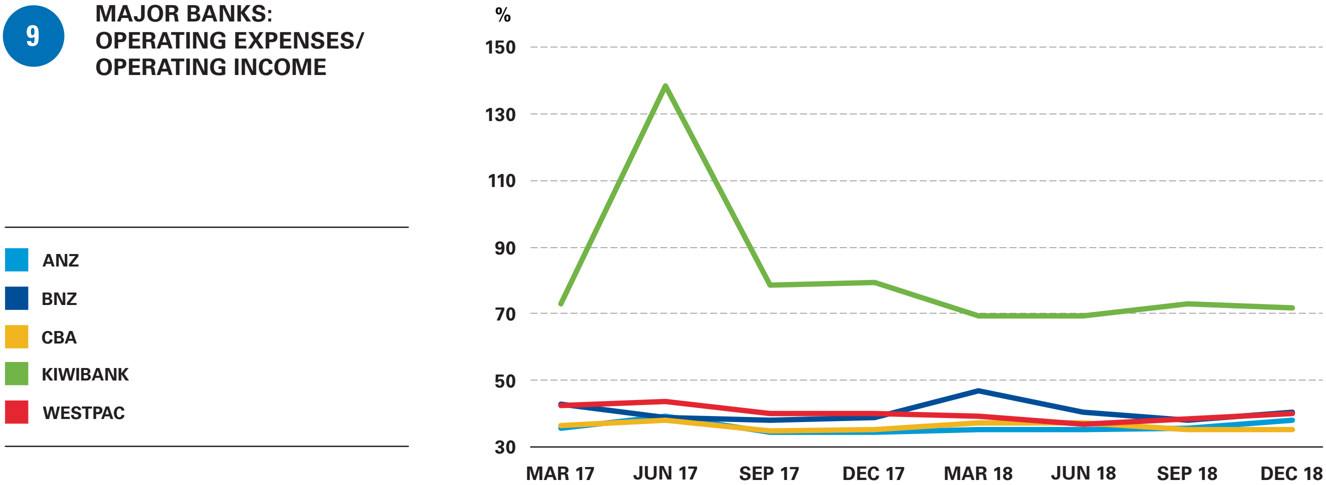


© 2019 KPMG, a New Zealand partnership and a member firm of the KPMG network of independent member firms affiliated with KPMG International Cooperative ("KPMG International"), a Swiss entity. All rights reserved.

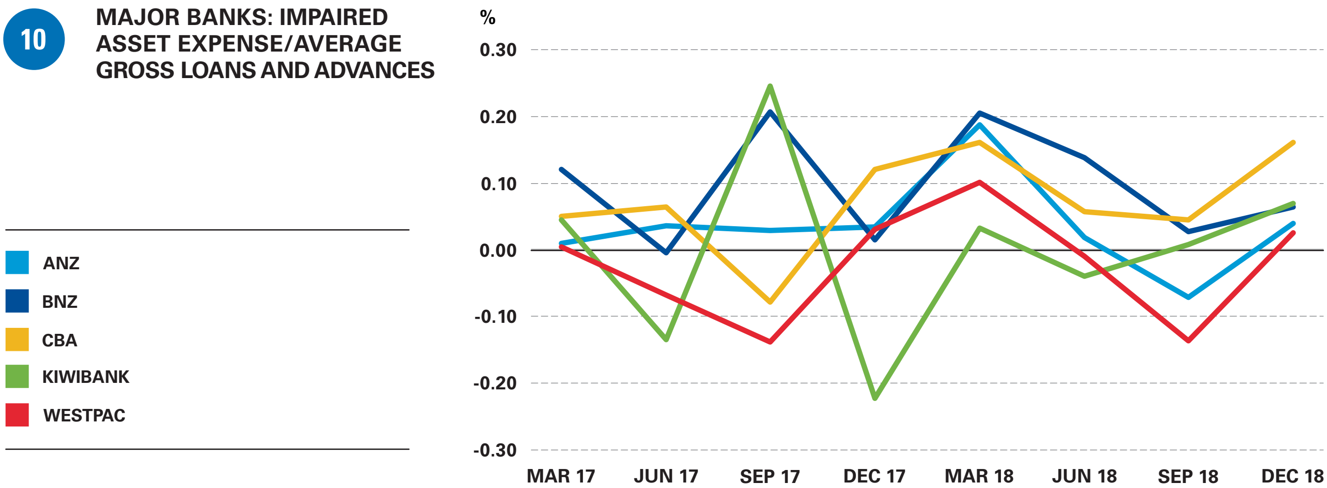
8 MAJOR BANKS: NON-INTEREST INCOME/ TOTAL ASSETS



9 MAJOR BANKS: OPERATING EXPENSES/ OPERATING INCOME

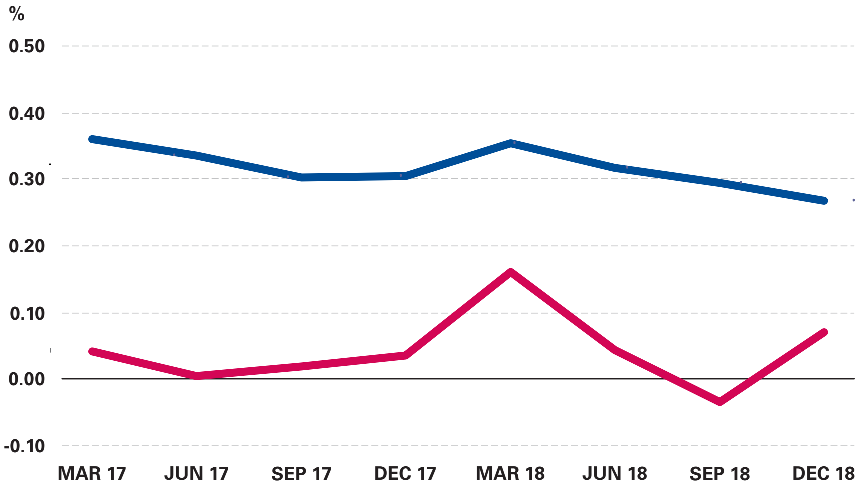


10 MAJOR BANKS: IMPAIRED ASSET EXPENSE/AVERAGE GROSS LOANS AND ADVANCES



© 2019 KPMG, a New Zealand partnership and a member firm of the KPMG network of independent member firms affiliated with KPMG International Cooperative ("KPMG International"), a Swiss entity. All rights reserved.

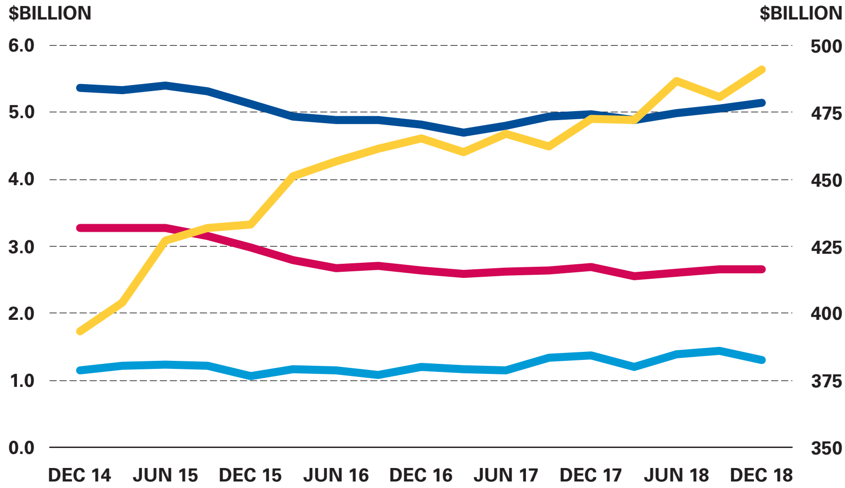
11 MAJOR BANKS: GROSS IMPAIRED VS. IMPAIRED ASSET EXPENSE



GROSS IMPAIRED LOANS/ GROSS LOANS AND ADVANCES

IMPAIRED ASSET EXPENSE/ AVERAGE GROSS LOANS AND ADVANCES

12 MAJOR BANKS: INTEREST EARNING ASSETS COMPARED TO INTEREST INCOME AND EXPENSE



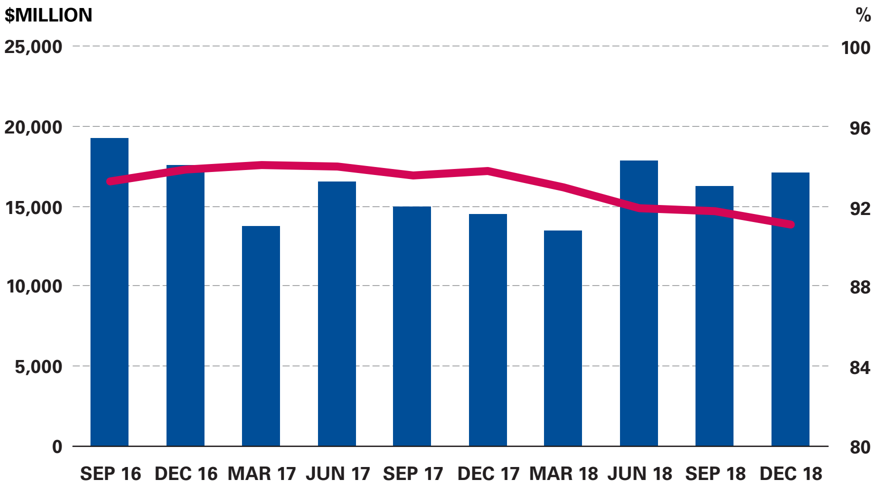
INTEREST INCOME (LHS)

INTEREST EXPENSE (LHS)

NET PROFIT (LHS)

TOTAL ASSETS (RHS)

13 LVR ANALYSIS OF RESIDENTIAL MORTGAGES



NEW MORTGAGES (LHS)

PROPORTION OF NEW MORTGAGES WITH LVR OF 80% OR BELOW (RHS)

SOURCE: RESERVE BANK OF NEW ZEALAND STATISTICS

© 2019 KPMG, a New Zealand partnership and a member firm of the KPMG network of independent member firms affiliated with KPMG International Cooperative ("KPMG International"), a Swiss entity. All rights reserved.

AI - The importance of 'Assurance'

Dr Stephen Hastings
Partner
KPMG Lighthouse

Steve has recently joined KPMG New Zealand as a partner setting up the new Lighthouse division – a CoE for data and analytics. Steve is an advanced data and analytics consulting professional with over 15 years' experience in the field. He has previously worked at KPMG Sydney as a director setting up their data and analytics practice. Throughout his career Steve has led large teams and projects to deliver complex data and analytics engagements covering all aspects of the data value chain from data warehousing and engineering through business intelligence reporting to advanced analytics/data science and data strategy. Throughout his career Steve has successfully delivered many projects across many sectors, using a client's data assets combined with analytical approaches, to answer their key business questions surrounding: customer experience, risk management, growth, cost efficiency and innovation.

Introduction

AI is at the forefront of an information revolution that is fundamentally reshaping how we think, create, explore and make decisions. AI is a collection of advanced technologies that allows machines to sense, discover, comprehend, reason, act and learn. These technologies enable a diverse range of advanced methodologies that include pattern recognition, machine learning, natural language processing, intelligent automation and more. Global research firm Gartner predicts that almost all software developed by 2020 will include AI-enabled features[27].

AI in the financial sector

The financial sector is leading the adoption of AI-driven decision-making by improving customer experience via the use of virtual assistants and chatbots. AI technology is also being deployed to reduce risk through the automated detection of fraudulent activity, money laundering transactions, operating costs and errors through the intelligent automation of back-end business processes[28]. AI has increased the speed and accuracy of decision-making, and reduced the time spent on false-positives. Instead of replacing humans, AI-enabled systems are alleviating time pressures and allowing human workers to focus on higher priority cases.

Instead of replacing humans, AI-enabled systems are alleviating time pressures and allowing human workers to focus on higher priority cases.

The implementation of machine learning approaches has shown potential for agreements to be reviewed in seconds as opposed to days. According to Emerj, the top 7 banks in America have all embraced AI technology in their business offerings and processes[29]. A leading American bank has developed software to analyse legal documents and extract key points and clauses.

Machine learning algorithms have also been introduced to facilitate and expedite the approval of personal loans, credit cards and auto loans. In some cases, these automated systems have denied loan applications based on poor credit score. Consumers have a right to know and understand an algorithm's decision-making process and rationale.

© 2019 KPMG, a New Zealand partnership and a member firm of the KPMG network of independent member firms affiliated with KPMG International Cooperative ("KPMG International"), a Swiss entity. All rights reserved.

Traditionally, the cause of rejection is identified and reviewed with the customer and, in some cases, reapproved[30]. This may not be the case with AI algorithms where the decision-making processes are less transparent and more difficult to interpret. Companies which deploy AI algorithms to make business decisions need to be able to explain their AI's models, otherwise they cannot stand behind the decisions.

Algorithm assurance

Governance and control over algorithms is critical as the pressure mounts to deploy AI to remain competitive. However, poorly designed algorithms (and potential biases in data) can produce inaccurate results and misinformation, resulting in bad decisions and reputational damage. Only 35% of executives trust the AI that generate decisions[31].

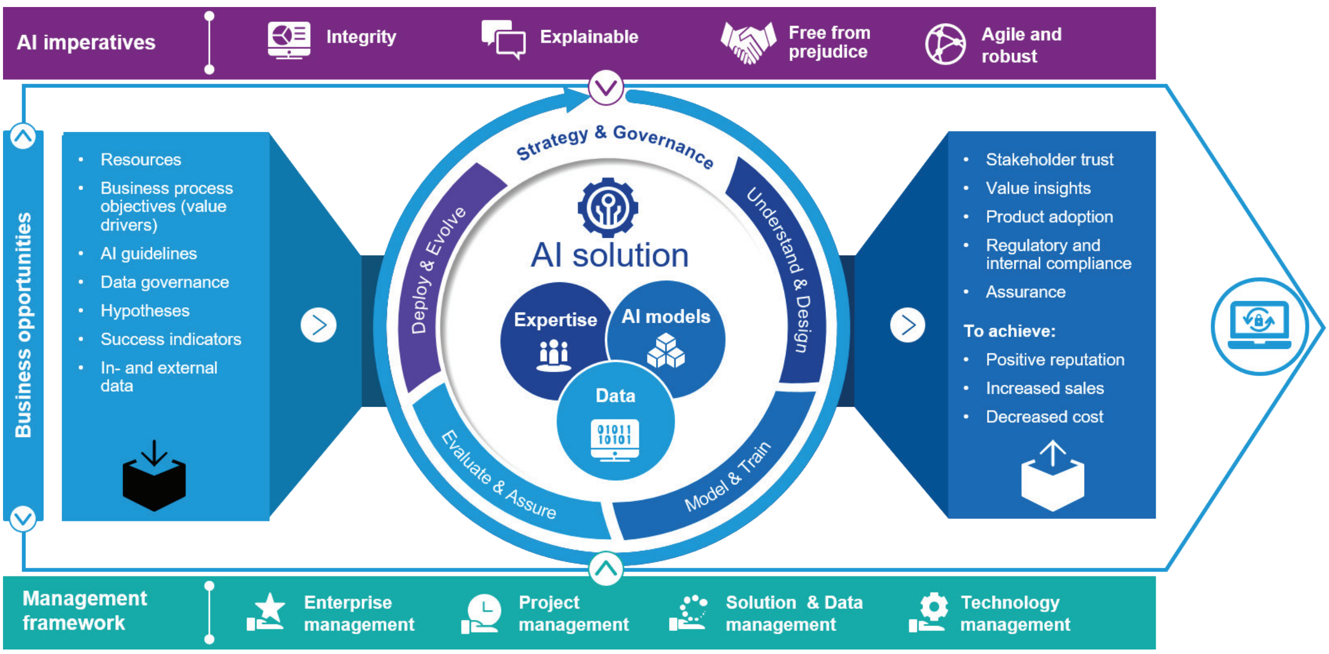
Reliability and trust in AI is paramount in building trust with customers and stakeholders; consumers are increasingly demanding awareness of how their data is being utilised. Constructing and deploying algorithms in an ethical and responsible manner increases consumer trust.

Governance and control over algorithms is critical.

As AI systems become more refined and generally applied, their impact on individual lives and society at large will become increasingly profound. Any application and design of AI must broadly consider the following:

- **'Explainabilty':** AI systems should be sufficiently transparent to understand how an algorithm arrives at a particular result. This includes detailing the assumptions made, the data used, the patterns detected, and the reasoning and logic applied to reach a decision. Explainability helps to bridge consumer understanding and trust in AI systems. This includes giving consideration to the trade-off between algorithm interpretability and accuracy. More complex models (such as neural nets) which may produce greater accuracy are more difficult to explain and interpret when compared with simple decision trees.
- **Transparency:** Regardless of explainability, companies should be looking at increasing the transparency of their AI models. This could include disclosing the data used to train these algorithms (to ensure that it is balanced and representative), the types of algorithms and methods used, and the population/use-case that the algorithm can be applied to.

Building an environment that fosters greater AI control



© 2019 KPMG, a New Zealand partnership and a member firm of the KPMG network of independent member firms affiliated with KPMG International Cooperative ("KPMG International"), a Swiss entity. All rights reserved.

- **Bias:** AI systems should be free from biases. Most of these biases are a result of poorly represented or skewed data used to train an algorithm, or algorithms being applied to populations that are significantly different from those that they were trained upon.
- **Accountability:** Companies need to be clear and transparent with regards to who ultimately carries responsibility for the outcomes resulting from the use of AI algorithms.

Prototype AI models embedded into applications with inadequate assurance and ethical controls greatly increases risk exposure. Faults in data systems and applications may be present due to biases in data, or poor algorithm design. This can have profound implications on customer experience, decision-making security, credibility, and ultimately consumer trust[32].

It is essential that a vigorous governance and control framework is in place to monitor these technologies. Only by establishing and adhering to a robust AI assurance model can we gain confidence in the way AI influences decision-making.

Auditing is essential for AI to succeed

AI assurance requires robust governance and internal reviews leveraging software development best practices, which includes comprehensive documentation, structured design processes, iterative review and domain expertise. Good AI assurance practices ultimately increase consumer trust and algorithm reliability.

Introduced by KPMG, 'AI In Control' is a framework supported by a global set of methods, tools and assessments that helps organisations realise the value of their AI technologies while maintaining algorithm integrity. Through an evolutionary lifecycle this methodology helps increase reliability of these algorithms and builds trust in both the insights and results produced[33].

The key features of AI In Control are:

AI governance:

- Criteria for designing, building, and continuous monitoring and control of AI solutions and their performance, without impeding innovation and flexibility.

AI assessment:

- Diagnostic reviews of AI solutions, and risk assessments of control environments to determine organisational readiness for effective AI control.
- Methodologies and tools to evaluate business-critical algorithms, putting testing controls in place, and overseeing design, implementation and operation of AI programmes to help address AI's inherent challenges: integrity, explainability, fairness and agility.

© 2019 KPMG, a New Zealand partnership and a member firm of the KPMG network of independent member firms affiliated with KPMG International Cooperative ("KPMG International"), a Swiss entity. All rights reserved.

Endnotes

1 https://home.kpmg/nz/en/home/insights/2019/02/fips-banks--review-of-2018.html

2 https://www.rbnz.govt.nz/news/2019/02/safer-banks-for-greater-wellbeing

3 https://www.interest.co.nz/banking/98370/ubs-banking-analysts-suggest-aussie-banks-response-rbnzs-proposals-increase-bank

4 https://www.interest.co.nz/banking/97716/against-backdrop-rbnzs-review-bank-capital-requirements-gareth-vaughan-details-nitty

5 https://www.nzherald.co.nz/index.cfm?objectid=12209846&ref=twitter

6 https://www.harbourasset.co.nz/research-and-commentary/australian-banks-increased-capital-requirements-to-change-the-landscape/

7 https://www.nzherald.co.nz/business/news/article.cfm?c_id=3&objectid=12196283

8 http://www.scoop.co.nz/stories/PO1903/S00120/rbnz-warned-the-govt-of-intensive-lobbying-by-banks.htm

9 https://taxworkinggroup.govt.nz/resources/future-tax-final-report

10 https://www.newshub.co.nz/home/politics/2019/02/disappointing-objections-to-capital-gains-tax-recommendation-voiced.html

11 https://www.nzherald.co.nz/business/news/article.cfm?c_id=3&objectid=12207101

12 https://www.rbnz.govt.nz/news/2019/02/new-rbnz-monetary-policy-committee-remit-reiterates-focus-on-price-stability-and-employment

13 https://www.rbnz.govt.nz/news/2018/11/first-consultation-paper-released-for-phase-2-of-reserve-bank-act-review

14 https://www.interest.co.nz/personal-finance/98460/taking-advantage-low-wholesale-rates-hsbc-launches-very-low-two-year-home

15 https://www.tsb.co.nz/loans/home-loans-mortgages/switch?utm_source=interest&utm_campaign=tsb_pricematchupweight_2019&utm_content=970x250&dclid=CLnPlbGH7OACFcdGKwod6ZENew

16 https://www.nzherald.co.nz/business/news/article.cfm?c_id=3&objectid=12209047

17 https://www.rbnz.govt.nz/statistics/c31

18 https://www.justice.govt.nz/justice-sector-policy/key-initiatives/aml-cft/info-for-businesses/real-estate-agents/

19 https://www.stats.govt.nz/information-releases/household-income-and-housing-cost-statistics-year-ended-june-2018

20 https://www.reinz.co.nz/Media/Default/Statistic%20Documents/2019/Residential/January/REINZ%20Monthly%20Property%20Report%20-%20January%202019.pdf

21 https://www.interest.co.nz/opinion/98443/david-hargreaves-crunches-some-numbers-growing-proportion-first-home-buyers-uncertain

22 https://www.interest.co.nz/property/98438/barfoot-thomsons-february-sales-were-down-29-compared-year-ago

23 https://www.interest.co.nz/property/98469/qv-figures-show-average-residential-property-value-auckland-has-declined-three

24 The capital adequacy ratio's reported are for the overseas banking group for quarters ended up to and including 31 December 2017. From 31 March 2018, the capital adequacy ratio reported reflects the ratio of the local registered banking group in line with the information disclosed in the RBNZ Dashboard.

25 For quarters ended 31 December 2017 and earlier, total assets excluded intangible assets. From 31 March 2018, intangible assets are no longer deducted as this information is not available in the RBNZ Dashboard.

26 In line with the information disclosed in the RBNZ Dashboard, the net interest margin is disclosed to 1 decimal place from 31 March 2018 onwards. As interest earning assets is not disclosed in the RBNZ Dashboard, average net interest margin cannot be calculated from 31 March 2018 onwards.

27 Gartner, "Gartner Says AI Technologies Will Be in Almost Every New Software Product by 2020," 2017. [Online]. Available: Gartner Says AI Technologies Will Be in Almost Every New Software Product by 2020.

28 K. Sennaar, "AI in Banking – An Analysis of America's 7 Top Banks," 2019. [Online]. Available: https://emerj.com/ai-sector-overviews/ai-in-banking-analysis/.

29 KPMG International, "The Guardians of Trust," 2018.

30 S. Klous, "In AI we trust?," 2019. [Online]. Available: https://home.kpmg/xx/en/home/insights/2018/06/in-ai-we-trust.html.

31 S. Maskey, "Forbes," 12 05 2018. [Online]. Available: https://www.forbes.com/sites/forbestechcouncil/2018/12/05/how-artificial-intelligence-is-helping-financial-institutions/.

32 S. Malekar, "Medium," 9 2018. [Online]. Available: https://medium.com/datadriveninvestor/ethics-of-using-ai-in-the-financial-banking-industry-fa93203f6f25.

33 S. Klaus, "KPMG Artificial Intelligence in Control," 12 2018. [Online]. Available: https://home.kpmg/xx/en/home/insights/2018/12/kpmg-artificial-intelligence-in-control.html.

© 2019 KPMG, a New Zealand partnership and a member firm of the KPMG network of independent member firms affiliated with KPMG International Cooperative ("KPMG International"), a Swiss entity. All rights reserved.

KPMG's Financial Services Team

John Kensington
Head of Banking and Finance
+64 (09) 367 5866
jkensington@kpmg.co.nz

Ross Buckley
Executive Chairman
+64 (09) 367 5344
rjbuckley@kpmg.co.nz

Godfrey Boyce
Chief Executive Officer
+64 (04) 816 4514
gboyce@kpmg.co.nz

Graeme Edwards
National Managing Partner – Audit
+64 (04) 816 4522
gdedwards@kpmg.co.nz

Jack Carroll
National Managing Partner – Advisory
+64 (04) 816 4516
jackcarroll@kpmg.co.nz

Ross McKinley
National Managing Partner – Tax
+64 (09) 367 5904
rdmckinley@kpmg.co.nz

Kay Baldock
Partner – Head of Financial Services
+64 (09) 367 5316
kbaldock@kpmg.co.nz

Matthew Prichard
Partner – Head of Funds Management
+64 (09) 367 5846
matthewprichard@kpmg.co.nz

Jamie Munro
Partner – Head of Insurance
+64 (09) 367 5829
jamiemunro@kpmg.co.nz

Brent Manning
Partner – Audit
+64 (04) 816 4513
bwmanning@kpmg.co.nz

Paul Herrod
Partner – Audit
+64 (09) 367 5323
pherrod@kpmg.co.nz

Gary Ivory
Partner – Corporate Finance
+64 (09) 367 5943
givory@kpmg.co.nz

Ceri Horwill
Partner – Advisory
+64 (09) 367 5348
cerihorwill@kpmg.co.nz

Mike Clarke
Partner – Head of IT Advisory
+64 (09) 363 3507
mikeclarke@kpmg.co.nz

Rachel Piper
Partner – Tax
+64 (09) 363 3525
rkpiper@kpmg.co.nz

Bruce Bernacchi
Partner – Tax
+64 (09) 363 3288
bbernacchi@kpmg.co.nz

© 2019 KPMG, a New Zealand partnership and a member firm of the KPMG network of independent member firms affiliated with KPMG International Cooperative ("KPMG International"), a Swiss entity. All rights reserved.

kpmg.com/nz

© 2019 KPMG, a New Zealand partnership and a member firm of the KPMG network of independent member firms affiliated with KPMG International Cooperative (KPMG International), a Swiss entity. All rights reserved.

The information contained herein is of a general nature and is not intended to address the circumstances of any particular individual or entity. Although we endeavour to provide accurate and timely information, there can be no guarantee that such information is accurate as of the date it is received or that it will continue to be accurate in the future. No one should act on such information without appropriate professional advice after a thorough examination of the particular situation.