RESERVE BANK
OF NEW ZEALAND
TE PŪTEA MATUA

8 April 2019

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On 13 February you made an Official Information request seeking:

> *copies of any analysis undertaken by or for the Bank in support of Box E in [the February] Monetary Policy Statement, including (but not limited to) the numerical estimate of the impact on the banks' lending margins, [and]*
>
> *any material/analysis used to support the Governor's claim (at the press conference) that the proposed capital requirements will be "well within the range of norms" seen in other countries.*

The documents in scope are:

1. Paper 1.6: What might higher bank capital requirements mean for monetary policy?
2. Table: Stylised example of the pricing impact of different required returns on equity
3. Media resource: international comparisons of bank capital ratios, 12 December 2018
4. Presentation to the Minister of Finance on Bank Capital Review, 13 February 2019 – only one slide is in scope

Document 1 (Paper 1.6) is withheld under the 9(2)(g)(i) of the Official Information Act Section – to maintain the effective conduct of public affairs through the free and frank expression of opinions by or between officers and employees of the Reserve Bank in the course of their duty.

Documents 2,3 and 4 are appended.

Information on bank capital ratios in other countries is also published on our website in the 26 February speech given by Deputy Governor Geoff Bascand on 'Safer banks for greater wellbeing'

The Reserve Bank intends to publish this response to your request, at https://www.rbnz.govt.nz/research-and-publications/official-information-requests

You have the right to seek a review of the Bank's decision under section 28 of the OIA.

Yours sincerely

Roger Marwick
External Communications Adviser

Table: Stylised example of the pricing impact of different required returns on equity

	Current values (year to Sept. 2018)	No repricing	Repricing to achieve a 10% return on equity	Repricing to achieve an 11% return on equity
CET1 capital ($b)	33.6	57.3	57.3	57.3
Risk-weighted assets ($b)	296.1	337.1	337.1	337.1
CET1 capital ratio (%)	11.4	17	17	17
Assets ($b)	506.3	506.3	506.3	506.3
- Interest-earning	478.3	478.3	478.3	478.3
- Non-interest earning	28.0	28.0	28.0	28.0
Debts ($b)	465.1	441.4	441.4	441.4
- Interest-bearing	415.0	391.3	391.3	391.3
- Non-interest bearing	50.1	50.1	50.1	50.1
Equity ($b)	41.2	64.9	64.9	64.9
Yield on interest-earning assets (%)	4.44	4.44	4.52	4.62
Interest income ($m)	21,268	21,268	21,626	22,077
Yield on interest-bearing debts (%)	2.64	2.64	2.55	2.43
Interest expense ($m)	10,965	10,339	9,971	9,520
Net interest income ($m)	10,292	10,918	11,655	12,557
Other income ($m)	3,060	3,060	3,060	3,060
Operating expenses ($m)	5,386	5,386	5,386	5,386
Impaired asset expenses ($m)	313	313	313	313
Net profit before tax ($m)	7,663	8,280	9,017	9,918
Tax expense ($m)	2,146	2,318	2,525	2,777
Net profit after tax ($m)	5,517	5,961	6,492	7,141
Return on equity (%)	13.4	9.2	10	11
Change in the difference between lending and borrowing rates (bps.)	-	0	17	38

Notes:
To illustrate the potential impact of the proposals on interest rates we make a number of simplifying assumptions:

- Banks target a 17% CET1 ratio, calculated using the revised value of risk-weighted assets following proposed changes to the internal ratings based (IRB) approach to credit risk ($337.1b, relative to $296.1b currently).
- There is no change in banks' assets and debts, other than a replacement of interest-bearing debt with shareholder equity to reflect the higher CET1 capital ratio. The interest-bearing debt that is replaced with equity is priced at the average rate.
- All other income, operating expenses, and credit impairment expenses are unchanged from current values.
- Banks reprice their interest-earning assets and interest-bearing debts to increase their net interest income and achieve their target return on equity. The required increase in revenue is split in half between higher interest income (through a higher yield on interest-earning assets) and lower interest expense (through a lower yield on interest-bearing debt).

Media resource: international comparisons of bank capital ratios

Introduction and guidance

1. The most common measure of how much equity owners have contributed to a bank is the capital ratio.
2. The most commonly used capital ratio is a 'risk-adjusted' Tier 1 ratio.
3. In order to assess the adequacy of bank capital it is important to account for differences in the riskiness of different types of assets. This is important because the relative holdings of risky and non-risky assets varies from bank to bank. This is done by comparing bank capital to '*risk weighted assets'* (RWA) rather than *total assets*.
4. In simplified terms, RWA is calculated by multiplying subclasses of a bank's assets by risk weights with the sum of all subclasses equal to the bank's RWA.
5. The RWA for an entire banking sector is the sum of the RWAs for each bank in that sector.
6. In each jurisdiction the risk weights applying to a subclass of assets reflect the regulator's views about the potential losses the sub-class could generate for banks.
7. The risk weights used for a particular subclass of assets can vary from regulator to regulator because the circumstances in each country vary (objective factors) *and* because regulators vary in terms of how they view and respond to these risks (subjective factors).
8. In order to make accurate comparisons of the ability of banks in different jurisdictions to withstand shocks – their relative capitalisation in other words – it is necessary to remove the subjective element from the RWA calculated in each jurisdiction. This is inherently very difficult and the results of any such attempt cannot be relied upon with any confidence.
9. Reflecting the difficulties in separating the objective and subjective factors leading to a given RWA value in any country, ratings agency S&P has developed bespoke capital ratios that draw on bank balance sheet data (and other measures) to calculate risk measures (in contrasts to the official RWA values). Other ratings agencies similarly form independent views on relative capitalisation of banks and may not rely on official RWA values (and thus officially reported capital ratios).
10. Because of the inherent difficulty in separating objective and subjective factors impacting on official RWA values we do not actively monitor other countries official capital ratios. However we do monitor the relative position of NZ banks in ratings agencies studies.
11. For example, our interpretation of the most recent S&P findings is that NZ banks are at the median of their peers.
12. We acknowledge there is a genuine interest in comparing our proposal to the capital position in other countries, an interest which cannot easily be met because the S&P findings are copy-write protected. We have provided the following information to meet this interest but ask that users acknowledge the likely high margin of error in any *international comparisons* based on official reported capital ratios.

Sources for international data on Tier 1 capital ratios

- The Bank of International Settlements regularly publishes the results of a survey that includes questions about capital ratios.
  https://www.bis.org/bcbs/publ/d449.htm

  In the most recent report (October 2018) the BIS reports that:

  > "compared with the previous reporting period (June 2017) the average Common Equity Tier 1 (CET1) capital ratio under the fully phased-in initial Basel III framework has increased from 12.5% to 12.9% for Group 1 banks and from 14.7% to 16% for Group 2 banks." (BIS Oct 2018 page 2)

Note that CET1 is the dominant (but not sole) component of Tier 1 capital. 'Group 1' banks are large internationally active banks, and 'Group 2' banks are 'other' banks.

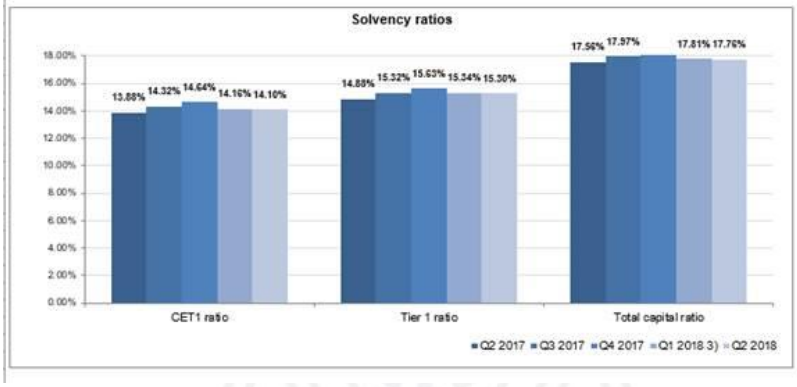
- The European Bank Authority regularly publishes bank capital data via the Risk Dashboard Report https://eba.europa.eu/risk-analysis-and-data/risk-dashboard

  - Table 3.01.1 reports the aggregate Tier 1 ratio for the EBA region.

T03.01.1 Total capital ratio and its components by reference period
(EUR billions; percentages)

Indicator	Q2 2017	Q3 2017	Q4 2017	Q1 2018 [3]	Q2 2018
Total risk exposure amount	7,914.65	7,788.06	7,723.95	7,720.55	7,785.12
CET1 ratio [1] [2]	13.88%	14.32%	14.64%	14.16%	14.10%
Tier 1 ratio [2]	14.88%	15.32%	15.63%	15.34%	15.30%
Total capital ratio [2]	**17.56%**	**17.97%**	**18.14%**	**17.81%**	**17.76%**

Source: ECB.
Note: Significant institutions at the highest level of consolidation for which common reporting on capital adequacy (COREP) and financial reporting (FINREP) are available. Specifically, there are 114 banks in the second and third quarter of 2017, 111 in the fourth quarter of 2017 and 109 in the first and second quarter of 2018. The number of entities per reference period reflects changes resulting from amendments to the list of SIs following assessments by ECB Banking Supervision, which generally occur on an annual basis, and mergers and acquisitions.
1) CET1 stands for Common Equity Tier 1.
2) Total capital, Tier 1 and CET1 follow the transitional provisions laid down in Articles 465 to 491 of Regulation (EU) No 575/2013 on prudential requirements for credit institutions and investment firms (CRR).
3) The number of institutions for the first quarter of 2018 is now 109 after the re-introduction of one significant institution which delivered FINREP and COREP data after the previous cut-off date.



  - Table T03.01.2 reports Tier 1 ratios by country for members of the EBA:

Country (Q2 2018)	Total risk exposure amount	Total capital [2]		Tier 1 [2]		CET1 [2] [3]	
		Amount	*Ratio*	Amount	*Ratio*	Amount	*Ratio*
Belgium	199.70	44.92	*22.49%*	40.56	*20.31%*	37.53	*18.79%*
Germany	1,204.28	230.13	*19.11%*	198.91	*16.52%*	185.48	*15.40%*
Estonia	C	C	C	C	C	C	C
Ireland	167.38	34.42	*20.56%*	32.08	*19.16%*	31.26	*18.68%*
Greece	170.72	27.96	*16.38%*	26.97	*15.80%*	26.95	*15.78%*
Spain	1,439.63	215.97	*15.00%*	186.61	*12.96%*	166.15	*11.54%*
France	2,429.40	427.70	*17.61%*	365.35	*15.04%*	338.00	*13.91%*
Italy	976.53	158.47	*16.23%*	135.60	*13.89%*	124.44	*12.74%*
Cyprus	30.31	4.41	*14.56%*	4.13	*13.64%*	4.00	*13.21%*
Latvia	5.68	1.36	*23.92%*	1.27	*22.41%*	1.27	*22.41%*
Lithuania	15.47	2.94	*19.02%*	2.93	*18.95%*	2.93	*18.95%*
Luxembourg	34.90	7.90	*22.64%*	7.74	*22.17%*	7.63	*21.86%*
Malta	9.48	1.66	*17.47%*	1.46	*15.38%*	1.46	*15.38%*
Netherlands	646.79	143.73	*22.22%*	117.42	*18.15%*	104.16	*16.10%*
Austria	258.01	44.81	*17.37%*	36.34	*14.08%*	33.81	*13.10%*
Portugal	123.95	18.40	*14.85%*	16.66	*13.44%*	16.04	*12.94%*
Slovenia	13.71	2.73	*19.90%*	2.73	*19.90%*	2.73	*19.90%*
Slovakia [1]	-	-	-	-	-	-	-
Finland	C	C	C	C	C	C	C
Total	**7,785.12**	**1,382.60**	***17.76%***	**1,190.82**	***15.30%***	**1,097.47**	***14.10%***

- The World Bank open data project publishes the ratio of total capital to unweighted assets for 2017 for many countries (sourcing it from the IMF's 'Global Stability Report').

https://data.worldbank.org/indicator/FB.BNK.CAPA.ZS?view=chart The data is also available in excel format.

- NZ has not supplied data to this project but based on the data supplied to the RBNZ the current aggregate (all locally incorporated banks) ratio of total capital to unweighted assets is approximately 8.8%.
- Some of the results reported by the World Bank are, for example:
  - the UK (6.8%), the US (11.7%), Canada (5.3%), Australia (6.9%), Finland (9%), Hong Kong (9.8%), Singapore (9.2%).

In scope material from Presentation to the Minister of Finance, 13 February 2019

Relative position of NZ vs world

- Basel Committee's most recent report shows comparable overseas banks have Tier 1 ratios between 11% and 17%, at December 2017
  - But international comparisons are difficult as countries implement the Basel framework with differing levels of conservatism and transparency
- S&P produces their own capital ratios, which show large NZ banks are around the middle of the pack at current capital levels
- We're proposing at least 16% Tier 1 capital, APRA is proposing banks having Total capital levels around 19%
  - The difference is our focus on the highest quality of capital (equity, not debt)
- Ultimately, our requirements need to reflect NZ risk profile and risk appetite