

Bad and doubtful debt reporting – are banks disclosing contradictory information?

David Tripe
Centre for Banking Studies
Massey University

Richard Kirkland
Deloitte
Wellington

Azira Abdul-Adzis
Centre for Banking Studies
Massey University
and
Universiti Utara Malaysia

Revised version: June 2010

Abstract:

The Reserve Bank of New Zealand banking market has been requiring quarterly disclosure of financial information by banks since the mid-1990s, which means that we now have a good historical database of bank performance. This paper uses this data to look at the different approaches by the major banks in New Zealand to identifying their credit problems and losses under IFRS and Basel II, and highlights some of the differences and inconsistencies observed.

The paper is also relevant in the Australian context because the major banks in New Zealand are also Australia's major banks, with similar accounting rules and practices, and subject to similar regulatory capital rules.

1 Introduction

Since the beginning of 1996 a key element of the system for prudential supervision of banks in New Zealand has been for banks to make public disclosures to the market. They are required to do this every quarter, with the information disclosed including a year-to-date income statement and balance sheet and a range of additional details which allow readers of the disclosure information to make an assessment of the safety and soundness of the banks with which they do business. Thus, to allow an assessment of credit risk, banks have been reporting figures for impaired and past due assets (non-performing loans), and of any provisions for bad and doubtful debts, while the amounts that they have been providing for bad and doubtful debts each quarter can be estimated by examining consecutive quarterly income statements alongside each other.

As originally structured, this scheme was broadly consistent with what the Basel Committee on Banking Supervision (BCBS) formulated as Pillar 3 of Basel II, with only relatively minor changes required to make banks' disclosures compliant. More extensive changes were required, however, because of the adoption of IFRS and because, for banks operating under more advanced approaches for the specification of capital requirements under Basel II, the explanation of these capital requirements is inherently more complicated than merely listing assets in their relative categories, as could be undertaken under the previous capital rules (Basel I).

In the case of IFRS, the establishment of provisions is made more complicated by there being two different ways in which loans can be valued under IFRS – either at fair value, or at amortised historic cost. Banks are required to establish provisions on the basis of the realisable fair value of security taken, and are measured as the difference between the asset's carrying amount and the present value of the expected future cash flows, discounted at the financial asset's original effective interest rate. For loans and receivables where potential losses exhibit objective evidence that impairment has occurred, individual provisions may be created, whereas for other loans, provisions will be established on a collective basis in respect of pools of loans that are similar to each other, on the basis of historical loss experience for assets with credit risk characteristics similar to those in the collective pool. Collective provisions thus represent losses reasonably expected to have been incurred, but which have yet to be specifically identified. In the case of loans accounted for at fair value, potential provisions may be dealt

with by amending the fair value of loans, through the income statement, rather than by recording a provision per se.

Banks using more advanced versions of Basel II to calculate their capital requirements will follow an additional but different process, but one which should, nonetheless, lead to more-or-less the same outcomes. The concept that underpins Basel II is that banks need to estimate a probability of default for the loans in their portfolios (PD), a loss given default (LGD), and an estimate of likely exposure at default (EAD - more particularly applicable for those facilities which are not fully drawn down). Depending on the banking supervisor's view of the capability of the bank's risk management operations, banks may be permitted to estimate more of these numbers for themselves, rather than accepting a number specified by the supervisor (the Reserve Bank of New Zealand). The bank's capital requirements will then be specified on the basis of these parameters, with sufficient capital being required that the probability of insolvency is less than some specified level. Note that the product of probability of default, the loss given default, and exposure at default should allow an estimation of an expected loss in relation to the banks' portfolio. See Hoskin & Irvine (2009) for a more extensive discussion of New Zealand capital adequacy calculations.

We thus have two separate sets of calculations occurring for banks' expected losses on their loan portfolios. We have one driven by accounting standard setters, and another driven by bank regulators. It would be nice to think that these two sets of figures were consistent with each other (expected losses should be consistent with those previously incurred), but our findings suggest otherwise, and the principles underlying the two approaches do allow for some minor differences. Beyond that, in the New Zealand context (as well as in Australia), we have had the regulator imposing additional requirements of higher LGD estimates where the numbers produced by the banks are considered to be too low, reflecting the benign economic conditions under which the parameters were estimated.

A further complication is that some judgement is likely to be entailed in classifying loans as impaired, in assessing realisable fair values of security taken, and in estimating the present value of expected future cash flows (for calculation of required provisions). These factors mean that for any given impaired or potentially impaired loan, different banks might not calculate the same provisioning requirement. It also means that comparisons between banks may be distorted by different approaches to classification and measurement of non-performing loans and provisions.

New reporting standards came into effect in New Zealand at the beginning of 2008, with the major effect being for those banks which were locally incorporated (and which were thus required to report their capital adequacy calculation), and which were also calculating capital in accordance with the more advanced versions of Basel II. We have thus had time to examine a small number of observations for each of the four banks reporting under both IFRS and Basel II, to examine the consistency of their reporting, and to attempt to specify its usefulness for observers trying to ascertain the riskiness of banks with which they might do business. This is of particular interest in the current environment as the effects of the credit crunch have substantially reduced the quality of banks' loan portfolios, meaning that this is an even more important area for assessing banks' safety and soundness. The increased volatility which is also likely to characterize the prospective business environment serves to make this analysis useful in the future.

The rest of this paper proceeds as follows. The next section will outline relevant features of the New Zealand banking system and the banks that are using the more advanced version of Basel II. Section 3 will report the results of our study, using accounting and capital data reported in banks' disclosure statements, while section 4 provides a discussion and conclusion.

2 The New Zealand banks

Although there are currently (as at May 2010) 19 banks registered in the New Zealand market, the banking system is dominated by the four major Australian banks (commonly referred to as ANZ, CBA, NAB and Westpac). Between them, these four banks accounted for 89.13% of New Zealand banking assets as at 30 September 2009. The next largest bank at that date was (the government-owned) Kiwibank, with a market share of 2.82% (by assets).

Foreign banks may operate in New Zealand as locally incorporated entities (subsidiaries) or as branches of their parent banks. Three out of four of the Australian majors (ANZ, CBA and Westpac) operate both branches and subsidiaries, with financial data for the subsidiaries consolidated into those for the branch. Because there is no specific capital requirement for the branches, they do not provide the detailed analysis of capital requirements for their loan portfolios – such disclosure is provided only for the New

Zealand incorporated banks. Of the 19 banks currently registered, 9 are New Zealand incorporated entities (with 6 of these subsidiaries of foreign banks) and 10 are branches of foreign banks.

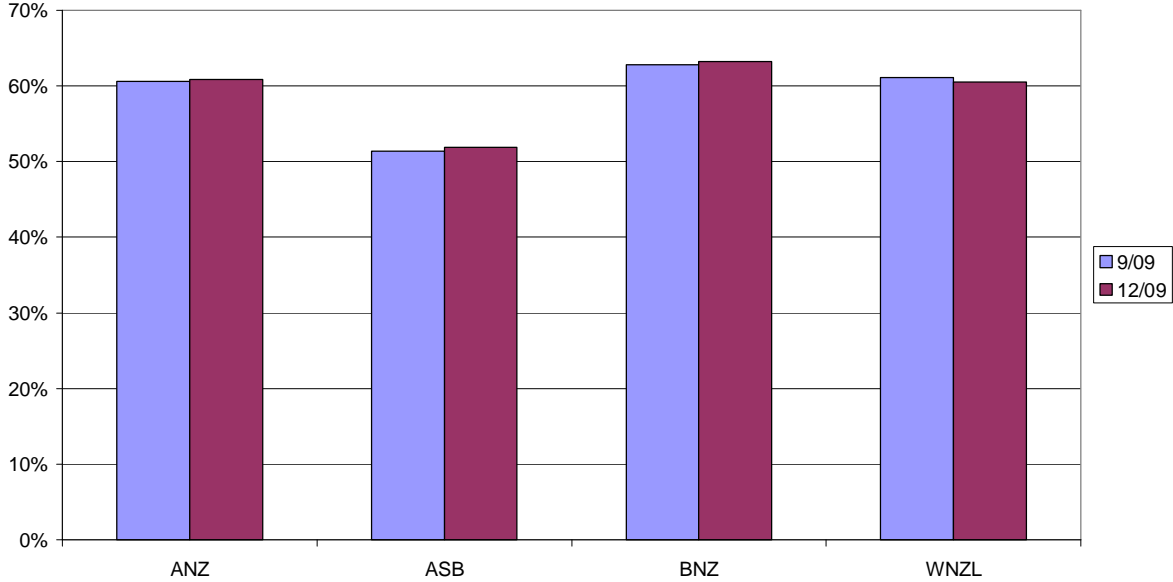
Comparison of the two different approaches to identification of credit losses could therefore only be meaningfully undertaken for the 9 banks that are New Zealand incorporated. Five of these have not sought approval to use the more advanced approaches under Basel II, and are still using the standardised approach (with regulatory prescribed risk weights). The four banks that are the focus of our study are therefore the New Zealand subsidiaries of the four major Australian banks, ANZ National Bank Limited (ANZ, owned by the Australia and New Zealand Banking Group Limited), ASB Bank Limited (ASB, owned by the Commonwealth Bank of Australia), Bank of New Zealand (BNZ, owned by the National Australia Bank) and Westpac New Zealand Limited (WNZL, owned by the Westpac Banking Corporation). Three of these banks began using advanced approaches for determining capital requirements at the beginning of 2008, with the fourth, BNZ, adopting it later that year (with first reporting under the advanced approach being for the September quarter 2008).

The business undertaken by these banks in the New Zealand market is not identical, and for those banks with dual registrations (as branch and subsidiary), there are some differences in the mix between the two entities for each bank. As at 31 December 2009, 92.3% of the assets of the ANZ branch were accounted for by the subsidiary: corresponding figures for the CBA and Westpac were 91.6% and 76.4% respectively. Those differences acknowledged, however, almost all impaired assets and provisions reside in the subsidiaries rather than the other parts of the branches' activities, and it is reasonable to focus on the subsidiaries.

The mix of business undertaken by the banks in New Zealand is also relevant as some lines of business would be expected to expose banks to greater potential losses than others. In the context of the economic downturn and the slowdown in the residential property market, banks should be expected to record increased levels of non-performing loans in the residential portion of their portfolios, although actual losses are likely to be mitigated by security held. The proportion of residential mortgage lending in each bank's portfolio is thus relevant, although even then there will be differences between banks in terms of risk, in that some banks have underwritten loans more aggressively than others. Commercial property exposures, in particular, are also prone to economic downturns.

One way of assessing banks' riskiness relative to each other is to look at their risk-weighted assets relative to total on-balance sheet assets. Such an approach was able to be applied prior to the adoption of Basel II, although the relative insensitivity of the previous (Basel I) capital requirements meant that this relationship was not an especially reliable indicator of banks' riskiness. Adoption of the standardised version of Basel II provides an improved (more sensitive) measure of risk, while the advanced measurement approach adopted by the four banks that are the focus of this study should provide a still more accurate reflection of their relative riskiness. We show figures for the ratio for our banks as at the end of the September and December quarters 2009 in Figure 1.

Figure 1: Ratio of total risk-weighted exposures to total on-balance sheet assets



We can see from this that ASB shows as having a slightly lower risk portfolio, while differences between the other banks are negligible. This would be consistent with the general perception of ASB having a higher proportion of residential mortgage secured lending, and relatively less exposure to corporate business than its peers.

3 Non-performing loan and provision reporting

It is against this background that we can look at what the banks are reporting in terms of non-performing loans and provisions against these. We begin by looking at their reporting of non-performing

loans, which they are now reporting in the same three categories: residential mortgage lending, other personal lending, and business/corporate.¹ Figures as at 31 December 2009 are shown in Table 1.

Table 1: Breakdown of banks' non-performing loans as at 31 December 2009.

Figures in \$ millions		Impaired	Past due	Restructured/ under administration	Total
ANZ	Residential	413	215	8	636
	Other retail	73	57		130
	Business	829	106	8	943
	Total	1315	378	16	1709
ASB	Residential	21	253	213	487
	Other retail	10	28	13	51
	Business	291	37	11	339
	Total	322	318	237	877
BNZ	Residential	118	83	9	210
	Other retail	31	40	1	72
	Business	494	107	1	602
	Total	643	230	11	884
WNZL	Residential	354	91		445
	Other retail		25		25
	Business	333	239		572
	Total	687	355		1042
Totals	Residential	906	642	230	1778
	Other retail	114	150	14	278
	Business	1947	489	20	2456
	Total	2967	1281	264	4512

It is evident from these figures that there are some differences between the banks, and not just in their relative size, which is why the figures for ANZ are significantly larger. We can see that in its residential mortgage portfolio, ASB shows relatively little in the way of impaired assets, but a large amount of restructured loans, which is different from what is seen for the other banks. It has been suggested that this reflects a difference in accounting treatment, and that other banks have restructured loans as well, which they may continue to classify as impaired.

The figures in Table 1 are summarised in what should be a more meaningful way in Figure 2 below.

¹ Although the categories have similar names, we cannot be sure that they are exactly the same in practice, although it is likely that there is a reasonable degree of similarity in the way the different banks categorise their loans.

Figure 2: Ratio of non-performing loans to risk weighted assets

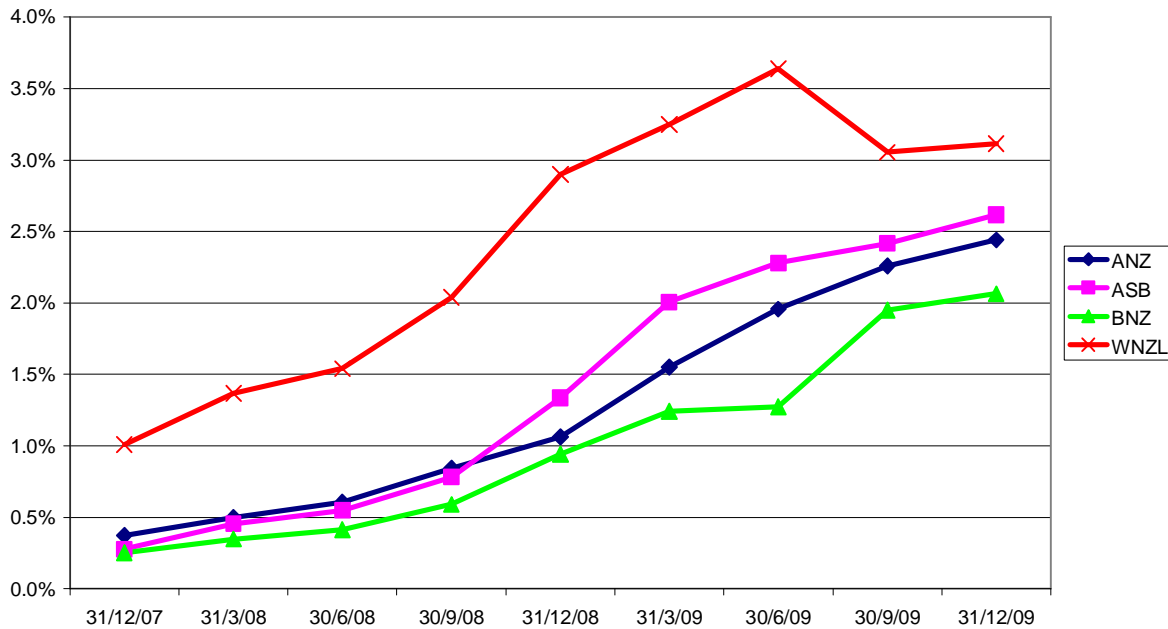


Figure 2 shows the total of non-performing loans relative to risk-weighted assets (which should provide some adjustment for the difference in risk profiles between the banks).² These figures also show a trend through time, and highlight the impact of the financial crisis in increasing banks' levels of non-performing loans.

We now need to look at provisions relative to these non-performing loans, and relative to banks' total assets. It will be no surprise to find that, as non-performing loans have increased, so have banks' provisions for losses, both individual and collective. Figure 3 shows us the trend in the ratio of total provisions to risk-weighted assets.

To make an assessment of the adequacy of banks' provisions it is likely to be more meaningful to look at them relative to non-performing loans, and we show the trend in this ratio in Figure 4. This shows a different, generally downward, trend, which, on further consideration, should not be unexpected. What this suggests is that, prior to the onset of the crisis, the banks had built up appropriate levels of protection to recognise that they had been enjoying unusually benign conditions, and that when the

² We look at total non-performing loans, rather than according to the classification used in Table 1 as we would otherwise need to take account of differences in reporting approaches from bank to bank.

inevitable downturn arrived, they would address the loan losses that were arguably, at that time, being deferred.

Figure 3: Ratio of total provisions to risk-weighted assets

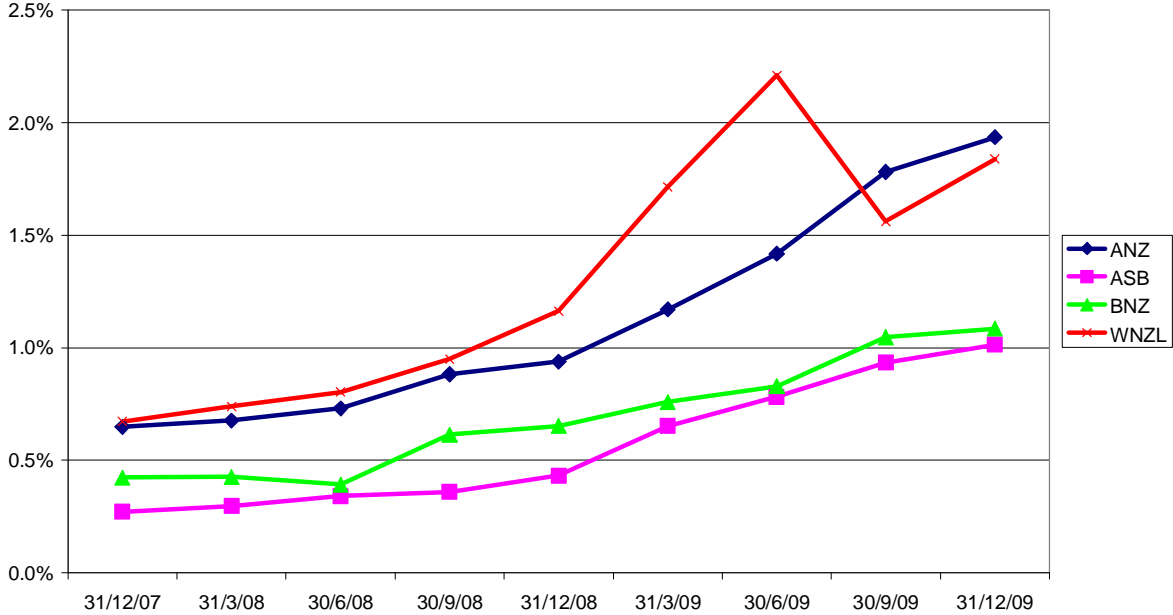
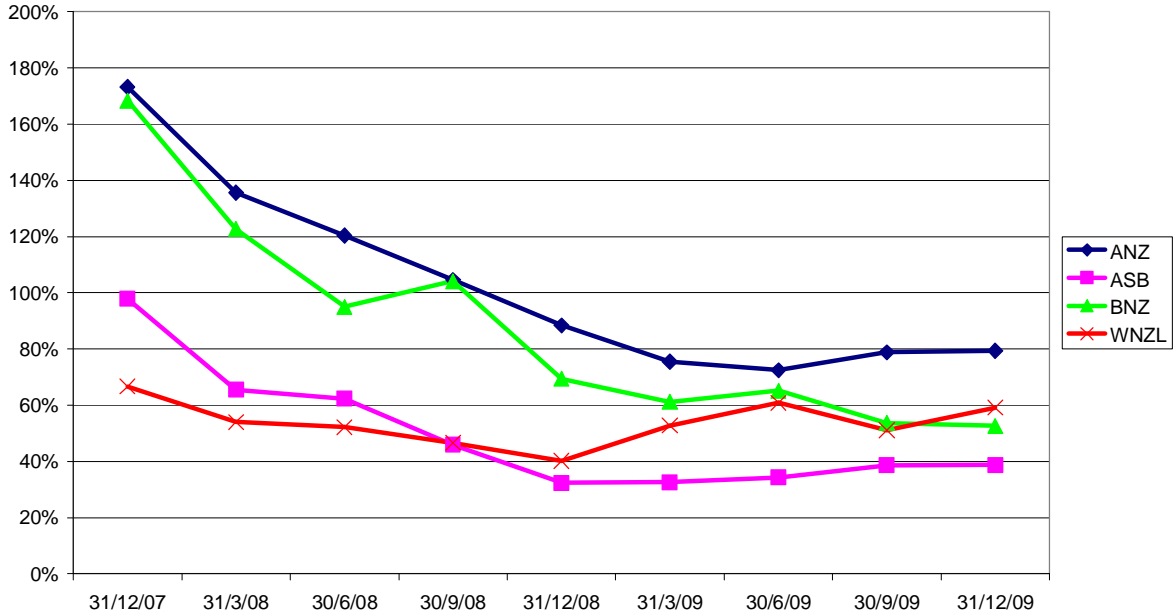


Figure 4: Ratio of total provisions to non-performing loans



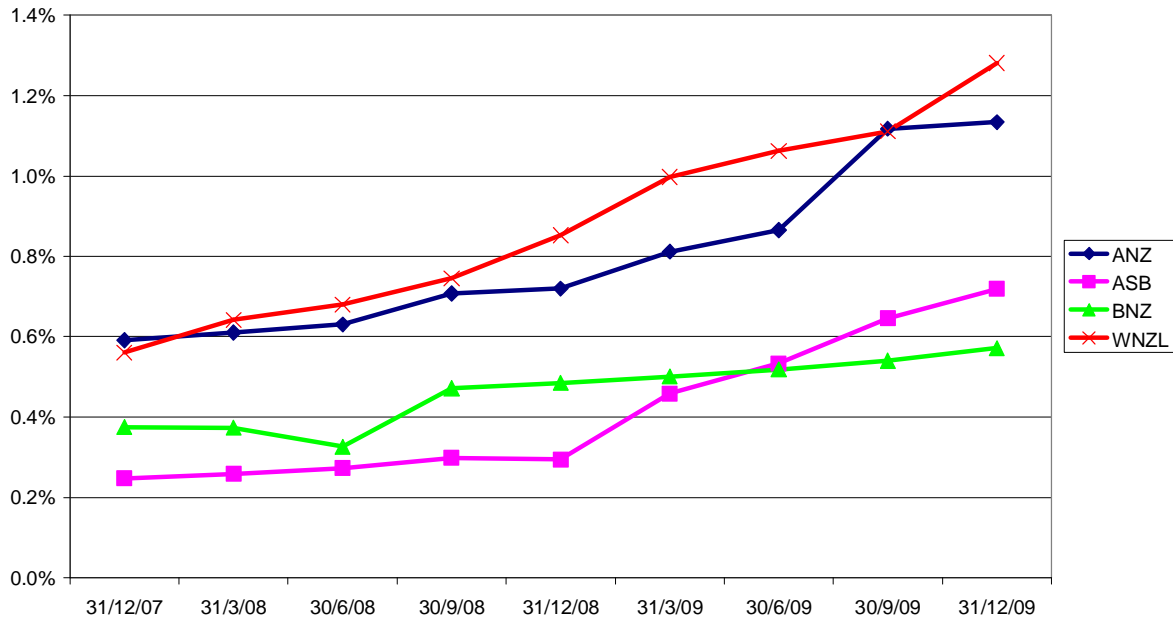
There is another question, however, as to whether such an approach would be consistent with IFRS, which requires that provisions be established only on the basis of objective evidence of likely losses. One of the reasons for establishing such rules under IFRS was because of the potential for bad and doubtful debt provisions to be used for profit smoothing (by making provisions in good times so that fewer provisions would be required in bad times), which would mean that financial statements might then not accurately reflect firms' actual performance. There is extensive research literature on this issue (Greenawalt & Sinkey, 1988; Ahmed et al, 1999; Fonseca & Gonzalez, 2008).

This issues also relate to concerns over pro-cyclicality, which in this context refers to the possibility that banks' provisions and capital requirements will be increased in bad times, reducing their capacity to lend. The opposite would be observed in good times. This has underpinned approaches by the Banca De Espana to adoption of dynamic provisioning (see Jimenez & Saurina, 2005; Perez et al, 2006).

Another question that arises in looking at banks' provisions, and which relates to an objective of IFRS, is whether different banks are following comparable approaches in establishing provisions. Because all four banks that we are looking at operate in the same economy, one would not expect that there should be any great difference in their collective provisions, which reflect those losses that have yet to be specifically identified. If collective provisions were compared to total assets, some difference might arise because of differences in portfolio emphasis, but if we look at collective provisions relative to risk-weighted assets, such effects should be mitigated.

Figure 5 thus shows us collective provisions relative to risk-weighted assets, with this approach also removing the distorting effects of specific provisions (against losses which are already known) from the results shown in Figure 3. We now see that two banks show significantly larger provisions than the other two banks. Are they being more conservative, or can the differences in levels of collective provisions be validly attributed to differences between the banks' loan portfolios?

Figure 5: Ratio of collective provisions to risk-weighted assets



We have so far only looked at the accounting information in assessing banks' approaches to handling banks' credit problems and losses. We also have information from banks' reporting of their capital requirements under Basel II, and it is this that we will look at next.

Banks' capital requirements for credit risk under Basel II are specified in terms of their potential losses. A key element in calculating this is a figure for expected loss (EL), which comprises a probability of default (PD) times a loss given default (LGD) times an exposure at default (EAD). This expected loss should be more or less the same as what banks are putting aside as provisions.

New Zealand banks using advanced measurement approaches for capital calculation under Basel II are required to report information on each sub-portfolio in a number of PD or other credit risk categories (a typical number of categories will be 6, and the number of sub-portfolios reported is usually around 6 or 7). They report EAD and LGD for each of these categories, and 3 out of 4 banks report the average PD for each category, and this has allowed us to estimate a figure for expected loss for each sub-portfolio (for the fourth bank, we have used the mid-point of the range as the PD figure, and this approximation may account for the larger difference evident in Table 4 below). An example of the sorts of calculations undertaken is provided in Table 2 (using figures for WNZL's residential mortgage portfolio as at September 2009).

Table 2: Specimen calculation of expected loss for a sub-portfolio of loans.

EAD (\$M)	PD (%)	LGD (%)	EL (\$M)	Required Provision
3111		22	0	\$85.8M
10458	1	22	23.00	
16361	1	22	35.99	
1549	4	22	13.63	
272	22	22	13.16	
874	100	22	192.28	Default – \$192.3M

Note that the bottom row of the table identifies loans identified as being in default, and it would be expected that a specific provision might be established for the amount of the expected loss. The expected losses in the other portions of the portfolio might be compared with collective provisions in respect of the residential mortgage portfolio.

Another point to note is the uniform LGD estimates, all at 22%. These figures have been prescribed by the Reserve Bank New Zealand, out of concern that the figures estimated by the banks based on their own experience would be too low, because of the unusually benign credit conditions and low level of losses experienced by the banking sector in the lead-up to the adoption of Basel II. The other banks show very similar LGD figures for their residential mortgage portfolios, reflecting the same ruling by the Reserve Bank. In contrast, in other sub-portfolios, a much wider range of LGD figures can be observed. While this makes all the banks 'comparable' in some respects it also detracts from any more focused assessment of their relative riskiness.

In Table 3 we show a fuller set of results for all the relevant portfolios for each bank as at the end of December 2009. We have reduced the results for the sub-portfolios (from the capital adequacy reporting) down to 3 for each bank, to correspond with the sub-portfolios in which non-performing loans and provisions are reported (as per Table 1 – residential, other retail and business). Note that, in the tables for each bank, the third column shows data derived from the capital adequacy calculations, while the fifth column shows data from the breakdown of impaired assets and provisions.

Table 3: Comparison of loss estimates and provisions.

(a) ANZ

\$M		Expected loss		Provision
Residential		126.37	Collective	114
	Default	230.26	Specific	193
Other retail		92.88	Collective	158
	Default	92.63	Specific	40
Business		287.01	Collective	522
	Default	556.1	Specific	329
	Non-default	Default	Collective	Specific
Total	506.26	878.99	794	562

(b) ASB

\$M		Expected loss		Provision
Residential		163.93	Collective	67
	Default	81	Specific	9
Other retail		9.86	Collective	79
	Default	0	Specific	2
Business		134.78	Collective	95
	Default	173.96	Specific	88
	Non-default	Default	Collective	Specific
Total	308.57	254.96	241	99

(c) BNZ

\$M		Expected loss		Provision
Residential		181.83	Collective	20
	Default	82.5	Specific	44
Other retail		98.96	Collective	57
	Default	17.48	Specific	20
Business		377.01	Collective	88
	Default	431.98	Specific	88
	Non-default	Default	Collective	Specific
Total	657.8	531.96	165	152

(d) WNZL

\$M		Expected loss		Provision
Residential		86.45	Collective	74
	Default	192.06	Specific	72
Other retail		59.42	Collective	109
	Default	36.4	Specific	
Business		153.19	Collective	246
	Default	110.53	Specific	115
	Non-default	Default	Collective	Specific

Total	299.06	338.99	429	187
-------	--------	--------	-----	-----

An adjustment has also been required in respect of the WNZL data, in that the bank identifies \$34 M as provisions for impairment on credit commitments. They do not state whether this is in respect of collective or specific provisions, but we have chosen to adjust the reported collective provision for this, and to assume that it relates to the business portfolio. Also in the Westpac case, the PD numbers are reported as whole number percentages, whereas ANZ and ASB banks report percentages to two decimal places: this rounding error may engender some unreliability in our estimates of expected losses.

Note that, because of potential inconsistencies in the categorisation of the sub-portfolios between those reported in the capital adequacy calculations and those used in the main part of the financial statements, it may be more appropriate to compare the totals, rather than making comparisons at individual data unit level. These results are summarised in Table 4.

Table 4: Summary comparison of expected losses and provisions

\$M	ANZ	ASB	BNZ	WNZL
Total expected losses	1385.25	563.53	1189.76	638.05
Total provisions	1356	340	317	616

We would anticipate the expected losses should be more or less the same as actually reported provisions, with minor differences arising from differences in the credit exposures that are included in the calculations.

As noted above, however, the BNZ numbers have been estimated using PD data that is only approximate, taken as the mid-point of a range, and it is likely that the actual average PD for each classification would be lower than the mid-point of the range (this seems to be the case for other banks). If the figures we adjusted for this, we would expect a lower figure for expected losses, although it is not clear how much it would be reduced. Perhaps we will need to wait and see how BNZ report the relative data in the future, and whether they will choose to report an average figure.

We should remember that the figures above are for one quarter only. There would undoubtedly be merit in due course in going back to earlier quarters' data to confirm that the trends shown in the above results are consistent.

4 Summary and conclusion

It is clear that there are some differences in the ways the banks go about their bad and doubtful debt reporting, and also between what they report in their financial statements, and the way they go about calculating their capital requirements for credit risk. This analysis does not tell us which approach is correct. When we consider that one of the outcomes that was supposed to follow from the adoption of IFRS was greater consistency in financial statements, this is a somewhat disappointing outcome, and strengthens the case for the Reserve Bank of New Zealand as regulator to be rather more prescriptive as to how banks should go about the production of their financial statements so as to facilitate comparison, and so as to give greater confidence to users of those financial statements in their reliability.

We also note that the categorisation of loans is different in the main part of the financial statements from what is reported in the capital adequacy calculations. This leads us to the question as to whether they are being prepared in different parts of the banks, and not necessarily being cross checked against each other for consistency. We also note that the capital adequacy information is not in general subject to audit – perhaps some attention to these numbers by auditors would be helpful. This is an issue of relevance to the review of New Zealand bank disclosure being undertaken during 2010.

It would be interesting and useful to have information on what the banks' own PD and LGD estimates were, and how these differed from those mandated by the Reserve Bank of New Zealand.

There are a number of issues raised in this paper which could be explored further. It would be interesting to look at data for the Australian banks (and the parents of these New Zealand banks in particular), to see if the same sorts of issues emerge. It would also be interesting to look at the New Zealand data over a longer period of time, to explore the consistency of the results. This is a line of inquiry which has the potential to have a real impact on the practice of banking supervision, something which has increased in importance in the context of the global financial crisis and the increased volatility which has come to characterize business in an increasingly 'linked up' world. The global financial crisis means that accurate reporting of banks' credit quality is of particular importance.

References:

- Ahmed, A. S., Takeda, C., & Thomas, S. (1999). Bank loan loss provisions: a reexamination of capital management, earnings management and signaling effects. *Journal of Accounting and Economics*, 28, 1-25.
- Fonseca, A. R., & Gonzalez, F. (2008). Cross-country determinants of bank income smoothing by managing loan-loss provisions. *Journal of Banking & Finance*, 32, 217-228.
- Greenawalt, M. B., & Sinkey, J. F. (1988). Bank loan-loss provisions and the income-smoothing hypothesis: An empirical analysis, 1976-1984. *Journal of Financial Services Research*, 1, 301-318.
- Hoskin, K. & Irvine, S. (2009, September). Quality of bank capital in New Zealand. *Reserve Bank of New Zealand Bulletin*. 72 (3). 5-16.
- Jimenez, G. & Saurina, J. (2005). *Credit cycles, credit risk and prudential regulation*. Banco de Espana Documentos de Trabajo, No 0531.
- Perez, D.; Salas, V. & Saurina, J. (2006). *Earnings and capital management in alternative loan loss provision regulatory regimes*. Banco de Espana Documentos de Trabajo, No 0614.