A Typology of Credit Loss and Provisioning Reporting by Banking Institutions in Australasia

Kurt Hess

Senior Fellow

Department of Finance, University of Waikato Management School

Contact:

Private Bag 3105, Hillcrest Rd, Gate 7

Hamilton, New Zealand

Ph. +64-7-838-4196

kurthess@waikato.ac.nz

http://www.mngt.waikato.ac.nz/kurt

Keywords: Banking, Credit Risk, Loan Loss Provisions, Australia, New Zealand, Disclosure Rules

JEL Codes: G20, G21

A Typology of Credit Loss and Provisioning Reporting by Banking Institutions in Australasia

Abstract

Data on loan loss provisions are widely used in empirical research yet the process of extracting these data from published financial accounts remains largely undocumented in the literature. This paper develops a typology of accounting and reporting of credit provisions and losses by financial institutions. It then applies this typology to a comprehensive sample of Australasian banks where one observes a great heterogeneity of reporting such data, both between institutions and also through time. It then documents how this typology allows the capturing of relevant credit provision and loss data into a standardized data template yielding equivalent informational content.

Keywords: Banking, Credit Risk, Loan Loss Provisions, New Zealand, Disclosure Rules
JEL Codes: G20, G21

A Typology of Credit Loss and Provisioning Reporting by Banking Institutions in Australasia

1 Introduction

Banks make charges against profits and reduce the value of loans recorded in their balance sheets when they have reason to believe that borrowers will default on those loans. Such loan-loss provisions are typically one of the first quantitative indicators of deterioration in loan quality and, at the same time, a key contributor to fluctuations in bank profits and capital. Understanding the determinants of provisions is therefore important for assessing fundamental credit risks in a particular market, or more generally, the stability of a particular financial system.

It comes therefore as no surprise that many researchers have focused on these bad debt provisioning data, mostly relying on data series supplied by external data providers (e.g. Bankscope database (Fitch-IBCA) used by Bikker & Metzemakers 2003). Reliance on such data limits a researcher's control of how the data have actually been transferred, respectively adjusted, from reported accounts. Moreover, these series in the best case range back to the early nineties only. To study the credit loss dynamics in a particular financial system in more detail and over a longer period of time, one will have to source information from the original bank financial reports, an approach, for example, taken by Pain (2003) for the UK and Kearns (2004) for the Irish banking system.

Despite this use of provisioning data, there seems to be no documentation of how these data were actually extracted from published financial accounts in any of these studies. Furthermore, commercial data providers remain vague as to their methods of transferring and adjusting such data, limiting themselves to a generic description of data items. The motivation for analysing this extraction process in more detail has transpired in the course of a project to compile a comprehensive credit loss and provisioning database for Australasian banking institutions ranging back as far as 1980, i.e. the time when such information was divulged for the first time. One finds that there have been many variations of disclosure of loss and provisioning data, both though time and between institutions. Accordingly, this paper proposes a reporting typology which describes (1) the stocks of provisions, (2) the method of accounting for annual provision charges to P&L, (3) debt write-offs and, finally, (4) recoveries. This typology defines the informational content of the bank's reporting and forms the basis of capturing credit loss and provisioning data into a standardized template proposed in this article. Time series extracted from this template are then the starting point for subsequent empirical work.

This paper will proceed as follows. The next section provides a primer on accounting for loan losses, which is followed by the explanation of the proposed reporting typology using two numerical examples (section 3). Section 4 then presents the standardized template and how the typology defines the informational content of the financial accounts. Before concluding, section 5 provides sample visualizations of some data series for Australasian banks, which were obtained by applying the methodology developed in this article.

2 Accounting for loan losses

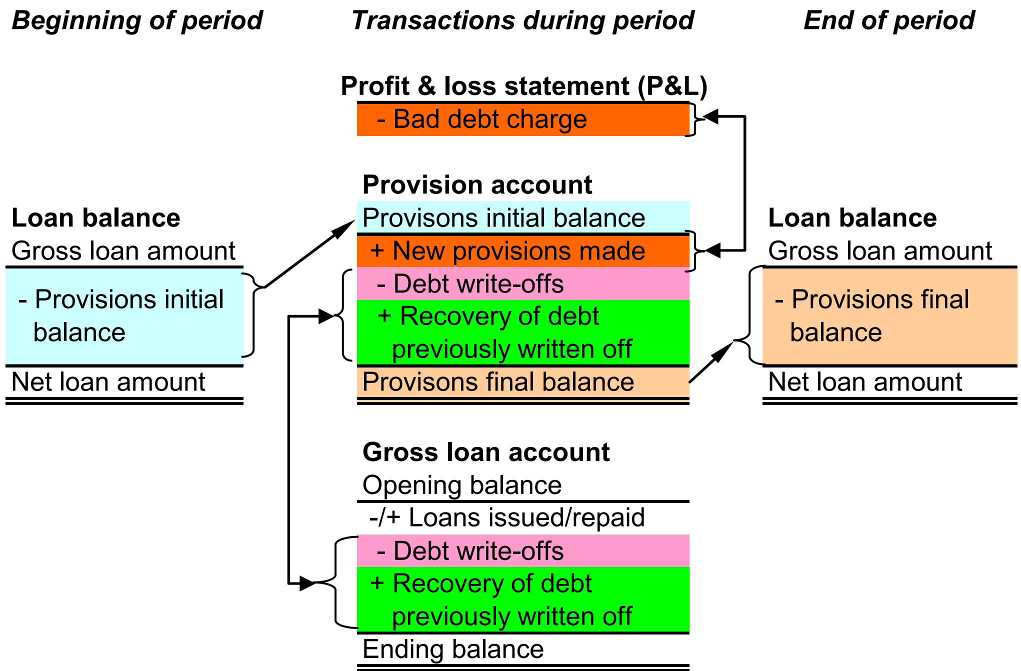
This section provides an introduction to accounting for loan losses which at first glance often looks confusing. The following general definition, sourced from the Australian Accounting Standards Board's disclosure requirements for financial institutions AASB (1996, 7.2.1)[1], provides a useful starting point for this topic:

> "In the ordinary course of business, financial institutions suffer losses on loans, advances and other credit facilities as a result of their becoming wholly or partially uncollectable. The amount of probable losses that have been specifically identified is recognized as an expense and deducted from the appropriate category of assets as a *specific provision* for impairment. The amount of probable losses not specifically identified but which experience indicates is present in the portfolio of loans and similar facilities as at the reporting date is also recognised as an expense and deducted from the appropriate grouping of assets as a *general provision* for impairment."

2.1 Basic accounting transactions

Figure 1 visualizes these accounting transactions using the loan account as an example and without distinguishing between specific and general provisions in the first instance. The banks maintain a counter-asset provision account whose opening balance is the difference between the gross loan amount and the net loan amount, i.e. the portion of the loan portfolio it does not expect to collect. If it identifies potential loan losses during the accounting period, it will charge them to the profit and loss (P&L) statement while at the same time increasing (crediting) the loan loss provisions. This means potential losses are not immediately written off from the gross loan balance. Write-offs, also called derecognitions, will typically occur later when the bank actually loses control of its contractual rights, for example if the loan is sold or legal rights are otherwise extinguished[2]. At that point, the corresponding provision is removed (debited) in an offsetting transaction. In some instances such derecognized bad debt might still be recovered, at which time some the gross loan account is increased (debited) and the corresponding provision reinstated, respectively, as some banks will do it, be directly applied to reduce the bad debt charge of the accounting period.

Figure 1: Provisioning for bad loans – generic description of method



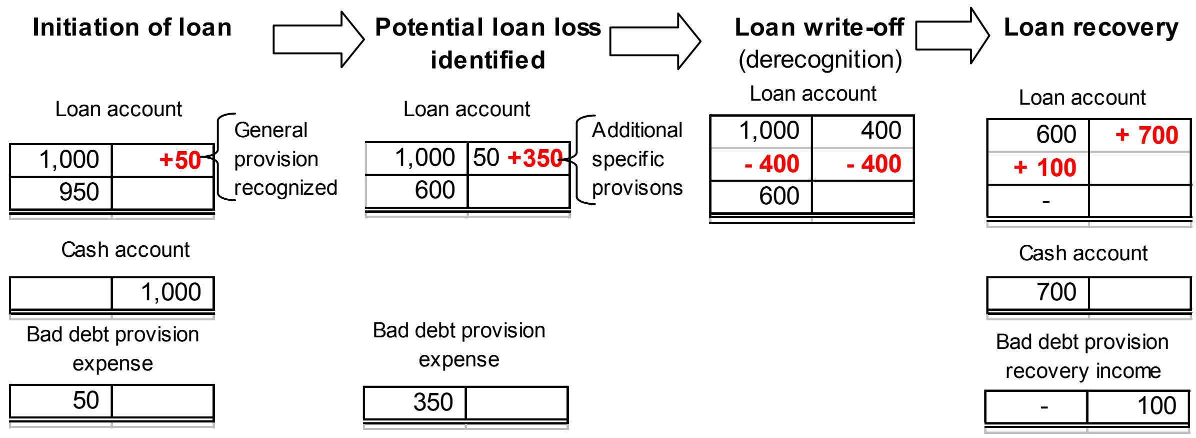
2.2 *Life cycle perspective*

Another approach to understand accounting for bad debt is to follow the life cycle of a loan that suffers a loss. This is illustrated by means of a simplified numerical example in Figure 2 which does not consider the complexities of accounting for interest earned on defaulted loans.

When a loan is initiated, the bank will typically recognize a *general provision* against it which is maintained as a global provision for a whole portfolio of loans, i.e. not for specific loans. As discussed for example in Wall and Koch (2000), there are at least three schools of thought as to how these should be set and there is even an argument whether they are justified for properly priced loans[3]. General provisions nonetheless remain, and are most discretionary in nature being ultimately determined by judgment of the bank's management.

Once a potential loss has been identified and becomes reasonably probable, the bank will raise a *specific provision* against the loan which is in turn charged to the P&L statement. If the loss is confirmed, derecognition (loan write-off) follows. Finally, some portion of the loan may eventually be recovered. If more than the carrying value of the loan can be recovered, the bank recognizes the excess collected as recovery income often directly to the P&L, respectively sometimes applies it to reduce the ongoing provision charges.

Figure 2: Life cycle of bad debt accounting - simplified numerical example



3 Typology of reporting loan losses and provisions

The previous section has described accounting for loan losses in a generic way. How financial institutions in Australasia have actually implemented it, or more importantly, how they have reported this information has been subject to considerable variations both amongst institutions and also through time. This section first illustrates this heterogeneity in reporting for the case of New Zealand banks and then presents a general system for typifying the numerous methods of reporting and accounting for credit losses. The last part then provides an overview of the numerous reporting types that were observed in the sample of Australasian banking institutions.

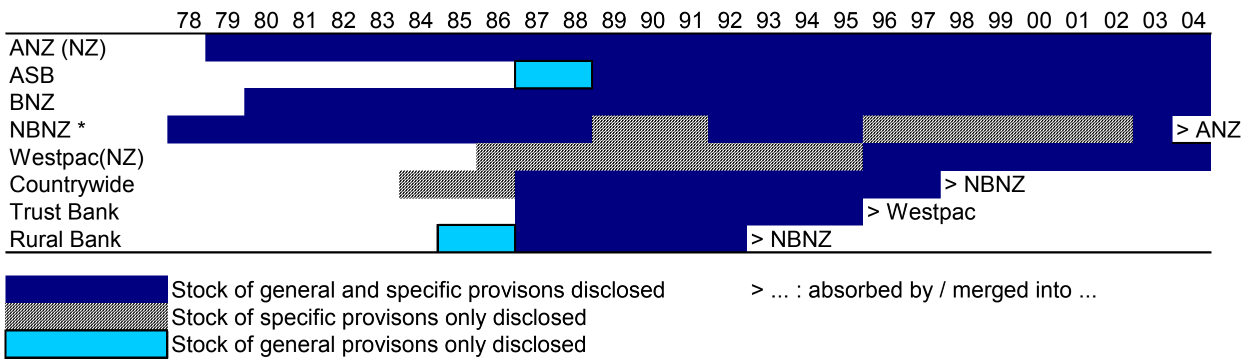
3.1 Reporting of credit provisions on the example of New Zealand banks

Provision information has both a static and a dynamic component. The first is the information on the balance of provisions, sometimes termed "stock" of provisions at any point in time, the second comprises information on transactions in the provisions account that have occurred during the period. As shown in Figure 3 and Figure 4, banks in New Zealand started reporting static stocks of provisions before they began disclosing the movements in this account.

Dynamic flow information, however, provides deeper information about the bad debt charges and about which portion of the claims was eventually written off. Earlier bank reports typically disclosed such flow information not as P&L data items but rather in inconspicuous footnotes. In some instances, this flow information was incomplete as banks avoided explicit disclosure of bad debt charges which then had to be derived from information on write-offs as well as beginning and ending provision balances. Similarly, debt recoveries were rarely explicitly disclosed in earlier years but rather netted with write-offs. Figure 13 in the appendix (page 22) illustrates an example for Westpac's New Zealand division on how time series can be extended backwards by deriving some key data elements like total loan write-offs for the period from other data items reported.

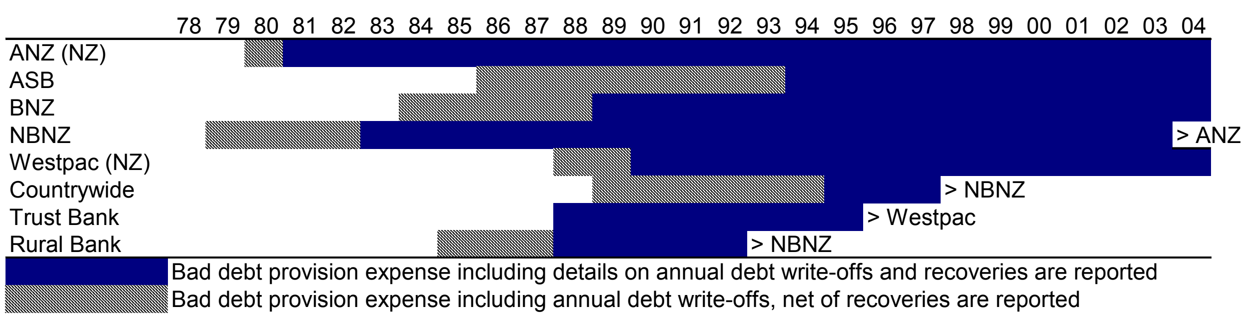
Overall (and the following comment also applies to Australian banks), extended time series of data are more easily obtainable for institutions with roots as privately owned commercial banks than for (formerly) publicly owned banks (like BNZ or state banks in Australia) which were more tardy in embracing detailed provision reporting. Likewise, data series are shorter for banks that have converted from special statutes institutions during the sample period, e.g. from building societies or trust banks in New Zealand.

Figure 3: NZ banks disclosure of stock of loan loss provisions



* Both NBNZ and Westpac had a policy of not disclosing separate general provisions over much of the observation period. These were held by the parent bank as part of a global provision without breaking out a New Zealand component. In fact, Westpac abandoned this practice in 2003 only. Previous general provisions had been provisions associated with the acquisition of Trust Bank (NZ) only.

Figure 4: NZ Banks disclosure of annual bad debt expense, write-offs and recoveries



3.2 Typifying accounting and reporting of credit losses and provisions

The general typology of loan loss and provisioning reporting proposed here was developed after reviewing and capturing relevant data for a comprehensive sample of Australasian banking institutions. There seems to be no impediment to applying it to provision reporting in a wide range of countries.

The typology is based on four sub-categories. The first one (STK) captures the characteristic of static provisioning data or stock of provisions while the remaining three categories describe the reporting and accounting of flow data. The first flow category typifies the transaction shown in the provisioning accounts, the second the nature of reporting write-offs (W) and, finally, the third the way recoveries of claims previously written off are shown (R).

While a full description of each sub-category including detailed sub-codes assigned for each type of reporting is provided in Table 4 in the Appendix (p. 23), it is more meaningful to explain the classification process through two numerical examples.

Example 1 in Figure 5 shows one of the methods of reporting as they were observed in the sample by means of simple T-accounts. There are four accounts in which transactions related to loan loss provisioning will occur. In this case, write-offs ($40) and recoveries ($20) are reported as movements in the specific provisions account with any additional specific provisions required ($50) funded from the general provisions account. The net increase in general provisions ($80) thus becomes the bad debt charge shown in the P&L.

Many alternative practices of reporting these same transactions shown in the numerical example 1 of Figure 5 have been observed, however. Most banks fund required additions to their provisions in both specific and general accounts directly from the P&L which one could characterize as a parallel provisioning accounting type instead of the serial accounting shown in the numerical example of Figure 5. Other differences relate to which accounts the write-offs and recoveries are shown in. In particular, there is a variety of approaches when booking recoveries which can be shown either in one of the provision accounts or directly as an offset to bad debt charges in the P&L.

With regard to write-offs, there are some reporting formats which reveal additional information compared to example 1 of Figure 5. Example 2 in Figure 6 depicts such a format where only the write-offs of loans for which the bank had already provided for ($25) are debited to specific provisions while unanticipated problem loans are written off directly to the P&L ($15). This additional information can, for instance, be useful to study the quality of a bank's credit risk management system. Note also that in this second example, recoveries are booked directly to the P&L to offset bad debt expense there.

Figure 5: Example 1: sample structure of reporting credit provisions and write-offs

Pure serial accounting: charge to P&L from general, write-offs and recoveries to specific

STK-SG/G/WS/RS

	P&L account	
Bad debt provision expense	80	
Total bad debt expense	80	

	General provisions account	
Opening balance		200
Net increase provisions		80
Transfer to specific provisions	50	
Final balance		230

	Specific provisions account	
Opening balance		100
Transfer from general provisions		50
Bad debts written off	40	
Recoveries of debts written-off		20
Final balance		130

	Gross loans account	
Opening balance	2,000	
Write-offs through provisions		40
Recoveries of debts written-off	20	
Net new loan origination	520	
Final balance	2,500	

Figure 6: Example 2: sample structure of reporting credit provisions and write-offs with additional information on write-offs.

Parallel accounting: write-offs to specific and direct to P&L, recoveries to P&L, charge to P&L from both provision accounts

STK-SG/SG/W-SP/RP

	P&L account	
Bad debt provision expense	55 + 30	
Write-offs direct	15	
Recoveries of debts written-off		20
Total bad debt expense	80	

	General provisions account	
Opening balance		200
Net increase provisions		30
Final balance		230

	Specific provisions account	
Opening balance		100
Net increase provisions		55
Bad debts written off	25	
Final balance		130

	Gross loans account	
Opening balance	2,000	
Write-offs through provisions		25
Write-offs direct		15
Recoveries of debts written-off	20	
Net new loan origination	520	
Final balance	2,500	

The process of typifying the reporting formats of example 1 (Figure 5) and example 2 (Figure 6) is shown in Table 1 on page 11. It starts with the existence, respectively absence, of provision accounts in the reports. STK-SG means that both the stock of specific and general provisions is shown. In earlier years of reporting, banks sometimes just showed one combined provisions account which would then be typified as STK-C.

The next step typifies the funding method of provisions. In the first example, the increase of general provisions only will be charged to the P&L (G), in the second case the sum of net increases in both accounts is charged (PG). The write-offs are shown in the specific provisions account in the first example (WS), while part of these write-offs are charged directly to the P&L in the second example (W-SP). Finally, the recoveries are shown with specific provisions in the first case (RS) and charged directly to the P&L in the second (RP).

Table 1: Typifying the reporting formats of the two numerical examples

	Example Figure 5	Example Figure 6
Stock of provisions (STK)	STK-SG	STK-SG
Charges to P&L from …	G	SG
Write-offs shown in …	WS	W-SP
Recoveries shown in …	RS	RP
Type:	STK-SG/G/WS/RS	STK-SG/SG/W-SP/RP

3.3 Typologies observed in the sample of Australasian banks

In summary, a total of 20 different main reporting types for Australasian banks could be identified over the sample period of 1980 to 2004 (see Table 2). As there are also variations within a type, especially with regard to reporting of recoveries, one can distinguish a total of 27 types. Moreover, this table does not include the types which do not report meaningful flow information (i.e. stocks reported only - STK-SG/O/WO/RO) or no provisioning information at all (i.e. STK-O/O/WO/RO). For additional details, Table 5 for New Zealand (page 25) and Table 6 for Australia (page 26) in the appendix show the reporting types through time for each of the 24 institutions in the sample.

Table 2: Reporting types observed in Australasian banking sample

STK-SG/SG/W-SP/RP	STK-SG/G/W-SG/RG	STK-S/S/W-SP/RP
…/W-SG/RS	…/WS/RS	…/WS/RS or RO
…/W-SG/RP or R-SG	…/WS/RO	
…/W-SG or W-SP/RG or RO	…/WS/RG	STK-C/C/WP/RO
…/WS/RS		…/WC/RC
…/WS/RP or RG	STK-SG/C/W-CP/RP	
…/WS/RP	…/W-CP/RO	
…/WS/RO	…/W-CP/RC or WC/RC	
…/WP/RO		

4 Data template and informational content of reporting types

The typology developed in the previous section serves as the basis to capture credit loss and provisioning information for subsequent empirical analysis. Each type is characterized by its informational content which in turn determines the data items that can be captured into a standard template proposed in this section.

4.1 Data template

To capture credit loss and provisioning data, the template shown in Table 3 has been set up. The first two data items are again the static stock of specific and general provisions (1) & (2), the second portion of the table captures the movements in a combined general and specific provisions account. The usual transactions in this account are (3) write-off of debts, which reduces provisions, respectively (5) new provisions funded from the P&L (charge to P&L) and (4) debt recoveries, which both increase provisions (credit transaction). Typical examples of other transactions (6) are provisions added as a result of acquisitions, respectively removed as a consequence of disposals. For banks with international loan portfolios like some of the larger Australian banks, currency translation effects are also a regular component of other transactions (6). In earlier years, banks would sometimes fund bad debt provisions from their contingency reserves. Such transactions were considered as funded from the P&L as they in fact constitute hidden bad debt expense booked directly against equity.

The third and last section of Table 3 captures details of the charge to the P&L and thus also provides an insight into transactions that occurred in each of the two provisioning accounts. Item (7) are the specific, respectively item (8) the general, provision component of charges to P&L. This section also provides information on the so-called direct write-off component (9) which some banks will book if loans were written off for which no specific provision had been set aside.

Finally, item (10) (Other) is used for special adjustments as shown by the following examples. In some instances, banks fundamentally changed their method of provisioning which distorted the actual bad debt experience for a particular year. Most banks, for instance, switched to statistical provisioning in the 90s which created discontinuities in general provision series. Another case was Westpac's 2003 transfer of general provisions from the parent to the NZ division's balance sheet. This special adjustment was then used to show bad debt charges more adequate for the year's loan loss experience.

Special adjustments were, however, also included when a bank, in order to window-dress its accounts, resorted to reporting larger loan-asset write-downs as an extraordinary or exceptional item. If such additional charges were judged to have the characteristics of bad debt expense, they were added to the bad debt charge without corresponding transactions in the provisioning accounts. Especially earlier in the observation period, some banks made liberal use of extraordinary cost reporting in order to show more favourable "ordinary" earnings but accounting standards have been tightened through time. There are still issues in this regard, if a bank, for instance, spins off a loss making subsidiary below book value, thereby avoiding an explicit bad debt charge for impaired loans in these subsidiaries.[4]

An example of a comparable adjustment was the case of the Rural Bank of New Zealand, where in March 1989, in preparation of the bank's privatisation, loan provisions were booked directly against equity reserves that had been formed after the conversion of government-held borrowings. While no explicit bad debt charges were thus shown in the P&L, this write-down of reserves was classified as bad debt expense.

Table 3: Data items of credit loss and provisioning template

Stock of provisions	Stock of provisions specific	(1)
	Stock of provisions general	(2)
Movement in provisions / flow information	Starting total provision	
	- Bad debt written off	(3)
	+ Recoveries debts written off	(4)
	+ Charge/(credit) to income stmt. /P&L	(5)
	+/- Other transactions	(6)
	Ending total provision	(1)+(2)
Details bad debt charge to P&L	+ Specific provisions additions	(7)
	+ General provisions additions	(8)
	+ Direct write-offs	(9)
	- Recoveries	(4)
	+/- Other (plug)	(10)
	Total charge to P&L	(5)

4.2 *Informational content of reporting types*

The informational content of the credit loss and provisioning reporting is given by its type. The four components of the typology (STK, charge to P&L, W, R) in essence determine which data element can be captured into the template described in the previous sub-section. Table 7 in the appendix (page28) depicts this relationship.

As the template combines the two provisioning accounts into one, all reporting formats (except "O") allow the extraction of the total bad debt charge to P&L. For data analysis that needs to distinguish between the specific (non-discretionary) and the general (discretionary) component of this charge, reporting formats are more convenient that fund provisions in both accounts directly from P&L. However, even with the frequent format where specific provisions are funded from general (e.g. as in example 1 of Figure 5), one can derive reasonable estimates of the components. The funding from general is then simply treated as the specific provision element, while the balance (of total bad debt charge) would be the general component.

Distinctive differences in informational content are present in the reporting of write-offs and recoveries. Firstly, only net write-offs can be extracted if recoveries remain undisclosed (RO) as happened often earlier in the observation period. Secondly, a distinction between "planned" write-offs (for which provisions have been made) and "unplanned", here called "direct" write-offs (for which no provisions have been set aside) can only be captured with the W-SP, W-SG or W-CP reporting types. Lastly, there is a chance for extracting at least net write-offs even if these write-offs are not specifically reported (WO). This is the case if bad debt charges are disclosed and net write-offs can then be derived as an implied offsetting transaction in the combined provision account.

5 Visualization of selected provisioning and loss data

This section presents a number of selected sample charts that depict times series obtained with the methodology developed in this article. Future work will utilize them to examine how economic factors have impacted on provisioning and loan losses in each of New Zealand and Australia.

The first part shows visualizations of individual bank time series. Here the appendix provides a supporting genealogy of major New Zealand and Australian banks which are covered in this database (see Figure 14 to Figure 17 in the appendix). The second sub-section shows sample charts of cumulative analysis for the whole banking system.

5.1 *Individual time series*

The foundation for panel data investigations of credit loss and provisions are times series of individual banks. Figure 7 and Figure 8 firstly show the stock of total provisions for a selected number of Australian and New Zealand banks. The Australian sample includes the five major banking groups of the country (ANZ, Commonwealth, NAB, Westpac and St. George) including some of the major predecessor institutions that have been absorbed into these entities (State Banks of NSW, SA, Victoria, Advance Bank, Bank of Melbourne)[5]. Likewise, the New Zealand series include the four "majors" (ANZ, ASB, BNZ, Westpac) and most important predecessors (NBNZ, Countrywide and United Bank, Trust Bank, Rural Bank). One notices the major peak in provisioning requirements that occurred in 1992 for Australia and 1-2 years earlier in New Zealand.

These two charts are followed by Figure 9 and Figure 10 on page 17 which, for the same institutions as above, depict the % of loans written off (net of recoveries) in a particular year. One notes that write-offs lag the provisioning peak, in the case of BNZ by three years. One also notices that ANZ and Westpac, both hard hit by the crisis of the early 90s in Australasia, had different policies of recognizing loan write-offs. While Westpac essentially booked these write-offs in 1992, ANZ spread them out in to the following years.

As a final chart, Figure 11 on page 18 illustrates Westpac's loan loss experience through this crisis in more detail. In fact, Westpac's near failure in the early 1990s represents undoubtedly the most dramatic episode in the history of this bank. An account of these events is provided in Carew (1997) and more recently Davidson and Salisbury (2005) who discuss Westpac's forays into commercial property lending and also international wholesale banking of the 1980s. It was not Westpac's international business, however, which ultimately required the bulk of write-offs of a cumulative AUD 5.6 billion for the 1990 to 1993 period[6]. The major losses came from involvement in high profile commercial real estate projects in Australia, mainly through its subsidiary AGC, and exposure to some larger corporate defaults (e.g. Lintner, Adsteam, Northern Star). Figure 11 thus highlights the consequential loss of Westpac's market leadership which it had gained through its 1982 merger with Commercial Bank of Australia. The combined bank then held more than a quarter of Australia banks' assets and was clearly the largest among the major banks. After its lending losses of 1990 to 1993, it fell back behind NAB and Commonwealth Bank in terms of assets and it now comparable to ANZ's size.

Figure 7: Total stock of provisions as % of loans for selected Australian banks

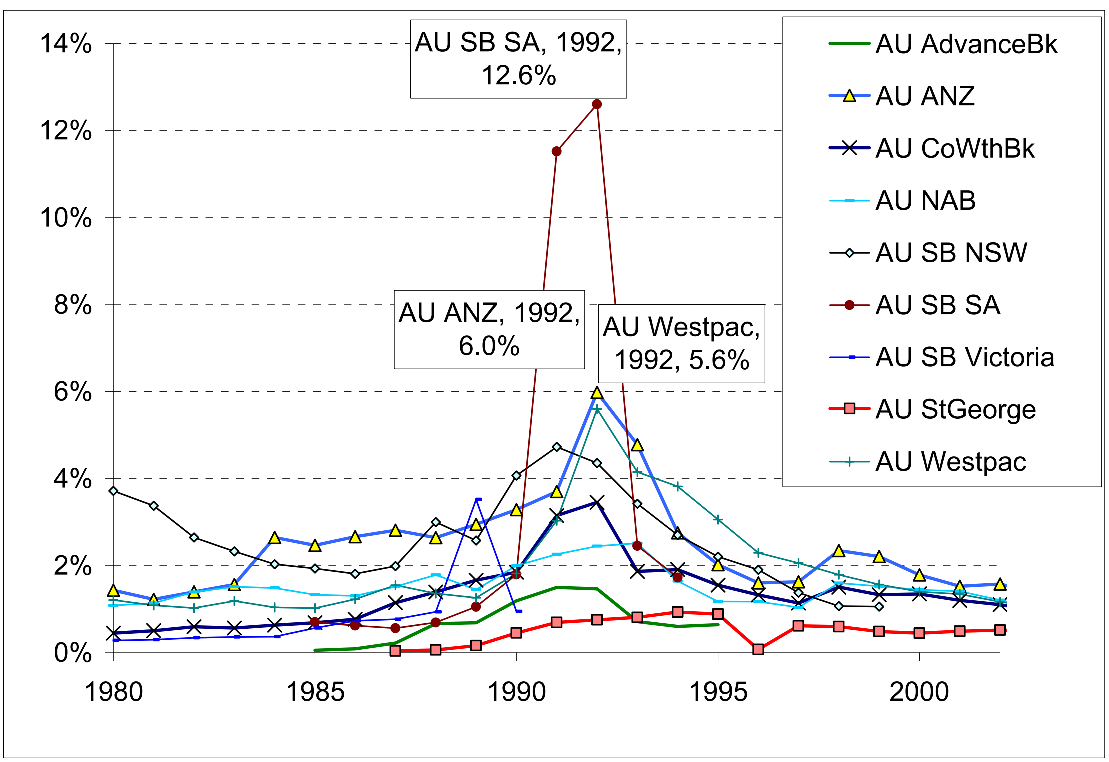
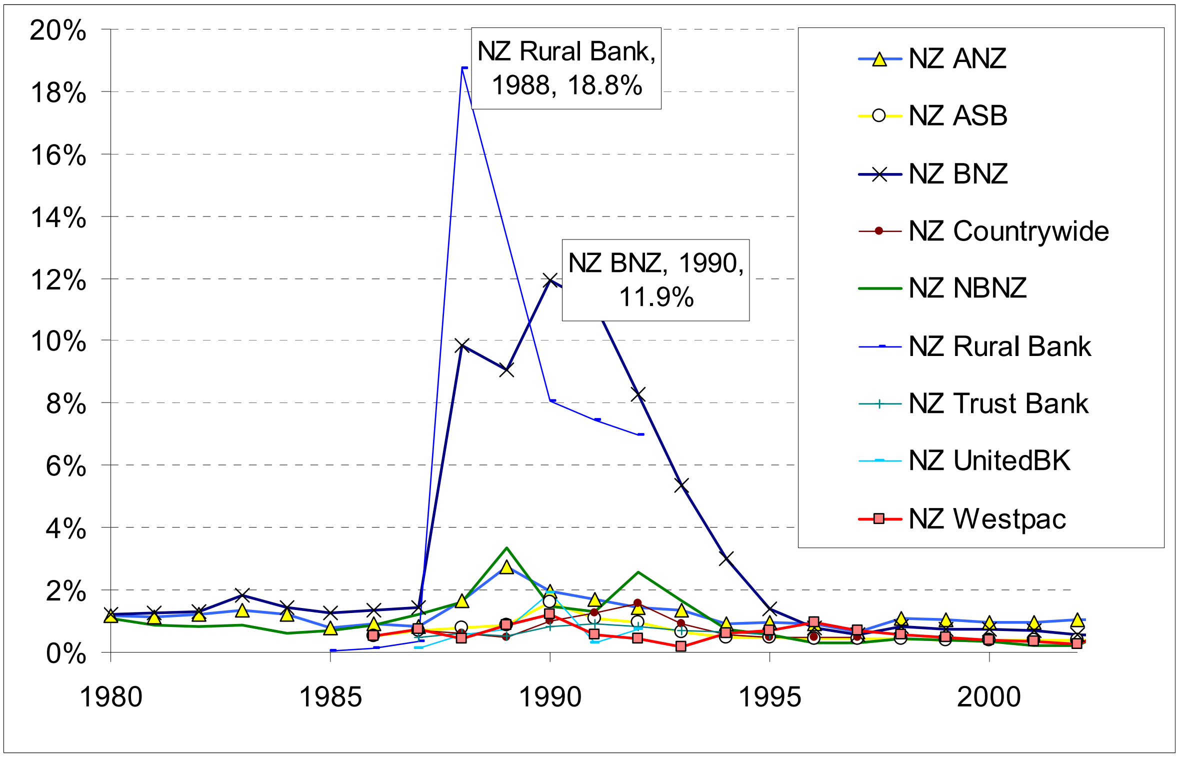


Figure 8: Total stock of provisions as % of loans for selected New Zealand banks



(excluding BNZ and Rural Bank to improve readability)

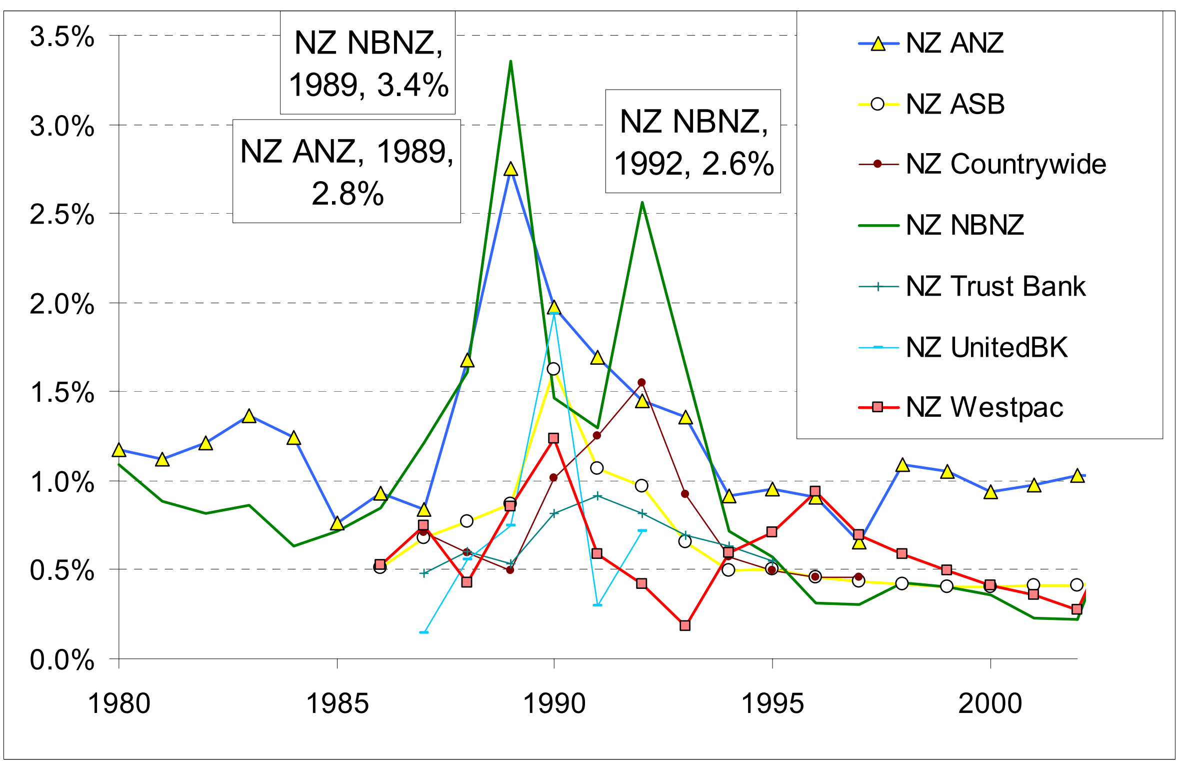


Figure 9: Debt write-offs as % of loans for selected Australian banks

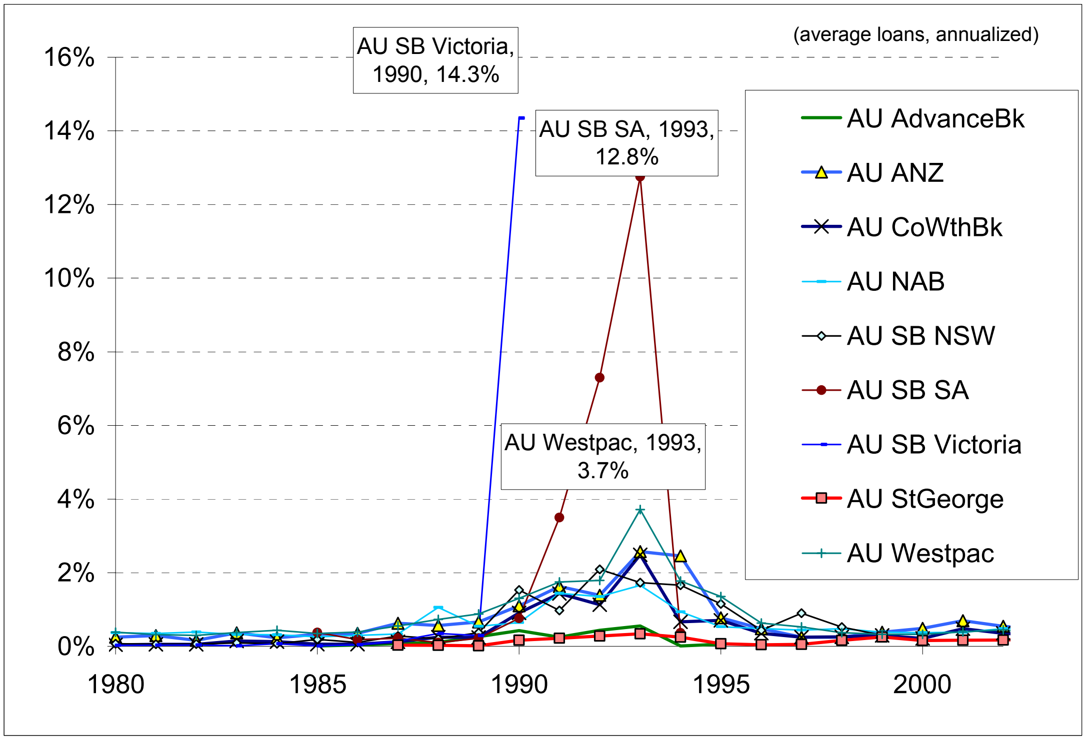


Figure 10: Debt write-offs as % of loans for selected for selected New Zealand banks

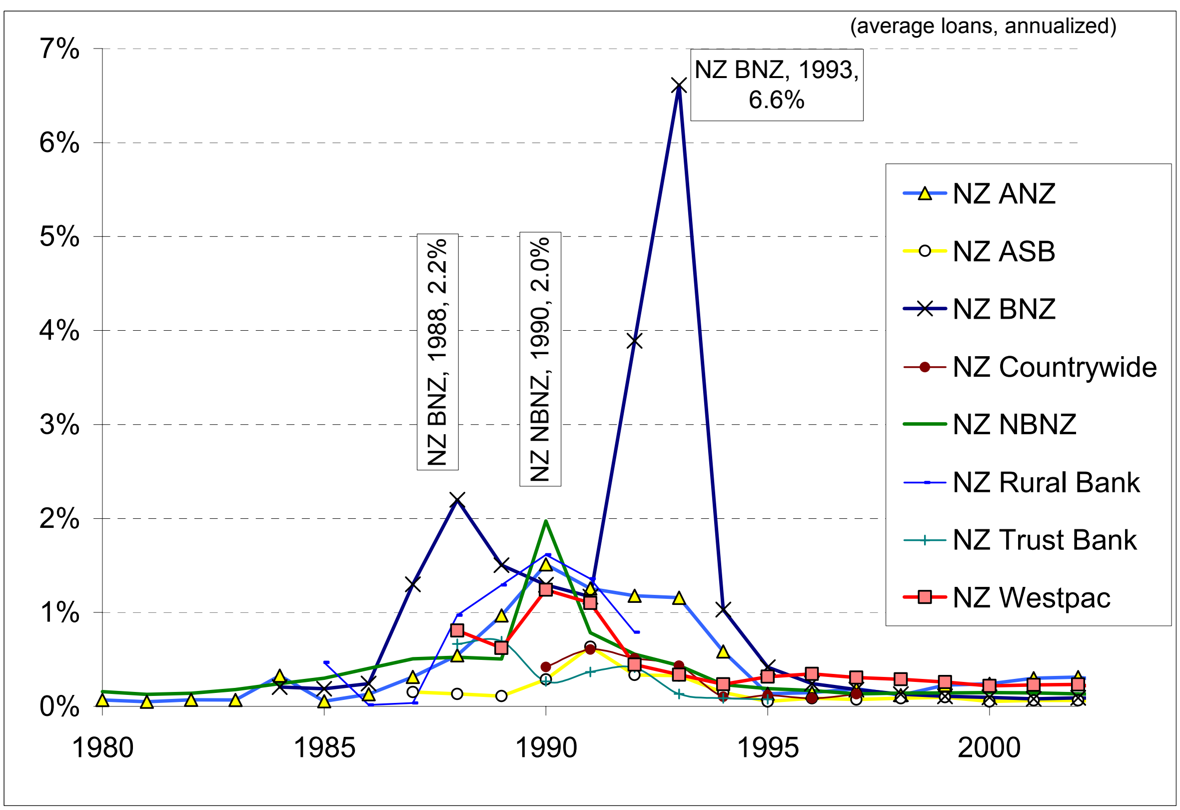
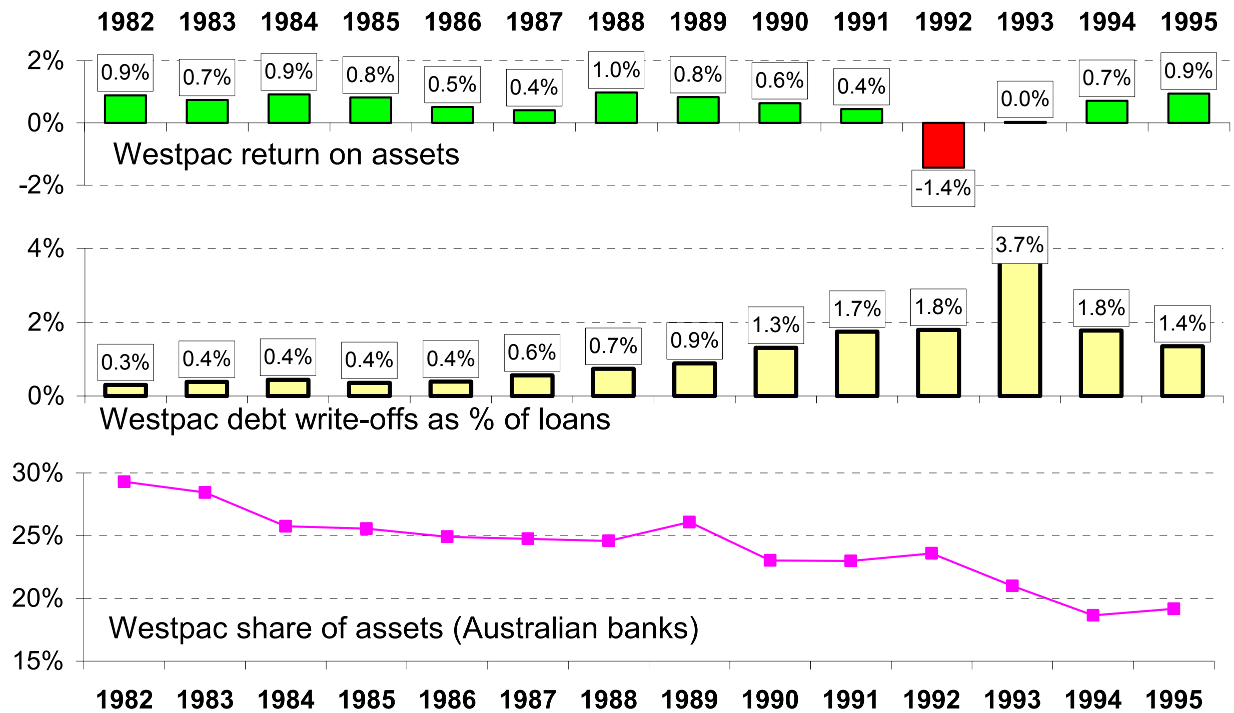


Figure 11: Westpac's ROA, loan write-offs and market share through its crisis in the early 90s



5.2 Cumulative time series

The following shows an example of cumulative data series retrieved from the database as it would, for instance, be important to study systemic effects of lending losses. The charts in Figure 12 are for New Zealand only and they firstly illustrate that BNZ and, to a lesser extent Rural Bank, were faced with the bulk loan losses in the system crises of late 1980s and early 1990s. This top chart shows absolute Dollar provisioning levels only but it is more meaningful to view provisions in proportion to loans outstanding. This is done on the second chart which distinguishes between specific and general provision (excluding BNZ and Rural Bank). One notices that in the favourable economic climate of the past 10 years, specific provisions have been declining. The 2003 bulge in additional provisioning is caused by the transfer of general provisions previously held by overseas parent banks (Westpac, Lloyds TSB/NBNZ) to their New Zealand operations' balance sheets.

The following series shows the percentage of loans charged to the P&L and written-off in each year where one again notices the lag characteristics of write-offs. All of these series are then graphed against the real annual GDP growth for New Zealand. The prolonged low growth phase of the NZ economy starting with the deregulation of 1985 culminated in substantial loan losses culminating in 1991, i.e. one year before the Australian peak. Without employing econometric techniques, it seems as if later dips in growth did not appear to have impacted on credit losses in a similar way.

Numerous studies like Clair (1992) or Fernández de Lis et al. (2000) have provided evidence that a phase of strong loan growth tends to be followed by above average credit losses. Accordingly, the series showing the CPI adjusted loan growth in the universe of New Zealand banks is shown at the bottom of Figure 12. In the New Zealand case, however, loan growth does not appear to be an immediate indicator of loan losses to come.

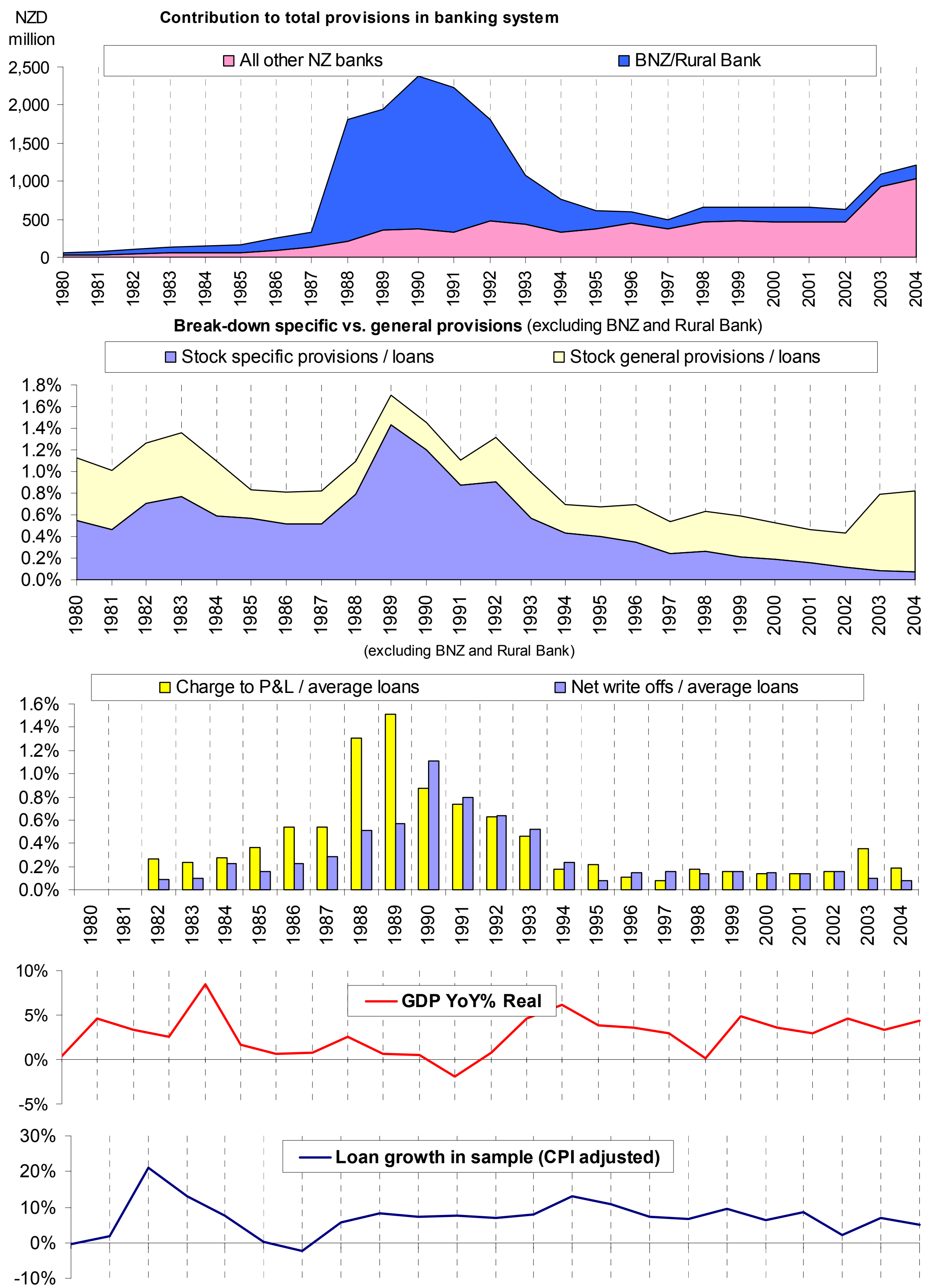
6 Conclusion

This article has presented a method for typifying the reporting of loan loss and provisions data in bank financial accounts. This then serves as the basis to capture these data into a standardized template developed along equivalent informational content. While at first glance there appears little glamour and thrill associated with such a topic, it is nevertheless vital in order to provide the foundation for a consistent extraction of loan loss and provisioning information for subsequent empirical research. Current literature does not elaborate on this process and the methods used by financial data providers remain essentially undocumented. Moreover, these providers are typically unable to deliver time series back to the late 70s and early 80s so the researcher needs to extract information from published annual accounts.

The methodology presented here has been motivated by the work of compiling a comprehensive data base of historical financial data for Australasian banking institutions. It was found that especially the reporting of credit loss and provisioning varied considerably both through time and also between institutions. To be more specific, a total of 27 reporting types in accordance with above typology were detected for a time span of 1980 to 2004. For illustration, the last section of this article provided a glimpse of the kinds of time series that were captured in the process.

The typology and data template developed here should also be useful for application in other geographic areas. The study of credit risks requires long data series often not available from standard sources and this is exactly where the techniques developed in this article will provide value to a range of researchers.

Figure 12: New Zealand banks: cumulative provision and write-off data



Endnotes

---

1 This definition is about to change with the adoption of IFRS based AASB 139. In particular, the use of general provisions is more restricted and limited to assets with objective impairments. The term 'collective' provisions will be used instead. This generalized description of provisions nevertheless remains valid in principle.

2 Neither New Zealand nor Australia accounting standards prescribe specific rules on the derecognition of financial assets such as loans equivalent to IAS 39.35 which states that "an entity should derecognise a financial asset or a portion of it when, and only when, the entity loses control of the contractual rights that comprise the financial asset (or a portion of it)". This practice is also recommended by the Basel Committee on Banking Supervision (BCBS 1999, p.15).

3 Borio and Lowe (2001, footnote 10, p.46), for instance, dispute the argument that a provision should be created at origination even on correctly priced loans given that default could occur before the interest margin has been earned. They reason that provisioning is about expected outcomes. Loans are not expected to systematically default before the payment of interest. The possibility of an unexpectedly high number of early defaults should be covered by capital. Borio & Lowe's view is also embodied in the new IFRS which does not allow general provisions at the time of initial recognition of the loan.

4 The 2002 disposal of NAB's US operations at a loss would be a recent example. Most of the approximately AUD 2 billion write-down was, however, related to a value adjustment of mortgage servicing rights and not to loan losses in these subsidiaries (see note NAB annual report 2001, note 5, p. 78).

5 Data for further Australian banks have been captured but omitted from the chart for readability. Omitted banks include Bank of Melbourne, Bank of Queensland, Bank West (now part of HBOS), Bendigo Bank, Challenge Bank, Suncorp-Metway, Trust Bank Tasmania and its predecessors.

6 This compares to Westpac's 1990 roughly AUD 65 billion in loans and, more importantly, just AUD 6.5 billion in equity

Extending data series through deduction

In some earlier year financial accounts, banks would provide incomplete provision flow information in their account. An example is Westpac Corporation New Zealand division accounts for 1989. The division reported beginning and ending balance of provisions and disclosed NZD 12.4 write-offs from provisions (Prospectus 22 Dec. 198, p.13). A later year prospectus (Prospectus 18 Dec. 1992, p.6) reported bad and doubtful debt expense of NZD 47.7m for the 1989 year per 30/9/89. As shown in Figure 13, these data allow deriving both the total of write-offs for 1989 and the amount directly written-off to the P&L.

Figure 13: Example for deriving missing loan write-off data in Westpac's NZ Division (1989 accounts)

1989 DATA

	P&L account		
Opening balance 1/10/1988	0		
Net new provisons	34.3		
Direct write-offs*	13.4		DERIVED
Final balance 30/9/89	47.7		reported

	Specific provision account		
Opening balance 1/10/1988		16.4	reported
Net new provisions		34.3	DERIVED
Write-offs from provisions	12.4		reported in footnote
Final balance 30/9/89		38.3	reported

	Gross loans account		
Opening balance 1/10/1988	3,827.8		reported
Write-offs from provisions		12.4	reported in footnote
Direct write-offs*		13.4	
Net new loan origination	669.2		derived
Final balance 30/9/89	4,471.2		reported

* Direct write-offs net of recoveries

Typology decision table

The table below presents the decision criteria to set the appropriate provision/loan loss reporting type code. This code consists of four elements. The first one describes the reporting of the static stock of provisions; the remaining three characterize the dynamic reporting of provisions, write-offs and recoveries respectively.

Table 4: Typology decision table

Stock of provisions (STK)		
Stock of provisions specifically shown	STK-O	Not shown (net loans shown only)
	STK-S	Specific provisions (S)
	STK-G	General provisions (G)
	STK-SG	Specific and general provisions (SG)
	STK-C	Combined balance shown only (C)
Activity in provision account(s)		
Annual provision charge to P&L shown	O	Not shown. Typically stock of provisions shown only.
	S	Shows annual charge to P&L of specific provisions (S)
	G	Shows annual charge to P&L of general provisions (G)
	SG	Shows annual charge to P&L of specific and general provisions (SG)
	C	Annual charges to P&L from an account combining general & specific provision balances

Typology decision table (continued)

Debt write-offs (W)		
Debt write-offs shown in financial statements	WO	Not shown, typically stock of provisions shown only
	WS	All write-offs debited to specific provisions
	WG	All write-offs debited to general provisions
	WC	Write-offs from an account combining general & specific provision balances.
	W-SP	Write offs split into debits to specific provisions and direct write-offs to P&L
	W-SG	Write offs split into debits to specific provisions and debits to general provisions
	W-CP	Write-offs from an account combining general & specific provision balances and directly to P&L
Debt recoveries (R)		
Recoveries of claims written off in earlier periods are specifically shown	RO	Not specifically shown. Typically R are netted with debt write-offs
	RS	R are credited to specific provisions
	RG	R are credited to general provisions
	R-SG	R are credited to general & specific provisions *
	RP	R are credited to P&L debt expense account
	RC	Recoveries from an account combining general & specific provision balances.

Table 5: Typology of New Zealand banks

	NZ ANZ	NZ ASB	NZ BNZ	NZ NBNZ	NZ Westpac	NZ Countrywide	NZ Trustbank	NZ Rural Bk	NZ UnitedBk
STK-SG/SG/W-SP/RP					1996-2003	1996-1998			
STK-SG/SG/W-SG/RS									
STK-SG/SG/W-SG/RP or R-SG		1994-2004, 1990-1993(RO)							
STK-SG/SG/W-SG or W-SP/RG or RO									
STK-SG/SG/WS/RS	1980-1997		1991-1999	2003, 1978 to 1988			1989-1996		
STK-SG/SG/WS/RP or RG									
STK-SG/SG/WS/RP									
STK-SG/SG/WS/RO			1987-1990			1990-1995			1992 (i)
STK-SG/SG/WP/RO									
STK-SG/G/W-SG/RG									
STK-SG/G/WS/RS			2000-2004						
STK-SG/G/WS/RO									
STK-SG/G/WS/RG	1998-2003								
STK-SG/C/W-CP/RP									
STK-SG/C/W-CP/RO									
STK-SG/C/W-CP/RC or WC/RC					1990-1995 (ii)			1989-1992 (RP)	
STK-S/S/W-SP/RP									
STK-S/S/WS/RS or RO				1989-2002				1987-1988	
STK-C/C/WP/RO									
STK-C/C/WC/RC									

(i) NZ UnitedBk reported stock of provisions only from 1987-1991
(ii) Some data derived before 1990 from reported data

Table 6: Typology of Australian banks

	AU ANZ	AU CoWthBk	AU NAB	AU Westpac	AU BkofQld	AU BkWest	AU St. George	AU SB NSW
STK-SG/SG/W-SP/RP				1988-1990	1998-2000			
STK-SG/SG/W-SG/RS	1989-1993							
STK-SG/SG/W-SG/RP or R-SG								
STK-SG/SG/W-SG or W-SP/RG or RO		1991-1995 (W-SP 1991,92)		1987, 1991-2001				
STK-SG/SG/WS/RS	1980-88, 1994		1989-1997			1989-1995 (ii)	1998-2000, 2002-2004	
STK-SG/SG/WS/RP or RG					2001-2005 (RP)	1988 (RG)		1997-1999 (RP)
STK-SG/SG/WS/RP	1995-1997					1996-2002	2001	
STK-SG/SG/WS/RO							1996, 1997	1990-1995
STK-SG/SG/WP/RO							1993 -1995	
STK-SG/G/W-SG/RG		1980-1982, 1996-2004		2002-2004				
STK-SG/G/WS/RS			1988, 1998-2004					
STK-SG/G/WS/RO								1988, 1989 (i)
STK-SG/G/WS/RG	1998-2004							
STK-SG/C/W-CP/RP					1989-1997			
STK-SG/C/W-CP/RO								
STK-SG/C/W-CP/RC or WC/RC		1986-1990, 1983-1985 (WC/RC)	1981-1987 (WC/RC)	1980-1986 (WC/RC)	1980-1988 (WC/RC)			
STK-S/S/W-SP/RP								
STK-S/S/WS/RS or RO								
STK-C/C/WP/RO							1989 -1992	
STK-C/C/WC/RC						1984-1987		

(i) Contingencies reserves serve as general provision before 1988
(ii) Some funding of specific provisions from general
(iii) Some direct write-offs in 1993)

Table 6: Typology of Australian banks (continued)

	AU SB Victoria	AU CommBk	AU CBC Sydney	AU ChallengeBk	AU BkMelbourne	AU AdvanceBk	AU SB SA
STK-SG/SG/W-SP/RP							
STK-SG/SG/W-SG/RS							
STK-SG/SG/W-SG/RP or R-SG	1989,1990 (R-SG) (vi)						
STK-SG/SG/W-SG or W-SP/RG or RO							
STK-SG/SG/WS/RS				1994, 1995			1990-1994 (iii)
STK-SG/SG/WS/RP or RG							
STK-SG/SG/WS/RP							
STK-SG/SG/WS/RO						1993-1996	
STK-SG/SG/WP/RO							
STK-SG/G/W-SG/RG							
STK-SG/G/WS/RS							
STK-SG/G/WS/RO							
STK-SG/G/WS/RG							
STK-SG/C/W-CP/RP					1992-1996, 1990-1991 (WC)		
STK-SG/C/W-CP/RO							1986-1987
STK-SG/C/W-CP/RC or WC/RC	1987,1988 (WC/RC)	1980-1982	1980-1982	1987-1993 (WC/RC) (iv)			1988,1989 (WC/RC)
STK-S/S/W-SP/RP							
STK-S/S/WS/RS or RO							
STK-C/C/WP/RO					1986-1989 (WO)	1986-1992 (v)	
STK-C/C/WC/RC							

(iv) 1987-1989 STK-C only
(v) Shows STK-SG in 1992
(vi) As a very rare format, AU SB Victoria 1989/1990 distinguished between recoveries of debt they had originally provided for and recoveries on debts written off directly.

Table 7: Data items available for each reporting type

			Stock of provisions: Stock of provisions specific (1)	Stock of provisions: Stock of provisions general (2)	Movement in provisions / flow information: Starting total provisions	- Bad debt written off (3)	+ Recoveries debts written off (4)	+ Charge/(credit) income stmt. (P&L) (5)	+/- Other transactions (6)	Ending total provision (1)+(2)	Details bad debt charge to P&L: + Specific prov. additions (7)	+ General prov. additions (8)	+ Direct write-offs (9)	- Recoveries (4)	+/- other (plug) (10)	Total charge to P&L (5)
Stock of provisions (STK)																
Stock of provisions specifically shown	STK-O	Not shown (net loans shown only)														
	STK-S	Specific provisions (S)	X		X					X						
	STK-G	General provisions (G)		X	X					X						
	STK-SG	Specific and general provisions (SG)	X	X	X					X						
	STK-C	Combined balance shown only (C)			X					X						
Activity in provision account(s)																
Annual provision charge to P&L	O	Not shown. Typically stock of provisions shown only.						(iii)								
	S	Shows annual charge to P&L of specific provisions (S)						X			X	(ii) (X)				X
	G	Shows annual charge to P&L of general provisions (G)						X			(ii) (X)	X				X
	SG	Shows annual charge to P&L of specific and general provisions (SG)						X			X	X				X
	C	Annual charges to P&L from an account combining general & specific provision balances						X								X
Debt write-offs (W)																
Debt write-offs shown in financial statements	WO	Not shown, typically stock of provisions shown only				(iii)										
	WS	All write-offs debited to specific provisions				X										
	WG	All write-offs debited to general provisions				X										
	WC	Write-offs from an account combining general & specific provision balances.				X										
	W-SP	Write offs split into debits to specific provisions and direct write-offs to P&L				X							X			
	W-SG	Write offs split into debits to specific provisions and debits to general provisions				X							X			
	W-CP	Write-offs from an account combining general & specific provision balances and directly to P&L				X							X			

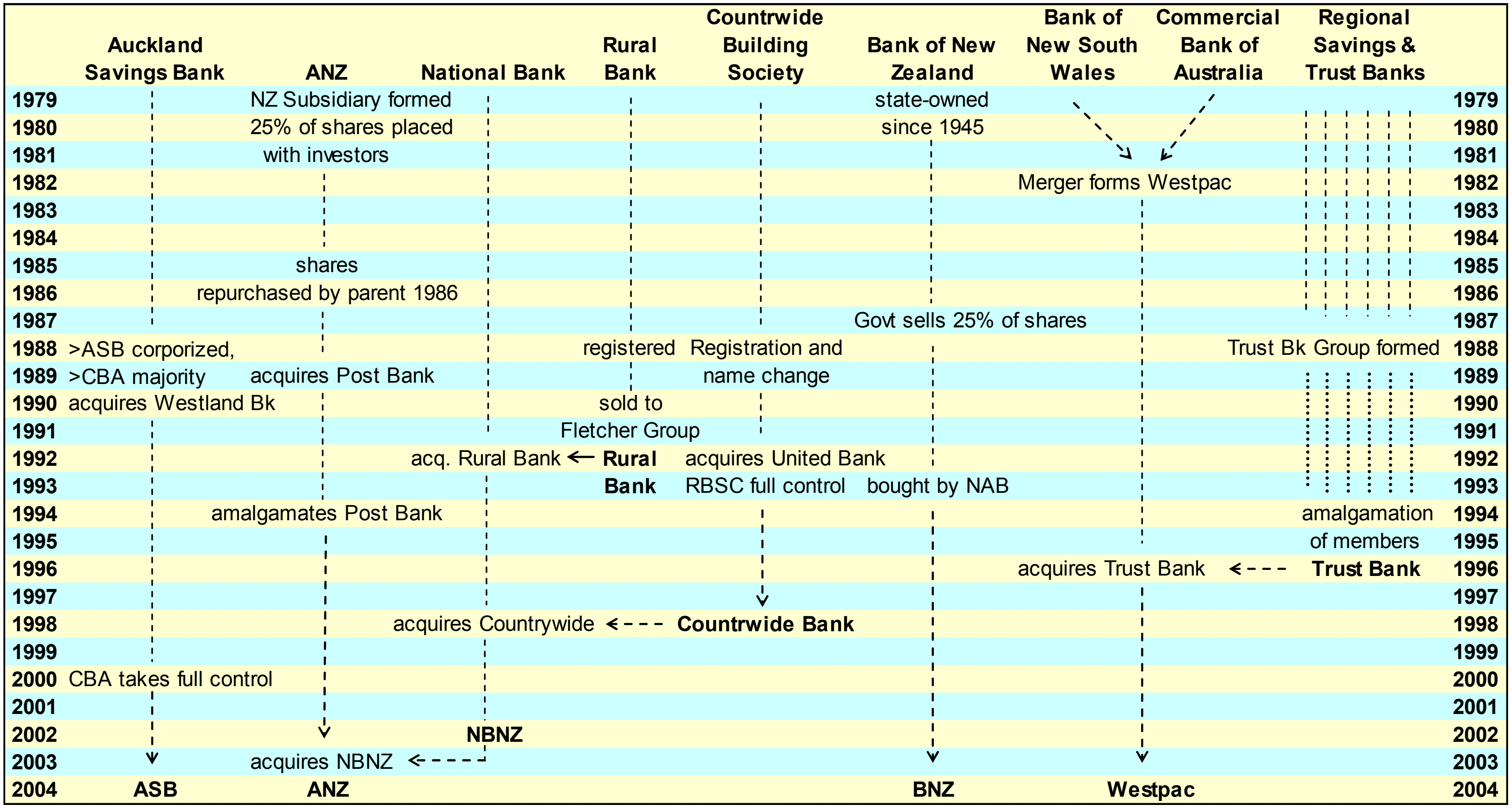
Footnotes shown and explained on next page.

Table 7: Data items available for each reporting type (continued)

			Stock of provisions		Movement in provisions / flow information							Details bad debt charge to P&L					
			Stock of provisions specific	Stock of provisions general	Starting total provisions	- Bad debt written off	+ Recoveries debts written off	+ Charge/(credit) income stmt. (P&L)	+/- Other transactions	Ending total provision		+ Specific prov. additions	+ General prov. additions	+ Direct write-offs	- Recoveries	+/- other (plug)	Total charge to P&L
			(1)	(2)		(3)	(4)	(5)	(6)	(1)+(2)		(7)	(8)	(9)	(4)	(10)	(5)
Debt recoveries (R)																	
Recoveries of claims written off in earlier periods are specifically shown	RO	Not specifically shown. Typically recoveries are netted with debt write-offs															
	RS	R are credited to specific provisions					X								X		
	RG	R are credited to general provisions					X								X		
	R-SG	R are credited to general & specific provisions (i)					X								X		
	RP	R are credited to P&L debt expense account					X								X		
	RC	Recoveries from an account combining general & specific provision balances.					X								X		

(i) As a very rare format, AU SB Victoria 1989/1990 distinguished between recoveries of debt they had originally provided for and recoveries on debts written off directly.
(ii) These data items can be derived/estimated from transfers between provision accounts.
(iii) Can potentially be derived if either write-offs, respectively bad debt charges, are disclosed.

Figure 14: Genealogy of New Zealand banks



RBSC: Royal Bank of Scotland
CBA: Commonwealth Bank of Australia

Figure 15: Genealogy of major Australian banks (ANZ, Commonwealth Bank)

	ANZ	**Commonwealth Banking Corporation**	**State Bank of Victoria**	**State Bank of New South Wales** (Rural Bank of NSW until 1981)	**The Saving Bank of Tasmania** (The Hobart Savings Bank)	**Statewide Bank** (Launceston Bank for Savings)	
1979	acq. of failing Adelaide Bk						**1979**
1980							**1980**
1981				name change			**1981**
1982							**1982**
1983							**1983**
1984	acq. Grindlays Bank						**1984**
1985			acq. 100% of Tricontinental				**1985**
1986						Merger with TSM PBS i)	**1986**
1987		name change to				forms **Tasmania Bank**	**1987**
1988		Commonwealth Bank of Australia					**1988**
1989	acq. PostBank (NZ)		recapitalization				**1989**
1990	acq. Town & Country BS and	corporization & share offering	by state govt	corporization	acquisition forms		**1990**
1991	National Mutual Royal Bk (1990)	takeover State Bk Victoria			**Trust Bank Tasmania**		**1991**
1992							**1992**
1993							**1993**
1994				acq. by Colonial Mutual Life			**1994**
1995		Government		operating as Colonial State Bk			**1995**
1996		sells remaining shares		demutualization of Colonial			**1996**
1997							**1997**
1998							**1998**
1999				acq. Trust Bk Tasmania			**1999**
2000	disp. of Grindlays Bk	acq. Colonial Ltd.					**2000**
2001							**2001**
2002							**2002**
2003	acq. National Bk NZ						**2003**
2004	**ANZ**	**Commonwealth Bank**					**2004**

i) TSM PBS: the Tasmanian Permanent Building Society

Figure 16: Genealogy of major Australian banks (NAB, Westpac)

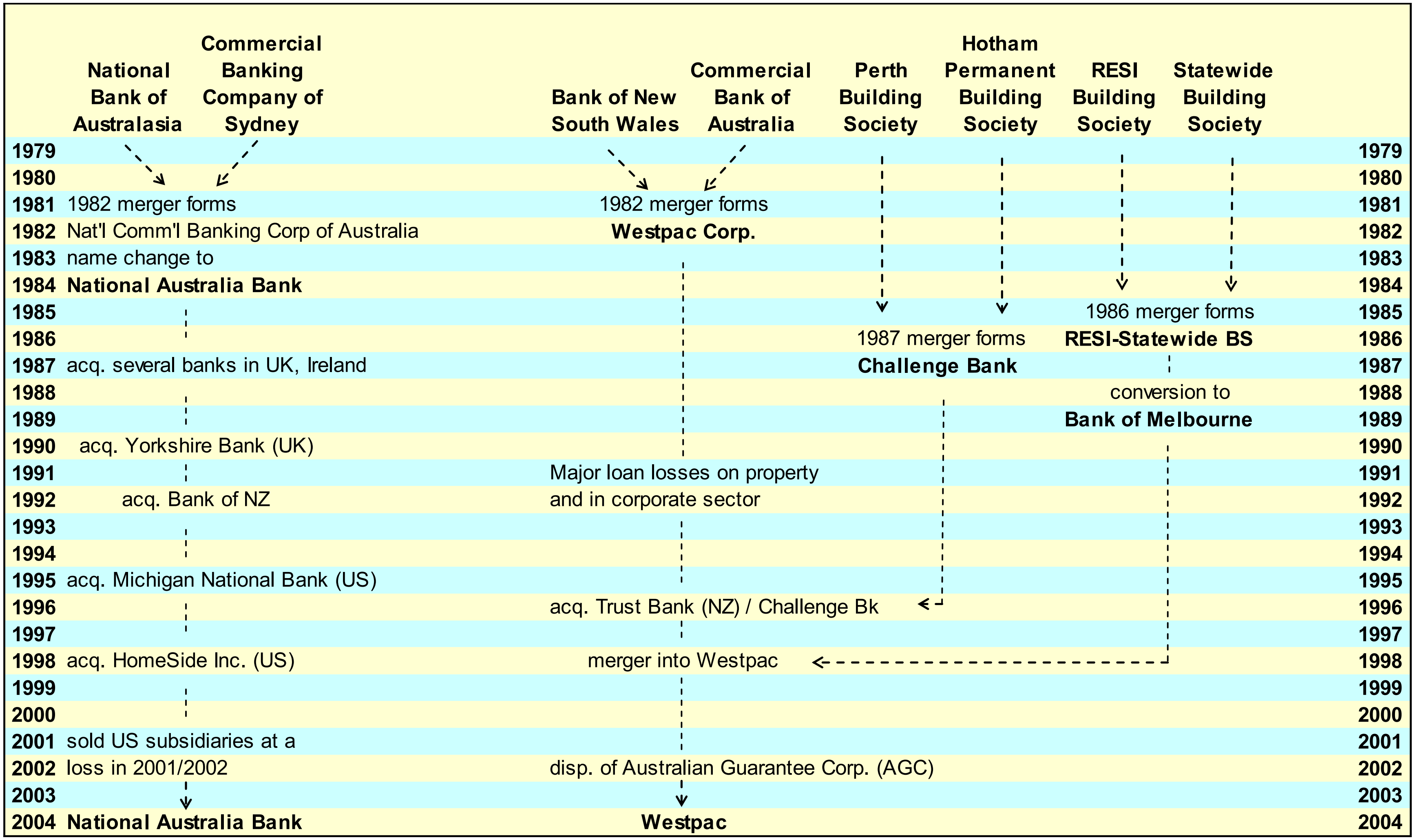


Figure 17: Genealogy of major Australian banks (St. George Bank, Bank West)

	St. George Building Society	NSW Building Society	State Bank of South Australia	Savings Bank of South Australia	Rural and Industries Bank of Western Australia	
1979						1979
1980						1980
1981						1981
1982					sells stake in Town&Country Perm BS	1982
1983						1983
1984		conversion to	merger			1984
1985		**Advance Bank**				1985
1986						1986
1987	merger with					1987
1988	State Building Society				governing act revised, bail-out TCS	1988
1989						1989
1990					major credit losses	1990
1991	conversion to		Bailout by SA govt		incorporation as limited liability company	1991
1992	**St.George Bank**		bad asset			1992
1993			transferred to GAMD			1993
1994					name change to Bank West	1994
1995		acq. St Bk SA			Bank of Scotland takes 51% stake	1995
1996					full privatisation, share listing	1996
1997	acq. Advance Bank					1997
1998						1998
1999			non-core bank assets			1999
2000						2000
2001					Bank of Scotland/Halifax merge to HBOS	2001
2002						2002
2003			South Australian		HBOS takes full control	2003
2004	**St.George Bank**		Asset Management Corp.		**Bank West (HBOS)**	2004

TCS: R&I Bank provided assistance to WA Teachers' Credit Society (TCS), a failing credit union, on behalf of the State.

References

AASB 1996, *Specific Disclosures by Financial Institutions*, Australian Accounting Standards Board, Canberra, December.

BCBS 1999, *Sound practices for loan accounting and disclosure*, Basel Committee on Banking Supervision, www.bis.org/publ/bcbsc142.pdf, Basel.

Bikker, JA & Metzemakers, PAJ 2003, *Bank Provisioning Behaviour and Procyclicality*, De Nederlandsche Bank.

Borio, C & Lowe, P 2001, *To provision or not to provision*, Bank for International Settlements, Basel, September.

Carew, E 1997, *Westpac: the bank that broke the bank*, Doubleday, Sydney.

Clair, RT 1992, 'Loan growth and loan quality: some preliminary evidence from Texas banks', *Economic Review, Federal Reserve Bank of Dallas*, vol. Third Quarter, pp. 9-22.

Davidson, LS & Salisbury, S 2005, *Australia's First Bank: Fifty Years from the Wales to Westpac*, University of New South Wales Press, Sydney.

Fernández de Lis, S, Martínez, JP & Saurina, J 2000, *Credit growth, problem loans and credit risk provisioning in Spain*, Bank of Spain, Madrid, October 2000.

Kearns, A 2004, *Loan Losses and the Macroeconomy: A Framework for Stress Testing Credit Institutions' Financial Well-Being*, The Central Bank & Financial Services Authority of Ireland, Dublin.

Pain, D 2003, 'The provisioning experience of the major UK banks: a small panel investigation', *Bank of England Working Paper No 177*, pp. 1-45.

Wall, LD & Koch, TW 2000, 'Bank loan-loss accounting: A review of theoretical and empirical evidence', *Economic Review - Federal Reserve Bank of Atlanta*, vol. 85, no. 2, pp. 1-19.