The Banking System in Australia and New Zealand: A Vision together

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Abstract

This paper explores the statistical similarities and differences in the banking systems of Australia and New Zealand between 2005 and 2016. It uses factorial analysis, from which the six factors are obtained, synthesizing the economic and financial measures that are used in both countries. We examine how the factors obtained behave over time and consider the implications for separate and joint prudential banking policy in the two countries.

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Keywords: Banking system in Australia and New Zealand, Factor analysis, prudential banking policy, financial stability.

1 Introduction

This paper studies characteristics of the banking systems in Australia and New Zealand to establish similarities and differences in their behavior over time. Among the characteristics studied are financial stability and the degree of credit deterioration in both banking systems. It uses factorial analysis, applied to certain economic-financial variables that are ratios, which define both banking systems. Among the economic and financial variables to be taken are regulatory variables, variables of financing structure, profitability and also macroeconomic measures such as credit growth in each of the countries.

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With the results obtained, which are the factors, their performance will be observed throughout the study period, and how they behave during times of crisis and expansion.

2   Literature Review

The NZ and Australian economies are highly integrated and the main (Australian owned) banks are the same in both countries. However, the banking systems in each country are separately regulated. This would make considerable sense if idiosyncratic shocks, such as commodity prices or other features of the two systems were clearly different in how they behaved over time. But if they are very similar then a common regulatory system might make more sense. Hunt [9] studies the financial crisis in New Zealand, noting that the behavior of the financial system in New Zealand, in the last crisis, is due to the banks not buying US toxic assets. However, he concludes that the extent of foreign bank financing creates vulnerabilities. Also, Brooks and Cubero [4] note that the direct impact of the global financial crisis on New Zealand banks has been limited, since banks had minimal exposure to subprime assets in the United States and mortgage securitization in New Zealand was very limited.

Fisher and Kent [8] study the depression of 1890 and 1930 in Australia, observe that in the first crisis, the growth of credit and real estate prices had a high incidence in the crisis. On the other hand, in the second crisis studied, they perceive that the previous factors have less influence, being of greater influence the global external shock. Barret [2] notes that the success of Australia in the last financial crisis of 2008, is due to the financial regulation implemented and especially to the fiscal stimulus undertaken by the government. The success was assisted by the starting point for Australia, with a good fiscal position and a flexible labor market and exchange rate, which allowed absorption of shocks more easily. Milne [16] also studies how Australia avoided the crisis, but this time comparing it with Canada, noting how increases in public debt to Gross Domestic Product, will take years to reduce.

For Kyoon and Sheridan [13] Australia's conservative approach to Basel II implementation makes Australian bank capital ratios underestimate its capital strengths, so does New Zealand, according to Kyoon and Kataoka [12]. This has also contributed to a better performance of Australian banks during the crisis. The $250.000 deposit guarantee in Australia approved during the latest crisis suggests for Dowell-Jones and Buckley [7] that the scheme should have ex-ante fees to create funds to effect the resolution, rather than as the current structure. On the other hand, there is no deposit insurance in New Zealand. In the case of New Zealand, the Open Bank Resolution is in force for resolving the banks. This encourages market discipline in the case of New Zealand. For example, Mayes

[15] states that one of the lessons taught by the financial crisis of 2006-2010 is that principles for good corporate governance can be undermined, if there are no adequate incentives for shareholders and depositors. Yahanpath and Cavanagh [17] also blames corporate governance problems in the financial crisis in New Zealand.

Chan and Schumacher [5] study the competitiveness of the New Zealand banking market from 1996 to 2005 and Australia from 1998 to 2005. They conclude that there is more competition in the banking market in New Zealand than in Australia. Crockett [6] proposes that to achieve financial stability it is necessary to establish prudent regulatory measures by the public authorities. To avoid moral hazard, he proposes that the regulatory measures make the agents themselves self-disciplining.

Jung et al. [10] state that the largest four Australian banks along with the Canadians are the ones with the highest rating. But they list as vulnerabilities of the banking sector, the sensitivity of the economy to the mining industry and China, as well as the domestic housing sector. In the case of New Zealand, Bollard et al. [3] state that during the 2008 crisis the banking system performed well, but the efficiency of the banking system to assess its contribution to the economy must be taken into account.

Returning to the joint analysis of Australia and New Zealand, For Mayes [14] the problem of integration and both countries, would be for New Zealand, because it would lose a lot of independence. Although it would be an advantage, to be able to raise a SPOE resolution, for the 4 main banks of Australia, offering a considerable advance on OBR. Depositors in New Zealand would benefit.

3 Definition of Ratios and Economic Measures used

The following ratios are taken from the aggregate consolidated accounts of the Australian and New Zealand banking systems. For the Australian banking system, aggregate information is taken from the largest banks that make up the bulk of the entire banking system. For New Zealand information is taken from the entire banking system. Account must be taken of the four largest banks in New Zealand, accounting for more than 80% of the total banking system and are subsidiaries of the largest banks in Australia. Data are quarterly starting in June 2005 and ending in December 2016. The ratios (Annex 1 shows the descriptive analysis of the ratio) used are as follows:

Table 1: Ratios

Ratios Australia
Return on equity (after tax)
Credit Total growth
Tier 1 capital ratio
Profit margin
Broad Money growth
Capital-adequacy ratio
Growth in total assets
Fee income to total operating income
Impaired facilities to loans and advances
Operating income to assets
Non-interest income share
Net loans to deposits
Return on assets (after tax)
Personnel to operating expenses
Cost to income
Equity to deposits
Operating expenses to assets
General reserve for credit losses ratio
Deposits to assets
Ratios New Zealand
Return on equity
Domestic Credit
Tier 1 capital ratio

Net interest margin
Broad money
Total capital ratio
Year on year change in total assets
Other income to total operating income
Impaired assets / gross lending
Operating expenses to total operating income
Net interest margin retail bank
Impaired asset expenses to total operating income
Operating expenses to total assets
Interest income to interest-earning assets
Other income to total assets
Non-performing loans / gross lending
Interest expense to interest-bearing liabilities
Subordinated debt/ Equity
Interest income to interest-earning assets
Interest expense to interest-bearing liabilities

4   Empirical Analysis

Factorial Analysis seeks to obtain factors that explain most of the common variance. In this case, new "dummy variables" are calculated which, although not observable, are a linear combination of the real ones and collect most of the information corresponding to the first ones.

Table 2: KMO and Bartlett's test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.701
Bartlett's Test of Sphericity	Approx. Chi-Square	4620.772
	df	741
	Sig.	0.000

Table 2 shows the KMO statistics, Kaiser [11] and the Bartlett [1] sphericity test. As can be seen, the KMO indicates an acceptable fit of the data to the factorial model.

In addition, the sphericity test is acceptable, since a high Chi-square value (or equivalently a low determinant of the correlation matrix) is obtained, which means that there are high correlations between the variables.

Table 3: Communalities

	Initial	**Extraction**
A.Credit Total growth	1.000	0.973
A.Operating income to assets	1.000	0.912
A.Operating expenses to assets	1.000	0.928
A.Profit margin	1.000	0.829
A.Return on assets (after tax)	1.000	0.931
A.Return on equity (after tax)	1.000	0.912
A.Non-interest income share	1.000	0.871
A.Fee income to total operating income	1.000	0.743
A.Cost to income	1.000	0.620
A.Personnel to operating expenses	1.000	0.569
A.Growth in total assets	1.000	0.441
A.Net loans to deposits	1.000	0.945

	Initial	**Extraction**
A.Deposits to assets	1.000	0.945
A.Equity to deposits	1.000	0.909
A.Impaired facilities to loans and advances	1.000	0.902
A.Capital-adequacy ratio	1.000	0.895
A.Tier 1 capital ratio	1.000	0.971
A.General reserve for credit losses ratio	1.000	0.951
N.Z.Return on equity	1.000	0.869
N.Z.Interest income to interest-earning assets	1.000	0.971
N.Z.Interest expense to interest-bearing liabilities	1.000	0.972
N.Z.Net interest margin	1.000	0.830
N.Z.Interest income to interest-earning assets retail bank	1.000	0.976
N.Z.Interest expense to interest-bearing liabilities retail bank	1.000	0.974
N.Z.Net interest margin retail bank	1.000	0.914
N.Z.Other income to total operating income	1.000	0.882
N.Z.Other income to total assets	1.000	0.852
N.Z.Operating expenses to total operating income	1.000	0.857
N.Z.Operating expenses to total assets	1.000	0.824
N.Z.Impaired asset expenses to total operating income	1.000	0.894
N.Z.Tier 1 capital ratio	1.000	0.966

	Initial	Extraction
N.Z.Total capital ratio	1.000	0.939
N.Z.Impaired assets / gross lending	1.000	0.855
N.Z.Non-performing loans / gross lending	1.000	0.915
N.Z.Year on year change in total assets	1.000	0.836
N.Z.Subordinated debt/Equity	1.000	0.732
N.Z. Domestic Credit	1.000	0.847
A.Broad Money growth	1.000	0.887
N.Z. Broad money	1.000	0.861

Table 3 shows the commonalities obtained by the factorial model. In general, the variables are adequately explained by the model with an average commonality of 0.868 where 34 of the 39 original variables show commonalities above 80%.

The square of a factorial load indicates the proportion of the variance explained by a factor in a particular variable. The sum of the squares of the weights of any column of the factor matrix are eigenvalues and indicate the total amount of variance that that factor explains for the variables considered as a group.

The factor loads can have a maximum value of 1, so the maximum value that the eigenvalue can reach is equal to the number of variables.

If we divide the eigenvalue between the numbers of variables, we obtain the proportion of the variance of the variables that the factor explains.

Table 4: Total Variance Explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	17.98	46.09	46.09	17.98	46.09	46.09	13.91	35.67	35.67
2	6.09	15.61	61.70	6.09	15.61	61.70	6.64	17.03	52.70
3	4.56	11.70	73.40	4.56	11.70	73.40	4.88	12.52	65.21
4	2.66	6.82	80.22	2.66	6.82	80.22	4.75	12.18	77.39
5	1.37	3.51	83.74	1.37	3.51	83.74	1.94	4.96	82.35
6	1.24	3.19	86.92	1.24	3.19	86.92	1.78	4.57	86.92
7	0.97	2.49	89.41						
8	0.92	2.35	91.76						
9	0.74	1.90	93.66						
10	0.57	1.46	95.13						
11	0.53	1.36	96.49						
12	0.38	0.97	97.46						
13	0.23	0.59	98.05						
14	0.17	0.43	98.48						
15	0.14	0.37	98.85						
16	0.09	0.23	99.07						
17	0.08	0.20	99.27						
18	0.06	0.14	99.41						
19	0.05	0.12	99.53						
20	0.04	0.10	99.63						
21	0.03	0.07	99.70						
22	0.02	0.06	99.77						
23	0.02	0.05	99.82						
24	0.02	0.04	99.86						
25	0.01	0.03	99.89						
26	0.01	0.02	99.91						
27	0.01	0.02	99.93						
28	0.01	0.02	99.94						
29	0.01	0.01	99.96						
30	0.00	0.01	99.97						
31	0.00	0.01	99.98						
32	0.00	0.01	99.99						
33	0.00	0.01	99.99						
34	0.00	0.00	100.00						
35	0.00	0.00	100.00						

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
36	0.00	0.00	100.00						
37	0.00	0.00	100.00						

The table 4 shows the explained variance and the percentage represented by each of the factors.

As can be seen, four factors obtain eigenvalues greater than one (ie, each of these factors explains more variance than an original variable). It has been decided to extract six factors, which explains the 86.923% of the variance.

The factor matrix indicates the relationship between factors and variables. However, it is often difficult to interpret the factors. It is common for several variables to have high factor coefficients in more than one factor, when what is important is that most of their variability is explained by a single factor. This leads to the development of a simple structure, according to which the variables have to saturate a factor, that is to say that their factorial coefficients have to be concentrated in a single factor and low in the rest.

If we try to simplify the factor structure we have to proceed to rotation. The rotation consists of rotating the factor axes so that they approximate the original variables. The purpose is to facilitate the interpretation of the factorial matrix, forcing the variables to be defined more in a latent dimension, preferably over others. In this way, a greater differentiation between the factors obtaining more defined profiles is obtained. After the rotation, the number of factors remains the same as the percentage of total variance explained by the original model and the commonality of the variables. What varies is the composition of factors by changing the factorial coefficients of each variable in each factor. This also alters the proportion of variability explained by each factor. In rotation, the variance is redistributed among all factors (see Table 4).

The Varimax method, Kaiser (1958), was used to simplify the factorial structure by maximizing the variance of the factorial coefficients squared for each factor. The factors finally obtained remain independent.
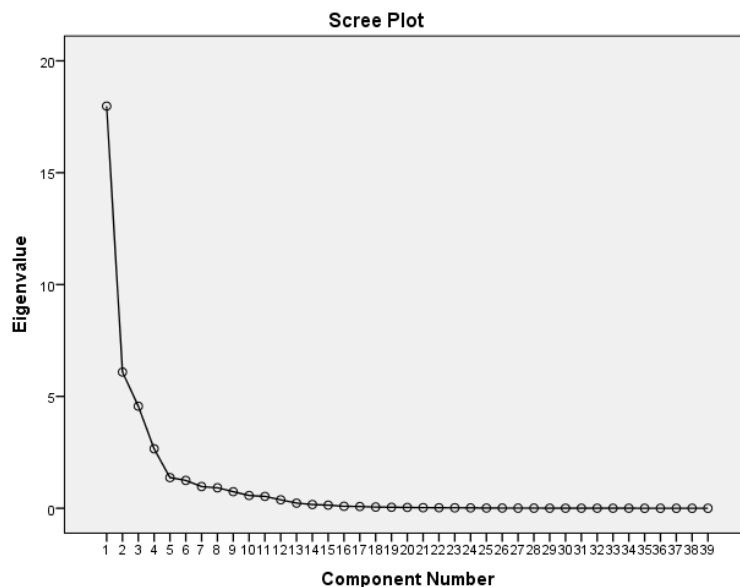
Figure 1: Graph of sedimentation

In the Figure 1 it is observed how from the sixth factor one begins to lose slope, for that reason 6 factors are collected.

Table 5: Rotated Component Matrix[2,3,4]

	Component					
	1	**2**	**3**	**4**	**5**	**6**
A.Tier 1 capital ratio	-0.958					
N.Z.Interest expense to interest-bearing liabilities retail banks	0.946					
N.Z.Interest expense to interest-bearing liabilities	0.943					
N.Z.Interest income to interest-earning assets	0.943					

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[2] Rotation converged in 7 iterations.
[3] Extraction Method: Principal Component Analysis.
[4] Rotation Method: Varimax with Kaiser Normalization.

	Component					
	1	**2**	**3**	**4**	**5**	**6**
N.Z.Interest income to interest-earning assets retail banks	0.943					
N.Z.Tier 1 capital ratio	-0.930					
A.Deposits to assets	-0.915					
A.Capital-adequacy ratio	-0.886					
A.Net loans to deposits	0.877					
A.Broad Money growth	0.781					
A.Fee income to total operating income	0.760					
N.Z.Total capital ratio	-0.748	-0.567				
A.Credit Total growth	0.725			0.550		
A.General reserve for credit losses ratio	0.700	0.509				
A.Operating expenses to assets	0.680	0.646				
A.Operating income to assets	0.676	0.526				
A.Non-interest income share	0.604	0.523				
N.Z.Subordinated debt/Equity	0.521			-0.504		
N.Z.Impaired assets / gross lending		-0.857				
N.Z.Year on year change in total assets		0.811				
N.Z.Net interest margin		0.806				
N.Z.Net interest margin retail bank		0.753				
A.Personnel to operating expenses		-0.695				
A.Cost to income		0.600				
A.Profit margin			0.884			
A.Return on equity (after tax)			0.874			
A.Return on assets (after tax)			0.873			
N.Z.Operating expenses to total operating income			-0.724			
N.Z.Return on equity			0.698	0.514		
N.Z.Operating expenses to total assets			-0.587			
N.Z. Domestic Credit				0.839		
N.Z. Broad money				0.835		
A.Impaired facilities to loans and advances				-0.809		

	Component					
	1	**2**	**3**	**4**	**5**	**6**
N.Z.Non-performing loans / gross lending				-0.742		
N.Z.Impaired asset expenses to total operating income			-.607	-0.637		
N.Z.Other income to total operating income	0.505				0.726	
N.Z.Other income to total assets	0.485				0.627	
A.Equity to deposits		0.571				0.581
A.Growth in total assets						-0.502

Table 5 shows the matrix of rotated components, which represents the factorial structure. When comparing the relative saturations of each factor, a change in the percentage of variance explained can be observed, changing the more successful the rotation (see the last three columns of Table 4). In our case the percentage of variation of the first, the second factor decreases, and the percentage of variation from the fourth to the sixth factor increases. This fact implies a success in the Varimax rotation.

4.1 Interpretation factors
4.1.1 First factor

This factor is labelled *Financial instability Australia and New Zealand* groups the following ratios with their signs of influence on the factor:

  A.Tier 1 capital ratio (-)
  N.Z.Interest expense to interest-bearing liabilities (+)
  N.Z.Interest expense to interest-bearing liabilities retail bank (+)
  N.Z.Interest income to interest-earning assets (+)
  N.Z.Interest income to interest-earning assets retail bank (+)
  N.Z.Tier 1 capital ratio (-)
  A.Deposits to assets (-)
  A.Capital-adequacy ratio (-)
  A.Net loans to deposits (+)
  A.Broad Money growth (+)
  A.Fee income to total operating income (+)
  N.Z.Total capital ratio (-)
  A.Credit Total growth (+)
  A.General reserve for credit losses ratio (+)
  A.Operating expenses to assets (+)
  A.Operating income to assets (+)
  A.Non-interest income share (+)
  N.Z.Subordinated debt/Equity (+)

This factor groups the regulatory ratios negatively for New Zealand and Australia (lower values of these ratios imply greater financial instability), credit total growth and broad money growth in Australia in a negative way. Interest on assets and liabilities in New Zealand are correlated positively. All these measures indicate are summarized in the instability present in the banking system of Australia and New Zealand. The increase in broad money and credit total growth in Australia is negatively correlated with the Deposits to assets ratio and Net loans to deposits in Australia (higher values of these ratios imply greater financial instability, since stable financing reflects a lower percentage).

In this factor it is very interesting to analyze how the interest on assets and liabilities in New Zealand correlates positively with the credit total growth and broad money growth in Australia, this leads us to think of an influence of the Australian monetary policy in New Zealand. Also as the regulatory ratios of both countries correlate both in the same factor, which suggests that regulatory requirements are fulfilled in the same way in both countries.

4.1.2 Second factor

This factor is labelled *Net interest margin in New Zealand* and groups the following ratios with their signs of influence on the factor:

    N.Z.Impaired assets / gross lending (-)
    N.Z.Year on year change in total assets (+)
    N.Z.Net interest margin (+)
    N.Z.Net interest margin retail bank (+)
    A.Personnel to operating expenses (-)
    A.Cost to income (+)

This factor essentially groups New Zealand's interest margin, which correlates positively with the increase in assets in New Zealand, it is assumed that an increase in assets corresponds to a bullish phase of the cycle. This makes the net interest margin grow. Also impaired assets / gross lending in New Zealand correlates negatively, since when the net interest margin is higher, the impaired assets are lower (we would be in expansion stages). It is worth noting that the cost to income in Australia correlates positively (the higher this ratio is the less profitable is the Australian banking system) with the Net interest margin in New Zealand.

4.1.3 Third factor

This factor is labelled *Bank Profitability in Australia and New Zealand* and groups the following ratios with their signs of influence on the factor:

    A.Profit margin (+)
    A.Return on equity (after tax) (+)
    A.Return on assets (after tax) (+)

> N.Z.Operating expenses to total operating income (-)
> N.Z.Return on equity (+)
> N.Z.Operating expenses to total assets (-)

This factor groups measures of profitability of the banking system of Australia and New Zealand, this factor representing the degree of profitability of both financial systems. Obviously operating expenses to total operating income and operating expenses to total assets in New Zealand correlate negatively with the other ratios, since higher values imply lower values of profitability.

4.1.4 Fourth factor

This factor is labelled *Credit deterioration in Australia and New Zealand* and groups the following ratios with their signs of influence on the factor:

> N.Z. Domestic Credit (+)
> N.Z. Broad money (+)
> A.Impaired facilities to loans and advances (-)
> N.Z.Non-performing loans / gross lending (-)
> N.Z.Impaired asset expenses to total operating income (-)

This factor positively groups the domestic credit and the broad money, since when the domestic credit increases the Broad money increases. On the other hand, it correlates negatively with the factor, all impairments on loans in Australia, and Non-performing Loans over the gross lending. This shows that credit expansion in New Zealand is negatively correlated with asset impairments in Australia and New Zealand. This is because credit expansion stages coincide with the stages of economic expansion and there is no evidence of deterioration in bank assets (loans).

4.1.5 Fifth factor

This factor is labelled *other bank income in New Zealand* and groups the following ratios with their signs of influence on the factor:

> N.Z.Other income to total operating income (+)
> N.Z.Other income to total assets (+)

This factor positively groups non-interest income, in relation to operating profit and total assets. The higher this factor the non-interest income has a greater importance. This factor is useful for assessing the dependence of the financial system on other income, which is not related to the collection of interest.

4.1.6 Sixth factor

This factor is labelled *Fortress banking system* and groups the following ratios with their signs of influence on the factor:

> A.Equity to deposits (+)
> A.Growth in total assets (-)

This factor groups with positive sign Equity to deposits in Australia and negative growth in total assets in Australia. The higher the Equity on deposits the less risk there is in Australia, this is normal, since bank financing is more present the own financing. However, as growth in banking assets increases, total credit from the economy increases and therefore increases the risks in the economy. This factor, when it presents more negative values, the risks in the Australian banking system are greater.
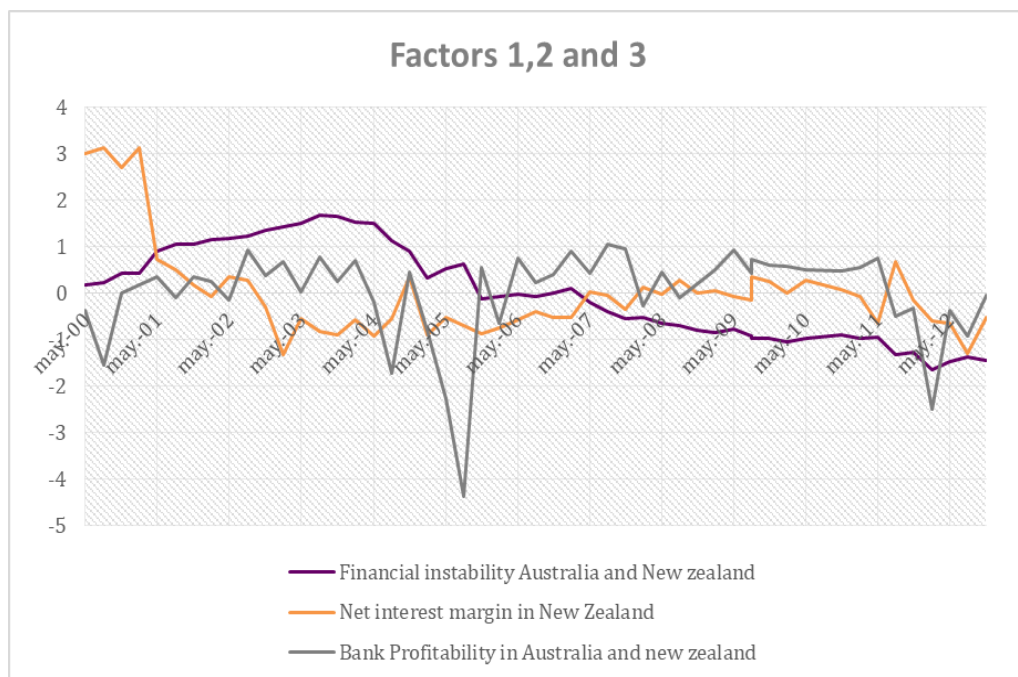

Figure 2: Factors 1, 2 and 3

It is seen as the financial instability factor in Australia and New Zealand, showing its highest values before the crisis of 2008. Specifically a continuous growth from 2004 to 2008. After 2009 a decrease is experienced until the end of 2016, specifically from of 2011, this may be due to the gradual implementation of Basel III.

It is observed that the net interest margin does not begin a setback in 2005, being more pronounced between 2007 and 2011, recovering something from 2011, although in 2016 it experiences a setback.

Finally, the factor Bank profitability in Australia and New Zealand shows the biggest falls in 2009 and 2010, years of crisis, although in 2015 and 2016 also shows a fall but not so pronounced but important.
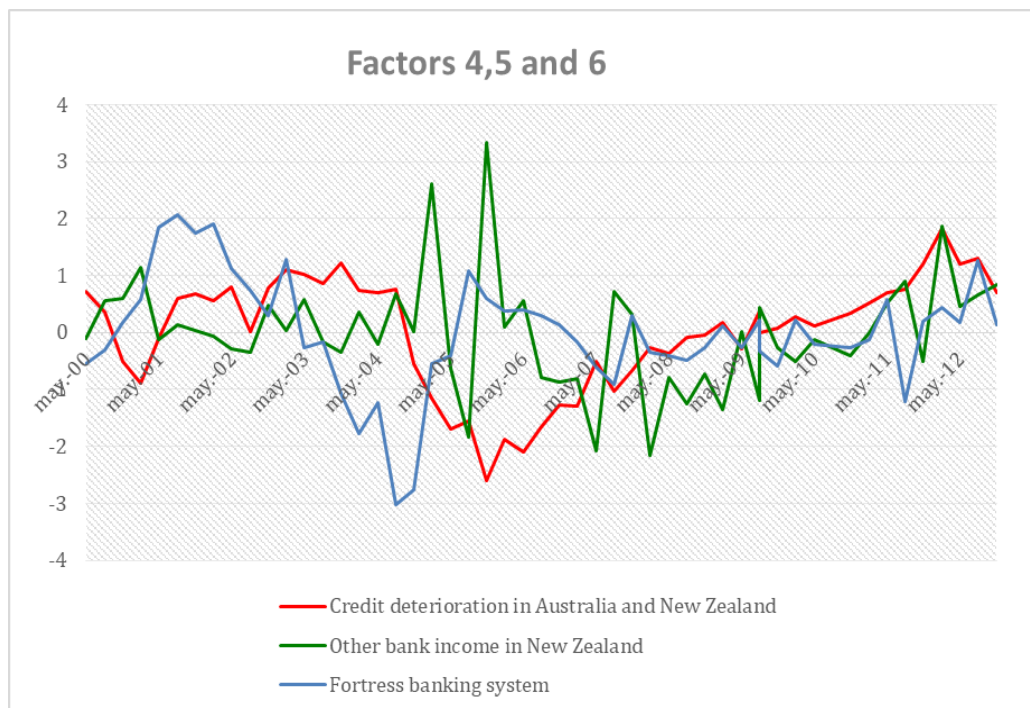
Figure 3: Factors 4, 5 and 6

The credit deterioration factor in Australia and New Zealand grows between 2005 and 2008, it is observed to decrease from 2008 to 2010, and then to grow again uninterruptedly until 2016. It is observed precisely in the phases of greater deterioration of credit, the factor other bank income in New Zealand is higher, with banks more dependent on other income dependent on interest.

Finally, the factor Fortress banking system in Australia decreases from 2005 to 2008. Since 2009 it presents higher values but without reaching the values present in 2005.

5   Conclusion

The interest on assets and liabilities in New Zealand correlates positively with the credit total growth and broad money growth in Australia in the same factor, this leads us to think of an influence of the Australian monetary policy in New Zealand. In addition, the regulatory measures of both countries correlate in the same factor, therefore their levels of regulatory compliance, are very similar.

It is also concluded that the profitability of both banking systems is correlated in a single factor, observing the largest decline in 2009 and 2010. However, Net Interest Margin Factor in New Zealand does not correlate with the profitability of the Australian banking system.

The Net Interest Margin Factor in New Zealand is experiencing its highest values in 2005 and then retreating and starting to recover from 2011. However, it is noted that the New Income Factor in New Zealand attempts to counteract the lower values of the Net Interest Margin Factor, suggesting This fact as the banks in periods of crisis try to increase their income with activities other than the collection of interest, for example with commissions.

It is concluded, that the deterioration in both systems is very procyclical, the deterioration factor representing the deterioration for both countries is manifested with greater emphasis in 2009 and 2010. The financial instability factor in Australia and New Zealand presents its highest values precisely in the years before 2009, this factor constituting a possible macroprudential measure

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Annex 1: Descriptive Statistics

	Mean	Std. Deviation	Analysis N
A.Credit Total growth	7.799644024198861	4.998916824658020	51
A.Operating income to assets	2.866666666666667	0.407758098223281	51
A.Operating expenses to assets	1.356862745098039	0.255542483325794	51
A.Profit margin	31.360784313725490	6.087037980212462	51
A.Return on assets (after tax)	0.892156862745098	0.203806905923133	51
A.Return on equity (after tax)	14.696078431372555	3.287854059067326	51
A.Non-interest income share	34.368627450980400	7.048815225158863	51
A.Fee income to total operating income	22.729411764705883	3.886556013626823	51
A.Cost to income	47.125490196078430	3.425658660010067	51
A.Personnel to operating expenses	54.703921568627440	4.161776581428355	51
A.Growth in total assets	2.250980392156862	3.434261058744347	51
A.Net loans to deposits	121.72156862745100	8.970157495283798	51
A.Deposits to assets	54.839215686274490	3.792575822913632	51
A.Equity to deposits	11.225490196078434	1.426021477714119	51
A.Impaired facilities to loans and advances	0.698039215686275	0.420233361873344	51
A.Capital-adequacy ratio	11.362745098039213	1.148209176816442	51
A.Tier 1 capital ratio	9.119607843137254	1.678454003878943	51
A.General reserve for credit losses ratio	0.233000000000000	0.208500000000000	51
N.Z.Return on equity	12.584313725490196	4.377550573049709	51
N.Z.Interest income to	6.616470588235294	1.410905841690950	51

	Mean	Std. Deviation	Analysis N
interest-earning assets			
N.Z.Interest expense to interest-bearing liabilities	4.860980392156861	1.528632401726407	51
N.Z.Net interest margin	2.225294117647059	0.138410302234718	51
N.Z.Interest income to interest-earning assets retail bank	6.674705882352943	1.407264513787193	51
N.Z.Interest expense to interest-bearing liabilities retail bank	4.916274509803922	1.512852882185593	51
N.Z.Net interest margin retail bank	2.241764705882353	0.136421492182910	51
N.Z.Other income to total operating income	26.798039215686284	5.796705622888864	51
N.Z.Other income to total assets	0.756862745098040	0.230004262535097	51
N.Z.Operating expenses to total operating income	46.180392156862744	11.954681419558500	51
N.Z.Operating expenses to total assets	1.280392156862746	0.265344762784674	51
N.Z.Impaired asset expenses to total operating income	6.374509803921570	6.682629516507850	51
N.Z.Tier 1 capital ratio	9.827502334267042	1.604989717207366	51
N.Z.Total capital ratio	11.905788982259573	1.253736577544686	51
N.Z.Impaired assets / gross lending	0.113319327731091	2.150243014616901	51
N.Z.Non-performing loans / gross lending	0.915098039215686	0.658797002267071	51
N.Z.Year on year change in total assets	10.854323062558360	15.320423359363868	51
N.Z.Subordinated debt/Equity	39.413860779589970	9.840843395006608	51

	Mean	Std. Deviation	Analysis N
N.Z. Domestic Credit	7.990196078431373	2.864908717705385	51
A.Broad Money growth	9.349215935547807	4.011825610281137	51
N.Z. Broad money	7.919607843137254	2.918768206476365	51