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**Foreign-owned banks: Implications for
New Zealand's financial stability**

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Abstract¹

Of the five major banks in New Zealand three are owned by Australian parent companies, one operates as the New Zealand branch of an Australian bank, and one has a British parent. Thus, bank ownership in New Zealand is foreign, but not very diversified. The literature on foreign bank ownership predominately focuses on developing countries and highlights the fact that large, diversified banks can enhance stability. New Zealand differs from the developing countries previously studied, as it is a developed country with foreign, but not necessarily diversified ownership. This paper explores the composition of bank ownership in New Zealand and the implications for financial stability. The paper begins with an analysis of the diversification of parent companies' assets and discusses the implications of institutional arrangements between parents and their subsidiaries for financial stability. Next, the degree of interdependence between Australia and New Zealand is analysed. Finally, the paper presents stylised implications of the structure of the market on bank behaviour during a time of crisis. The interaction of these three factors dictates the implications of foreign bank ownership on financial stability in New Zealand.

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1 Introduction

There are five major banks in New Zealand. These five banks together own over 90 per cent of all banks' assets. Of these banks, three are owned by Australian parent companies, one operates as the New Zealand branch of an Australian bank, and one has a British parent. Thus, bank ownership in New Zealand is foreign, but not very diversified. There are two potential benefits from foreign bank ownership: human capital/technology transfer and diversification of bank assets. To the extent that New Zealand and Australia are interdependent, benefits from diversification to New Zealand from foreign bank ownership may be rather less than has been the case in some developing countries.

In this paper, we explore the composition of bank ownership in New Zealand and the implications for financial stability. Firstly, we provide an analysis of the diversification of the assets of the parent companies of New Zealand's five major banks. We find that four of the five major banks are heavily exposed to Australia and New Zealand. Secondly, we provide evidence of interdependence between Australia and New Zealand. Finally, we discuss the stylised implications of the structure of the market on bank behaviour. The interaction of these three factors dictates the implications of foreign bank ownership on financial stability in New Zealand.

Many studies on foreign bank ownership focus on instances of instability of the banking sector in developing economies. However, there are several findings that come out of these studies that have implications for financial stability in New Zealand. Two issues are whether the institutional arrangements between the parent corporations and the New Zealand subsidiaries have implications for the accessibility of capital for banks in New Zealand in times of stress, and whether foreign ownership of banks provides an additional avenue for instability in Australia to spill over to New Zealand. Section 2 provides some insight to the first issue by presenting stylised facts about the Big 5 banks in New Zealand and their parents. The second issue is addressed in section 3. Section 4 gives an analysis of possible shocks and the associated reactions of the banking sector in New Zealand. Section 5 concludes.

1.1 Literature review

It is commonly believed that foreign-owned banks provide stability in times of financial crises. Studies of the Argentina and Mexico crises indicate that in a credit crunch, foreign-owned banks are able to provide credit growth that domestic banks are not able to provide. The reason behind this is that foreign-owned banks are geographically diversified relative to domestic banks, so they are less affected by adverse shocks in the domestic country. The benefits of foreign ownership may be diminished however, if the domestic and foreign economies are closely related. The literature on financial contagion highlights the fact that when countries are interdependent (through trade, foreign investment and other linkages) a negative shock in one country may spill over to other countries (Glick and Rose (1999)). This theory predicts that, *ceteris paribus*, banks owned by parent companies whose economies are not interdependent with the domestic economy would provide the most stability in a time of domestic financial instability. Thus, diversified ownership of banks would contribute to stability in a time of crisis.

Over the past decade there have been several opportunities to observe foreign banks' reaction to a crisis in their host countries including during the crises of Mexico (1994), Argentina (1995 and 2001-02), Paraguay (1995), Venezuela (1994), and the ERM crisis (1992). Goldberg, Dages, and Kinney (2000) explored the role of foreign banks in economic development and stabilisation. For Argentina and Mexico, they compiled information on banks that were state-owned, domestic private, and foreign-owned respectively. They empirically estimated the responsiveness of these banks to changes in gross domestic product and changes in the interest rate differential with respect to US interest rates. They found that foreign banks have had higher loan growth rates and lower volatility in lending than domestic banks. Foreign banks also show credit growth during crisis periods. Hence, foreign-owned banks in their study, on the whole, tended to be "healthier" than their domestic counterparts. They emphasised that it is bank health and diversity of bank ownership that enhance stability rather than foreign bank ownership *per se*. Garcia-Herrero (1997) gave an in-depth analysis of banking crises in Argentina, Paraguay, and Venezuela and came to similar conclusions. Foreign bank deposits increased during the

crises, with depositors considering these banks a safe haven due to high capitalisation and access to foreign credit.

Peek and Rosengren (1997) provided some insight into one possible response of Australian banks to a negative shock to the Australian economy (and by extension, the transmission of this shock to New Zealand). Their paper studied the reaction of Japanese banks in the US to sharp declines in Japanese share prices. Throughout the 1980s Japanese banks expanded aggressively into the United States. Initially, the expansion was for the purpose of serving their Japanese customers in the US but, eventually, Japanese banks expanded lending to include US customers as well. By 1990, Japanese banks accounted for 18 per cent of all commercial and industrial loans outstanding to borrowers in the US.²

The Basel Accord allows banks to use equity holdings as tier two capital in their capital adequacy ratios. Japanese banks held large amounts of equity in other Japanese firms and gains on these holdings were included in bank capital. Thus, the Japanese share market decline of the early 1990s caused a pronounced decline in tier two capital. In order to restore capital adequacy ratios, the Japanese banks had to cut back on loans. The authors found that Japanese branches in the US cut lending significantly (about a 6 per cent decline in total loans) while insulating the domestic customers from lending cuts. This result was strong for banks operating as branches in the US while it was weaker for US subsidiaries of Japanese banks.

There are two differences between the experience of Japanese banks in the US and Australian banks in New Zealand. Firstly, the Japanese banking culture is very different with Japanese banks having stronger relationships with their domestic client companies. Japan has different institutional arrangements such as interlocking share holdings, which bind banks to corporations more tightly. Secondly, some of the Australian banks have been in New Zealand for a very long time, in contrast to Japan's aggressive short-term expansion into the US, so they are not likely to pull out of New Zealand in the way that the Japanese banks pulled out of the US.

² Peek and Rosengren (1997).

Several studies cite the costs and benefits of foreign bank ownership. Peek and Rosengren (2000) provide a summary of many of these. The benefits they identify include:

- improved efficiency of the banking system through the transfer of technology and know-how and exploitation of scale economies;
- increased integration with international capital markets;
- a higher degree of diversification of banking system assets;
- the provision of a new source of funds to recapitalise troubled banks;
- the provision of a “safe haven” in a troubled country that can reduce funds flowing offshore; and
- increased presence of ratings agencies and auditors.

The costs include factors such as:

- profits accruing to foreign owners;
- barriers to domestic bank entry;
- trouble with regulation of foreign banks; and
- adverse shocks to foreign banks hurting the domestic economy.

Some of these issues are relevant for New Zealand while others are not. Su and Tripe (2001) find that bank mergers over the period 1989 to 1998 resulted in increased efficiency of New Zealand banks. One reason for this may be that a larger, multinational group can access funding at lower cost, if the group is more highly rated than a standalone New Zealand bank would be. On the other hand, foreign banks would not be considered a “safe haven” as there are few domestic banks from which people can withdraw assets. Banking profits will accrue to shareholders, so to the extent that New Zealanders would like to share in banks’ profits, they could purchase shares in the parent corporations. In the literature, a counter-argument to the regulation issue is that by operating in New Zealand through their subsidiaries and branches, the parent banks are subject to their home country regulation as well as New Zealand regulation. A related issue is that all New Zealand banks must have credit ratings. In order to achieve high ratings, banks need to adhere to certain internationally accepted requirements.

There are at least four relevant differences between New Zealand and the developing countries analysed in the literature. Firstly, New Zealand has a freely floating exchange rate. Secondly, New Zealand has more transparent monetary and fiscal policies. Thirdly, many of the foreign-owned banks in New Zealand have a long history in New Zealand. Finally, banks’ foreign currency borrowing is typically hedged. More generally, the state of New Zealand’s regulatory architecture and financial system infrastructure is relatively more advanced than that of most developing countries.

In analysing the impact of foreign bank ownership for New Zealand’s financial stability, the diversification argument is important. Because domestic banks often have similar portfolio exposures, a single shock could spread through the entire domestic banking system. The presumption is that foreign-owned banks will have different exposures (on their global balance sheet), and could be in a position to provide liquidity and capital support in the face of a crisis. On the other hand, external shocks to parents of foreign-owned banks, not related to the domestic economy, could be destabilising. It is this diversification issue that is the main focus of this paper.

2 An overview of New Zealand banks and their parents

There are seventeen registered banks in New Zealand. The five largest banks, ANZ Banking Group New Zealand Limited (ANZ), ASB Bank Limited (ASB), Bank of New Zealand Limited (BNZ), The National Bank of New Zealand Limited (NBNZ), and Westpac Banking Corporation (WestpacTrust), represent over 90 per cent of all of New Zealand banks’ assets. To put this into an international perspective, Demirgüç-Kunt, Levine, and Min (1998) publish data on total number of banks, ratio of foreign-owned to total banks,³ and foreign bank assets to total bank assets for eighty countries in 1995. Their data show that the average share of foreign-owned banks for industrialised countries was under thirty percent. In most cases, the share of foreign bank assets was much lower than the share of

³ They apply a rule of thumb of a foreign-owned bank being one where 50 per cent or more of shares are owned by foreigners.

foreign banks. In contrast, Reserve Bank of New Zealand data indicates that around 99 per cent of all bank assets in New Zealand are with foreign banks.

Appendix 1 lists all registered banks in New Zealand as of November 2001. Of these banks, seven are locally incorporated (ANZ, ASB,⁴ BNZ, NBNZ, Rabobank New Zealand, TSB Bank, and Kiwi Bank Limited) and ten are incorporated overseas. Of the five major banks, all are New Zealand incorporated with the exception of WestpacTrust, which operates as a branch in New Zealand.⁵ Australian companies own the major banks in New Zealand with the exception of National Bank, which is owned by a British parent. All four of the locally incorporated banks are wholly owned subsidiaries.

Foreign bank ownership in New Zealand is not a new phenomenon. Foreign-owned banks have been present in New Zealand for well over a century. Even in the early 1900s there were six trading banks in New Zealand, five of which were foreign-owned, as well as several New Zealand-owned savings banks. As recently as the early 1980s there were several types of deposit taking institutions in New Zealand, including the Post Office Savings Bank, private savings banks and trustee savings banks. It is difficult to compare foreign ownership in the financial sector currently with that of the pre-reform period as there have been many institutional changes and the structure of the sector has changed dramatically. However, to give some perspective, approximately 40 per cent of aggregate financial institutions' assets were foreign-owned in 1985.

Prior to the rapid deregulation in the mid-1980s, the variety of different types of financial institutions largely reflected the

⁴ ASB's parent, Commonwealth Bank of Australia, has two registrations; one for CBA itself and one for ASB.

⁵ The Reserve Bank of New Zealand has adopted a policy requiring local incorporation for any systemically important bank (banks whose liabilities, net of due to related entities, exceed ten billion dollars) or banks that take a significant level of retail deposits and come from countries with legislation giving home country depositors a preferential claim in a winding up. The policy will make it easier to manage the bank in the event of a failure in that it will be more certain which of the banks' assets belong to the New Zealand entity.

restrictions placed by statute or regulation on the types of business each institution could undertake. These constraints and protected niches all quickly disappeared, and over the next few years savings banks and building societies were progressively absorbed into or taken over by big commercial banks. As a result, many institutions were purchased by foreign entities. ANZ purchased the privatised Postbank. Commonwealth Bank of Australia purchased ASB Bank (one of the trustee savings banks). More recently, WestpacTrust took over Trustbank, formed from all the other trustee savings banks (with the exception of TSB Bank, which remains an independent entity). Private savings banks, which had previously been set up by parents to undertake certain types of lending, were wound back into the parent. The BNZ itself was fully privatised and sold to National Australia Bank in the early 1990s and Countrywide Bank, formed from several building societies, was taken over by National Bank later in the decade. It was during this time that the share of foreign-owned banks began to increase to the high levels seen today.

As noted above, studies have generally found that it is not foreign bank ownership *per se* that might be stabilising in the face of a crisis but rather the health and diversification of the foreign bank. In New Zealand, bank ownership is not very diverse. Because it is not necessarily ownership but diversification that plays a central role, in analysing the impact of a crisis in New Zealand on the banking sector, it is helpful to look at the risk exposures of the banks' assets. Tables 1a-c show the sources of parent banks' assets,⁶ profits, and revenues. Four of the five banks have virtually all of their assets, profits and revenues attributable to Australia and New Zealand. Westpac Banking Corporation⁷ (Westpac) and Commonwealth Bank of Australia (Commonwealth) are the least diversified, closely followed by the Australia and New Zealand Banking Group (ANZ). BNZ's parent (National Australia Bank (NAB)) is moderately diversified and National Bank's parent has very little exposure to the

⁶ The term "parent bank" will refer to the related entity in a foreign country; in WestpacTrust's case, it is technically not a parent as WestpacTrust is operated as a branch of the Australian bank.

⁷ Westpac Banking Corporation has been more diversified in the past but when the bank faced troubles in the late 1980s, it withdrew from global markets.

Australasian region. National Bank's parent, Lloyds TSB Group, is, however, heavily exposed to one other market, the UK.

Table 1a: Share in total assets

	Australia	New Zealand	Australia + New Zealand
Westpac Banking Corporation	80	15	95
Commonwealth Bank of Australia	86	8	94
Australia and New Zealand Banking Group	74	12	86
National Australia Bank	54	7	61
Lloyds TSB Group	0	4	4

Table 1b: Share in total profits before tax

	Australia	New Zealand	Australia + New Zealand
Westpac Banking Corporation	73	16	89
Commonwealth Bank of Australia	93	5	98
Australia and New Zealand Banking Group	N/A	N/A	N/A
National Australia Bank*	51	8	56
Lloyds TSB Group	0	3	3

* after tax

Table 1c: Share in total revenue

	Australia	New Zealand	Australia + New Zealand
Westpac Banking Corporation	79	16	95
Commonwealth Bank of Australia	84	10	94
Australia New Zealand Banking Group*	57	13	70
National Australia Bank	82	9	61
Lloyds TSB Group	N/A	N/A	N/A

* Income

Source: Banks' Annual Reports for fiscal year 2000

If bank health and diversity of ownership are the important factors for financial system stability, how well would New Zealand fare in the face of a large external shock? Specifically, could the foreign parents provide sufficient liquidity, capital support, and guarantees to assist their New Zealand subsidiaries or branches? There are benefits to having larger banks but in the New Zealand case, the parent banks are not very diversified geographically. If a shock were to hit the region, the benefits of foreign ownership may be significantly diminished. Given that the economies of New Zealand and Australia are highly interdependent (see section 3), a shock to one could spill over to the other so the issue is whether, in that situation, the foreign-owned banks would be able to provide substantial stability gains.

In order to give an indication of how closely linked the banking market is, table 2 shows share price correlations between the four major banks with Australian parents. The data are daily share prices taken from Datastream from 4 January 1993 through 30 October 2001 and have been adjusted for overall share market effects. Specifically, the percentage change in the Australian Share Market All Ordinaries Index has been removed from the percentage change in the individual share prices. The correlations are calculated over

five-day moving averages of the daily percentage change of the share price.

Table 2: Share price correlations

	Westpac	ANZ	National Australia Bank	Commonwealth
Westpac	1			
ANZ	0.48	1		
NAB	0.30	0.31	1	
Commonwealth	0.33	0.29	0.32	1

Source: Datastream

After taking into account the commonality of overall share market performance, the banks' share prices are still moderately correlated. ANZ and Westpac are the most highly correlated, with the other share price correlation in the 0.29 to 0.33 range. These figures imply a moderate industry-wide correlation. The correlations without the share market adjustment range from 0.54 to 0.67 so about half of the correlation between the share prices comes from the state of the overall market.

Credit ratings are an important indicator of bank soundness as well as cost of capital. Table 3 provides a brief overview of Standard and Poor's (S&P) credit ratings for both the parent corporations and the New Zealand banks as of November 2001. Because WestpacTrust is a New Zealand branch, it does not receive its own rating so the rating of the consolidated group is shown.

Table 3: Credit ratings

Westpac			
11-Sep-96	AA-/A-1+		
14-Jan-94	A+/A-1		
Commonwealth		ASB	
13-Jun-96	AA-/A-1+	4-Oct-00	AA-/A-1+
NAB		BNZ	
15-Nov-94	AA/A-1+	13-Nov-96	AA/A-1+
13-Nov-84	AA	17-Jan-94	A-1+
ANZ		ANZ - NZ	
11-Sep-96	AA-/A-1+	11-Nov-96	AA-/A-1+
15-Nov-94	A+/A-1	23-Jun-95	A+/A-1
LLOYDS TSB GROUP		NBNZ	
28-Jun-99	AA/A-1+	12-Nov-96	AA-/A-1+
15-Nov-94	A-1+		

Source: Standard and Poor's

Table 3 shows that with the exception of National Bank, the New Zealand banks and the parents have the same credit rating. These banks are each wholly owned subsidiaries and the S & P credit analysis document refers to this as one factor in the rationale for the New Zealand banks' credit ratings. S & P conjectures that the foreign ownership enhances the New Zealand banks' capitalisation and financial flexibility as parents would back the New Zealand subsidiaries if needed.⁸ S & P also cites the integration of

⁸ This is not always the case in a corporate environment. Air New Zealand, for example, in order to try to preserve the viability of its core business, severed ties

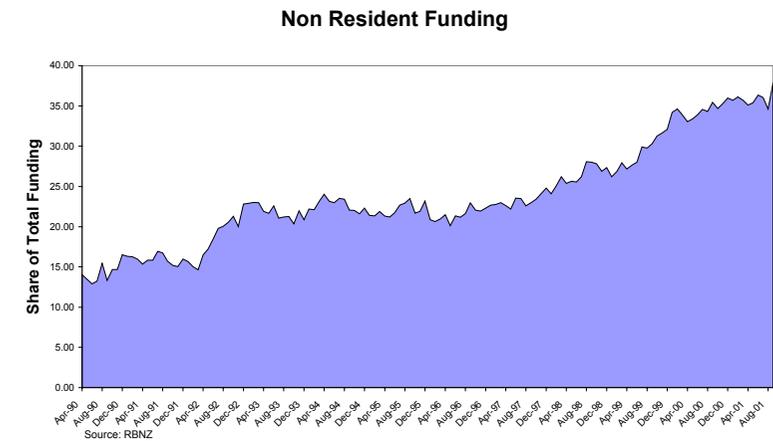
operational and risk management systems with the parent as another factor supporting the credit rating. In fact, ASB Bank was rated below Commonwealth when Commonwealth owned 75 per cent of ASB Bank. When Commonwealth's ownership increased to 100 per cent in 2000, ASB Bank's rating was increased. Table 3 also shows that both the New Zealand subsidiaries and Australian parents have strong, stable ratings.

An argument for foreign bank ownership that could be relevant for New Zealand is that foreign-owned banks might provide a higher degree of diversification of banking system assets and improved accessibility to international capital. Domestically owned banks have access to overseas funds but the New Zealand subsidiaries, being wholly owned by large parents, may have access to funds they wouldn't have had otherwise or, more probably, have access to funds on better terms.

Increased access to international capital markets results in a larger degree of non-resident funding, a large proportion of which is foreign currency denominated. Non-resident funding currently comprises over one-third of aggregate bank funding in New Zealand. Figure 1 shows the share of non-resident funding since 1990. Of non-resident funding, 38 per cent is sourced from associated entities – in fact, much of the funding is arranged through the parent. In the recent past, funding sourced from associated entities has been as high as 50 per cent. In the early nineties, this proportion was as high as 80 per cent (although the scale of borrowing was much less significant).

with Ansett Airlines, a wholly owned subsidiary with systems and operations that were increasingly interconnected with those of the parent.

Figure 1



Of course, having large amounts of foreign currency denominated debt may be a source of instability.⁹ Table 4 provides data, obtained from Statistics New Zealand, on hedging of overseas debt by registered banks in New Zealand.

Table 4:
Banks' hedging of foreign currency denominated debt

NZ\$ Millions

	Foreign currency denominated overseas debt of banks	Unhedged
1998	15,885	56
1999	23,795	44
2000	31,935	646
2001	37,712	8

Source: SNZ

Table 4 highlights the growing importance of overseas borrowing and also shows that most foreign currency denominated overseas debt is hedged. In the four-year period between 1998 and 2001 the

⁹ See Brash (2002).

foreign currency denominated overseas debt of banks more than doubled. This figure is striking. However, as of 2001, very little overseas debt is unhedged. Thus, overseas funding has not opened New Zealand banks up to substantial exchange rate risk. However, persistent reliance on overseas funding requires someone willing to hold New Zealand dollar risk. This implies that the New Zealand economy, and the New Zealand dollar, are more vulnerable if there is a decline in international cross-border capital flows or if risk preferences change away from peripheral indebted countries.¹⁰

The functional relationship between parents and subsidiaries varies across banks, and different banks have varying degrees of centralisation of operations. On the face of it, a high degree of centralisation may present a vulnerability for two reasons. Firstly, local expertise may not be readily available to respond in the event of a crisis. Secondly, the reliance on parent funding may inhibit New Zealand banks' abilities to tap international capital markets directly and quickly as the local entity's name and reputation might not be well known. Perhaps as importantly, any substantial deterioration in the credit rating of the parent would be likely to adversely affect the rating of the local subsidiary, making it almost impossible in some circumstances to tap particular international markets; either to raise funds or to hedge the exposures.

3 Interdependence between the economies of New Zealand and Australia

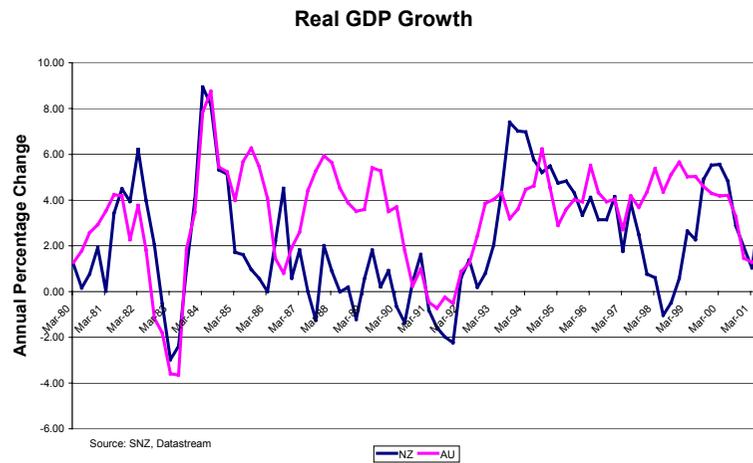
Because banks in New Zealand have a large exposure to Australian and New Zealand markets, the degree of economic interdependence between Australia and New Zealand will have implications for banks' reactions to shocks. It is beyond the scope of this paper to undertake a full analysis of the interdependence between Australia and New Zealand. However, to give some perspective on the issue we provide two types of indicators. Firstly, the overall health of the economy or stage in the business cycle will have implications for the health of the banking system. A recessionary (expansionary) period may cause a deterioration (improvement) of banks' balance sheets due to increases (decreases) in non-performing loans, declining

(increasing) net worth and less (more) access to external funds. To the extent that the Australian and New Zealand business cycles are synchronised, banks will be affected in similar ways in each country. Secondly, direct linkages between the two countries, in the form of trade and financial links and immigration policies, will serve as a propagation mechanism so that an external shock in one country will be felt in the other country.

Australia and New Zealand's GDP growth is graphed in figure 2. Hall, Kim, and Buckle (1998), using quarterly real GDP for 1977-1994, provided a study of the timing of turning points and business cycle synchronisation between New Zealand and its nine largest trading partners. Their study has two parts. First, they compared turning points by filtering the data (using the Hodrick-Prescott and Henderson Moving Average filters) and deriving deviations from trends. They then used a rule for determining a turning point. The rule says when deviations from the mean have a consistent sign for 3 quarters and then change sign, a turning point has occurred. They found that New Zealand, Australia and the US have a large degree of synchronisation of turning points. An exception was in 1998, which was a year of drought and floods for New Zealand. These, in combination with the Asian crisis and different policy settings, adversely affected GDP. Australia's economy had strong growth that year, possibly in part due to pre-Olympic construction. In the second part of their study, Hall, Kim, and Buckle derived average and moving window bivariate cross correlations between New Zealand and its trading partners. Results indicated that New Zealand and Australia exhibit a strong contemporaneous pro-cyclical synchronisation.

¹⁰ Woolford, Reddell and Comber (2001).

Figure 2



Hall, Kim, and Buckle provided evidence of synchronisation and correlation but did not address causality. Is the synchronisation of business cycles due to transmissions of shocks between the two countries? Or is it due to common external shocks? In an earlier study, Selover and Round (1995) applied several different specifications of a vector autoregression (VAR) to Australia and New Zealand to determine the answer to these questions. They first determined that neither country's GDP Granger causes the other. They then provided results of a variance decomposition which shows that after twenty quarters, 8.4 per cent of the variance of Australia's GDP is attributed to the effects of New Zealand while 15.9 per cent of the variance of New Zealand's GDP is attributable to Australia. The authors stated that these figures are lower than expected given the strong linkages. Finally, it is shown through a VAR model that effects of other countries, notably Japan and the US, will have a larger impact on Australia and New Zealand than they have on each other. These results taken together deliver the intuitive result that New Zealand is more reliant on Australia than Australia is on New Zealand while both economies are commonly affected by other economies.

Share market data provide a second indicator of overall health of the economy. It is an indirect measure of an economy's health as

corporate profitability will be a function of individual firms' management skills amongst other factors. In addition, the indices are a function of listing and de-listing and movement of firms offshore, which also impact on performance. Table 5 presents five-day moving average correlations of the percentage change in share market prices. The share market indices used are the Dow Jones Industrial Average (DJIA), the New Zealand Stock Exchange 40 (NZSE40) and the Australian Stock Exchange All Ordinaries (AORD). Subtracting the percentage change in the Morgan Stanley world index from each share price change controls for global effects. The data are daily for the period 1 June 1992 through 15 March 2002.

Table 5: Share market correlations

NZSE40: DJIA	NZSE40: DJIA*	NZSE40: AORD	NZSE40: AORD*	AORD: DJIA	AORD: DJIA*
0.10	0.46	0.51	0.60	0.12	0.58

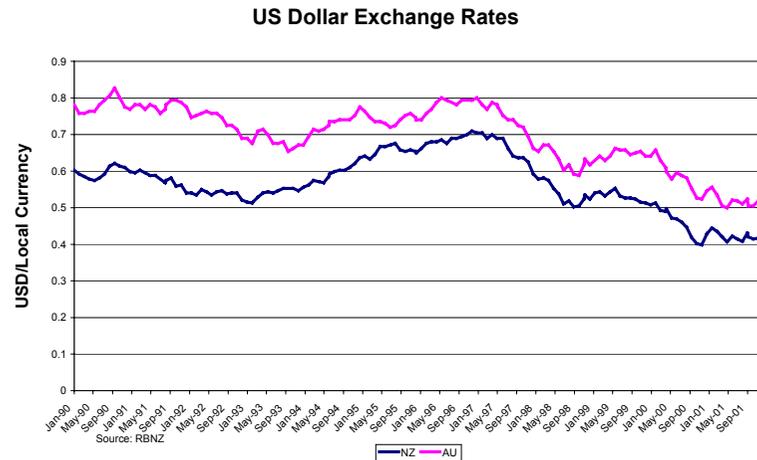
* Unadjusted for world effects.

Source: Datastream

The adjusted New Zealand and Australian share market indices have a similar (and low) level of correlation with the Dow Jones Industrial Average at 0.10 and 0.12 respectively. The correlation between the NZSE40 and the Australian All Ordinaries is high at 0.51 so to the extent that the share market represents the overall health of the economy, these figures would provide additional support to the hypothesis that business cycles between Australia and New Zealand move together.

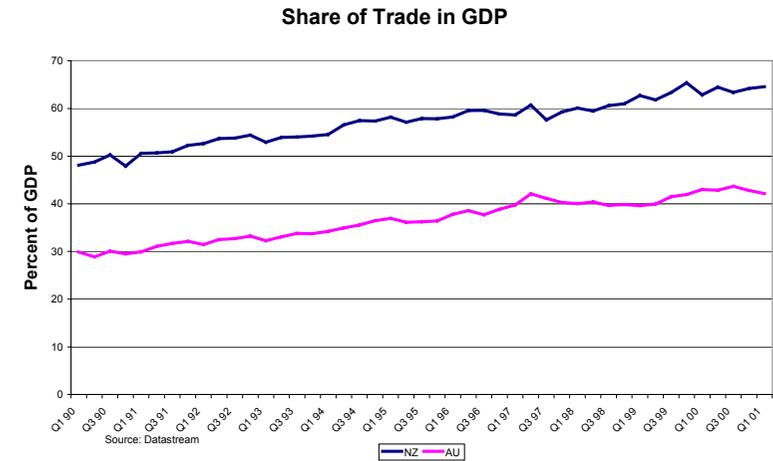
Because Australia and New Zealand are relatively open to international trade and capital flows, the exchange rate plays an important role in their economies. Figure 3 plots the monthly Australian and New Zealand to US dollar exchange rates from January 1990 to December 2001. The graph shows these series moving together and a simple correlation between the series indicates a correlation coefficient of 0.85. The correlation of the rate of change of these exchange rates is 0.68.

Figure 3



In order to gauge how important a role the exchange rate may play, Figure 4 shows the share of exports and imports in GDP for New Zealand and Australia for the 1990 to 2001 time period. The figure indicates that international trade is very important for both countries. In 1990 international trade to GDP for New Zealand was 48 per cent and it grew to over 63 per cent in 2001. Australia has seen similar increases in magnitude from 30 per cent in 1990 to over 42 per cent in 2001.

Figure 4

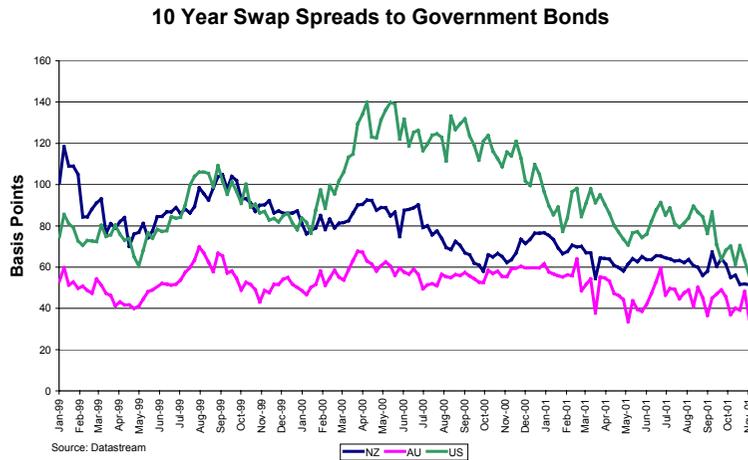


Because international trade is an important part of New Zealand and Australia's economies, the exchange rate plays an important role in a number of ways. A highly valued exchange rate makes imports inexpensive and exports expensive for each country. To the extent that imported intermediate goods are significant in the production process, an appreciation may cause a decline in the cost of production, which stimulates output growth. Another role for the exchange rate in these countries is through its effect on tourism. Tourism is an important part of both economies and a strong currency will have a tendency to discourage tourism. Because of the high exchange rate correlations between Australia and New Zealand, the economic effects of exchange changes may occur in both countries simultaneously.

A final indication of the correlation of the two economies is through the correlation of swap spreads. Figure 5 shows weekly data on 10-year interest rate swap spreads for New Zealand, Australia and the US. The difference in these spreads has narrowed in the past year, but the series are moderately correlated. The simple correlation between New Zealand and Australia is 0.46. However, the correlation between Australia and the US is quite high (0.69) while the correlation between New Zealand and the US is low (0.17). Qualitatively, these results do not change when looking at

correlations of a four-week moving average. The spread indicates the perceived riskiness over a safe asset so while the levels are different (implying differing magnitudes of risk), the moderate correlation indicates that the changes in the perceived risk of Australian and New Zealand bonds moves together.

Figure 5



The previous analysis suggested the presence of common business cycles in New Zealand and Australia. A second issue is the extent to which shocks to one country can spill over to the other country. Australia and New Zealand have significant trade linkages; Australia is New Zealand's largest single trading partner. In addition, there are institutional factors linking Australia and New Zealand. In 1983, the Australia and New Zealand Closer Economic Relations Trade Agreement (CER) was established that provides for free trade in goods between the two nations. The CER is credited with being a major factor explaining the 563 per cent increase in trade between New Zealand and Australia between 1983 and 1999. There is also relatively free labour mobility between citizens of Australia and New Zealand and a degree of reciprocity in social security and health benefits.

Bilateral trade flows can play a role in transmitting shocks from one country to another. Tables 6 and 7 show New Zealand and

Australia's top five trading partners respectively for the year 2000. The figures given represent shares in total imports/exports.

Table 6: New Zealand's top trading partners

Top 5 - Imports	Percent of Imports	Top 5 - Exports	Percent of Exports
Australia	22	Australia	20
United States	17	United States	15
Japan	11	Japan	13
China	6	United Kingdom	5
United Kingdom	4	Korea	4

Source: SNZ

Table 7: Australia's top trading partners

Top 5 - Imports	Percent of Imports	Top 5 - Exports	Percent of Exports
United States	20	Japan	20
Japan	13	United States	10
China	8	Korea	8
United Kingdom	6	New Zealand	6
Germany	5	China	5

Source: ABS

New Zealand is quite reliant on Australia for exports and imports, which would indicate a potential transmission mechanism from Australia to New Zealand. Were Australia to have a negative external shock, Australian demand for New Zealand exports could decline, leading to a negative effect on New Zealand's economy. A mitigating factor would be exchange rate adjustments. If the shock to Australia resulted in the depreciation of the Australian currency and through the correlation between Australia's and New Zealand's currencies, the New Zealand dollar also depreciated, some of the decline in exports to Australia could be offset by increased exports to other regions.

On the other hand, Australia is not very reliant on New Zealand for exports or imports. New Zealand receives less than 6 per cent of all Australian exports and is the seventh largest source of imports for Australia representing only 4 per cent of total Australian imports. Together, however, tables 6 and 7 show that Australia and New Zealand are reliant on the same countries for most of their exports: the US, Japan and Korea are recipients of over 32 per cent of New Zealand's exports and over 37 per cent of Australian exports. These three countries, with the addition of Australia, represent over half of New Zealand exports. These data support the findings of Selover and Round (1995), discussed above, that New Zealand and Australia are similarly exposed to shocks from third parties.

Another linkage between the Australian and New Zealand economies comes through international capital flows. Looking at stocks of foreign source capital in New Zealand at the end of 2001, foreign direct investment (FDI) represents 30 per cent of the stock of foreign capital. Thirty-five per cent of the stock of FDI outstanding in 2001 is sourced from Australia. Should a shock to the Australian economy cause a contraction to overseas investment, capital flows into New Zealand could decline as well.

4 Foreign bank ownership and stability

When faced with an external shock, two things that concern policymakers are bank solvency and loan growth. A bank run may result if depositors or other bank liability holders are worried about insolvency. Also, the wealth destruction within the economy as a result of insolvency may have negative macroeconomic and financial system effects. Regarding loan growth, in both Asia and Latin America, balance sheet problems have resulted in contractions of loan issuance and tighter credit criteria. These contractions inhibited investors from completing viable projects previously initiated, forestalled new investment, and affected existing businesses. Thus, a credit crunch can have a large macroeconomic effect through declines in economic activity.

It is difficult to measure the actual cost of a banking crisis because any negative GDP growth following a crisis can also be due to other exogenous factors. However, Demirgüç-Kunt, Detragiache, and

Gupta (2000) provided a simple estimate of the cost, based on fourteen crises that occurred between 1980 and 1995 that implied an average decrease in output growth of 4 per cent in the year following the crisis.

As indicated previously in tables 1a-1c (section 2), three of New Zealand's five largest banks have the overwhelming majority of their exposures in Australia and New Zealand and a fourth bank has over half of all assets and profits associated with the two countries. These high levels of concentration imply an additional linkage between the Australian and New Zealand economies. Therefore, banks in Australia and New Zealand could be affected by external shocks in either, or both, of these countries.

To the extent that home office operations are outsourced to the parent, there are additional, institutional linkages. There are three aspects of banking operations that can be outsourced: information, execution, and expertise or human resources. In a time of crisis, access to timely, accurate information is essential. A subsidiary would not be in a position to wait for normal reporting cycles for information and, in the event that the parent is facing instability as well, it is possible that the information needs of a subsidiary would not be a high priority of the parent. A subsidiary relies on execution of standard business functions as well as extraordinary functions that arise in times of crisis. Moreover, the subsidiary must have expertise, on location, to manage the bank in a crisis. If bank procedures and expertise are outsourced to the parent, the subsidiary's ability to manage the crisis would be hindered. In addition, if the incentives of the parent in a time of instability differ from the incentives of the subsidiary it will become more difficult to manage a crisis effectively.

These issues come into focus because of the different regulatory regimes that apply in the event of failure. An Australasian bank, with all of its core functionality and expertise in Sydney, is not the same as an Australian-wide bank with assets across all the state but core functions only in Sydney. There are two important differences. Firstly, there are separate currencies. Secondly, and more importantly, bank failures are managed at a national level – and typically in the national interest. That is, the failure of an

Australasian bank is likely to involve the Australian authorities looking into the interests of Australian depositors and the Australian financial system as a whole, while the Reserve Bank of New Zealand is left to manage the implications of the New Zealand aspects of the failed bank – whether it is a branch or a subsidiary.

In this section we discuss some possible shocks and potential responses by banks in order to determine sources of financial instability for New Zealand. We consider three types of shocks: a negative shock specific to New Zealand, a negative shock specific to Australia, and a negative shock common to both economies. We discuss whether foreign bank ownership implies a higher degree of instability relative to domestic bank ownership in the context of bank runs and lending contractions.

i New Zealand-specific shock

Suppose New Zealand experiences a negative external shock specific to New Zealand alone, such as an outbreak of foot and mouth disease. As the agricultural industry is a large part of New Zealand's economy, such a shock would have a significant, negative impact on New Zealand. Suppose the negative downturn resulted in a large increase in non-performing loans due to the banking sector's high exposure to the agricultural industry. If all banks were relatively equally exposed to the shock, we would not expect to see flight to a "safe haven" in this case. In fact, to the extent that the parent is willing and able to provide liquidity and/or capital, the probability of a bank run would be quite low. In this context, foreign bank ownership is unambiguously better than a purely domestically owned banking system.

Lending contractions can have large, negative consequences on an economy. Another consideration is whether the negative external shock to New Zealand would spill over to Australia in a significant way that would inhibit the Australian parents from backing up the New Zealand banks, thus resulting in a contraction of lending in New Zealand. The evidence in section 3 above suggests that Australia's economy is more vulnerable to the US and Japan so that the risk of a spillover from New Zealand is extremely low. New Zealand appears to be more dependent on the Australian economy

than the Australian economy on New Zealand because New Zealand is a much smaller economy than Australia.

To the extent that the Australian parents are able, we would expect them to provide liquidity and capital support to their New Zealand subsidiaries. If the shock does not completely destroy the franchise value of the banks, the parents will have an incentive to keep the banks from failing. In other words, if a bank retains its ability to make profits in the future, despite the current instability, it would be in the parent's interest to save the bank. In addition, there is a reputational issue to the extent that Australians lose confidence in their own banks if they observe them backing away from their New Zealand subsidiaries. Alternatively, the lack of diversification of Australian parents' assets could play a role. If New Zealand banks represent 10-15 per cent of parent companies' activities, a significant negative shock to New Zealand's banking system could be destabilising for Australian banks, hindering their ability to provide liquidity.

To give some perspective of how a subsidiary can have a large effect on the parent, consider the case of National Australia Bank's provisioning for Homeside, a wholly owned subsidiary specialising in mortgages in the US. Because of hedging positions that were adversely affected by interest rate volatility in the US, in 2001 National Australia Bank had to write down A\$3.4 billion of mortgage servicing rights and goodwill. This contributed to a reduction in net profits of A\$1.1 billion, down from A\$3.2 billion in 2000. There was an impact on capital adequacy ratios as well. Homeside assets represented almost one-third of National Australia Bank's assets. As a result of the Homeside provisioning, tier one capital declined by A\$2.5 billion (13 per cent) and risk-weighted assets fell by A\$2.9 billion representing 1.3 per cent of total risk-weighted assets.

There is another sense in which foreign bank ownership leaves New Zealand's financial system more vulnerable. Improved access to international capital markets has been a benefit in that it has given New Zealanders the ability to fund investment and consumption earlier than would otherwise be possible and can provide a buffer when income is temporarily low. However, access to international

capital markets may also, at the margin, have contributed to New Zealand's leverage and hence its vulnerability.¹¹ Over the past ten years, foreign currency liabilities have increased from about 13 per cent of total liabilities to over 23 per cent. In addition, as was seen in figure 1, liabilities to non-residents have been steadily increasing. As a consequence of New Zealand banks' overseas borrowing, economic contractions associated with a negative shock could be magnified. Thus, there is a trade-off; access to international capital markets can give New Zealanders efficient forms of financing at the expense of more vulnerability.

ii Australia-specific shock

The second type of shock to consider is a negative shock specific to the Australian economy, which leads to instability in Australia's banking sector. There are four mechanisms by which this would have adverse consequences for New Zealand's banking system. The first is through the economic linkages discussed in section 3. It is very possible that New Zealand's economy would suffer in the event of a significant adverse shock to Australia's economy. To the extent that this occurs, there could be negative pressures on banks' balance sheets in New Zealand. This method of propagation would be present even if New Zealand banks were domestically owned.

Second, credit ratings are a vital determinant of the ability of firms and banks to access credit. In the event of a ratings downgrade, markets close off, thus reducing financing options. In some cases, outstanding loans must be repaid more rapidly. For example, the presence of ratings triggers clauses in loan contracts requires loan repayments when a company's credit rating falls below a prespecified level. Should the credit ratings of Australian parents be downgraded, this would have a negative impact on New Zealand banks' access to capital, which could result in contractions in lending growth in New Zealand or an increase in the cost of capital. The third mechanism by which a negative shock to Australia affects New Zealand banks is via funding sources. There are two ways that

¹¹ Reliance on overseas capital would happen with or without foreign bank ownership so it is only the increase due to foreign ownership that is focused on here.

this can happen. First, if the banks rely on funds from parents, that source of funding could dry up. In the case of a bank failure, Section 13A (3) of Australia's Banking Act 1959 says: "If an authorised deposit-taking institution ("ADI") becomes unable to meet its obligations or suspends payment, the assets of the ADI in Australia are to be available to meet that ADI's deposit liabilities in Australia in priority to all other liabilities of the ADI."¹² Thus, there are legal restrictions on how Australian parents can respond to a crisis. Second, if the parents are able to pull assets out of New Zealand in order to restore minimum capital requirements in Australia, then New Zealand banks could be required to cut lending in a similar way as was seen in the case of Japanese banks operating in the US.

The fourth and final mechanism is as follows. If the New Zealand subsidiaries are outsourcing operations to the parents, there could be a spillover. The importance of national boundaries emerges as Australian regulations that come into effect during a crisis could make it more difficult for New Zealand banks to continue operating. There will be uncertainty as to whether the operations side of banking will continue to be staffed and functioning. If a parent's activities come to a halt, a New Zealand bank would not have the infrastructure in place to continue its own operations.

This example illustrates the shortcomings of non-diversified bank ownership, but not of foreign bank ownership. Su and Tripe (2001) find evidence of increased efficiency in New Zealand's banking sector in the 1987-1999 time period during which there were several bank mergers. While this does not necessarily imply a causal relationship, if foreign bank ownership in New Zealand has made the banking system more efficient, then it would not be reasonable to limit foreign bank ownership in order to avoid the possibility of instability described here. However, all else equal, the magnitude of the instability could be minimised with diverse foreign bank ownership or diverse funding sources of the parents.

¹² Quoted from Westpac Banking Corporation's Key Information Summary for the Six Months ended 31 March 2001.

iii Common shock to New Zealand and Australia

The third type of shock to consider is one that affects both Australia and New Zealand, such as an increase in the world interest rate or a global economic slowdown. The effects on the stability of the banking sector would be much like the situation where Australia received a negative shock, which is then transmitted to New Zealand. In a serious situation, the parents may not be in a position to provide stability and perhaps could retract some of their New Zealand assets. Nonetheless, as in the case of the New Zealand-only shock, each bank would face roughly equal vulnerabilities in the event of a global shock regardless of ownership. In this case, foreign bank ownership would be no more destabilising than domestic bank ownership. In addition, if it were a truly global shock, diversification would not provide large benefits.

There would be a degree of systemic vulnerability however, when home office operations are occurring overseas. When both countries are facing a crisis and trying to implement crisis management procedures, efforts can be hampered by two approaches being undertaken in a centralised area and the subsidiary may not be able to act independently. In addition, regulatory agencies in each country could have different rules and require banks to take different measures in a crisis. It may be difficult for the parent to implement New Zealand regulations and Australian regulations simultaneously.

This section has highlighted possible vulnerabilities of New Zealand's banking system to shocks to New Zealand and Australia's economies. Several of the vulnerabilities do not arise from the current structure of bank ownership, i.e., they would exist even if all banks were domestically owned. Of the vulnerabilities that arise due to foreign ownership, two are due to non-diversified ownership: the potential spillovers that would arise through the banking system, and the impact of credit ratings. The rest, arising from foreign ownership *per se*, are the marginal contribution to leverage due to improved international capital market access, funding contractions due to instability of the parents, conflicting regulations across countries, and operational problems when home office services are outsourced.

5 Conclusion

Foreign bank ownership is not a new concept in New Zealand and, in comparison with other countries, New Zealand has a high degree of foreign ownership of banks. There are at least five respects in which foreign bank ownership can result in additional vulnerabilities with respect to financial stability. Firstly, some of the efficiency gains come from outsourcing operational functions to the parent home office in order to exploit economies of scale. Systemic vulnerabilities arise if there are differences across countries in crisis management responses and New Zealand banks do not have local capacity to manage a crisis. Secondly, to the degree that foreign ownership has enabled improved access to overseas funds, the resulting higher degree of leverage can create vulnerabilities to a negative, external shock. Thirdly, continued ability to hedge foreign exchange risk requires depth in the cross-currency swap market. Fourthly, the interdependence between Australia and New Zealand may inhibit the ability for the parent corporations to provide stability in a crisis. This issue is not a drawback of foreign bank ownership but rather of non-diversified ownership. Countries where banks are all domestically owned would face the same issue with non-diversification as New Zealand faces. Finally, the foreign ownership may serve as an additional avenue for a spillover so that financial instability specific to Australia has an effect on New Zealand.

There is evidence that foreign ownership has benefited the New Zealand banking industry in several ways, including increasing the efficiency of the banking industry and perhaps giving New Zealand banks better and cheaper access to international capital markets. In addition, studies of developing countries suggest that foreign bank ownership can provide stability in times of crisis. While not all aspects of these studies are directly applicable to the New Zealand case (for example the safe haven argument), we suggest that in the event of a New Zealand-specific shock, foreign bank ownership makes New Zealand unambiguously better off. Benefits would be stronger if ownership were more diversified, but there is no obvious policy prescription given the existing landscape of the New Zealand financial system.

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Appendix 1: New Zealand registered banks

Bank	Owned by	Country	Date registered
ABN AMRO Bank	ABN AMRO	Netherlands	2 March 1998
AMP Bank Limited	AMP Limited	Australia	12 October 1998
ANZ Banking Group Limited	Australia and New Zealand Banking Group	Australia	1 April 1987
ASB Bank Limited	Commonwealth Bank of Australia	Australia	11 May 1989
Bank of New Zealand	National Australia Bank Limited	Australia	1 April 1987
Bank of Tokyo-Mitsubishi Limited	Bank of Tokyo-Mitsubishi	Australia/ Japan	18 September 1996
Citibank NA	Citibank	US	22 July 1987
Commonwealth Bank of Australia	Commonwealth Bank of Australia	Australia	23 June 2000
Deutsche Bank AG	Deutsche Bank	Germany	8 November 1996
Kiwi Bank Limited	Kiwi Bank Limited	New Zealand	29 November 2001
Kookmin Bank	Kookmin Bank	Korea	14 July 1997
Rabobank New Zealand Limited	Rabobank	Netherlands	7 July 1999
Rabobank Nederland	Rabobank	Netherlands	1 April 1996
The Hongkong and Shanghai Banking Corporation Limited	HSBC Group	Hong Kong /United Kingdom	22 July 1987
The National Bank of New Zealand Limited	Lloyds TSB	United Kingdom	1 April 1987
TSB Bank Limited	TSB Community Trust	New Zealand	8 June 1989
Westpac Banking Corporation	Westpac Banking Corporation	Australia	1 April 1987