A Trans-Tasman Banking Union?

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Abstract

Four major Australian banks span the Australian and New Zealand banking system. Applying the financial trilemma model, this paper investigates possible approaches for cooperation in the supervision and resolution of these cross-border banks. The paper first reviews the current arrangement in the Trans-Tasman Council of Banking Supervision, which is based on a soft law approach and not tested during a severe crisis when interests may diverge. Next, this paper explores a trans-Tasman banking union, which would hardwire cooperation in a bi-lateral treaty. Such a banking union would encompass joint supervision and joint resolution based on burden sharing, facilitating a lowest cost approach and enhancing financial stability. But it would require political alignment on banking policies between the two countries, which follow different approaches and are lopsided.

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1. Introduction

The global financial crisis highlighted that 'financial institutions may be global in life, but they are national in death' (Huertas, 2009, p.6). National authorities were thus on their own to resolve the respective national parts of those international banks that were failing or under severe pressure. While there have been several reforms to strengthen the governance of the international banking system, they have not succeeded in addressing this coordination failure between national authorities.

The first major reform is the imposition of higher capital requirements under Basel III. Higher capital reduces but does not eliminate the possibility of problems at large international banks. The second reform concerns the introduction of key principles for the resolution of international banks by the Financial Stability Board (FSB, 2014). Although these principles encourage cooperation between national resolution authorities, they are non–binding (Davies, 2015). As witnessed during the global financial crisis and earlier crises, authorities put non-binding agreements (like Memoranda of Understanding) aside in the heat of the moment when large financial sums are at stake.

The third, and most recent, reform is the requirement to bail-in debt before a possible bailout of a failing bank can take place. While bail-in is appropriate for individual idiosyncratic failures, it may not be possible in cases of the failures of a systemically important bank or large parts of the banking system. Several academics (Avgouleas and Goodhart, 2015; Mayes, 2013) and policymakers (Dewatripont, 2014) warn that bail-in of large banks might be adding to -instead of dampening- financial panic. In the case of a full-blown systemic crisis, there is thus still a need for a fiscal backstop by the government, either directly to recapitalise ailing banks, or indirectly as backstop for the central bank and the resolution fund.

This paper investigates the arrangements for the supervision and resolution of the big four Australian banks operating in Australia and New Zealand. There are some major differences in the regulatory approach followed in the two countries (Brown, Davis and Mayes, 2015). Australia has domestic deposit preference, putting New Zealand depositors at a disadvantage. In response, New Zealand requires a local subsidiary for major retail operations, which protects its depositors via ring-fencing New Zealand assets. Next, Australia has formal deposit insurance and New Zealand does not, which has a major impact on resolution. New Zealand has adopted open bank resolution, whereby a failed bank would be placed under statutory management and reopened the next business day (Hoskin and Woolford, 2011). A portion of all creditors' claims, estimated to be sufficient to cover the bank's losses in excess of its capital, would be frozen to absorb the losses. Pre-positioning requirements provide bank customers continued access to liquidity and banking service in a bank failure event. As Australia has no resolution framework in place, the Murray Financial System Inquiry (2014) recommends to implementing a framework for orderly resolution of Australian banks.

The Australian and New Zealand authorities cooperate in the Trans-Tasman Council on Banking Supervision promoting a joint approach to trans-Tasman banking supervision and resolution. The Memorandum of Cooperation on Trans-Tasman Bank Distress Management underpins the cooperation. While these cooperation arrangements have been running smoothly, they have not been tested in crisis times. Nevertheless, systemic banking crises can and do happen (Reinhart and Rogoff, 2009).

Goodhart and Schoenmaker (2009) argue that only *ex-ante* binding burden sharing agreements between governments can technically solve the coordination failure in providing a fiscal backstop for international banks. But burden sharing, which is also labelled loss allocation, is politically controversial. The European Union has embarked on a banking union with joint supervision and resolution, which are hardwired in a treaty. This paper explores whether a trans-Tasman banking union could be useful for trans-Tasman financial stability. Major political hurdles are not only policy differences, but also the unequal size of the two countries, whereby key decisions in supervision and resolution would get made by the dominant country.

This paper is organised as follows. Section 2 sets out the financial trilemma model, which delivers several outcomes to maintain international financial stability. Section 3 examines the trans-Tasman banking landscape, which is dominated by the big four Australian banks. It investigates where these Australian banks can be positioned in the financial trilemma model. Section 4 reviews the current cooperation arrangements in the Trans-Tasman Banking Council. Section 5 provides the sketches of a possible Trans-Tasman Banking Union, based on legally binding burden sharing rules. Finally, Section 6 concludes.

2. The financial trilemma model[2]

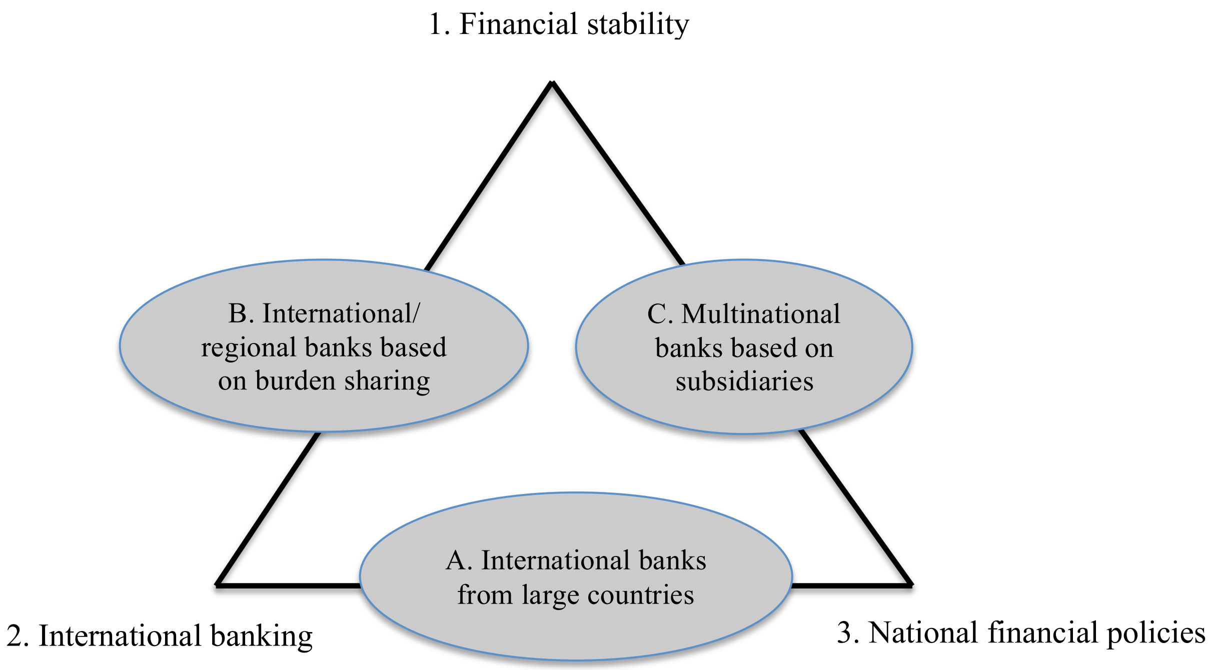
Maintaining the stability of international banking is challenging. Which countries feel responsible to backstop an international bank, if and when needed? The involved countries do not take into account any foreign externalities of a potential bank failure, and are only

[2] This section is largely based on Schoenmaker (2017b).

prepared to backstop their respective domestic part. More formally, the financial trilemma states that the objectives of (1) financial stability, (2) international banking, and (3) national financial policies for supervision and resolution are incompatible (Schoenmaker, 2011). Any two of the three policy objectives can be combined but not all three; one has to give. The choice of policymakers produces three outcomes for the structure of the international banking system, which differ in viability and stability. Figure 1 illustrates the outcomes of the financial trilemma.

The purpose of this section is to analyse the ultimate consequences of countries' policy choice within the financial trilemma framework for the structure of the international banking system.

Figure 1: Outcomes of the financial trilemma



Source: Schoenmaker (2017b)

Outcome A. - International banks, headquartered in large countries

The first two outcomes concern centralised international banks. This sub-section first deals with international banks headquartered in large countries, which still have the fiscal capacity to support international banks (see Section 3). Outcome A. aims to achieve the policy objectives of international banking and national financial policies. While having the headquarters in a large country solves the fiscal capacity problem, it does not address the issue of incorporating foreign externalities (e.g. Herring, 2007; Schoenmaker, 2011; Riles, 2014). Large countries are pre-occupied with the domestic externalities of a possible failure and do not take into account cross-border externalities.

This raises questions about the credibility of foreign retail branches and the application of deposit insurance (from the home or host country?). In times of crisis, the home authorities may save the entire institution, or not. The basis for resolution, single point of entry (SPE) or multiple point of entry (MPE), is not clear. Even if the authorities state in the resolution plan for an international bank that they will apply SPE, this is subject to time inconsistency. There are severe scenarios possible, whereby the home resolution authority and international bank jointly decide to rescue the home country part and to let the other parts go. The Fed, for example, provided bridge financing for only the US part of Lehman Brothers. The Lehman case is thus instructive about the time inconsistency of SPE. Faia and Weder di Mauro (2016) label this model outcome as the uncooperative SPE approach.

Given the inherent uncertainty about home country support, host countries might want to ring-fence the host country operations (e.g. by demanding a separately licenced and capitalised subsidiary) and provide host country deposit insurance. This would be outcome C. with multinational banks (see below). Outcome A. with international banks from large countries is thus not very stable for host countries, which may in the long run not accept the unilateral approach of these large countries.

Outcome B. - International or regional banks, based on burden sharing

The second outcome is international or regional banks, based on burden sharing between the countries in which the banks operate. This outcome aims to preserve financial stability and international banking. It gives up on national financial policies, as governments work together in supervision and resolution based on hard law. As countries cooperate and review these banks on a consolidated basis, the resolution strategy is structured on SPE and all externalities, both domestic and cross-border, are taken into account. The cooperation has to be hard-wired in a legally binding agreement for burden sharing. Goodhart and Schoenmaker (2009) sketch the various schemes for burden sharing, ranging from general burden sharing based on the relative size of participating countries (e.g. GDP or population) to specific burden sharing based on the relative presence of the failing bank(s) (e.g. geographic segmentation of its assets). Faia and Weder di Mauro (2016) designate this model outcome as the cooperative SPE approach.

The technical solution of burden sharing addresses the problems of fiscal capacity and foreign externalities and is thus a stable outcome. The challenge is political. Are countries prepared to join forces in financial policies, and thus give up part of their sovereignty in this field? Unless or until fiscal authority moves to the level implied by globalising markets, effective policy capacity and durable political legitimation will remain in tension. Experimentalism and institutional innovations like the Basel process for banking supervision standards may help us live with such tensions (Pauly, 2014). Ad hoc arrangements during and after crises do give rise to reasonable expectations of future regulatory, monetary, and fiscal coordination.

Eatwell, Gossé and Alexander (2014) distinguish between regional and international banks based on cooperation. Regional cooperation is implemented in the banking union at the European level and is further possible in NAFTA extended to Central American and the Caribbean countries, and a Far-east group centred on China and including Japan, Korea and ASEAN countries. This paper suggests that that such regional cooperation is also thinkable in the trans-Tasman region.

Outcome C. - Multinational banks, based on national subsidiaries

The third outcome is that of multinational banks, based on a string of national stand-alone subsidiaries. This outcome of decentralised international banks results from combining the policy objectives of financial stability and national financial policies. The principle idea is that the national financial authorities require that the subsidiaries are separately capitalised and managed.[3] If one of the subsidiaries or the parent bank fails, the other parts of the multinational bank can continue. The national authorities can deal with each part separately and financial stability is contained at the national level without further (international) contagion. The resolution strategy is based on MPE and deposit insurance, if any, is arranged by the respective home and host countries.

But is this outcome viable and realistic? Banks still want to exploit synergies, for example, from centralised risk management and one brand name. Next, foreign subsidiaries often use a

[3] The host country applies both capital and bail-in requirements to national subsidiaries (but not branches). The FSB proposes that each material sub-group maintains an internal TLAC (Total Loss-Absorbing Capacity) of 75 to 90 percent of the external TLAC requirement that would apply to the material sub-group if it were a resolution group (Principle 18 of TLAC Termsheet, FSB, 2015).

parent guarantee to enhance their creditworthiness, which reduces funding costs and makes the subsidiary a stronger counterparty in derivative transactions. Freshfields Bruckhaus Deringer (2003), an international law firm, examines to what extent legal firewalls (separate legal personality and limited liability of subsidiaries) can help to reduce or prevent contagion risk within a financial group. They find that legal firewalls can help to protect from direct contagion (credit exposures arising from intragroup transactions or operational risk from sharing of services), but are less effective in limiting indirect contagion (reputation risk and funding risk). This is because indirect contagion arises from perceptions and behaviour of (potential) counterparties and other market participants. The strategy of most major banks of developing and maintaining a global brand reinforces contagion risk.

A good example of indirect contagion is the Drexel Burnham Lambert collapse in 1990. While the Drexel Burnham Lambert Group experienced difficulties in the United States, the London subsidiary was solvent. Nevertheless, the Bank of England had to intervene as facilitator because the counterparties did not want to deal directly with the solvent London subsidiary.

In an empirical study, Anginer, Cerutti and Soledad Martinez Peria (2017) examine the association between default risk of foreign bank subsidiaries and their parents. After controlling for common factors, they find a positive correlation of default of 0.2 to 0.3. Although the correlation is lower for subsidiaries operating in countries that impose higher capital and disclosure requirements and tougher restrictions on bank activities, host country policies cannot break the link between the default risk of the foreign bank subsidiary and that of its parent bank located in the home country.

From these legal and empirical studies, it can be concluded that externalities between national subsidiaries of a multinational bank and its parent bank cannot be eliminated completely. Supervisors and resolution authorities from the home and host countries will need to cooperate when these banks experience problems, if they want to prevent disorderly outcomes and maintain financial stability. But where are the incentives and/or binding arrangements for cooperation in this MPE approach? The financial trilemma model suggests that financial stability can only be managed at the national level in the case of truly stand-alone national banks, without further connections. So, the long run outcome C. is a multinational banking system, whereby the national authorities impose increasingly high ring-fencing requirements on national subsidiaries to limit contagion.

3. The trans-Tasman banking landscape

To determine the position of the Australian banks in the financial trilemma model, this section investigates the cross-border linkages in the trans-Tasman banking landscape. The big four Australian banks are both serving Australia and New Zealand. Table 1 provides the geographic segmentation of the four main Australian banks, based on the methodology in Schoenmaker (2017a). These banks conduct about 80% of their business at home. They also dominate the domestic market with a market share of more than 80%. A further 13% of their business is conducted in New Zealand and 7% in the rest of the world (Asia, Europa and Americas). Table 2 shows that the big four Australian banks also dominate the New Zealand banking system with a market share of 87%. As the New Zealand banking supervisor requires that foreign banks conduct major retail operations through a separately licensed and capitalised subsidiary (Mayes, 2009), the vast majority of the Australian banks' activities in New Zealand are conducted through a New Zealand subsidiary (final column in Table 2). Some minor (wholesale) activities are conducted through New Zealand branches of the parent bank in Australian (the difference between the Total NZ activity and NZ subsidiary column).

These figures indicate that the Australian and New Zealand markets are particular relevant for the big four Australian banks. Potential regional cooperation for the supervision and resolution of these banks should thus include the Australian and New Zealand authorities.

Table 1: Geographic segmentation of Australian banks (2016)

Big four banks	Total assets (in US$ billion)	Home (in %)	Region (in %)	World (in %)
ANZ	698	73%	18%	9%
Commonwealth Bank	695	84%	10%	6%
Westpac Banking Corporation	640	87%	11%	2%
National Australia Bank	593	75%	11%	14%
Total big Australian banks	**2,626**	**80%**	**13%**	**7%**

Notes: Total assets are in US$ billions. The geographical segmentation of assets covers the home country, the rest of the region (New Zealand) and the rest of the world.

Source: Annual reports based on methodology in Schoenmaker (2017a).

Table 2: Market share Australian banks in New Zealand (2016)

Australian banks	Market share (in %)	Total NZ activity (in US$ billion)	NZ subsidiary (in US$ billion)
ANZ	32.0%	113	109
Westpac Banking Corporation	18.9%	63	60
National Australia Bank (BNZ)	18.4%	65	65
Commonwealth Bank (ASB)	17.8%	67	63
Total Australian banks	**87.1%**	**309**	**297**

Notes: The first column states the Australian bank, with its New Zealand subsidiary between brackets. The second column presents the market share of the Australian banks in the New Zealand banking market. The total activity in New Zealand includes some minor wholesale operations through branches from the parent bank in Australia and major operations through a separately licensed New Zealand subsidiary. The total NZ activity and NZ subsidiary are measured in assets (in US$ billions).

Source: Reserve Bank of New Zealand, Financial Stability Report, May 2017.

Fiscal backstop

The stability of a banking system ultimately depends on the strength and credibility of the fiscal backstop (Goodhart, 1998). While large countries can still afford to resolve large banks on their own, small and medium-sized countries have difficulties providing a credible fiscal backstop to any global banks they host. Using a conservative scenario, it is assumed that up to three of a country's largest banks might need to be recapitalised in a severe systemic crisis (Schoenmaker, 2017b). Recapitalisation aims to restore a bank's equity, in the case that financial stability benefits exceed recapitalisation costs. Dermine and Schoenmaker (2010) argue that a bank's equity (standardised at 4.5% of total assets) is a good proxy for recapitalisation costs. It is more precise than the often-used indicator of total assets, as not all value in assets is lost during a banking crisis.

Table 3 shows that the fiscal costs of a severe systemic crisis could amount to 7.6% of Australian GDP, if the government needed to recapitalise the largest three banks. Hüttl and Schoenmaker (2016) calculate a hurdle rate for fiscal costs at 8% of GDP. It should be acknowledged that this hurdle rate is indicative, because it does not take into account the fiscal space of individual countries (Australia and New Zealand have, for example, very low public debt ratios and thus ample fiscal space) and is largely based on the last crisis. Nevertheless, the indicative hurdle rate can also be regarded as an upper limit on the political willingness to spend large amounts (expressed as a percentage of the country's GDP) on bank recapitalisation.

Below the indicative hurdle rate of 8%, countries were able to resolve a financial crisis without external assistance during the global financial crisis. Above that hurdle rate, countries needed external support from the International Monetary Fund or the European Stability Mechanism. So, Australia can barely provide a credible fiscal backstop to its large banks, since it is close to the 8% hurdle rate. The United Kingdom and Switzerland, with potential fiscal costs above the hurdle rate of 8% of GDP, have adopted policies to downsize their banking system (Schoenmaker, 2017b).

Table 3: Potential fiscal costs for selected countries, 2015/2016 (as a % of GDP)

Countries	Assets (in US$ billion)	Recapitalisation (in US$ billion)	Fiscal costs (% of GDP)
Top 3 banks China (2015)	8,991	405	3.7%
Top 3 banks US (2015)	6,287	283	1.6%
Top 3 banks Japan (2015)	6,023	271	6.6%
Top 3 banks European banking union (2015)	5,785	260	2.3%
Top 3 banks UK (2015)	5,288	238	8.4%
Top 3 banks Switzerland (2015)	1.989	90	13.5%
Top 3 banks Australia (2016)	2.033	91	7.6%

Notes: The largest three home-country banks (those headquartered in the home country) are chosen for each jurisdiction. Based on bank rescues during the global financial crisis, recapitalisation cost is standardised at 4.5 percent of total assets. The fiscal costs represent the potential fiscal costs of recapitalising the largest three banks as percentage of GDP.

Source: Extension of Schoenmaker (2017b).

Where can one rank the Australian banks in the financial trilemma model? Outcome A. is not applicable, since New Zealand has adopted a policy of ring-fencing the New Zealand operations of the large foreign banks (in casu Australian banks). The current situation can best be characterised as outcome C., whereby the Australian banks operate as multinational banks with separate national subsidiaries. The next section discusses the long-term viability of this approach. Section 5 presents an alternative policy option, outcome B., based on a trans-Tasman banking union with burden sharing between Australia and New Zealand. It should be noted that incompatibilities in the regulatory approach -as outlined in Section 1- impede effective cooperation and may need to be addressed before a joint approach under outcome B. can be agreed.

4. Cooperation in the Trans-Tasman Banking Council

The Trans-Tasman Council on Banking Supervision was set up in 2005 to support the development of a single economic market in banking services. The Council promotes a joint approach to trans-Tasman banking supervision and reviews regularly trans-Tasman crisis response preparedness relating to common banking shocks. The Council is chaired jointly by the Treasury Secretaries of Australia and New Zealand, and also comprises senior officials from the Reserve Bank of Australia, the Australian Prudential Regulatory Authority (APRA), the Australian Securities and Investments Commission (ASIC), the Reserve Bank of New Zealand and the New Zealand Financial Markets Authority (FMA). Importantly, the existence of the Council does not in any way derogate from the existing statutory rights and responsibilities of the respective authorities.[4]

For the crisis coordination, the participating parties singed a Memorandum of Cooperation on Trans-Tasman Bank Distress Management in 2010. The Memorandum provides a broad framework to promote and facilitate a coordinated response by the participants to a trans-Tasman banking crisis, and to allocate responsibility for particular elements of the response. The Memorandum is not governed by international law and does not create legal relations between the participants to the Memorandum. Nevertheless, both countries have enacted in their respective legislation requirements to take into account the potential impact on financial stability in the other country when taking supervisory and resolution actions.[5]

The Memorandum stipulates *inter alia* the following principles to guide any response to the financial distress of a trans-Tasman bank (i.e. one of the big four Australian banks):

- A co-ordinated, co-operative approach involving the participants is likely to lead to a more cost-effective financial crisis resolution and a more effective means of maintaining financial system stability in both countries than one in which the respective participants pursue separate agendas. The participants will therefore seek to cooperate, where practicable, in respect of all stages of resolving a crisis situation.

[4] See Terms of Reference for the Trans-Tasman Council on Banking Supervision.

[5] In Australia, the Australian Prudential Regulatory Authority Act 1998 and the Banking Act 1959 contain provisions that oblige APRA, to the extent reasonably practicable, to avoid any actions that are likely to have a detrimental effect on the stability of the New Zealand financial system. In New Zealand, the Reserve Bank of New Zealand Act 1989 contains provisions that oblige the Reserve Bank, to the extent reasonably practicable, to avoid any actions that are likely to have a detrimental effect on the stability of the Australian financial system.

- For systemically important banks, the participants will explore options for an open resolution of the parent and subsidiary banks that are most likely to be conducive to maintaining stability and international confidence in the financial systems of both countries, and will advise their respective governments accordingly.
- Private sector solutions are preferred over public support, but government support may be required in some cases, particularly where a trans-Tasman bank is severely under-capitalised or insolvent, or is under acute stress due to a fall in market confidence, and there appears to be no prospect of private capital support in the required timeframe. Public sector support may involve government guarantees, recapitalisation or liquidity support, or a combination of these.
- In a situation where an Australian parent bank is able to provide financial support, including recapitalisation, to its New Zealand subsidiary, and where the parent bank is satisfied that providing such support is in its commercial interests, the Australian participants will encourage this support, provided that it does not compromise the financial soundness of the parent bank.
- In a situation where the parent bank is not able to provide financial support to its New Zealand subsidiary without compromising the parent bank's financial soundness, the Australian participants will take the lead in reviewing options for the parent bank and its foreign operations (except New Zealand). The New Zealand participants will take the lead in reviewing options for the New Zealand subsidiary.

In the case of a possible recapitalisation, the division of labour is thus that the Australian authorities are responsible for the design and implementation of capital support for the parent bank (except New Zealand) and the New Zealand authorities are responsible for the design and implementation of capital support for the New Zealand subsidiary. While the preferred option, in particular for the Australian authorities, might be to keep the international bank intact with SPE resolution, the division of labour is based on a MPE resolution strategy, whereby separate resolutions are performed in each country (if necessary). The host country (in casu New Zealand) has statutory power of resolution of the respective national subsidiary.

European experience

Prior to the global financial crisis, the European Union (EU) countries had similar arrangements in place. The banking supervisory authorities, the central banks and the finance ministries of the EU agreed on a Memorandum of Understanding on co-operation in financial crisis situations in 2005. Moreover, there were bank specific Memoranda of Understanding (MoUs) specifying the responsibilities of the involved supervisors and central banks. These MoUs had extensive provisions on information exchange and cooperation in banking supervision and crisis management. After the Fortis acquisition of ABN AMRO in 2007, the MoU for the Belgian-Dutch banking group Fortis was extended and updated.

Notwithstanding these MoUs in place, the cooperation between the Belgian and Dutch authorities failed during the efforts to rescue Fortis in 2008 (Schoenmaker, 2013). Fortis was split on national lines and its disposition was subsequently resolved by the respective national authorities at a high overall cost.[6] The Fortis case illustrates the way in which other factors can play a role in creating coordination problems. Belgian and Dutch authorities have had a long tradition of cooperation, and Fortis was systemically important in both Belgium and the Netherlands. The Belgian authorities wanted to rescue Fortis as a whole keeping the home base in Brussels, while the Dutch authorities wanted to return ABN AMRO, which had just been acquired by Fortis, to Dutch control by divesting it from Fortis.

For completeness, the global financial crisis provides several case studies (see Chapter 4 in Schoenmaker, 2013). In some cases, coordination was successful as national interests where fully aligned. Examples are the initial rescue of Dexia and the Joint Vienna Initiative to maintain the Central and Eastern European activities of Western European banks. In other cases, coordination broke down due to diverging interests. Examples are the failure of Lehman Brothers, Fortis and the Icelandic banks.

These cases confirm the financial trilemma, which states that national authorities will follow their national interest during a banking crisis since they are responsible to their respective national parliaments. The priority for the Austrian authorities is to defend the stability of the Australian banking system and to protect their depositors. By the same token, the priority for the New Zealand authorities is with the New Zealand financial system. The financial trilemma suggests that legally binding arrangements are needed to ensure effective cooperation, also

[6] Fortis has separate legal entities for the Belgian and Dutch operations, but these entities appeared to be interwoven during the subsequent split of the bank.

when national interests diverge (outcome B. in Section 2). Section 5 discusses a possible trans-Tasman banking union based on hard law.

Multinational banks based on national subsidiaries

So, the current Trans-Tasman Banking Council arrangement is best typified by outcome C.: multinational banks based on national subsidiaries. The Reserve Bank of New Zealand has a long standing practice of requiring a separate licensed and capitalised subsidiary in case of significant retail operations from foreign banks in New Zealand. Moreover, the Reserve Bank requires that this subsidiary can operate independent from its parent bank by putting limits on outsourcing and corporate governance. Outsourcing occurs when a bank uses another party to perform business functions, such as IT processing, accounting and call centres. The Reserve Bank's outsourcing policy requires large banks to have the legal and practical ability to control and execute core outsourced functions.[7] This is to ensure that the bank has the ability to continue to provide core liquidity, payment and transaction services in the event that one of its service providers fails or becomes dysfunctional, or if the bank itself fails. More generally, the Reserve Bank requires the New Zealand subsidiaries to develop robust separation plans from the Australian parent banks (IMF, 2017). But group operations and functions, such as risk and compliance, typically work across the group.

Moving to corporate governance, the Reserve Bank requires that licensed banks, including wholly-owned subsidiaries, should have a board with at least five directors.[8] A strict majority of the board must be non-executive, and at least half of the board must be independent. In addition to the requirements on board independence, the board must have a separate audit committee, whose mandate must include ensuring the integrity of the bank's financial controls, reporting systems and internal audit standards.

APRA has also requirements to limit exposures of Australian banks to their New Zealand subsidiaries. The prudential limit on intra-group exposures to a related entity (including a New Zealand subsidiary) is 50% of the Australian bank's regulatory capital.[9] Similar to New

[7] See Outsourcing Policy, Document BS11, Financial Stability Department, Reserve Bank of New Zealand (2006).
[8] See Corporate Governance, Document BS14, Financial Stability Department, Reserve Bank of New Zealand (2014).
[9] See Prudential Standard APS 222, Associations with Related Entities, APRA (2015).

Zealand, Australian banks must demonstrate to APRA that the reliance on shared services does not compromise the ability to operate on a stand-alone basis.

But can you really separate all linkages? Section 2 argues that externalities between national subsidiaries of a multinational bank and its parent bank cannot be eliminated completely. The supervisory answer is to increase ring-fencing requirements. When ring-fencing requirements would become prohibitive, the synergies of belonging to the same banking group could be lost.

5. Risk sharing in a Trans-Tasman banking union

Beck and Wagner (2016) argue that the extent to which supervision of banks takes place at the supranational level should be guided by two factors: cross-border externalities from bank failure and heterogeneity in bank failure costs. Based on a simple model, they show that supranational supervision is more likely to be welfare enhancing when externalities are high and country heterogeneity is low.[10] Their model also suggests that small countries - even if their preferences only have little effect on supranational decision-making - can benefit more from delegation than large countries. This result goes against the often-voiced argument that smaller countries tend to lose under supranational solutions if under such solutions their characteristics are less taken into account. The reason is that a small country can be subject to significant externalities from the failure of foreign banks. It hence has a high interest in supranational supervision and resolution that address the cross-border externalities from bank failures. Nevertheless, the smaller country runs the risk that key decisions on supervision and resolution are taken by the larger country. Effective cooperation therefore requires a balanced set-up with input from both sides.

A banking union, such as in the euro area, hardwires a joint crisis approach at the supranational level. Risk or burden sharing is a crucial component of such a banking union (Goodhart and Schoenmaker, 2009). The potential moral hazard can be addressed through strong joint banking supervision at the supranational level. The key element of European banking supervision is the operation of joint supervisory teams for the significant banks in the European banking union (Schoenmaker and Véron, 2016). Such joint teams, which in the trans-Tasman banking union would encompass APRA and Reserve Bank of New Zealand

[10] While country heterogeneity may be low in the case of Australia and New Zealand, there are major differences between their regulatory approaches towards banking (see Section 1).

supervisors, can exercise consolidated supervision over the big four Australian banks. Moreover, the joined-up supervisors should decide on appropriate capital surcharges for systemic risk for these large banks.

The resolution strategy would be based on SPE resolution, whereby an international bank is recapitalised at the level of a single bank holding company that owns banking subsidiaries in multiple jurisdictions. The resolution losses are first allocated to the equity (and bond) holders of the parent holding and the authorities have statutory power to execute resolution at the parent holding. The underlying idea is that any remaining losses are shared across countries. Faia and Weder di Mauro (2016) label this solution as cooperative SPE, which generally minimises losses since authorities internalise cross-country externalities and is thus more cost-efficient.

As indicated in Section 2, the burden sharing can be based on the specific situation of each bank (e.g. geographic segmentation of assets) or on a general basis (e.g. GDP). Table 4 indicates that both approaches yield similar results, which are lopsided. As banking crises can have a strong impact on general financial stability conditions and the wider economy, a general approach towards burden sharing is most suitable. For the trans-Tasman banking union, the burden sharing key would amount to 86.7% for Australia and 13.3% for New Zealand. The current crisis management MoU between Australia and New Zealand is based on specific burden sharing, whereby New Zealand is responsible for recapitalisation of the New Zealand subsidiary and Australia for the remainder of the bank (see Section 4).

Table 4: Burden sharing key (2016)

	Burden sharing key	
Country	**Bank assets**	**GDP**
Australia	86.3%	86.7%
New Zealand	13.7%	13.3%
Total	**100%**	**100%**

Notes: Bank assets reflect the relative share of the assets of the 4 large Australian banks in Australia and New Zealand.
Source: Author calculations based on Table 1 for bank assets and World Bank for GDP.

To compare, the European Stability Mechanism (ESM), which provides the fiscal backstop to the euro-area banking system, is based on a general form of burden sharing, whereby the burden sharing key is based on an arithmetic average of countries' shares in population and GDP (Goodhart and Schoenmaker, 2009). The ESM is also enshrined in an intergovernmental treaty (hard law) to make it legally binding.

Impact on fiscal backstop

A burden sharing arrangement within a trans-Tasman banking union would enhance the credibility of the fiscal backstop for the Australian and New Zealand banking system. Table 5 shows that the potential fiscal costs of recapitalising the largest three banks (recall our conservative crisis scenario in Section 3) drops from 7.6% of Australian GDP to 6.6% of the joint Australian and New Zealand GDP. This improvement is obviously less than in the European banking union, where 19 instead of 2 countries join forces.

Table 5: Potential fiscal costs in a banking union, 2015/2016 (as a % of GDP)

Countries	Assets (in US$ billion)	Recapitalisation (in US$ billion)	Fiscal costs (% of GDP)
Top 3 banks European banking union (2015)	5,785	260	2.3%
• Top 3 banks France (2015)	5,465	246	10.2%
• Top 3 banks German (2015)	2,794	126	3.7%
• Top 3 banks Spain (2015)	2,646	119	9.9%
• Top 3 banks Netherlands (2015)	2,064	93	12.3%
• Top 3 banks Italy (2015)	1,854	83	4.6%
Top 3 banks trans-Tasman banking union (2016)	2.033	91	6.6%
• Top 3 banks Australia (2016)	2.033	91	7.6%

Notes: The largest three home-country banks (those headquartered in the banking union or separate home country) are chosen for each jurisdiction. The European banking union covers the 19 euro area countries. The possible trans-Tasman banking union covers Australia and New Zealand.

Source: Table 3.

6. Policy assessment and conclusions

Good supervision cannot prevent banking crises. Macro-economic shocks can destabilise the banking system, as Reinhart and Rogoff (2009) show in their seminal book with the sub-title *Eight Centuries of Financial Folly*. The standard scenario is a housing boom-bust cycle. Other shocks can, for example, threaten (or originate from) the agricultural sector in New

Zealand or the mining industry in Australia. These shocks might also affect connected industries such as the engineering industry for manufacturing agricultural or mining equipment.

An effective crisis response framework can help to dampen the impact of a banking crisis on the real economy. The big four Australian banks are spanning the Australian and New Zealand banking system. Recognising the interconnectedness of their banking systems, the Australian and New Zealand authorities have set up a Trans-Tasman Banking Council to promote a coordinated crisis response if and when needed. A Memorandum of Understanding, which is an example of soft law, underpins the crisis framework.

The review in this paper suggests that soft law arrangements may break down during a crisis when interests diverge. This may lead to value destruction and higher costs on both sides. The alternative is to hardwire cooperation in a banking union based on a bi-lateral treaty. Such a banking union would encompass joint supervision of the big four Australian banks and joint resolution based on burden sharing between the Australian and New Zealand governments, facilitating a lowest cost approach and enhancing financial stability. The technical solution of burden sharing addresses the problems of fiscal capacity and foreign externalities and is thus a stable equilibrium.

The challenge is political. Are the two countries prepared to join forces in banking policies, and thus give up part of their sovereignty in this field? Such a decision has to be put to democratic vote in the relevant parliaments. Europe, which is more advanced on political and institutional integration including a common currency, needed an existential crisis that threatened the euro, before it embarked on its banking union. Finally, can New Zealand, as the smaller one of the two, ensure an effective voice in joint arrangements?

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