RESERVE BANK OF AUSTRALIA

Australian Prudential Regulation Authority

Macroprudential Analysis and Policy in the Australian Financial Stability Framework

September 2012

978-0-9873620-1-8 (Print)
978-0-9873620-2-5 (Online)

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Acronyms and Abbreviations

ADI	Authorised deposit-taking institution
APRA	Australian Prudential Regulation Authority
ASIC	Australian Securities and Investments Commission
BCBS	Basel Committee on Banking Supervision
CFR	Council of Financial Regulators
FSAP	Financial Sector Assessment Program
FSR	Financial Stability Review
PAIRS	Probability and Impact Rating System
SAP	Supervisory Action Plan
SOARS	Supervisory Oversight and Response System

1 Executive Summary

Australia's financial stability policy framework involves clear mandates for financial stability distributed across several agencies, with the Council of Financial Regulators (CFR) playing a central coordinating role. The prudential elements of that framework rest with APRA, with analytical support from the RBA. This document – originally prepared as background for the IMF FSAP team in early 2012 – sets out the tools and practices of these two agencies that are designed to support financial stability from a system-wide perspective. The Australian authorities view macroprudential policy as subsumed within the broader and more comprehensive financial stability policy framework.

The Australian framework for financial stability policy incorporates several features that have lent it flexibility and helped ensure its effectiveness. These include clear financial stability mandates for particular agencies; a structured inter-agency coordination process through the CFR; and a strong and cooperative relationship between the two agencies with explicit financial stability mandates. The Council's role includes the preparation of joint advice to the Government where action is needed that goes beyond the legislated powers of the constituent agencies.

In broad terms, APRA has responsibility for the setting of prudential standards and instruments and for supervision of institutions. The instruments available to the RBA in pursuing its financial stability objective include the use of its role as liquidity provider to the financial system and its regulatory powers in respect of the payments system, including oversight of clearing and settlement systems. The RBA also recognises that the setting of macroeconomic policies needs to be fully informed by financial stability developments, and financial stability assessments are regularly incorporated into the RBA reporting and decision-making processes (normally half-yearly).

2 Mandates

Responsibility for financial stability policy in Australia is spread across several agencies.

- The RBA has had a longstanding responsibility for financial stability, which was reconfirmed in the context of the 1998 reforms to financial sector regulation in Australia (which, inter alia, created APRA), and more recently was outlined in the September 2010 Statement on the Conduct of Monetary Policy.[1]

1 See <http://www.rba.gov.au/monetary-policy/framework/stmt-conduct-mp-5-30092010.html>.

- APRA is required to promote financial system stability in Australia while balancing its objectives of financial safety and efficiency, competition, contestability and competitive neutrality.

- ASIC is responsible for taking certain regulatory actions to minimise systemic risk in clearing and settlement systems, working with the RBA.

- The Australian Treasury has responsibility for advising the Government on financial stability issues and on the legislative and regulatory framework underpinning financial system infrastructure.

The specifics of the RBA's mandate rest on the provisions in section 10 of the *Reserve Bank Act 1959* requiring the Bank to 'ensure that the monetary and banking policy of the Bank is directed to the greatest advantage of the people of Australia' and that its powers are 'exercised in such a manner as, in the opinion of the Reserve Bank Board, will best contribute to: (a) the stability of the currency of Australia; (b) the maintenance of full employment in Australia; and (c) the economic prosperity and welfare of the people of Australia'. Given the serious damage to employment and economic prosperity that can occur in times of financial instability, the Act has long been interpreted to imply a mandate to pursue financial stability. This implicit goal has been made more explicit by successive governments. In 1998, the then Treasurer explicitly referred to financial stability being the regulatory focus for the RBA, in the Second Reading Speech in support of the APRA Act.[2] More recently, in 2010 the RBA and the Government recorded their common understanding of the RBA's longstanding responsibility for financial system stability, as part of the periodically updated Statement on the Conduct of Monetary Policy.[3]

APRA's objectives, including its mandate to pursue financial stability considerations in concert with its other goals, are set out in the *Australian Prudential Regulation Authority Act 1998* (APRA Act). Section 8(2) of that Act states: 'In performing and exercising its functions and powers, APRA is to balance the objectives of financial safety and efficiency, competition, contestability and competitive neutrality and, in balancing these objectives, is to promote financial system stability in Australia.' This was reinforced by the Treasurer's Statement of Expectations in 2007 which noted that prudential regulation seeks to reduce market failure by limiting the systemic risks associated with breaches of financial promises.[4]

The RBA and APRA agreed on a Memorandum of Understanding (MOU) in 1998, which sets out some of the specifics of the modes of cooperation and procedures for information sharing.[5]

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2 See <http://fsi.treasury.gov.au/content/downloads/PublicInfo/Speeches/FSI_SecondReadingSpeeches.rtf>.
3 See <http://www.rba.gov.au/monetary-policy/framework/stmt-conduct-mp-5-30092010.html>.
4 See <http://www.apra.gov.au/AboutAPRA/Documents/Statement-of-Expectations-from-Treasurer-20-Feb-07.pdf>.
5 See <http://www.apra.gov.au/AboutAPRA/Documents/MoU-RBA-Reserve-Bank-of-Australia.PDF>.

The *Corporations Act 2001* includes as an objective 'the reduction of systemic risk and the provision of fair and effective services by clearing and settlement facilities'. To support this objective, the Act sets various obligations for providers of clearing and settlement facilities, and gives the RBA the power to set financial stability standards, and gives both the RBA and ASIC various powers relating to licensing, standard-setting and direction over a provider of such facilities. Section 823E gives ASIC a directions power over holders of clearing and settlement facility licences, to direct them to take actions to reduce systemic risk. Before giving, varying or revoking such a direction, ASIC must consult the RBA, although failure to do so does not invalidate the direction, variation or revocation. The RBA may at any time request ASIC to make a direction, but ASIC is not required to comply with the request. The two agencies agreed on an MOU in 2002, detailing the processes and information-sharing arrangements they would follow in pursuit of these joint responsibilities.[6]

More broadly, and consistent with recent revisions to the IOSCO Objectives and Principles of Securities Regulation, ASIC also plays an important role in monitoring, mitigating and managing systemic risk in the Australian financial system, appropriate to its mandate.[7] This work primarily takes place through ASIC's Emerging Risk Committee, which meets regularly to identify and assess emerging systemic and thematic risks and, in doing so, keeps the perimeter of securities regulation under review. Important issues and concerns arising from this process are communicated with the RBA and APRA directly or through the Council of Financial Regulators. In addition to its MOU with the RBA, ASIC has an MOU with APRA establishing a framework for cooperation in areas of common interest.[8]

3 Role of the Council of Financial Regulators (CFR)

The CFR is an inter-agency body designed to ensure cooperation and collaboration between the RBA, APRA, ASIC and the Australian Treasury. Its ultimate objectives are to contribute to the efficiency and effectiveness of regulation and to promote stability of the Australian financial system.[9] The CFR is non-statutory and has no regulatory functions separate from those of its members. It meets roughly quarterly and is chaired by the Governor of the RBA.

The CFR provides a forum for identifying important issues and trends in the financial system, including those that may impinge upon overall financial stability. It is also responsible for ensuring that there are appropriate coordination arrangements for responding to actual or potential instances of financial instability. In the few instances where members' responsibilities overlap, the CFR provides a venue to ensure that these are resolved.

6 See <http://www.rba.gov.au/media-releases/2002/mr-02-08.html>.
7 See Principle 6 of the IOSCO Objectives and Principles of Securities Regulation.
8 Since it is APRA and the RBA which are primarily involved in macroprudential analysis and policy, the remainder of this paper mainly focuses on APRA and the RBA.
9 See <http://www.rba.gov.au/fin-stability/reg-framework/cfr-charter.html>.

As specified in its Charter, the CFR's role is to contribute to the efficiency and effectiveness of financial regulation by providing a high-level forum for cooperation and collaboration among its members. Its structure is designed to create a cooperative environment where members can share information and views and discuss regulatory reforms. During the crisis in particular, it has proven to be an effective means of coordinating responses to potential threats to financial stability. The CFR also has a role in advising the Government on the adequacy of Australia's financial system architecture in light of ongoing developments. These arrangements provide a flexible, low-cost approach to coordination among the main financial regulatory agencies.

4 System-wide View

The Australian agencies see a system-wide view as an essential part of effective prudential supervision, inextricable from the supervision of individual institutions.

APRA is the supervisor of financial institutions in Australia. In carrying out its duties, APRA takes an industry-wide, or systemic, perspective, as is consistent with its mandate. APRA makes its systemic mandate operational through a number of elements of its supervisory practice. APRA's risk-based approach subjects institutions that pose greater systemic risks to more intensive supervision, and potentially higher capital or other prudential requirements. APRA uses tools such as industry-wide stress tests, horizontal reviews and thematic analysis of emerging risks to inform its supervisory focus and actions. Assessments of systemic risks can motivate sector-wide prudential action, either of a supervisory or policy nature. APRA supervisors identify, monitor and analyse a wide range of market and financial developments and other environmental factors that may impact financial markets and make use of such information in the supervision of entities. Information and insights gained from a wide variety of sources are used.

Such a system-wide view involves looking both at the whole system as a single unit and at the way interactions of different parts of the system might feed back onto others. For example, decisions by lenders will affect their counterparties, and through the effect of credit supply on asset prices, will also affect others who are not their customers but own those assets. One of the ways these interactions can be traced is through system-wide or industry-wide stress testing (see Box A). Taking a system-wide view also involves a recognition that financial instability will occur long before the median or average member of a particular sector becomes distressed: risks manifest in the most vulnerable segments. Therefore it is important to analyse both aggregated and disaggregated data.

In addition it is important to draw out the underlying behaviours that are generating those data. These behaviours may point to potential vulnerabilities or future risks, for example those arising from over-exuberance, excessive risk-taking and rent-seeking behaviour. The observations of prudential supervisors at APRA about the attitudes and behaviours of executives and boards of supervised institutions can be a useful input to this analysis, complementary to the quantitative analysis done at both agencies.

The financial system involves a number of complexities and uncertainties, including: the diversity of entities in the system; the importance of feedbacks and interactions between those entities; and the role of unobservable characteristics and decisions, such as risk appetite and expectations. For this reason, the Australian authorities do not believe it is feasible or desirable to confine their analysis of the system to a single style of analysis or statistical model. Academic contributions to the understanding of financial systems continue to evolve; it makes sense to incorporate new developments and thinking over time, rather than restrict analysis to ideas that can be absorbed into a single framework. An implication of this view is that the agencies place little emphasis on detecting asset price misalignments based on the output of particular valuation models in isolation.

Box A: Stress testing

Stress testing is used by APRA as part of its regular supervisory activities. APRA's use of stress testing extends beyond the prudential requirements for regulated institutions to undertake their own stress testing. APRA conducts its own stress testing to better understand the vulnerabilities of regulated entities, industries and the financial system. These stress tests can involve cross-industry participation, so that the implications from a common, severe but plausible scenario can be explored. The information obtained from stress testing is used by APRA to consider actions that may be necessary to address any concerns it has.

APRA works with the RBA and the Reserve Bank of New Zealand (RBNZ) in the development of stress scenarios to be used in system-wide stress tests of banks. The involvement of the RBNZ reflects the dominant market presence of Australian-owned bank subsidiaries in New Zealand. Where relevant, the RBNZ also works with APRA on the analysis of regulated entity stress test submissions.

In recent times, APRA's approach to authorised deposit-taking institutions (ADI) stress testing has involved a two-phased process. In Phase 1, participating ADIs are asked to consider the financial and regulatory implications of a macroeconomic scenario by processing the stress through their own models and application of their judgement. In Phase 1 the participating ADIs are asked to consider the stress without application of any mitigating actions – in essence the ADI is on autopilot throughout the event and does not take action to reduce or avoid losses.

Box A: Stress testing (continued)

Detailed, standardised template information is sought from the participating ADIs to garner their perspective on the impact of the scenario on a range of different portfolio areas. In particular, granular information is gathered with regard to the behaviour (credit migration, probabilities of default and loss given default) of key credit portfolio segments. Information is also collected on trading and fair value outcomes, liquidity consequences and broad balance sheet, profit and loss and overall regulatory impacts.

It can be expected that portfolio differences result in varied outcomes in Phase 1 of the stress test. Differences in judgements and methodologies also contribute significantly to variations. To control for the variability of judgements and methodologies applied in Phase 1, APRA provides ADIs granular risk estimates (credit migrations, default rates, loss given default estimates etc) to be applied under a defined methodology in Phase 2. By controlling the risk inputs and the methodologies used APRA can better understand the consequences stemming from portfolio differences.

Phase 2 of the stress test essentially has two components. The first component of Phase 2 seeks from participating ADIs the regulatory and financial outcomes that result from application of the APRA stress methodology and risk estimates but before mitigating actions. The second component involves obtaining detailed information on the mitigating actions that ADIs would undertake to reduce the financial and regulatory consequences of the scenario.

In applying a two-phased process APRA believes value is obtained through:

- observing the variability in regulated entity stress testing practices (and necessarily linked capabilities such as IT flexibility) with an aim of driving longer-term improvement;
- gaining perspectives on the stress scenario judgements of regulated entities and, by implication, the maturity of their risk culture;
- considering the preparedness of regulated entities to deal with adverse circumstances;
- understanding the potential for regulated entities to apply mitigating actions that appear rational at an individual entity level but can, on a system-wide basis, result in deepening the stress (e.g. cutting credit growth); and
- identifying entity and system vulnerabilities and initiating appropriate action.

As is the case with overseas regulators, APRA has stepped up its stress-testing activities since the global financial crisis. APRA's stress testing work, like most prudential supervisory activity, is typically undertaken away from the public gaze. Such confidentiality allows APRA to explore the boundaries of viability of regulated entities without creating unnecessary public concern.

5 Conduct and Sharing of Analysis

The distribution of responsibilities between APRA and the RBA is such that there are necessarily areas of overlapping interest. While APRA is primarily a supervisor of institutions and the RBA is primarily focused on the system as a whole, both institutions have a clear interest in developments at both levels. To work effectively, this structure requires coordination to ensure a coherent policy approach and appropriate sharing of information and analysis.

5.1 Analytical approaches

The global financial crisis has prompted some rethinking in the economics profession about the kinds of models and assumptions that should be used, both for macroeconomic policymaking and for gauging the risks and vulnerabilities in the financial system. Some recent academic work has provided new insights on financial stability issues such as leverage, risk appetite and interconnectedness. Some researchers have rediscovered existing work that had not previously been incorporated into the standard macroeconomic models, such as those that emphasise information asymmetries; others have borrowed from other fields, such as network analysis and agent-based modelling.

The Australian authorities have never focused on a single class of models or single analytical approach. Since real-world data are imperfect and all theoretical models are by definition incomplete, practical policymaking has been best served by an eclectic approach that tries to piece together a coherent story by cross-referencing a broad range of data and applying a judgement overlay. This section details some of the perspectives or analytical approaches that the Australian agencies use to detect emerging vulnerabilities and risks in the financial system or some part of it.

The events of the crisis have shown how important balance sheet size and structure can be in determining spending and other economic decisions, as well as a sector's resilience to shocks. Balance sheet considerations can constrain the actions of households and non-financial firms as well as banks and other suppliers of credit, and changes in the balance sheets of one sector inherently affect those of other sectors. Accordingly, the two agencies monitor data on both aggregated and institution-level balance sheets. Key indicators include developments in credit, corporate sector gearing and measures of net wealth and indebtedness in the household sector. Measures of balance sheet structure are also monitored, such as the composition and term structure of funding of financial and non-financial firms. Measures of asset quality for financial intermediaries fall into this category of indicators. The set of data monitored is subject to ongoing review, according to criteria such as data quality, relevance and analytical usefulness.

In monitoring these kinds of data, the two agencies are looking for signs that balance sheet developments could make that entity or sector more vulnerable to particular shocks. For example, rising gearing can leave firms or sectors vulnerable to falling asset prices or incomes, while increased shorter-term funding can leave them vulnerable to rollover risk if debt markets became dysfunctional. Deviations from historical experience can be but are not necessarily taken as a signal of vulnerability, as there are cases where structural change in the economy implies that the maximum safe levels of a particular balance sheet quantity or ratio can change through time.

As noted in the previous section, behavioural indicators such as risk appetite and exuberant expectations are also helpful for detecting risks to financial stability. Periods of financial instability are invariably preceded by boom periods when investors and other decision-makers are exuberant, risk-taking increases, demand for and supply of credit are both strong, and new financial products and markets have become prominent. Qualitative observations of attitudes and behaviours are therefore useful signals; to avoid these being distorted by anecdotal impressions, the two agencies cross-check their behavioural observations with hard data. Among the data that the two agencies track to detect these patterns of behaviour are asset prices, saving and borrowing behaviour, credit conditions, lending standards and the distribution of credit and spending by sector and purpose. The various dimensions of lending standards – that is, the features of the loan and the decision process before it is granted – are key indicators for detecting excessive risk-taking by lenders as well as borrowers.

Although it is not the role of policymakers to second-guess the decisions of other people in relation to their own affairs, the two agencies are alert to signs that risk-taking has gone too far. Among other things, two patterns of behaviour are most relevant:

- decisions are being taken based on optimistic perceptions of risk and future outcomes; and
- much of the risk is being taken by agents on behalf of others, with the ultimate bearers of that risk having little understanding or control over these decisions.

The second of these issues points to another area that may signal future risks and vulnerabilities: governance issues, including potential conflicts of interest. Where governance is insufficient, rent-seeking can thrive. This is a particular issue in complex, opaque markets, such as the structured credit boom in the years before the crisis. Governance issues can also enable excessive risk-taking that would not be allowed to take place if an institution's shareholders or other principals were fully informed about their employees' or agents' activities.

These kinds of issues are not easily detectable using standard datasets. Instead, APRA and the RBA are alert to imprudent terms and conditions in contracts and products, and whether there is an unusual flow of new financial products being introduced to the market. Compensation practices and other indicators of poor governance can be used as indicators of the potential for rent-seeking. A common symptom of rent-seeking, as well as excessive investor exuberance, is heightened activity in the market for corporate control.

As noted in the previous section, system-wide analysis still requires disaggregated data to be monitored, in order to detect concentrations of risk in particular sectors or segments, which could propagate to the broader system. These concentrations could include large gross exposures of particular entities to a particular risk – for example, movements in the exchange rate.

Both agencies therefore monitor data on individual financial institutions. APRA focuses on regulated institutions, including their large exposures; the RBA also monitors data on other financial firms, which APRA collects under the terms of its powers under the *Financial Sector (Collection of Data) Act 2001*. The two agencies are constrained by legislation from publishing certain kinds of data on individual financial institutions, but make extensive use of such data internally and in discussions with each other. In addition, the RBA obtains and analyses disaggregated data on household and non-financial business sector financial positions drawn from household surveys, databases on listed companies, and credit reference agencies. For privacy reasons, all disaggregated data on non-financial sectors are suitably anonymised. These disaggregated data can then be presented using various distributional metrics, such as percentiles or share of the population above or below some threshold value.

In analysing data of this type, the two agencies are looking for signs that risk or vulnerability to shocks is disproportionately concentrated on a subset of that sector or group of entities. Industry analysis, disaggregation by household characteristics, and other metrics can be used to identify these more vulnerable subgroups. The implications of such concentration of risk depend on the size of the subgroup, its connections with other parts of the economy, and its capacity to mitigate the effects of a particular shock.

5.2 Conduct of analysis

The following two sections describe the processes in the two agencies for conducting macro-level and industry analysis and feeding the results of that analysis into policymaking. While the results of that analysis are often shared between the agencies, the analysis itself is usually in the first instance conducted within each agency separately.

5.2.1 RBA

At the RBA, the analysis and policy development on financial stability issues is primarily the responsibility of Financial Stability Department. The analytical process is divided into regular monitoring of key variables, issues-based analysis of data outside the core set of regularly reported data, and longer-term analytical projects. These duties are distributed across teams responsible for specific subject areas, including international developments, the domestic financial system and the non-financial sectors. The educational backgrounds of the analytical staff include a mix of economics, finance and actuarial science, although economics predominates.

The department's regular data monitoring and analysis covers all the approaches to analysis described in the previous section. Among the routine outputs are statistics related to banking and financial stability that the RBA regularly publishes on its website. Although much of the source data for these statistics are drawn from APRA and ABS collections, RBA staff assist in their compilation and quality assurance. These functions are the first stage in the process of analysis and risk identification that culminates in the publication of the semi-annual *Financial Stability Review* (FSR).

The next stage in the process is the analysis of recent data for internal circulation. Some of the topics are routinely reported on, while others might be proposed by staff or commissioned by senior management. Written reports on both routine and one-off topics are approved by departmental management and circulated to the Governors and staff in other parts of the RBA. The RBA's top management is therefore exposed to data reporting and analysis related to financial stability issues on an ongoing basis. Some routine data analysis and longer-term projects are joint work with other departments.

Some of the department's regular and one-off analysis is commissioned specifically for publication in the RBA *Bulletin* and, in particular, the FSR. As well as being the RBA's primary regular channel for communication with the public about financial stability issues (see Section 6.4.2), the FSR provides structure to the regular cycle of monitoring and analysis. The process of drafting the FSR begins with a meeting of the department and the Assistant Governor (Financial System), where the themes for the issue, including possible risks to the Australian financial system, are discussed. Drafts of the material proposed for inclusion are reviewed and approved by the senior management team and the Governors, and are also circulated to the other CFR agencies for comment prior to publication.

In addition, the department produces a financial stability paper for the RBA Board's March and September meetings. The contents of this paper are largely replicated in the issue of the FSR that is released at the end of that month. Senior staff in Financial Stability Department and the Assistant Governor (Financial System) attend the pre-Board meeting of senior Bank staff each month, and can provide input to the monetary policy decision based on the department's assessment of conditions in the financial system. The financial stability paper is also discussed at this meeting in the relevant months.

Some other pieces are commissioned for consideration by the CFR. For example, the RBA has committed to providing the CFR with an annual analysis of the so-called 'shadow banking' sector. Although this sector is small in Australia, the experience of other countries shows that it could in principle pose systemic risk if this were to change. This annual review is designed to ensure that such a development would not be missed. Another recent example of work commissioned for the CFR was a detailed analysis of the risks associated with banks' offshore funding.

5.2.2 APRA

To support supervisors APRA has a set of systems, tools and processes that monitor industry trends and potential industry risks.

Industry Risk Management Framework

APRA has an Industry Risk Management Framework, the general purpose of which is to assist APRA in identifying and acting on significant emerging industry-wide risks. The goal of the framework is to identify thematic or macroprudential risks and develop an appropriate response that mitigates those risks, prioritises the use of resources and facilitates consistent treatment across institutions. The aim is to be forward looking and to head off identified risks before they develop into something less easily manageable by both APRA and the industry.

Industry Analysis team

The Industry Analysis team, embedded within APRA's supervisory divisions, has as one of its primary responsibilities the task of conducting analysis and research on current and emerging industry risks and disseminating relevant and useful information to APRA supervisors.

The team prepares a range of internal tools and reports which are used by supervisors and APRA management to assess industry risks, identify relevant macroeconomic factors and take stock of industry issues. These include preparation of regular industry overviews, as well as chart packs and dashboards which show trends in industry data and performance against risk tolerances and comparisons across peer groups.

Industry groups

The industry group is the key forum for addressing, and seeking APRA-wide consensus on, emerging industry issues. Each industry group is a cross-divisional forum with senior representatives from supervision, industry technical services, industry analysis, policy, statistics and legal. The industry groups liaise with industry (including professional bodies) and other regulators so as to identify emerging issues to be escalated for appropriate policy or supervisory response. They also provide advice to the APRA Members (APRA's leadership group) and other relevant APRA committees about major developments affecting the industry: information which would be made available to other regulators if needed.

Risk registers

A key feature of the framework is the suite of industry risk registers. These registers record any material emerging concern or business practice common to more than one institution in the industry that has a heightened possibility of having significant adverse prudential consequences for the industry. The industry risk registers act as both a management and a communication tool.

Risks identified are those affecting, or those that have the potential to affect, a large number of entities and/or a high proportion of the industry. The risks are intended to capture threats that could affect regulated entities or the financial system in the short to medium term. They are not intended to capture remote speculative risks that could emerge at some indefinite future point. The definition of each industry risk is kept sufficiently specific such that it is possible to develop meaningful responses to that risk. Only risks rated as 'high' or 'medium' are reported on risk registers. APRA's Management Group must approve the addition or removal of a 'high' risk.

The risk registers are intended to consider elevated risks not normally seen in the industry, whether driven by internal or external factors. They are not intended to cover normal or idiosyncratic risks facing an institution, nor those that are perennially high. These 'chronic' risks are dealt with in APRA's broader supervision framework, such as through Probability and Impact Rating System (PAIRS) assessments and modules, industry groups, risk-based prudential reviews and consultations, and internal training courses and conferences.

Each risk is allocated a risk owner whose responsibility it is to ensure the management of the risk. The role of a risk owner will vary depending on the scoped activity for the industry risk. Some risk owners will manage significant projects requiring resources from across APRA. Other risk owners may be essentially adopting a watching brief on a risk. The industry group is responsible for mapping each risk to a risk matrix describing its probability and impact. Each risk is also rated on its overall relative intensity and urgency.

Supervisors use the risk register in setting Supervisory Action Plans (SAPs), to the extent that the risk is relevant to the circumstances of each entity. Risk registers also provide details of expectations for supervisors in regard to each risk. While the risk registers are maintained continuously by the Industry Analysis team, a comprehensive review of existing and emerging risks is undertaken by industry groups at least annually.

5.3 Information sharing

5.3.1 Legislative framework

In undertaking its role, APRA exchanges information with other relevant supervisors and authorities subject to confidentiality, purpose and use requirements. Section 56 of the APRA

Act provides for the protection of confidential information and its release to other supervisors and agencies. APRA has a robust framework for the exchange and protection of such information. APRA has well-established relationships with the Reserve Bank and ASIC which facilitate the exchange of information.

In the case where exchange of information will assist a financial sector supervisory agency to perform its functions or exercise its powers, such exchange does not require the existence of an agreement or understanding. This is also true where the agency is specified in regulation 5 for the purposes of section 56. The agencies specified under either section 56 or regulation 5 include the Reserve Bank, ASIC and the Council of Financial Regulators.

Similarly, the RBA has exemptions under the Reserve Bank Act to share relevant information with APRA even when that information is institution-specific information protected under section 79A of the Act and therefore cannot be revealed to the public or before a court. The sharing of such protected information with APRA must be for the purposes of one or more of several laws including the Banking Act, which includes prudential matters.

5.3.2 Structured coordination

The key formal structure for bilateral cooperation between the RBA and APRA is the regular meeting of the Coordination Committee. This meeting occurs roughly every six weeks, with the venue and chair alternating between the two agencies. The attendees from the RBA are usually the Assistant Governor (Financial System) and the Head and Deputy Head of Financial Stability Department; from APRA, the Executive General Managers of Diversified Institutions Division, Supervisory Support Division and Policy, Research and Statistics Division, as well as the General Manager of Industry Technical Services have been the usual attendees in recent years.

The Coordination Committee's standing agenda includes discussions on market developments and any issues of note concerning specific institutions. Ahead of the meeting, the two agencies typically circulate relevant internal analysis to each other.

Several other, less frequent, vehicles for coordination have also been put in place over the past decade. Analysts from both agencies meet two to three times a year to present and discuss their recent work and share findings of mutual interest. Senior staff from Financial Stability Department give a presentation to APRA staff following the release of each FSR, as well as to the annual internal meeting of supervisors of ADIs.

More broadly, as noted above the RBA provides relevant staff at the other CFR agencies with drafts of the FSR for their comment. This ensures that the FSR incorporates the expertise and knowledge of the other agencies, as well as serving to alert the other agencies to any financial stability concerns and views of the RBA that have not already been raised elsewhere.

5.3.3 Informal liaison

Because strong relationships between the agencies are so important to the effectiveness of financial stability oversight, cooperation cannot only occur through formal processes: close informal relationships are also vital. As noted above, both agencies recognise that cooperation between them is a professional duty of their staff. Staff members at both senior executive and working levels are expected to build and maintain relationships. Maintenance of relations with senior APRA executives is one of the key position objectives listed on the position description for the RBA's Head of Financial Stability Department. Position descriptions for senior executives and policy staff at APRA typically require them to develop and maintain strong external relationships with relevant stakeholders, which include the RBA, and the list of performance measures includes demonstrating approachability and actively promoting sharing of information.

One way these relationships are reinforced is via periodic staff secondments, in both directions, mainly at the working level. Such secondments generally last between three months and a year, depending on the nature of the work envisaged. Staff are also in frequent contact through various CFR working groups and to coordinate Australia's position ahead of international meetings.

6 Decision-making Processes and Policy Tools

The main tools for macroprudential supervision in Australia are only exercisable by APRA. APRA is the only agency which has power to act to directly change the behaviour (and if necessary, the balance sheets) of entities to achieve macroprudential outcomes. The main tool that APRA exercises is to vary through the cycle the intensity of supervision, backed up as appropriate by APRA's prudential tools (particularly capital) and, in extreme cases, its direction powers (see below). This is mainly an outcome of the framework of risk-based supervision described earlier where the risk ratings of institutions and the supervisory response are impacted by changes in economic conditions. In effect the PAIRS and SOARS model plays a role as an automatic stabiliser for the financial system (see Box B). APRA can also change prudential standards to dampen risk in the system. These tools are not used frequently but they have been used in the past to dampen risky behaviour in the home lending market. APRA also has the ability to alter the behaviour of regulated entities through suasion, via communication with individual entities, industry-wide communication and through the promulgation of messages during presentations at a range of public fora. Finally, APRA can use its direction powers aimed at individual entities.

6.1 Inter-agency consultation and coordination

The use of APRA's powers is more likely to come about following assessments made by APRA about risks it observes at an entity or system level. Some items might however be discussed in the CFR, for example, if ASIC is the responsible regulator or if changes to legislation are required. Typically, industry or system-level risks and behaviours will be discussed with the RBA in the regular Coordination Committee meetings.

6.2 Prudential tools and prudential policy

APRA's supervision involves continuous monitoring and oversight of entities' behaviour to ensure that they comply with prudential standards, are in a sound financial condition and maintain effective governance and risk management systems. APRA follows a proactive and risk-based approach under which institutions that pose greater risks receive more intensive supervision. APRA has developed a constructive relationship with the industries it supervises that helps it achieve its supervisory objectives through regular dialogue and consultation. It is nonetheless also able to respond to risks through direct intervention if necessary. For example, reflecting risks within individual institutions, APRA often imposes minimum prudential capital requirements for individual ADIs beyond the minimum requirements of the Basel framework.

APRA also has a wide range of legislated powers that enable it to take direct action if it identifies behaviour or financial distress that may threaten an ADI's ability to meet its financial obligations to depositors, or otherwise threaten financial system stability. These include powers to:

- obtain information from an ADI;
- investigate an ADI;
- give binding directions to an ADI (such as to recapitalise);
- and, in more extreme circumstances, appoint a statutory manager to assume control of a distressed ADI.

6.2.1 Suasion and directions powers

APRA generally prefers to adopt a suasion approach to ensure there is improvement when weaknesses are identified in a regulated entity. Entities are strongly encouraged to take ownership of issues and agree on an action plan with APRA. This is typically the case where entities are placed in 'Oversight' and APRA's goal is to see these entities return to 'Normal' status. As the severity of the problem increases, APRA will increase the overall intensity of supervision and use more aggressive techniques including use of its directions power. Under this power in the Banking and Insurance Acts, APRA possesses the broad ability to direct firms. This power is triggered if an entity is unable to observe its regulatory requirements, or APRA considers that the entity is operating unsoundly, or in a manner that could reasonably lead to its failure. Importantly, the directions power triggers well before actual or imminent failure by a regulated firm, so when necessary supervisors can issue directions in time to avert failure.

6.2.2 Engagement with Boards

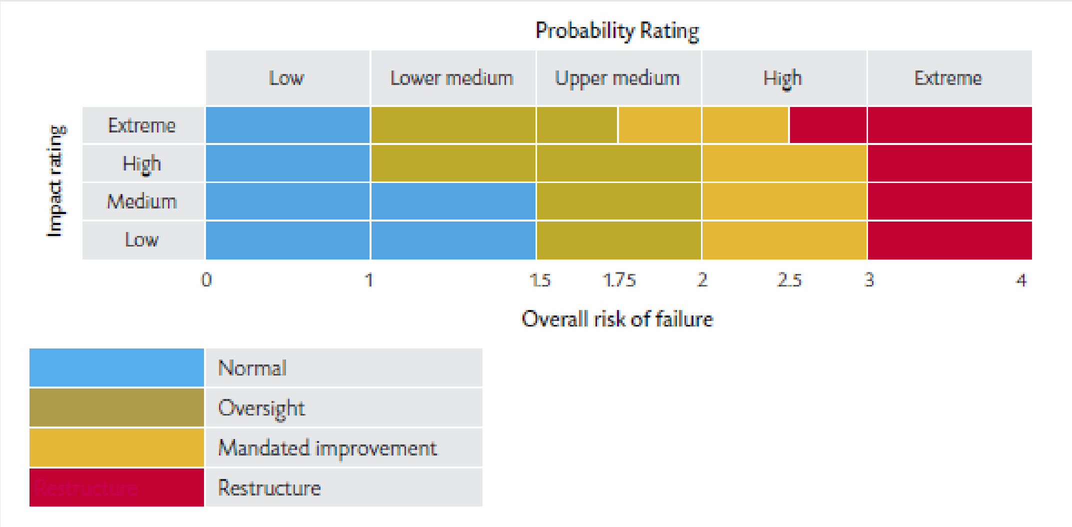
APRA's engagement with boards is central to its supervisory approach. Meetings with a board and its committees give APRA the opportunity to reinforce its expectations of board performance and to form firsthand impressions of whether these expectations are understood and accepted by directors. Discussions across the table enable directors to explore with APRA ways in which its prudential concerns could be addressed. The exchanges also enable APRA to take good soundings on the risk appetite of the board, its command of strategy, the transparency and candour with which the board approaches problems and, more generally, on how it sets the 'tone at the top' for the institution. In recent times engagement with boards has increased in three areas that could raise systemic risk: risk appetite, executive remuneration and credit standards in housing lending.

6.2.3 Prudential Capital Ratio (PCR) Requirement

APRA also has the power to set individual capital requirements for regulated entities. This tool currently applies to ADIs, including banks, and general insurance companies and will shortly be extended to the life insurance sector. The ability to set individual capital requirements under the 'Pillar 2' approach to supervisory discretion is viewed as an important tool for dampening the risky behaviour of supervised entities. APRA routinely sets and varies Pillar 2 capital requirements for ADIs, and this approach has a good track record. However, balance is necessary. APRA neither sets nor varies capital requirements for an individual entity without careful consideration and a substantial internal review. This ensures the intervention is based on sound risk assessment.

Box B: PAIRS-SOARS framework

APRA adopts a measured and risk-based approach to supervision, focusing supervisory attention on those areas of an entity or industry which pose the greatest risk. The PAIRS and SOARS framework helps to ensure that an appropriate supervisory response is taken, commensurate with the nature and degree of risk.



APRA's prudential supervision framework, which includes PAIRS, SAPs and quarterly risk reviews, supports a supervisory response appropriate to the nature, scale and complexity of regulated entities. APRA supervisors undertake PAIRS assessments to identify those entities that are of higher overall risk of failure and greater potential impact of failure, and thus of potentially 'systemic' importance. Under APRA's baseline supervision requirements, entities assessed as being of extreme impact must be subject to a prudential review and a prudential consultation at least annually.

The SOARS framework ensures that APRA's supervisory stance is aligned with the risks facing entities, and the economic environment. As the overall risk of failure rises, APRA's supervisory stance is ramped up in intensity. The SOARS grid has been set so that the larger the regulated institution, the earlier and more proactively APRA responds to a given risk of failure.

Individual SAPs set out the proposed supervisory activities to address the key risks and issues identified in the PAIRS assessment of the entity or the group. The SAP will be commensurate with the nature and degree of risks; for example, an entity with plans to enter into new markets outside of its traditional operations may be scheduled for an on-site risk team visit. SAPs promote a forward-looking approach, and must be updated at least annually and more frequently if necessary, for example where a risk warrants a change to PAIRS. Additionally, the depth of supervisor's off-site analysis such as in the quarterly risk review is determined by the risk profile of the entity.

Box B: PAIRS-SOARS framework (continued)

The APRA structure also supports an appropriate supervisory response to potentially systemically important entities. First, APRA has a separate supervisory area – Diversified Institutions Division – for large and complex financial groups. This division has a concentration of supervisor skills and knowledge that strengthens the prudential supervision of larger and more complex financial groups. Second, the size of the APRA supervision team on any one group is commensurate to the nature, scale and complexity of the group. Larger institutions will typically have a higher number of dedicated supervisors, in contrast to smaller and less complex entities where a single supervisor may look after multiple entities. Together, these structural factors ensure that APRA takes an appropriate supervisory response to potentially systemically important institutions.

As risks in the system increase, the impact of these rising risks will flow through to the risk rating of individual entities and the level of capital they hold. For example, tougher economic conditions will be reflected in a higher probability of default for individual loans and in forecast levels of loss given default.

6.2.4 Recalibration of prudential settings

APRA adjusts its prudential settings in response to assessed changes in systemic risk. APRA is generally recognised as taking a conservative approach to risk-weightings and capital definitions. Some of the decisions APRA has taken which result in this more conservative treatment have been in response to the build-up of risk in particular sectors. For example, in response to its stress testing of the housing loan portfolios of ADIs in 2003, APRA made some significant adjustments to the risk-weighting of housing loans as well as adjustments to the capital regime for lenders mortgage insurers (LMIs).

APRA believes that this type of response to systemic or industry-wide concerns is more likely to be effective than a narrow focus on a particular aspect of lending standards such as the loan-to-valuation ratio. APRA's prudential standards already include requirements to avoid excessive reliance on collateral when making decisions to extend credit; supervision around this standard can be intensified across the whole range of lending, rather than impinging only on loans for which a cap on the ratio would be binding.

Box C: Application of the counter-cyclical capital buffer

The counter-cyclical capital buffer is an element of the Basel III capital standard that is explicitly intended to operate as a macroprudential tool, to deal with the time-series component of systemic risk, as expressed in credit boom–bust cycles. The buffer is designed to ensure that banks have additional capital in advance of a bust, to absorb any additional losses that might result in the downturn. The buffer does not purport to lean against credit booms prior to the bust, although the BCBS documents do cite this as a possible side benefit. Part of the reason leaning against the boom is not considered the primary objective is that the buffer only applies to the banking system and would not prevent non-ADI lenders from funding a credit boom. In addition, there is as yet no direct evidence that additional capital would help head off a boom–bust cycle.

In Australia, APRA has committed to adopting the counter-cyclical capital buffer as part of its implementation of the Basel III reforms. In doing so, APRA will draw on the analysis done by the RBA, as well as its own prudential observations and analysis.

In the BCBS documents, the ratio of credit to GDP, detrended in a particular way, received favour as a 'guide' to decisions to deploy the buffer. The specific measure has been used in earlier work that showed that asset price booms are more likely to end badly when they are accompanied by credit booms.[*] The documents acknowledge that other data series should be monitored when assessing whether to deploy the buffer. However, the presumption seems to be that the information set used will be relatively small, pre-specified and entirely comprised of macro-level data.

The Australian authorities have some reservations about the specific measure presented as a buffer guide and the detrending technique that produces it. While credit booms typically precede periods of financial instability, the ratio of credit to GDP can change trend for other reasons, including that the onset of financial deregulation or rapid economic development can spark financial deepening at a faster pace than previously. In these situations, the suggested detrending method will incorrectly detect a credit boom that might not necessarily be problematic. It is also not clear that the detrending procedure or the specific parameterisation presented in the BCBS documents is the appropriate technique for detecting a genuine credit boom that might require a policy response.

The procedure is designed to detect cycles of a particular frequency, which must be pre-specified and therefore might not be appropriate for the actual data. In addition, it has been shown in the literature to sometimes detect cycles that are not there.[†] The results of the procedure are also very sensitive to small changes in its parameterisation.

Box C: Application of the counter-cyclical capital buffer (continued)

For these and other technical reasons, the Australian authorities do not propose to restrict their analysis to a single indicator or small number of pre-specified indicators. The full array of available data and analysis will be marshalled to support the detection of a harmful credit boom, and the full suite of prudential tools – including but not limited to this buffer – remain available for use in response.

* See Borio C and P Lowe (2002), 'Asset Prices, Financial and Monetary Stability: Exploring the Nexus', BIS Working Papers No 114.

† See, for example, Cogley T and JM Nason (1995), 'Effects of the Hodrick-Prescott Filter on Trend and Difference Stationary Time Series: Implications for Business Cycle Research', *Journal of Economic Dynamics and Control*, 19(1–2), pp 253–278.

6.3 Conduct of supervision

APRA's supervisory activities are aimed at ensuring that, under all reasonable circumstances, regulated entities will continue to meet financial promises to beneficiaries (see also Box D). The activities undertaken are commensurate with a regulated entity's risk profile and desired supervisory outcomes. This includes increasing supervisory intensity in line with SOARS stances. During times of economic stress the level of risk in supervised entities generally increases and this would be reflected in a deterioration in PAIRS ratings and, consequently, an increase in supervisory intensity. Where issues or concerns are identified, prompt corrective actions are pursued.

In some instances, APRA may have serious prudential concerns that must be rectified through specific intervention and remedial enforcement action. Distress and enforcement situations represent a serious threat to the financial security of beneficiaries and will result in two possible outcomes: either a regulated entity will take sufficient action and return to a phase of heightened ongoing supervision, or it will be actively managed by APRA to exit the industry.

Box D: Risk management framework

APRA's supervisory approach makes it clear that the board is primarily responsible for the risk management framework established within its regulated entities. The broad framework should embrace 'the totality of systems, structures, processes and people' within the entity in the context of risk management. APRA has suggested that within this broad framework, entities should also articulate a risk management strategy, which must, among other things, set out the entity's risk appetite. This focus on the risk appetite of entities is a relatively new focus for APRA but it is considered important because without this, risk management throughout the business will be carried out with unclear boundaries and expectations on an uncertain foundation. To date the focus has been on developing a checklist for supervisors – what they should look for in an entity's approach to risk appetite.

Four broad areas have been identified for assessment – governance, risk management, implementation and communication. In terms of governance, APRA is seeking evidence that: the board has been engaged in the development of the risk appetite and has demonstrated ownership by its approval of relevant documents; that the risk appetite considers the interests and expectations of relevant stakeholders – depositors and policyholders as well as shareholders; that the risk appetite is periodically reviewed in the context of the prevailing economic conditions and the competitive environment; and that there is a feedback loop from management.

From the perspective of risk management, it is expected that the risk appetite will consider all material types of risks to the entity and that it is core to the risk management framework and sets clear boundaries and expectations. The entity's strategic objectives and business plans must be consistent with its risk appetite as must the entity's capital management plan. The board must ensure that risks necessary to produce required returns on capital are kept within the risk appetite.

This increasing focus on risk appetite is expected to have a moderating impact on entity behaviour as systemic risk increases, because entities will be expected to adjust their activities to fit within the risk tolerances which have been adjusted to increasing risk.

6.4 Communication strategy

Effective communication by APRA and the RBA is essential both for the purposes of ensuring accountability and to influence financial risk-taking behaviour. The following sections detail the communication methods typically employed by the two agencies, and how they interact with other policy actions.

6.4.1 Approach to communication of risks

Both APRA and the RBA have considerable operational independence in carrying out their respective responsibilities. It is therefore important that they remain accountable for those actions. In addition to the formal accountability processes, such as appearances before Parliament, the agencies can use public communication to explain their actions. As part of their cooperative relationship, the RBA will on occasion use its own communication to support regulatory actions by APRA and put them in the context of the overall financial stability policy framework. In doing so, the RBA seeks to enhance the efficacy of those actions.

In normal times when the system is stable, communication – particularly forward-looking statements – can be a policy tool promoting financial stability. Explicit warnings about potential adverse future outcomes, and about the behaviours that would contribute to them, can in principle help avert those outcomes. The goal of such communication is to mould risk perceptions and thus risk-taking behaviour. It is therefore important to draw attention to those concerns early, before the behaviours that could lead to future distress have become too entrenched. For this reason, much of this communication is likely to focus on undesirable risks and behaviours. The two agencies do not in general publish forecasts or targets for indicators that might be related to financial stability, but may make qualitative statements such as warning against excessive expectations of balance sheet expansion or asset price increases.

In periods of financial fragility or crisis, timely, coordinated and consistent communication by both agencies can be essential in maintaining confidence in the financial system. Communication in these circumstances is likely to be focused on filling information gaps, militating against unfounded rumours and misinformation.

6.4.2 Financial Stability Review (FSR)

As noted above, the FSR provides the Bank's assessment of the current condition of the financial system and potential risks to financial stability. It contains a number of boxes on topics of special interest, along with occasional articles. The FSR is issued in March and September, and is reviewed by the other Council agencies prior to release. Its intended audience includes analysts and decision-makers in financial institutions and the investment community.

The FSR provides a vehicle for publishing an array of data on the financial sector that are of interest periodically, but that are not part of either agency's regular statistical reporting. It seeks to place these and other data in context, assess whether they point to potential future vulnerabilities, and describe possible means of mitigating these risks.

6.4.3 Joint media releases

On occasion, the CFR or the two agencies will communicate jointly via coordinated media releases or CFR publications. Where simultaneous release of cross-agency communication is essential, the CFR agencies have agreed that the RBA will be responsible for the publication of a joint media release, as well as managing embargo and lock-up arrangements for journalists ahead of such releases.

6.4.4 Speeches

Speeches are commonly used by both agencies to convey views on specific issues. They should be seen as complementary to written publications, in that their audiences can differ. By their nature, speeches lend themselves more to discussion of risks and contingent outcomes than to exposition of previously unreleased data. It can be anticipated that more speeches on financial stability topics will be scheduled during periods of heightened concern about growing risks, than in more normal times.

6.4.5 Supervisory communications

APRA has a range of means for communicating with industry. It can deliver important messages to entities about areas of supervisory focus or particular concerns through articles in its regular publication, *Insight*. APRA also provides industry with a comprehensive outline of developments each year in its annual report. Speeches provide APRA senior staff with the opportunity to highlight particular themes. APRA also writes to entities if it has specific issues which it needs to raise (e.g. in providing feedback to the industry on its review of remuneration practices following the introduction of relevant prudential requirements, outlining expectations with respect to reports prepared by appointed auditors and alerting banks to relevant international regulatory developments). If it is seeking a more focused response it may also write to the boards of entities, often seeking that they examine some particular area of concern or to highlight a specific risk issue (e.g. reminding banks' boards of the need to maintain underwriting standards in the face of low credit growth).