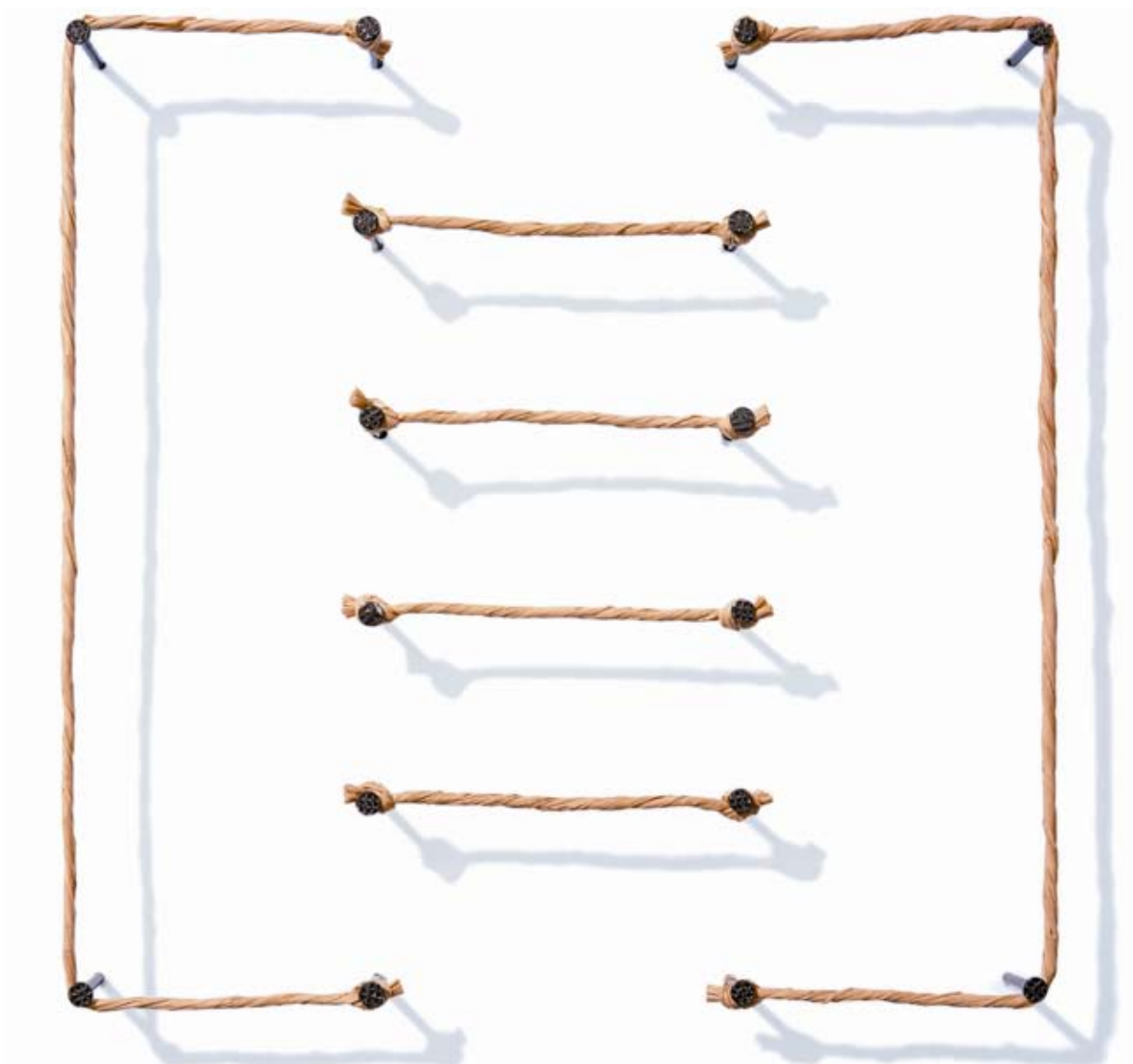




Probability and Impact Rating System

May 2008



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1. Introduction

In October 2002, APRA introduced new risk assessment and supervisory response tools known as the Probability and Impact Rating System (PAIRS) and the Supervisory Oversight and Response System (SOARS).

These supervisory tools are the centrepiece of APRA's risk-based approach to supervision and assist APRA in:

- making better risk judgments;
- quickly and consistently taking supervisory action where necessary;
- strengthening the ability of supervisors to take effective action; and
- improving oversight and reporting on problem entities.

PAIRS is APRA's risk assessment model. It incorporates two dimensions: the *Probability* and *Impact* of the failure of an APRA-regulated entity.

The original PAIRS model allowed APRA to progress from the various risk assessment tools used by its predecessor agencies to an APRA-wide model covering all regulated industries.

Aside from the retention of a probability rating scale, PAIRS introduced three new concepts:

- a common set of rating components for inherent risk, management and control, and capital support;
- a structured process for combining these component ratings into a probability of failure rating; and
- an impact rating scale.

A subsequent move to a common IT platform ensured that all PAIRS risk assessments are maintained within a common database to enable analysis of trends in the level of perceived risk in particular segments and across APRA's regulated population over time.

An enhanced version of the original PAIRS model was introduced in early 2008. This version retains the key components of inherent risk, management and control, and capital support and the structured process for combining these components, but improves upon the original model by considering management and control aspects by risk type. It allows supervisors to view the net risk position for each of the key risk types including strategy and planning, liquidity, operational, market and investment, credit, and insurance risks. It also better reflects the manner in which APRA conducts its supervision activities under the APRA Supervision Framework (ASF).

The enhanced version applies to all entities capable of a PAIRS rating, regardless of size. The only APRA-regulated entities excluded from the rating process are Small APRA Funds (SAFs) operating under a licensed trustee, and single member approved deposit funds (ADFs).

The enhanced PAIRS model is supported by a new IT platform, with further changes planned in 2008 to improve functionality and automate the flow of findings from on-site prudential reviews directly into PAIRS to reduce duplication of effort.

APRA is committed to making improvements to its risk assessment model over time to maximise APRA's effectiveness and ensure it continues to follow world's best practice.

This document explains the PAIRS model in more detail.

2. PAIRS population

2.1 Entities subject to PAIRS assessment

The following APRA-regulated entities are subject to PAIRS assessment:

- authorised deposit-taking institutions (ADIs);
- general insurers;
- life insurers; and
- registrable superannuation entities (RSEs) and their licensees.

2.2 Entities not subject to PAIRS assessment

The following APRA-regulated entities are not subject to PAIRS assessment:

- small APRA superannuation funds (SAFs); and

- single member approved deposit funds (ADFs).

PAIRS is applied at the licensed entity level. Many of the conglomerate groups and non-operating holding companies (NOHCs) regulated by APRA are subject to PAIRS assessment; however, the decision to rate these entities in PAIRS is at the discretion of management.

2.3 Peer groups

APRA-regulated entities subject to PAIRS assessment are split into the peer groups identified in Table 1 to allow for greater comparability of like entities.

Table 1: PAIRS peer groups

Industry	Peer Group
ADIs	Complex banks
	Credit unions and building societies
	Regional banks
	Foreign branches
	Foreign subsidiaries
	ADI other
General Insurers	Diversified business lines
	Lenders mortgage insurers (LMIs)
	Medical indemnity insurers (MIIs)
	Reinsurers
	Other direct
	Inactive
Life Insurers	Direct – complex
	Direct – medium
	Direct – other
	Reinsurers
	Friendly societies
Superannuation	RSE licensees
	Extended public offer
	Non-public offer
	Public offer
	Approved trustee
	RSE funds
	Public offer fund – accumulation only
	Public offer fund – defined benefit and hybrid
	Non-public offer fund – accumulation only
	Non-public offer fund – defined benefit and hybrid
	Eligible rollover funds (ERFs)
	Pooled superannuation trusts (PSTs)

3. Entity failure

APRA's core mission is to establish and enforce prudential standards and practices designed to ensure that, under all reasonable circumstances, financial promises made by entities it supervises are met within a stable, efficient and competitive financial system.

APRA's supervisory approach is based on the fundamental premise that the primary responsibility for financial soundness and prudent risk management within a regulated entity rests with its board of directors and senior management. APRA's role is to promote prudent behaviour by regulated entities through a robust prudential framework of legislation, prudential standards and prudential guidance, which aims to ensure that risk-taking is conducted within reasonable bounds and that risks are clearly identified and well managed.

In doing so, APRA does not pursue a zero failure objective. APRA cannot eliminate completely the risk that a regulated entity might fail and it recognises that any attempt to do so would impose unnecessary burden on regulated entities and harden the arteries of the financial system. APRA fully endorses the view of the Government's Statement of Expectations of APRA that "...prudential regulation cannot and should not seek to guarantee a zero failure rate of prudentially regulated institutions or provide absolute protection for market participants (including consumers)."

The Statement of Expectations confirms the objective that the prudential regulation regime maintain a low incidence of failure of regulated entities while not impeding continued improvement in efficiency or hindering competition. APRA intends to achieve this objective through the setting of prudential requirements and its approach to the supervision of individual entities.

4. Objectives, process and disclosure

4.1 Objectives

The main objectives of the PAIRS risk assessment process are to:

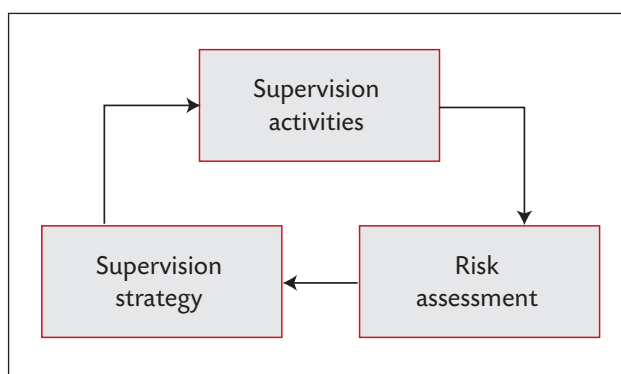
- determine APRA's assessment of the *Probability* that a regulated entity will fail; and
- measure the *Impact* of the potential consequences of that failure.

As noted above, the primary responsibility for financial soundness of entities regulated by APRA lies with the board of directors and senior management of those entities. However, intervention by APRA may be necessary in order to protect the interests of beneficiaries (depositors, policyholders or superannuation fund members), in accord with APRA's mandate. A core element of PAIRS is to identify regulated entities that have a higher risk of failure, or will have a large impact if they do fail, and hence require more intensive supervision.

4.2 Process

Supervision is a continuous process. The views and judgments generated by APRA supervisors as a result of their supervision activities come together in the PAIRS risk assessment process, which is the main input into the development of a supervision strategy for each regulated entity. This is illustrated in Figure 1 below.

Figure 1: Supervision process



PAIRS assessments are intended to be dynamic.

Risk assessments are updated after completion of on-site prudential reviews but will also be revisited where significant events, issues or other analysis indicates a need to alter APRA's judgment on the risk profile of an entity, or warrant inclusion in the PAIRS assessment.

4.3 Disclosure

APRA does not publish the ratings arising from PAIRS assessments. However, APRA will inform a regulated entity of its PAIRS rating in the interests of engaging openly and directly about any concerns APRA may have and to allow the entity to respond appropriately.

Using its statutory confidentiality powers, APRA requires regulated entities not to make PAIRS ratings available to the public. This is to ensure that adverse PAIRS ratings and associated SOARS stances, or changes in ratings/stances, do not provoke a market over-reaction or lead to an unwarranted loss of confidence in the entity on the part of its beneficiaries.

5. Risk, control, net risk and capital support

5.1 Categories

When performing a PAIRS risk assessment, supervisors make an assessment of the following categories:

- Board
- Management
- Risk Governance
- Strategy and Planning
- Liquidity Risk
- Operational Risk
- Credit Risk
- Market and Investment Risk
- Insurance Risk
- Capital Coverage/ Surplus
- Earnings
- Access to Additional Capital

This assessment involves consideration of four key factors: *Inherent Risk, Management and Control, Net Risk and Capital Support*.

5.2 Inherent risk

Inherent Risk is any uncertainty in relation to the business operations of an entity, whether statistically quantifiable or not, that has the potential to affect the financial position of an entity.

All entities supervised by APRA are exposed to risk. The type and extent of exposure will vary depending on the risk appetite of the entity and the nature of the products and services offered. Typically, the greater the potential to generate high returns from an activity, the more risk will be associated with that activity and the larger will be the amount of capital required to support that risk and maintain long-term viability.

Entities supervised by APRA incorporate a broad spectrum of risk characteristics, some of which are universal and others unique to particular industries. Within each industry, individual entities are exposed to many common risks; however, some risks are specific to certain lines of business.

The nature of inherent risks is determined primarily by the types of products or services offered by an entity. The level of such risk the entity is willing to accept is a function of its risk appetite, as determined by its board of directors.

Under PAIRS, inherent risks are assessed independently of the controls that an entity may have in place to deal with each type of risk, and of the level of capital available to absorb any losses.

5.3 Management and control

Management and Control encapsulates how an entity identifies, measures, monitors and controls the risks inherent in its business. The capability of an entity to manage and control inherent risks arises from the underlying policies, practices, systems and controls established.

Because regulated entities vary in their characteristics and in the level of inherent risks accepted, entities will not, and should not, have identical management and control frameworks, nor will they necessarily require the same level of management capability. Rather, it is critical that an entity's management and control framework be commensurate with the inherent risks assumed.

Regulated entities should have systems in place to manage and control existing risks, as well as new risks arising from the initiation of new activities or products.

5.4 Net risk

Net Risk is the residual risk remaining after taking into account the mitigating effect of management and controls.

5.5 Capital support

Capital Support is the buffer available to absorb unexpected losses. Most regulated entities (other than in superannuation) are required by various standards to maintain minimum levels of regulatory capital, but APRA expects such entities to target a level of economic capital that is sufficient to support their particular risk exposures and continuing business needs (in light of their business plans and strategic direction), rather than simply meeting minimum regulatory requirements.

6. Quality assessments and significance weights

6.1 Quality assessments

Quality assessment scores are applied to each PAIRS category from a continuous scale of 0 to 4, 0 being the best and 4 the worst. The expected granularity of quality assessment scores is to the nearest tenth (0.1, 0.2, etc).

For the Board, Management and Risk Governance categories, supervisors derive a quality assessment score at the Net Risk level.

For the Strategy and Planning, Liquidity Risk, Operational Risk, Credit Risk, Market and Investment Risk and Insurance Risk categories, supervisors derive a quality assessment score for the inherent risk in that category and a separate quality assessment score for the management and controls relevant to that risk. The *net risk* position of each category is a simple average of the two quality assessment scores.

6.2 Significance weights

A single *significance weight* is assigned to the net risk of each PAIRS category. Significance weights are derived according to the importance of the PAIRS category to the overall business profile of the entity.

For the Board, Management, Risk Governance, Strategy and Planning, Liquidity Risk, Operational Risk, Credit Risk, Market and Investment Risk and Insurance Risk categories, the significance weights add to 100 per cent. The expected granularity of significance weights is to the nearest whole per cent.

6.3 Capital categories

Supervisors derive a quality assessment score and significance weight for each capital support category. The significance weights for the three capital support categories add to 100 per cent.

For the capital support categories, significance weights for all entities in most peer groups are assumed constant at 50 per cent, 25 per cent and 25 per cent respectively. The following exceptions apply.

Exception 1

Quality assessment scores and significance weights are not individually assigned by supervisors to the three capital support categories for entities in the following peer groups:

- RSE licensees – non-public offer;
- public offer funds – accumulation only;
- non-public offer funds – accumulation only;
- ERFs; and
- PSTs.

For entities in these peer groups, the risk assessment process ceases at the *net risk* level.

Exception 2

There are no fixed capital support significance weights for entities in the following peer groups:

- RSE licensee – public offer;
- RSE licensee – extended public offer;
- credit unions and building societies; and
- ADI foreign branches.

For entities in these peer groups, supervisors apply judgement in the assignment of significance weights.

6.4 Summary of scoring

Table 2 provides a summary of the quality assessment and significance weight scoring process across the PAIRS categories.

Table 2: Summary of PAIRS scoring

PAIRS Category	Inherent Risk	Management and Control	Net Risk	Significance Weight
Board			(0-4)	%
Management			(0-4)	%
Risk Governance			(0-4)	%
Strategy and Planning	(0-4)	(0-4)	(0-4)	%
Liquidity Risk	(0-4)	(0-4)	(0-4)	%
Operational Risk	(0-4)	(0-4)	(0-4)	%
Credit Risk	(0-4)	(0-4)	(0-4)	%
Market and Investment Risk	(0-4)	(0-4)	(0-4)	%
Insurance Risk	(0-4)	(0-4)	(0-4)	%
Net Risk Total			(0-4)	100%
Coverage/ Surplus			(0-4)	%
Earnings			(0-4)	%
Access to Additional Capital			(0-4)	%
Capital Support Total			(0-4)	100%
Overall Risk of Failure			(0-4)	

6.5 Overall risk of failure

An assessment of the categories in PAIRS leads to a determination of an entity's *overall risk of failure*. This is an assessment of an entity's relative riskiness or the likelihood that unexpected losses resulting from its net risk exposure are not able to be absorbed by capital support resources and would therefore cause the entity to fail.

The overall risk of failure is a score between 0 and 4.

7. Category definitions

The following definitions apply to each PAIRS category. The definitions are designed to assist supervisors to understand the characteristics and issues that are captured under each PAIRS category. The definitions apply to all entities subject to PAIRS assessment; industry specific comments have been included where necessary.

7.1 Board

The *Board* of directors is responsible for providing stewardship and broad oversight of the regulated entity and determining its risk appetite. The majority of entities regulated by APRA are required to meet various requirements with regard to Board structure and composition, as set out in the relevant legislation or prudential standards. These requirements may relate to the number of non-executive or independent directors. The skill set and experience of the Board should be commensurate with the complexity and diversity of the entity's operations.

When making an assessment of the Board, APRA's objective is to review:

- the quality, skills and experience of all directors;
- whether the Board meets composition and independence requirements;
- whether the 'fit and proper' policy for the Board meets prudential requirements and how frequently the policy is reviewed;
- whether directors individually and collectively meet the fit and proper requirements; and
- conflicts of interest and key person risk at the Board level.

7.2 Management

Management is responsible for making, or participating in making, decisions that affect the whole or a substantial part of the business of the regulated entity. The management team has the capacity to affect significantly the entity's financial standing, enforces policies and implements strategies approved by the Board and develops and implements systems that identify, assess, manage and monitor risks to the business of the entity. Management also plays a vital role in monitoring the appropriateness, adequacy and effectiveness of an entity's risk management systems.

When making an assessment of Management, APRA's objective is to review the fitness, propriety and composition of the management team. The skill set and experience of the management team should be commensurate with the complexity and diversity of the entity's operations.

APRA's assessment of Management takes into consideration:

- the composition and structure of Management, including formal delegations;
- whether the entity's fit and proper policy meets prudential requirements and how frequently the policy is reviewed;
- whether members of the management team individually and collectively meet the fit and proper requirements;
- conflicts of interest and key person risk in the management team; and
- the level of management turnover and succession plans in place.

7.3 Risk Governance

Risk Governance focuses on the functioning and effectiveness of the internal and independent governance arrangements of the regulated entity. It encapsulates not only the role and functioning of the Board but also other internal or independent functions in place to assess the adequacy of, and adherence to, operational controls and risk management policies and procedures, independent of management.

The key responsibilities of the Board in relation to risk governance include:

- understanding the business environment and major risks;
- setting the risk management framework;
- determining the risk management strategy and major policies; and
- setting and reinforcing an appropriate culture, and ensuring that the entity is managed and operated on a daily basis in accordance with the risk management strategy, policies and culture determined by the Board.

APRA's evaluation of risk governance captures the Board as well as the functioning and effectiveness of other governance arrangements including:

- Board committees, including the Audit Committee;
- compliance functions involved in setting policies and procedures for adherence to legal and regulatory requirements, the monitoring of compliance with those policies and procedures, and the reporting on legal and regulatory compliance matters to management and the Board; and
- internal and external audit functions charged with the responsibility for assessing the adequacy of and adherence to operational and organisational controls, risk management policies and procedures, and actual risk assessments, independent of management.

Risk governance arrangements need to be consistent with the complexity and diversity of the entity's operations. Small, less sophisticated entities may have relatively basic risk governance arrangements that meet prudential requirements and appropriately manage risk activities. However, larger and more complex entities will generally have far more comprehensive risk governance arrangements that provide, for example, more frequent reporting, tighter monitoring of complex activities and the aggregation of risks on a fully consolidated basis across all business lines and activities. An independent internal compliance function is often established as a separate unit in larger entities.

APRA's assessment of Risk Governance takes into consideration:

- the role and functioning of the Board, including the existence of a formal charter and renewal policy;
- how the Board sets and reviews the risk management framework and ensures that risks are defined, understood and appropriately managed;
- the committee structure in place and its effectiveness, including the role, composition and functioning of the Audit Committee;
- the compliance framework in place including roles, responsibilities and independence;
- the internal and external audit functions, including their skills, experience and independence; and
- the role of the actuary in reviewing the business (in general and life insurance).

7.4 Strategy and Planning

Inherent Risk

Strategic Risk is the most fundamental of business risks. At its most basic, it is the risk associated with an entity's business model and how it wants to position itself strategically.

When making an assessment of Strategic Risk, APRA's objective is to review:

- the riskiness of the entity's strategy;
- the entity's current and intended future markets;
- diversification of the business;
- the entity's competitive advantage;
- expansion, acquisition and growth ambitions, or plans to exit certain business areas;
- susceptibility to external influences including environmental or economic change; and
- the entity's vulnerability to reputational and contagion risk.

Importantly, the short-term apparent success of a strategy does not impact on APRA's assessment of the riskiness of that strategy.

Management and Control

Management and controls should be commensurate with the level of Strategic Risk assumed by an entity. An entity with low Strategic Risk would not warrant the same level of controls as would be expected for an entity assessed to have a higher level of such risk.

Important considerations when reviewing the management and controls around strategy and planning include:

- the overarching strategic planning practices;
- involvement in the development and monitoring of strategy by the Board and management;
- reasons for changes to the strategy and how those changes are controlled and monitored;
- underlying assumptions and scenarios/stress tests that support the strategy, including reliability of information sources;
- processes around the implementation of the strategy;
- resources required and the ability to execute the strategy; and
- monitoring of performance against strategy.

The entity's strategy should be consistent with other plans such as its capital management plan, risk management strategy and, where applicable, the wider group business plan. Controls around potential reputational or contagion issues arising from the inter-connectivity of group plans are included in APRA's review.

7.5 Liquidity Risk

Inherent Risk

Liquidity Risk is the risk that an entity will be unable to meet its financial obligations as and when they fall due, without incurring significant unexpected costs. It is reflected in the extent to which potential cash outflows may exceed potential cash inflows over a given time period.

The following considerations are important in an assessment of an entity's inherent exposure to liquidity risk:

- nature of liabilities;
- saleability of assets;
- the funding strategy to support the entity's current needs and future growth;
- wholesale and retail funding mix and trends;
- concentration mix of assets and liabilities by market, counterparty and maturity;
- contingent/off balance sheet commitments; and
- intra-group funding arrangements.

The liquidity of assets is not constant but can change sharply in response to particular events or changing economic conditions. APRA sees it as important to assess the number and diversity of active and prospective participants in a particular asset market, and the extent of supporting market infrastructure. As a general rule, liquidity is least when it is needed the most.

Management and Control

Important considerations when reviewing the management and controls around Liquidity Risk include:

- the awareness of Liquidity Risk by the Board;
- liquidity management functions and committees (ALCO) in place;
- policies and procedures relating to liquidity risk management;
- limits in place and how they are reviewed and monitored;
- scenario analysis and models used, including dependability of information sources;
- reliability and extent of access to intra-group funding and standby facilities; and
- contingency arrangements in place, including any contribution to multilateral liquidity support arrangements.

7.6 Operational Risk

Inherent Risk

Operational Risk is the risk of loss resulting from inadequate or failed internal processes, people and systems, or from external events. Exposure to this risk can result from deficiencies or breakdowns in internal controls or processes, technology failures, human errors, dishonesty/fraud and external events (e.g. physical infrastructure failure or natural disaster).

All entities regulated by APRA are exposed to Operational Risk. Generally, smaller entities that have simple business flows and a low volume of transactions would be expected to have low levels of Operational Risk.

When making an assessment of Operational Risk, APRA's objective is to review:

- the size, sophistication, structure and complexity of operations;

- the complexity, level of change and vulnerability of the IT systems utilised. It is usual for entities that have a high degree of complexity within the IT systems environment and are undergoing or plan to undergo significant change within that environment to have higher levels of inherent operational risk;
- vulnerability to business interruptions/ external events that may impact on the business. This is clearly influenced by the geographic location of the entity's physical facilities and any history of similar events in those particular locations or others with similar characteristics. APRA sees it as important to understand the entity's operational and legal structure so as to assess the degree of vulnerability in these areas; and
- susceptibility to fraud (both internal and external).

Management and Control

APRA's assessment of the management and control framework for Operational Risk takes into account:

- the awareness of Operational Risk by the Board;
- operational risk management functions and committee/s;
- policies and procedures;
- controls in place across the IT environment;
- management of operational issues including administration, outsourcing arrangements, new products, project management and fraud; and
- business continuity and disaster recovery plans, including testing processes in place and back-up arrangements such as data files, documentation, regularity of file recovery and off-site location (and testing of such arrangements).

Some of the larger entities regulated by APRA have dedicated operational risk management functions and committees with independent responsibility to the Board. However, these are not common features for smaller entities, where policies and procedures play a more important role in the control framework.

7.7 Credit Risk

Inherent Risk

Credit Risk relates to the risk of default by borrowers and transactional counterparties as well as the loss of value of assets due to deterioration in credit quality. Credit risk is a critical consideration for ADIs and for other regulated entities that undertake direct credit activities.

The principal determinants in APRA's assessment of the overall level of inherent exposure to credit risk include:

- asset portfolio composition, including size and types of credit exposures;
- lending strategy;
- concentration of credit exposures, including the size of individual exposures relative to the size of the total portfolio and the extent to which separate exposures share common risk characteristics (increasing the likelihood of joint default). The more concentrated the portfolio, the greater the potential loss that could result from any single default causing event;
- the likelihood of default, including the financial strength of borrowers or counterparties and their ability to meet commitments; and
- the extent of loss should default actually occur. This is largely dependent upon the types and amounts of security, if any, held against the exposures and the entity's bad debts/ arrears experience.

Ratings are often also assigned by credit rating agencies, such as Standard & Poor's, Moody's Investors Service, Fitch-IBCA, Thomas Financial Bank Watch and AM Best, on larger corporate and financial entity credit exposures. Such ratings can be an indicator of Credit Risk.

For insurers, reinsurance counterparty issues, including the concentration of reinsurance, are dealt with under Credit Risk. Credit Risk does not include the loss of value of assets due to changes in the market's pricing of credit risk; this is included in PAIRS under Market and Investment Risk.

Management and Control

APRA's assessment of the management and control framework for Credit Risk takes into account:

- the awareness of Credit Risk by the Board;
- the credit risk management framework, systems and delegations in place;
- origination, security and collateral structures and valuation practices;
- credit-related policies and procedures;
- problem asset management including compliance with prudential requirements;
- information systems and portfolio management; and
- the role and functioning of independent credit review processes.

Large and/or sophisticated regulated entities offering credit generally use internal credit risk grading systems to assign the risk of default from individual counterparties and the overall portfolio. For these entities, the controls around the credit risk grading systems form an important part of APRA's review.

Less sophisticated entities are unlikely to use credit risk grading systems. For these entities, assessing the level of credit risk may require the examination of loan provisioning/ arrears reports or a sample of individual loans.

In PAIRS, the control framework around the determination and assessment of reinsurance counterparties is dealt with under this heading.

7.8 Market and Investment Risk

Inherent Risk

Market Risk is the risk of loss arising from adverse movements in the level or volatility of market rates or prices (interest rates, foreign exchange rates, equity, commodity, property and credit prices). *Investment Risk* refers to the risk of an adverse movement in the value of on-balance sheet assets and/or off-balance sheet obligations and is derived from a number of sources, including market risk and investment concentration risk.

When assessing an entity's inherent exposure to Market and Investment Risk, APRA's objective is to review:

- the size, nature and complexity of market and investment activities;
- asset and liability mismatch;
- sensitivity to market risk;
- balance sheet instruments, including derivatives and foreign currency exposures;
- investment objectives and strategy (where applicable) e.g. aggressive or conservative;
- diversification across asset classes and asset allocations; and
- nature of asset valuations.

Generally, entities with relatively basic products and simple balance sheet instruments that are not sensitive to pricing movements would be assessed as having a low inherent exposure to Market Risk. Those entities using derivatives for speculative purposes and unhedged foreign currency exposures would usually have a high inherent exposure to Market Risk.

In PAIRS, credit risk arising from revaluation of investments due to changes in the market price for different types of credit is captured under Market and Investment Risk, as is exposure to the risks associated with unit pricing.

Management and Control

APRA's assessment of the management and controls around Market and Investment Risk takes into account:

- the awareness of Market and Investment Risk by the Board;
- trading and investment functions, including segregation of responsibilities;
- ALCO and/or investment committees in place;
- delegations and limits in place and how they are monitored and controlled;
- the process of reviewing and monitoring trading and/or investment strategies;
- investment management and asset valuation practices;

- market and investment policies and procedures including those relating to unit pricing;
- models used, including underlying assumptions and stress analysis;
- the strength of management information systems; and
- independent review functions.

7.9 Insurance Risk

Inherent Risk

Insurance risk is the risk that for any class of risk insured, the present value of actual claims payable, will exceed the present value of actual premium revenues generated (net of reinsurance). When assessing the inherent risk associated with insurance, APRA considers the gross risk underwritten by an entity for each class of business, less reinsurance, to determine the level of risk retained.

There are six principal components of an entity's inherent exposure to Insurance Risk:

- the type and nature of insurance products offered by the entity (e.g. short-tail or long-tail for general insurers);
- the level of hazard or risk of the business underwritten (e.g. low hazard or high hazard risks);
- the degree to which risks are concentrated (e.g. geographically; acquisition source), net of reinsurance protection such as catastrophe reinsurance;
- the mix and diversification of products offered. The greater the diversification, the greater the likelihood that poor performance in one portfolio will be offset by good performance in another;
- the entity's position in the market. Entities that significantly outsource their business to underwriting agents are removed from both the underwriting and claims process. Similarly, reinsurers will have higher inherent risk since they are also removed from frontline underwriting and claims; and

- product strategy and experience/data in the markets in which the entity currently operates or intends to operate.

For superannuation entities that undertake self-insurance, the level of inherent risk will be influenced by the extent of self-insurance in relation to the size of the overall fund, the availability of self-insurance to new members, the membership profile of self-insured benefits (defined benefit, defined contribution) and the diversification of risk retained.

The inherent Insurance Risk arising from an entity's product base and mix can be modified by the use of reinsurance. By transferring part of the risk to a third party, reinsurance arrangements reduce the underlying inherent insurance risk remaining with the entity. The level and amount of reinsurance ceded will vary depending on the risk tolerance of the entity.

In PAIRS, the level and amount of reinsurance is captured in the assessment of inherent exposure to Insurance Risk. Reinsurance counterparty issues, i.e. the credit rating/ financial standing of reinsurers (including the concentration of reinsurance), is dealt with under Credit Risk.

Management and Control

Important considerations in reviewing the management and control framework for Insurance Risk include:

- the oversight and awareness of Insurance Risk by the Board and management, including information reported;
- product design, pricing and review processes;
- pricing, underwriting and claims management policies, procedures and practices for all areas of insurance;
- Management Information Systems (MIS) and the reporting framework and protocols;
- controls around insurance product distribution channels, networks and system.;
- delegations of authority in relation to underwriting and claims, on a quantitative and qualitative basis;

- the structure of insurance-related functions and the skills and experience of those undertaking the work;
- liability estimation processes and the results of actuarial reviews captured in the Financial Condition Report/ Insurance Liability Valuation Report (ILVR);
- audit and review findings in relation to Insurance Risk; and
- reinsurance management processes (including, for general insurers, the Reinsurance Management Strategy (REMS)).

7.10 Capital coverage/surplus

Capital is the cornerstone to the strength of a regulated entity and provides a buffer against unexpected losses. The maintenance of adequate capital resources engenders confidence in the financial soundness and stability of a regulated entity.

It is the responsibility of an entity's Board and management to ensure that capital resources are appropriate to the size, business mix and complexity of its business. Accordingly, appropriate systems need to be in place to identify, manage and monitor the risks associated with an entity's business activities and to ensure that capital is held commensurate with its overall risk profile.

APRA's assessment of coverage/ surplus has three primary considerations:

- the adequacy of capital;
- the quality and composition of capital; and
- capital management processes in place.

Capital adequacy will generally be reflected in the extent of surplus capital above the minimum regulatory capital requirements set out in prudential standards or determined by APRA for individual entities. For life insurers, the focus is on capital adequacy on a going-concern basis as well as on immediate solvency. For superannuation defined benefit/hybrid funds, APRA would wish to see a surplus of assets over the estimated liabilities. For foreign branches, which are not required to hold endowed capital in Australia, APRA looks at the Head Office capital position and capital management processes.

Where relevant, the quality of current capital is also considered i.e. its composition in terms of permanent and less permanent forms of capital. In some industries, this is referred to as Tier 1 and Tier 2 capital.

A regulated entity needs to have a robust system in place to manage its capital position, to ensure sufficiency of capital in relation to the current risks facing the business, sustainability over the long-term and compliance with minimum regulatory requirements. It is good practice for regulated entities to establish and maintain capital management plans. In some industries, a capital management plan consistent with the entity's overall strategy is a prudential requirement. Regulated entities also usually establish internal target capital ratios that are monitored and reviewed by the Board and management.

APRA seeks to understand an entity's capital management practices on a stand-alone basis and, where relevant, across the group.

7.11 Earnings

Earnings are the most obvious source of additional capital to support growth or to replenish reserves in the event of unexpected losses. For regulated entities that are neither listed entities nor have parental support, earnings are usually the prime source of additional capital.

The credibility of earnings projections is fundamental to APRA's assessment. The greater the variability in past performance and the less accurate past projections have proven, the less reliance that can be placed on the current set of projections. Current earnings and trends and actual performance against budget forecasts are critical considerations.

Entities with volatile earnings or ongoing losses would generally be considered higher risk.

In the case of foreign branches, APRA's assessment considers Head Office earnings results as well as those of the branch.

7.12 Access to additional capital

Reasons for requiring additional capital may include the need to fund strategic initiatives (e.g. acquisitions, new IT systems) or to replenish a diminishing capital base due to ongoing losses. It is important that an entity has the ability to raise additional capital when necessary.

For many smaller entities, the options available to access further capital can be limited. For example, entities with mutual ownership or not listed on the stock exchange may have minimal access to public capital markets.

Important considerations in reviewing access to additional capital include:

- the entity's ability to raise or access additional capital to meet requirements, particularly in an adverse environment, e.g. where an underwriting loss leads to the minimum capital adequacy requirement being breached;
- whether the entity (or its parent) is a listed entity;
- whether the entity has accessed additional capital from capital markets and the issues were supported;
- the group capital adequacy position where the entity is a member of a corporate group. In this case, APRA would assess whether capital can be sourced from existing excess capital resources in the group (whether the local group or from an overseas parent); and
- whether there are competing demands from other entities within the group where the source of capital is from a parent entity.

For superannuation defined benefit/ hybrid funds, APRA considers the employer sponsor's willingness and capacity to contribute additional funds when required.

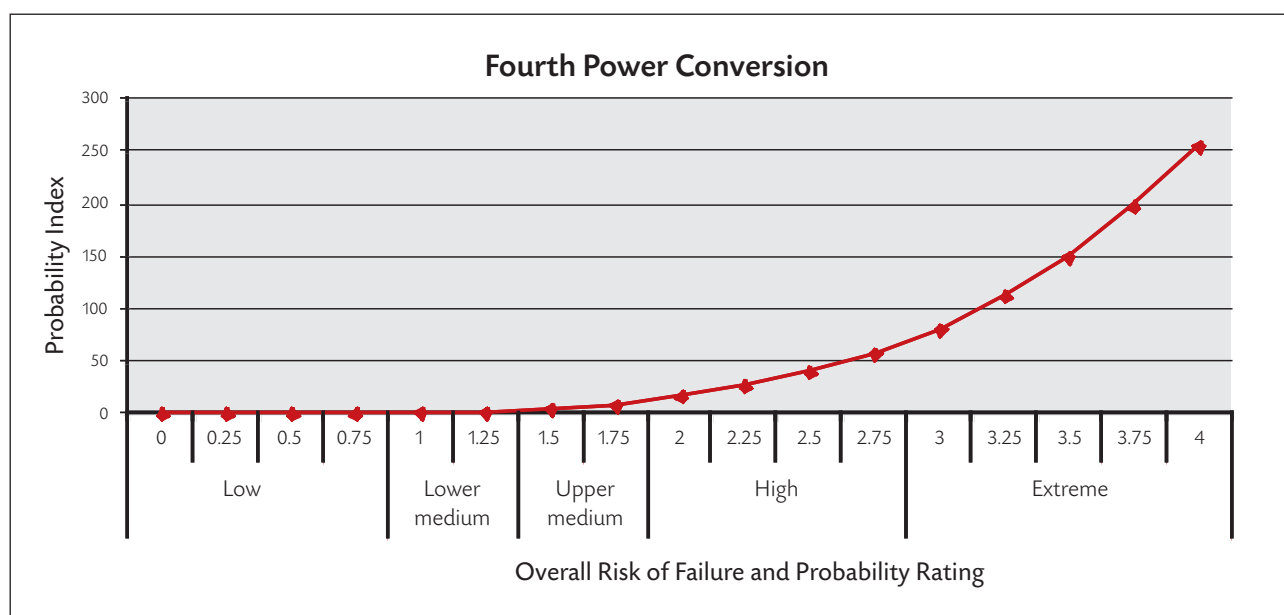
While access to additional capital is not directly relevant for foreign branches, consideration is given to the support provided by the Head Office and Head Office's access to additional capital.

8. Probability of failure

The *Probability of Failure* incorporates two elements:

- the *Probability Rating* – a descriptive assessment of the likelihood that a regulated entity could fail. The descriptive probability scale consists of five ratings – *Low*, *Lower Medium*, *Upper Medium*, *High* and *Extreme*.
- the *Probability Index* – a quantitative measure of the approximate relative likelihood that a regulated entity could fail. It is a continuous curve whose function is the fourth power of the overall risk of failure, as depicted in Figure 2 below.

Figure 2: Fourth power conversion



The non-linear relationship between the descriptive PAIRS probability ratings and the corresponding probability indices roughly approximates the relationships found between the ratings of external ratings agencies and relative default expectations based on long-term average default experience. That is, as an entity moves along the ratings spectrum, the probability of failure increases exponentially. Aligning to the probabilities of default used by external ratings agencies roughly equates to the fourth power of APRA's ratings. Table 3 provides a snapshot of the PAIRS overall risk of failure and Probability Index against indicative external ratings.

Table 3: PAIRS ORF and probability index against indicative external ratings

Overall Risk of Failure		Probability Index	Indicative External Rating
Very Low	0.25	1	AAA
	0.5	1	AA+
Low	0.75	1	AA
	1.0	1	AA-
Lower Medium	1.17	2	A+
	1.33	3	A
	1.5	5	A-
Upper Medium	1.67	8	BBB+
	1.83	11	BBB
	2.0	16	BBB-
High	2.25	26	BB+
	2.5	39	BB
	2.75	57	BB-
	3.0	81	B+
Extreme	3.33	123	B
	3.67	181	B-
	4.0	256	CCC

9. Impact of failure

The *Impact of Failure* incorporates two elements:

- the Impact Rating; and
- the Impact Index.

The *Impact Rating* is a descriptive assessment of the potential adverse consequences that could ensue from the failure of a regulated entity. The descriptive impact scale consists of four ratings – *Low*, *Medium*, *High* and *Extreme*.

The potential adverse consequences of failure encompass not only the direct financial impact on the depositors, policyholders or fund members of a regulated entity but also the potential for indirect damage to:

- the industry concerned; and
- the broader economic system.

Except for general insurance, the *Impact Index* is derived with reference to each entity's total resident Australian assets. It has been calibrated to produce a relative index range similar to that derived for the relative Probability Index.

APRA considers the face value of total resident Australian assets understates the true impact of a failure of a general insurer. As a result, in determining the impact rating and index for general insurers, total assets are multiplied by three before applying relevant formulae.

In some cases, APRA may move an impact rating into a higher range if the failure of the entity would have an impact disproportionate to its assets. In rare circumstances, APRA may adjust an impact rating downward, where a regulated entity does not take money from the public and where the impact of failure is disproportionately low compared to asset levels.

10. Supervisory attention index

The *Supervisory Attention Index* (SAI) is calculated as the geometric average of the probability index and the Impact Index. That is, the SAI is the square root of the product of the two Indices.

Each dimension is equally weighted in the process. This implies that the relative Probability and Impact of failure are considered of roughly equal importance.

The SAI is designed to:

- assist in the assessment of the size of APRA's supervisory task;
- identify individual entity and sector priorities; and
- assist APRA's planning for, acquisition of and allocation of supervisory resources.

The SAI grid is captured in Figure 3 below.

It is readily apparent from the grid that the Supervisory Attention Index covers a very wide range. Extreme values at the intersection of high impact and high probability are likely to be rare but their potential threat to APRA's beneficiaries would be significant.

Scores of 100 or above will only arise for a small number of particularly high probability and/or extreme impact entities. The bulk of the regulated population is likely to fall within the medium/medium intersection with a Supervisory Attention Index of 4 or lower.

Figure 3: SAI grid

Impact rating	Impact index	Supervisory Attention Index				
		Low	Lower Medium	Upper Medium	High	Extreme
No Limit	500	22	50	89	201	358
	250	16	35	63	142	253
Extreme	125	11	25	45	101	79
High	12.5	4	8	14	32	57
Medium	1.25	1	3	4	10	18
Low	0.25	1	1	2	5	8
Probability rating		Low	Lower Medium	Upper Medium	High	Extreme
Probability index		1	5	16	81	256

11. Quality and consistency

Since the introduction of PAIRS, a number of oversight functions have been progressively implemented to ensure the quality and consistency of PAIRS assessments and ratings, as these are ultimately subjective, albeit determined within a disciplined process.

The quality and consistency framework for PAIRS and SOARS comprises four levels:

- **support foundations** to aid supervisors in the PAIRS risk assessment and SOARS strategy setting process. The support foundations include five key components – *Assessment Criteria*, *Supervisor Training*, *Quantitative Decision Support*, *Validations Process* and *Sign-Off Protocols*;
- **predictive analysis** focusing on analytical tools and procedures with a forward-looking capacity. Predictive analysis includes *Early Warning Tools* and *External Predictors* including data from external ratings agencies;
- **portfolio reports** or *Watch List Reports* designed to keep close watch on riskier and higher impact entities and risk profile shifts from a portfolio perspective; and
- **hindsight review and assessment** to evaluate the effectiveness and outcomes of current supervision practice and make changes where necessary. This level consists of *Peer Group Benchmarking Sessions* and *Peer Reviews*.

Each level is represented by a mix of challenge and control elements. It is the combination of all four levels that leads to better risk assessments and strategy setting practices in APRA and overall improvements in supervisory judgements.

12. Contacts

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