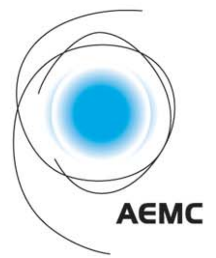

REVIEW

Australian Energy Market Commission

REVIEW OF SYSTEM STABILITY ARRANGEMENTS IN THE FINANCIAL SECTOR

NEM financial market resilience

18 September 2014

Reference: EMO0024
Review of system stability arrangements in the financial sector

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Citation

AEMC 2014, NEM financial market resilience, Review of system stability arrangements in the financial sector, 18 September 2014, Sydney

About the AEMC

The AEMC reports to the Council of Australian Governments (COAG) through the COAG Energy Council. We have two functions. We make and amend the national electricity, gas and energy retail rules and conduct independent reviews for the COAG Energy Council.

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Executive Summary

This paper reviews some of the major regulatory reforms that have occurred in the financial sector since the global financial crisis (GFC), and discusses the implications for the Australian Energy Market Commission's (AEMC's) advice on financial market resilience in the National Electricity Market (NEM).

Participants in the NEM have complex financial relationships with each other, both through their mutual trading in the spot market, and through the financial hedge contracts they enter into with each other to manage the risk of spot price volatility. These interdependencies contribute to the efficient operation of the NEM, but also introduce potential risks to the flow of funds between participants.

While the NEM has operated effectively to date, with businesses entering and exiting the market without disrupting financial system stability, significant disruptions to the flow of funds in the NEM could adversely impact NEM participants' financial positions. In extreme cases, the financial distress of a large NEM participant could cause distress to other participants, compromising financial system stability in the NEM.

In its request for advice, the Council of Australian Governments (COAG) Energy Council (formerly called the Standing Council on Energy and Resources) requested that the AEMC consider approaches to financial stability regulation in other markets as part of the NEM financial resilience review. In particular, given the events that unfolded during the GFC and the subsequent developments in financial sector regulation, the Council asked the AEMC to consider relevant developments in the regulation of financial markets in Australia and other jurisdictions.

In drawing lessons from experience in the financial sector, the AEMC recognises that there are important differences between the financial sector and the NEM. For example, the balance sheets of NEM participants are backed by tangible assets in the form of generation assets and/or customer contracts which represent intrinsic value, whereas a large proportion of the assets and liabilities of financial market participants could be made up of financial instruments and contractual arrangements which are more difficult to value.

Furthermore, as noted in the AEMC's Second Interim Report, that while the failure of a large participant would impact adversely on the stability of the electricity market it is unlikely to cause major instability to the overall financial system. This is due to the limited exposure of the financial system to the NEM.

Notwithstanding these distinctions, a number of themes from the financial sector reforms have relevance for the AEMC's advice on NEM financial resilience. These include:

- The importance of considering how markets should plan to manage periods of stress, including those caused by the financial distress of large market participants, in advance of any event occurring. The speed with which markets failed during the GFC and the subsequent need for governments to take

immediate action highlights the need for pre-planning and crisis preparedness. It also highlights the need to ensure that market and regulatory arrangements are able to manage the impact of disruptive events in the financial sector without disrupting systemically important functions and services.

- There is no single best mechanism through which to regulate for system stability. The financial sector reforms recognise the need to have a mixture of pre-event measures and a range of different post-event options from which to select. The nature of any given systemic event depends on the particular circumstances of the failed participant and, therefore, crisis management arrangements need to be flexible enough to apply the solution most appropriate to the circumstances.

- Reforms to address potential systemic instability are likely to impose costs on the market prior to any event occurring. Those costs need to be balanced against the materiality of risks to the financial system stability in the market, plus consideration of how those reforms would reduce costs if a systemically important business were to experience severe financial distress or failure.

This paper summarises a number of the key reforms in the financial sector since the GFC. It covers reforms that have been implemented at the global level – driven by the Group of 20 (G20) countries and international standard-setting bodies such as the Financial Stability Board (FSB) and the Basel Committee on Banking Supervision (Basel Committee). It also discusses the implementation of these reforms in certain jurisdictions.

While the specific details of how the reforms have been implemented between jurisdictions differ, the broad thrust is similar – governments do not wish to be placed in a situation where their urgent intervention is required to prevent the failure of a large institution, particularly where the extent, nature and terms of such intervention is unknown.

This point is recognised by the current Financial System Inquiry (Inquiry) into the Australian financial system, chaired by Mr David Murray, which states that government should minimise the expectation of using taxpayer funds to support the financial system.[1]

[1] The Financial System Inquiry 2014 (Murray), Interim report, 15 July 2014, p3-9.

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1 Introduction

In its request for advice, the COAG Energy Council (formerly called the Standing Council on Energy and Resources) asked the AEMC to consider approaches to financial stability regulation in other markets and relevant developments in the regulation of financial markets in Australia and other jurisdictions. This paper has two main objectives:

- to summarise a number of major developments in financial sector regulation as a result of the global financial crisis (GFC); and
- to draw out the lessons from experience in the financial sector during the GFC, together with regulatory reform in the wake of the GFC, for the AEMC's advice on NEM financial market resilience.

This paper accompanies the AEMC Second Interim Report for the NEM financial resilience review published on the 14 August 2014.[2]

We note that the regulation of the financial sector is constantly evolving and, as such, this paper describes developments as at August 2014

In identifying the lessons for the electricity sector, we are cognisant that while the financial sector bears many similarities to the electricity sector, there are also significant differences, as discussed in section 3.1. These differences need to be taken into account when considering the implications of experience in the financial sector for the NEM and its regulation.

Nonetheless, important lessons can be drawn for the NEM by considering the experience of the global financial sector during the GFC, and developments in the regulation of the financial sector since that time. These regulatory developments include measures designed to:

- make businesses more resilient to adverse events (pre-event measures), and
- measures to manage the failure of systemically important businesses while avoiding financial contagion and disruption to systemic services and functions in the market (post-event measures).

1.1 Structure of this report

The remainder of this report is structured as follows:

- Chapter 2 briefly summaries factors that contributed to the GFC, and the resulting developments in the regulation of the financial sector.
- Chapter 3 focuses on the lessons of the GFC and financial sector regulation for the AEMC's advice on NEM financial market resilience.

[2] This paper was prepared with the assistance of Aton Consulting and Promontory Australasia (Sydney) Pty Ltd.

- Chapters 4 and 5 discuss regulations that have been introduced to improve the resilience of financial institutions to adverse events (pre-event measures).
  - Chapter 4 discusses the increasing use of stress tests by regulators; and
  - Chapter 5 discusses the 'Basel III' regulatory reforms in banking.
- Chapters 6 and 7 discuss regulations that have been introduced to assist with the orderly resolution of 'systemically important financial institutions' (SIFIs), and measures to assist with the maintenance of critical services and functions during periods of stress.
  - Chapter 6 discusses regulatory measures that have been developed to identify and manage the risks associated with SIFIs;
  - Chapter 7 discusses enhancements to resolution regimes in the financial sector i.e. regulations that have been designed to make feasible the resolution of financial institutions without severe systemic disruption and/or the loss of critical services or functions.

Further detail on the status of the jurisdictional implementation of the reforms is contained in Appendices A,B and C.

2 Developments in financial sector regulation since the GFC

This Chapter provides background to a number of factors that contributed to the development of the GFC, and summarises regulatory reforms in the global finance sector since that time. These reforms aim to address the weaknesses that contributed to the GFC, in order to mitigate the risk and impact of a similar event occurring in the future.

Chapters 4 through 7 discuss the key regulatory reforms introduced in more detail, including implementation of these reforms in a number of jurisdictions.

2.1 Background to the development of the GFC

The underlying causes and progression of the GFC have been widely discussed and documented. This section does not attempt to provide a comprehensive analysis of its development. Rather, it highlights a number of the factors that contributed to the GFC and, in particular, those factors that may have relevance to the AEMC's advice on NEM financial market resilience.

In the lead-up to the GFC, one of the first areas of concern that emerged was in the United States (US) mortgage market. The Financial Crisis Inquiry Commission (FCIC) appointed by the US government stated that: "the collapse of the housing bubble – fuelled by low interest rates, easy and available credit, scant regulation, and toxic mortgages … was the spark that ignited a string of events, which led to a full-blown crisis in the fall of 2008."[3]

The FCIC identified the following contributing factors:

- the growth in risky mortgages, mortgage-backed securities, and other derivatives;[4]
- extensive losses on these investments when the housing price 'bubble' burst, which put pressure on a number of financial institutions that had significant exposures to these mortgages and had borrowed heavily against them;
- the subsequent collapse or near collapse of large institutions such as Lehman Brothers and the American Insurance Group; and

3 FCIC, *The Financial Inquiry Report, Final Report of the National Commission on the Causes of the Financial and Economic Crisis in the United States*, January 2011, pxvi.

4 Securitisation involves the pooling of certain types of assets (such as home loans) and then repackaging them into securities, which are on-sold to investors. Securities relating to home loans are known as mortgage-backed securities. Investors in the securities have a right to interest, which is backed by repayments made on the underlying loan.

- credit markets 'seizing up' following concern about a lack of transparency in the balance sheets of major financial institutions, coupled with "a tangle of interconnections among institutions perceived to be 'too big to fail'".[5]

The financial crisis which started in the US housing market spread to more countries and developed into the deepest international recession since the Great Depression. The contagion to other countries highlighted common issues in the international financial markets, such as:[6]

a) a weakened regulatory framework for regulatory authorities' financial supervision,

b) incorrect credit evaluation in the financial sector; and

c) the emergence of a shadow banking system without financial supervision.

While the mortgage issues that contributed to the GFC are not relevant for the NEM, the events that unfolded following the collapse of several large financial institutions are pertinent, given that the NEM is also characterised by large participants that have complex financial relationships with other participants. The GFC demonstrated that the failure of a large, highly-interconnected participant could have substantial flow-on effects to rest of the market.

In particular, as institutions such as Lehman Brothers failed, other participants began to worry about the potential default of other counterparties, and began to 'hoard' liquidity (i.e. they began to reallocate their assets from riskier loans into safer, more liquid assets such as cash reserves). The lack of transparency around counterparty risks (particularly in over-the-counter (OTC) derivatives markets) further exacerbated this trend, leading to severe market dislocation across financial markets. This included markets that were previously considered highly liquid, such as the interbank lending market.

In response to the severe market dislocation that resulted from the failure of large financial institutions, governments and central banks around the world undertook unprecedented actions to restore confidence and stability in financial markets. In many countries, the public sector had to intervene with unprecedented injections of liquidity, capital support and guarantees, thereby exposing taxpayers to large contingent liabilities and losses.

For example, in the period between July and December 2007, five central banks[7] conducted 'emergency' auctions of government bonds, totalling US$65 billion. The objective was to provide sufficient liquidity to the financial markets to prevent lending

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5 FCIC, *The Financial Inquiry Report, Final Report of the National Commission on the Causes of the Financial and Economic Crisis in the United States*, January 2011, pxvi.

6 The Global Financial Crisis and the Great Recession: Causes, Effects, Measures and Consequences for Economic Analysis and Policy, Claes Berg, May 2011.

7 The US Federal Reserve Board, the European Central Bank, the Bank of England, the Bank of Canada and the Swiss National Bank.

coming to a complete stand-still.[8] Central banks (including the Reserve Bank of Australia (RBA)) also established emergency foreign exchange swap lines (with the US Federal Reserve Board) at the peak of the crisis to improve US dollar liquidity in their respective markets.[9]

Central banks (including the Reserve Bank of Australia (RBA)) also established emergency foreign exchange swap lines (with the US Federal Reserve) at the peak of the crisis to improve US dollar funding liquidity in their respective markets.[10]

These measures, along with government-backed restructuring of a number of institutions considered to be systemically important, succeeded in returning a measure of liquidity and stability to the market, albeit at a high price.

The conclusions of the FCIC included that:

- there were widespread failures in financial regulation and supervision;
- there were 'dramatic' failures of corporate governance and risk management at many SIFIs;
- a combination of excessive borrowing, risky investments, and lack of transparency put the financial system "on a collision course with crisis";
- over-the counter derivatives contributed significantly to the crisis; and
- the US Government was ill prepared for the crisis, and its 'inconsistent' actions increased uncertainty and panic.[11]

Similar findings were also found in the Interim Report to Australia's Financial System Inquiry, which noted that the GFC provided many lessons about the global financial system, including that:

1. complexity and interconnectedness were greater than appreciated;
2. many global financial institutions had too little capital to withstand a large shock;
3. moral hazard was prevalent;
4. liquidity can disappear during periods of significant stress in the market; and
5. there was insufficient focus on system-wide risks.

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8 The US Federal Reserve Board also announced that the range of institutions eligible to participate in the auctions would be broadened beyond the open-market counterparties with whom they would normally deal.

9 Refer to RBA, *Statement of Monetary Policy*, Box B, November 2008.

10 RBA, *Statement of Monetary Policy*, Box B, November 2008.

11 FCIC, *The Financial Inquiry Report, Final Report of the National Commission on the Causes of the Financial and Economic Crisis in the United States*, January 2011, ppxviii-xxiv.

Many of these findings are relevant to the NEM financial resilience review and have been considered in the proposed recommendations in the Second Interim Report.

2.2. Response to the GFC from regulatory bodies

Against this background, the regulatory environment in the financial sector has changed dramatically since the GFC commenced in 2007. The general direction of change has been towards more stringent regulation, much closer supervision by regulators, and broader powers for regulators to deal with systemic risks. These changes seek to both prevent instability before it occurs, and to resolve the failure of major institutions while maintaining systemic functions.

At the international level, the reform agenda has been driven by the leaders of the G20 countries, with the support of key international standard-setting bodies such as the FSB and the Basel Committee.

2.2.1. Financial Stability Board

The Financial Stability Board (FSB) was established in November 2008 with the aim to:

> "coordinate at the international level the work of national financial authorities and international standard setting bodies and to develop and promote the implementation of effective regulatory, supervisory and other financial sector policies. It brings together national authorities responsible for financial stability in significant international financial centres, international financial institutions, sector-specific international groupings of regulators and supervisors, and committees of central bank experts."[12]

The FSB emerged from the Financial Stability Forum (FSF), which was established in 1999 from a G7-based group comprised of finance ministries, central bankers and international financial bodies. As the GFC unfolded, it became clear that a wider consultation group was required, and the G20 summit in November 2008 resulted in the establishment of the FSB – the successor body to the FSF with membership from across the G20.

2.2.2. Basel Committee

The Basel Committee is the primary global standard-setter for the prudential regulation of banks. The Committee (which resides in the Bank for International Settlements, based in Basel, Switzerland) provides a forum for cooperation on banking supervisory matters with a mandate to strengthen the regulation, supervision and practices of banks worldwide with the purpose of enhancing financial stability.[13]

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12 FSB, *Financial Stability Board: Overview*, viewed July 2014, www.financialstabilityboard.org/about/overview.htm.

13 The Basel Committee's members come from Argentina, Australia, Belgium, Brazil, Canada, China, France, Germany, Hong Kong SAR, India, Indonesia, Italy, Japan, Korea, Luxembourg, Mexico, the Netherlands, Russia, Saudi Arabia, Singapore, South Africa, Spain, Sweden, Switzerland, Turkey, the United Kingdom and the United States.

The Basel Committee formulates supervisory standards to promote global financial stability. Importantly, however, these standards have no legal force. Rather, they are developed and issued by the agreement of Committee members, with the expectation that individual national authorities will implement them. In this way, the Basel Committee encourages convergence towards common standards and monitors their implementation, but without attempting detailed harmonisation of member countries' supervisory approaches. In practice, the Basel Committee standards constitute minimum requirements and members may decide to go beyond them.

The key standards of the Basel Committee are its capital adequacy framework (mostly recently revised by the 'Basel III' reforms in December 2010), and the recently developed Liquidity Coverage Ratio (LCR), which sets out a minimum global standard for bank liquidity risk management.

2.2.3. National implementation of international standards

In Australia, the G20 financial reforms have been largely implemented by Australia's financial regulators – namely, the Australian Securities and Investments Commission (ASIC), the Australian Prudential Regulatory Authority (APRA) and the Reserve Bank of Australia (RBA). APRA's responsibilities have mainly related to the Basel III reforms, while ASIC and the RBA have focussed mainly on OTC derivatives and financial market infrastructure reforms. The Commonwealth Treasury also assisted in those reforms requiring legislative change.

The Financial System Inquiry is also currently in progress in Australia which, among other things, is examining the regulatory framework supporting Australia's financial system post-GFC. Box 2.1 provides further details of the Inquiry.

Box 2.1: Inquiry into Australian Financial System

On 20 December 2013, the Federal Treasurer released a terms of reference for an inquiry examining how the financial system could be positioned to best meet Australia's evolving needs and support Australia's economic growth. The Inquiry is being chaired by Mr David Murray. The objective of the Inquiry is to identify recommendations that will foster an efficient, competitive and flexible financial system, consistent with financial stability, prudence, public confidence and capacity to meet the needs of users.

The Inquiry is looking at all aspects of the Australian financial system. This includes issues that are relevant for the AEMC's work on NEM financial resilience, such as:

- the framework for the regulation of system stability;
- prudential regulation; and
- how to resolve the failure of major institutions while maintaining essential services to customers.

An Interim Report was released on 15 July 2014.[14] This report makes a number of observations on the Australian financial system and raises a number of options for consultation. In relation to financial system stability, the report made the following observations:

- Australia's approach to financial stability proved resilient during the GFC. However, during the GFC significant government actions in a number of countries, including Australia, entrenched perceptions that some institutions are 'too big to fail'. These perceptions can be reduced in Australia by adopting more credible mechanisms to resolve these institutions without government support. Some of these steps would be relatively low-cost and straight-forward to implement, while others would involve substantial changes to the Australian financial system
- A number of international jurisdictions have implemented new macro-prudential toolkits to assist with managing systemic risks. The effectiveness of these for a country like Australia is not yet well established, and there are significant practical difficulties in using such tools. While the Inquiry sees merit in investigating whether some additional tools for addressing systemic risk would be helpful, it is cautious about Australia adopting tools that are yet to be proven.
- Australia has implemented some aspects of global prudential frameworks earlier than a number of jurisdictions. It has also used national discretion in defining capital ratios.
- Australia generally has strong, well-regarded regulators, but some areas of possible improvement have been identified to increase independence and accountability.

The final report of the Inquiry is due in November 2014.

The implementation of the internationally-driven reforms in jurisdictions outside Australia is covered in more detail in Chapters 4 to 7.

2.3. Key regulatory measures in response to the GFC

In broad terms, the key regulatory responses to the GFC include:

- increasing use of stress tests (see 2.3.1);
- Basel III regulatory reforms in banking (see 2.3.2);
- increased focus on systemically important institutions (section 2.3.3);
- enhancements to resolution regimes (see 2.3.4); and
- increased transparency of institutions and markets, and other OTC derivatives reforms.

[14] The Financial System Inquiry 2014 (Murray), Interim report, 15 July 2014.

2.3.1. Increasing use of stress tests

Although stress testing had been an important risk management tool used by financial institutions even prior to the GFC, the use and importance of stress testing has grown significantly since then – driven mainly by regulatory demands. Over recent years, regulators have increased the importance placed on stress testing practices by:

a) Mandating that banks run **external, macro-economic stress tests**, with the primary aim of testing whether banks are capable of withstanding highly severe but plausible stress scenarios prescribed by the regulator (referred to as 'external stress tests'); and

b) requiring banks to improve their own **internal** bank-specific programs of stress testing, as part of their internal risk management and capital planning programs (referred to as 'internal stress tests').

Stress tests (both internal and external) are intended to provide information for several different purposes, including to:

- guide regulators in identifying areas requiring policy attention;
- inform boards about the relative performance of their companies;
- feed into the development of recovery planning by the companies; and
- provide public information and reassurance regarding the state of major companies, in an age where public faith in the stability of financial institutions has been sorely tested.

The Bank of England states that results of stress tests are expected to be used to inform its assessment of the resilience of the financial system and, in doing so, aid in formulating policy responses; and support regulator decisions and actions on individual banks. It is not, however, intended that stress tests be a "simple 'pass/fail' exercise".15

Discussing the stress testing scenarios applied by APRA to Australian domestic banks, the Chairman of APRA made the following point regarding the need for stress testing beyond what the institutions themselves thought was appropriate:

> "[it is] tempting for these institutions to succumb to what has been described as 'disaster myopia' - that is, the difficulty of imagining appropriately severe economic conditions after a long period of stability. The lack of severe stress experience can lead to reluctance by institutions to contemplate their own mortality and a willingness to dismiss as implausible scenarios that would drive financial losses. Scenarios built on benign experience will under-estimate potential stress and provide false confidence."[16]

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15 Bank of England, *A framework for stress testing the UK banking system*, October 2013.

16 Laker , J., *The Australian banking system under stress - again?*, AB&F Randstad Leaders Lecture 2012, Brisbane, 8 November 2012.

The implementation of stress testing programs in different jurisdictions is discussed in more detail in Chapter 4 and Appendix A.

2.3.2. Basel III regulatory reforms in banking

Basel III is a comprehensive set of reform measures, developed by the Basel Committee, to strengthen the regulation, supervision and risk management of the banking sector. These measures aim to:

- improve the banking sector's ability to absorb shocks arising from financial and economic stress, whatever the source;
- improve risk management and governance; and
- strengthen banks' transparency and disclosures.

There are two main components of the Basel III reforms – capital and liquidity. The capital reforms have sought to increase the ability of banks to absorb losses under severe stress scenarios, while the liquidity reforms have aimed to strengthen banks' cash flow management and funding arrangements.

In Australia, responsibility for the implementation the Basel III reforms has rested with APRA. APRA released its final Basel III capital reform package in September 2012, with the capital reforms coming into effect on 1 January 2013. APRA's final liquidity requirements were issued in December 2013, with Authorised Deposit-taking Institutions (ADIs) subject to the LCR regime required to meet the LCR in full from 1 January 2015. Both of these are ahead of the timelines proposed by the Basel Committee.

Other jurisdictions are also progressing with their implementation of the Basel III reforms with the release of final rules and standards.

The implementation of Basel III reforms in banking in various jurisdictions is discussed in more detail in Chapter 5 and Appendix B.

2.3.3. Focus on systemically important institutions

In the aftermath of the GFC, the FSB was asked to develop a policy framework to address the systemic and moral hazard risks associated with SIFIs by the leaders of the G20. SIFIs are defined as "financial institutions whose distress or disorderly failure, because of their size, complexity and systemic interconnectedness, would cause significant disruption to the wider financial system and economic activity."[17]

The development of a regulatory framework for SIFIs was first targeted at those institutions deemed to be systemically important at the global level (i.e. globally systemically important financial institutions or G-SIFIs). From this, additional work has been completed by the FSB and other international standard-setting bodies to identify global systemically important banks (G-SIBs) and insurers (G-SIIs). An

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17 FSB, *Proposed assessment methodology for identifying non-bank non-insurer global systemically important financial institutions*, press release, 8 January 2014.

assessment methodology has also been proposed to extend the SIFI framework to non-bank, non-insurer global systemically important financial institutions (NBNI G-SIFIs). These frameworks all recognise that SIFIs can vary in their structures and activities, and that systemic importance can vary significantly across sectors.

Individual jurisdictions are also considering appropriate actions in respect of domestic systemically important banks (D-SIBs). D-SIBs are banks that are not significant from an international perspective, but nevertheless could have an important impact on their domestic financial system and economy compared to non-systemic institutions. APRA released an information paper on 23 December 2013 on its framework for dealing with D-SIBs in Australia.[18]

Chapter 6 discusses the regulatory framework for SIFIs in more detail.

2.3.4. Resolution regimes

In light of the unprecedented government assistance to restore system stability during the GFC, financial regulators globally have sought to improve the way in which financial institutions are resolved without taxpayer exposure to loss, while maintaining continuity of their vital economic functions.

In the context of financial sector reforms, the term 'resolution' has been broadly defined as any action taken by a public authority in respect of a firm that is no longer viable (or likely to be no longer viable), and has no reasonable prospect of becoming so. Resolution regimes relate to all elements of the legal framework and policies that govern the application of resolution powers by national authorities, including normal corporate insolvency laws as well as powers conferred under special administration regimes.

In the financial sector, special administration regimes to deal with failed institutions are not uncommon, given that the use of normal corporate administration processes to a systemically important institution could cause further difficulties, such as a threat to systemic services or wider financial instability. Box 2.2 outlines reasons identified in the UK by the Bank of England for departing from normal insolvency law, which are also applicable in other jurisdictions such as Australia.[19]

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18 APRA *Domestic systemically important banks in Australia*, Information Paper, December 2013.

19 Box 2.2 is a direct quotation from Brierley, P., *The UK special resolution regime for failing banks in an international context*, Financial stability paper no. 5, Bank of England, 28 July 2009, p5. The emphasis replicates the original document.

Box 2.2: Reasons why corporate insolvency law is inappropriate for banks

1. It focusses on individual companies in isolation so does not address the fact that banks, unlike industrial and commercial companies, are vulnerable to *losses of confidence*, which may lead to runs, contagion and wider systemic consequences that undermine the public policy objective of maintaining financial stability.

2. Neither the *bankruptcy courts* nor the *insolvency practitioners* appointed to conduct a proceeding under the corporate insolvency law are required to take into account public policy objectives linked to the maintenance of financial stability. The actions they mandate or carry out in pursuit of their objectives could, therefore, worsen a banking crisis.

3. It may only be initiated at the point of insolvency[20] and so inhibits early and decisive pre-emptive intervention designed to forestall potential problems - which in the banking sector can escalate rapidly to affect not only the bank in difficulty but also other banks which are or are thought to be in similar positions.

4. It is not well suited to ensuring the *continuity* of key banking functions, especially payments to and from customer accounts and access to overdraft and other credit facilities, all of which will be frozen by the moratorium that generally comes into effect in a corporate insolvency proceeding.

5. Related to this point, it is not well-adapted to allow the *real-time decision-making* of a kind to manage the risks to which most banks of any size are exposed (e.g. dynamic hedging techniques).

6. It does not recognise the particular position of bank depositors, who - unlike the creditors of an industrial company - are numerous in number, are not professional market participants and whose claims on the bank, as 'money', have a major role in the wider functioning of the economy.

To address the moral hazard risks posed by SIFIs, the FSB issued a package of policy measures to improve the effectiveness of resolution regimes in local jurisdictions.[21] These 'Key Attributes', which have been endorsed by the G20, set out the core elements of effective resolution regimes including the powers that should be granted to resolution authorities, the need for effective regulatory coordination (within jurisdictions and across jurisdictions), and the development of recovery and resolution plans (RRPs).

RRPs, also known as 'living wills', are a key part of the reforms introduced since the GFC. Recovery plans must detail the arrangements that an institution has in place to

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20 The definition of insolvency in the corporate law encompasses both 'cash flow' insolvency, in the sense of inability to pay debts as they fall due, and 'balance sheet' insolvency, in the sense of liabilities exceeding assets.

21 FSB, *Key attributes of effective resolution regimes for financial institutions*, October 2011.

restore its long-term viability in the event of severe stress conditions. Resolution plans aim to ensure that the regulators have a clear process to guide decision-making where recovery is no longer considered a viable option, and normal insolvency proceedings would risk financial instability.

Chapter 7 and Appendix C discuss resolution regimes and RRPs in further detail, including developments on these measures in a number of jurisdictions.

2.3.5. Increased transparency and OTC derivatives reforms

The GFC made clear the systemic importance of the OTC derivatives markets, and the difficulties that may occur if SIFIs fail, potentially causing cascading difficulties to other parties. At the G20 summit in 2009, the Australian Government joined other jurisdictions in committing to reforms to practices in OTC derivatives markets.

Three of the key G20 commitments in this area were:

- the reporting of all OTC derivatives transactions to trade repositories;
- the clearing of all standardised OTC derivatives transactions through central counterparties; and
- the execution of standardised OTC derivatives transactions on exchanges or electronic trading platforms, where appropriate.

Trade reporting

Trade reporting seeks to address the fact that, during the GFC, the opacity of the OTC derivatives market made it difficult for regulators and market participants to assess counterparty risk and the degree of interconnectedness in the market. This inability to assess counterparty risk contributed to a decline in liquidity as market participants became increasingly reluctant to lend to counterparties that might be insolvent.

In March 2013, ASIC released for consultation its proposals on derivative trade repositories[22] and on the possible reporting of derivative transactions.[23] Following the consultation period, ASIC issued two Rules in July 2013 to give effect to the Government's commitments to the G20 in this area (ASIC Derivative Trade Repository Rules 2013 and the ASIC Derivative Transaction Rules (Reporting) 2013). In addition, ASIC released a Regulatory Guide in August 2013.[24]

Trade reporting obligations in Australia were phased-in from 1 October 2013, when entities caught under Phase 1 of the obligations (i.e. banks in Australia that were already registered as swap dealers by the US Commodity Futures Trading Commission (CFTC)) were required to comply with the trade reporting obligations. Phase 2 reporting entities (financial entities with $50 billion or more of notional principal outstanding) commenced reporting credit and interest rate derivatives in accordance with the regime on 1 April 2014.

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22 ASIC, *Derivative trade repositories, consultation paper 201*, March 2013.

23 ASIC, *Derivative transaction reporting, consultation paper 205*, March 2013.

24 ASIC, *Derivative transaction reporting, Regulatory Guide 251*, August 2013.

To facilitate orderly implementation of the reporting regime, ASIC worked with Phase 1 and Phase 2 entities, and granted transitional relief in a number of areas. On 30 June 2014, ASIC released a Class Exemption Instrument which provided for a staggered and delayed start to Phase 3 of the OTC derivative transaction reporting obligations under the ASIC Derivative Transaction Rules (Reporting) 2013 (Rules).[25] Under the Class Exemption Instrument [14/0633], entities caught under Phase 3 (which includes non-financial entities such as NEM participants) will start reporting no earlier than 13 April 2015.

Central clearing

The second element of the G20 commitment involves requiring the central clearing of standardised OTC derivatives transactions. The objective of this is to reduce systemic risk by interposing a central clearing house as a counterparty to every standard trade undertaken. This provides various risk management practices to safeguard that the failure of a business does not affect other businesses.

In July 2013, APRA, ASIC and the RBA recommended, in their market assessment report, consideration of a central clearing obligation with respect to interest rate derivatives denominated in the four global currencies; namely, US dollars, euros, yen and British pounds.[26]

Further, in April 2014, APRA, ASIC and the RBA released a report recommending to the Government a central clearing mandate for trades between internationally active dealers in Australian Dollar interest rate derivatives.[27] Considering the findings from its July 2013 and April 2014 reports, the Australian Government released for consultation a proposal to mandate central clearing of interest rate derivatives in AUD and the other four major global currencies noted above for internationally active dealers. The consultation period closed on 1 August 2014 and it is anticipated that the Minister is likely to make a determination before November 2014.

Trade execution

The third element of the G20 commitment involves requiring the trading of standardised OTC derivatives contracts on exchanges or electronic trading platforms, where appropriate. The purpose of trading platforms is to bring greater transparency to the OTC market. Via such platforms, information about OTC derivatives is made available to all market users and improved price transparency would allow better comparability of OTC products and contribute to more efficient pricing.

At this stage, the Australian financial regulators have not recommended putting in place any mandatory obligations for the execution of trades on organised trading venues. In particular, the regulators have suggested that further consideration needs to be given as to what constitutes an acceptable trading venue for these purposes, and

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25 ASIC, *Corporations Act – Paragraph 907D(2)(a) – Class Exemption 14/0633*, 30 June 2014

26 APRA, ASIC and RBA, *Report on the Australian OTC Derivatives Market*, July 2013

27 APRA, ASIC and RBA, *Report on the Australian OTC Derivatives Market*, April 2014

whether the outcome of this may require changes to the regulatory regime for trading platforms in Australia.[28]

The Second Interim Report provides the AEMC's advice on the G20 OTC reforms measures to the extent they apply to the electricity sector. As Chapter 11 of the Second Interim Report provides further details on these reforms, this paper does not include a separate chapter detailing the specific measures introduced on OTC reforms in the financial sector.

28 Oliver, H., *Implementation of OTC Derivatives Reforms in Australia*, Address to the Risk Australia Conference, Sydney 13 August 2013

3 Lessons for the NEM from experience in the financial sector

There are important differences between electricity markets and financial markets which need to be borne in mind when considering the potential relevance of financial sector reforms to the NEM. This Chapter identifies the main differences and discusses the lessons for the NEM of the experience in the financial sector, and their relevance for the AEMC's advice on NEM financial market resilience.

3.1 Comparison of the financial sector and the NEM

In considering the relevance of regulation in the financial sector to regulation of the NEM, there are both similarities and differences between the electricity industry and the broader financial services industry to consider.

1. The underlying business models are significantly different. Financial institutions borrow and re-lend/invest money into a wide range of asset classes, at high leverage ratios. There is often a significant mismatch between the term (ie, time period) over which money is borrowed by the institution and the term over which the money is invested. For example, retail banks often accept short-term deposits, while lending money over a long period (such as property loans).

   This business model is vulnerable to crises of confidence and the risk of 'bank runs'. By contrast energy businesses typically raise money for investment into a relatively narrow range of (tangible) assets in the form of generation assets and have (intangible) customer contracts which provide a reliable stream of cash flows. Their hedging strategies are generally closely related to managing the risk of their physical positions, rather than speculative transactions.

2. Financial institutions and financial market participants are more likely to be exposed to off-balance sheet liabilities and complex financial instruments which are both more uncertain and (often) more difficult to value. That said, many major energy businesses are increasingly diversified, with exposures across a range of countries and asset classes, resulting in larger and more complex financial and legal exposures. Participation in the NEM is for example only one part of the business undertaken by large energy businesses.

3. A failure of a large electricity business is unlikely to cause major instability to the broader financial system given the size of the financial institutions in Australia and the extent of their (likely) exposures towards NEM participants. That is, even the failure of one of the largest NEM participants would be unlikely to cause broader financial system instability, which would not be the case if a major financial institution failed.

4. In the absence of special protections, the failure of a major bank would almost certainly lead to a loss of depositor confidence, and the potential loss of depositor funds. Other critical services provided by a failed major bank would also

compromise system stability (e.g. payments and settlement services).[29] By contrast it is not obvious that the commercial failure of an energy business would automatically lead to a loss of service. There are existing powers to direct generators to continue operating, and it is possible that an administrator would consider that the best interests of creditors would be served by continuing to operate generation assets while the business was restructured or resolved.

The potential for (and impact of) resulting market turmoil in the NEM is harder to assess. Furthermore, the retailer of last resort (ROLR) scheme provides for the continuation of electricity supply to customers in the event of a retailer failure, even though the ROLR scheme has the potential to exacerbate the risk of financial instability if a large retailer were to fail.[30]

3.2 Lessons for the AEMC's advice on NEM financial market resilience

While recognising distinctions between the NEM and the financial sector, it remains the case that energy businesses participate in a range of markets, both physical and financial. Financial and electricity markets have many fundamental similarities, and even noting the physical differences between the industries, it is not clear that the financial market risk management and corporate governance techniques applied should be anything other than fundamentally similar.

Furthermore, the experience during the GFC where apparently 'safe' businesses experienced severe financial difficulties has lessons beyond the boundaries of those institutions and markets directly affected. Financial markets are subject to periods of stress and potential crises, requiring measures to reduce their likelihood and impacts.

The interim report of the inquiry into the Australian financial system notes that "history has demonstrated that financial crises can and will occur at significant cost to the economy. Although we cannot predict the cause or timing, our financial system framework should reduce the likelihood and impact of such events".[31]

Noting that the powers held by regulators in relation to the financial circumstances of NEM participants are limited compared to the scope of powers applied by regulators in the financial sector, there are a number of issues that are relevant for the AEMC's advice on NEM financial market resilience. These include:

- the potential for financial distress to be transmitted rapidly where there are significant financial interdependencies between different firms in the market;
- the potential for a lack of transparency to exacerbate the risk of financial instability;

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29 These special protections include a 'depositor preference' on the assets of a failed institution ahead of other unsecured creditors, and a Financial Claims Scheme introduced in 2008, under which the Australian Government guarantees the timely repayment of deposits up to a predefined cap. For more information see Turner, G., 'Depositor protection in Australia', *Bulletin*, Reserve Bank of Australia, December Quarter 2011, pp45-55.

30 See chapter 3 of AEMC, *Second interim report, NEM financial market resilience*, 4 June 2013.

31 The Financial System Inquiry 2014 (Murray), *Interim report*, 15 July 2014, pxv.

- the identification and differential treatment of systemically important businesses;
- the need for both preventative measures - which aim to make a business more robust to financial stress - as well as arrangements which will allow the orderly resolution of a business if it fails, without loss of critical services;
- improvements in risk management practices;
- increased focus on liquidity management;
- increased utilisation of stress testing;
- the potential inadequacy of normal corporate insolvency laws where they threaten public policy objectives such as financial stability;
- the need for preparation and planning to respond to periods of financial stress;
- the potential for significant costs to be imposed as a result of reforms to regulation of the financial sector; and
- the need for regulatory coordination.

These issues are discussed further in the following sections, and in more detail in subsequent chapters. This paper raises issues of relevance to the AEMC's work on NEM financial market resilience, but does not draw conclusions about the extent to which reforms in the financial sector should be adopted in the NEM. The Commission's analysis and draft recommendations are contained in the Second Interim Report.[32]

3.2.1 Transmission of financial distress

The GFC highlighted the potential for the financial distress of one business being transmitted rapidly to other businesses where there are significant financial interactions between different businesses. Innovations in the financial sector led to an expansion in the use of securitisation markets and derivative products, resulting in a complex network of financial interconnections between banks and other financial market participants. These interconnections, and the risks inherent in the various products, were not always transparent. Financial institutions also became more focussed on their exposure to counterparty default, and the lack of transparency regarding the exposure of their counterparties to third parties.

Participants in the NEM also enter into OTC hedge contracts with other NEM participants, in order to manage spot price volatility. If a NEM participant defaulted on its financial obligations under an OTC contract it could result in other NEM participants being exposed to spot prices in respect of part of their retail load or generation capacity. The Second Interim Report discusses the extent to which there is

32 See AEMC, *Second interim report, NEM financial market resilience*, August 2014.

potential for financial contagion to occur in the NEM through OTC contract default in more detail.[33]

3.2.2 Transparency

As noted above, the GFC highlighted a lack of transparency in the financial sector, particularly in relation to the risks of different derivative products, and the risks to which counterparties were exposed. Reforms in the regulation of the financial sector which aim to increase transparency include the G20 reforms on trade reporting in the OTC market, the publication of external stress test results in some jurisdictions, and improving the risk disclosures made by banks to investors and counterparties.

The NEM is also characterised by limited transparency regarding the extent to which individual NEM participants are exposed to counterparty risk via OTC contracts, as discussed in the Second Interim Report.[34]

3.2.3 Systemically important institutions

The new framework for financial regulation includes the identification of systemically important institutions. Institutions that are identified as systemically important are subject to additional requirements, such as increased capital requirements, closer regulatory involvement, and the requirement to have recovery and resolution plans (RRPs).

In the NEM, no distinction is currently made between NEM participants on the basis of characteristics such as size or interconnectedness with other NEM participants. Larger NEM participants are not subject to differential regulatory requirements or procedures. The Second Interim Report recommends identifying systemically important market participants in the NEM, and establishing a separate framework to respond to the financial distress or failure of such participants.[35]

3.2.4 Risk management practices

A lesson from the GFC was that the risk management practices of financial institutions were not always adequate to prevent the transmission of financial distress and the threat of systemic instability. There were weaknesses and failings in risk management, and financial market participants severely underestimated default risks, concentration risks, market risks and liquidity risks.

The nature of the problems have been described as 'disaster myopia', where there is an inability to imagine sufficiently severe conditions given a long period of growth and stability.

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33 See Ibid, section 2.3.3.

34 Ibid, section 4.3, chapters 10 and 11.

35 See chapter 6 of AEMC, *Second interim report, NEM financial market resilience*, August 2014.

The Second Interim Report discusses the risk management practices of NEM participants and implications for the AEMC's advice on NEM financial market resilience.[36]

3.2.5 Liquidity management

Maintaining liquidity in markets during times of financial stress is crucial to avoiding systemic failure. Maintaining a functioning market to manage financial positions and avoiding severe reductions in the valuation of assets is important in managing the impact of a participant failure. Many of the difficulties in the GFC were exacerbated by the 'freezing' of markets following the failure of a large institution. Underestimation of the risks involved with certain funding strategies contributed to liquidity issues in a rapidly changing environment. Many companies were worried about the potential risk of counterparty default and their own future liquidity needs, and 'hoarded' liquidity.

Early responses to the GFC by governments involved pushing substantial liquidity into financial markets via their central banks.

The Second Interim Report discusses how NEM participants manage their liquidity requirements and the implications for the AEMC's advice on NEM financial market resilience.[37]

3.2.6 Stress testing

Regulators in major financial jurisdictions including Australia are increasingly using stress testing to inform them of systemic risks in their financial markets. In some jurisdictions, regulators are also mandating the specific scenarios that banks must undertake as part of their capital adequacy assessments, with the results publicly reported, as discussed in Chapter 4.

The Second Interim Report discusses the extent to which NEM participants currently undertake regular stress testing, and considers whether mandatory stress testing should be introduced.[38]

The Inquiry into the Australian financial system noted that "robust stress testing has a resource cost for both regulators and industry". However, it considered stress testing as likely to be on the lower end of the cost spectrum compared to other options for improving financial stability.[39]

3.2.7 Introduction of special external administration schemes

Following the GFC, financial regulators recognised that resolution regimes to deal with the exit of a failed SIFI were inadequate. For example, normal corporate insolvency

36 Ibid, chapter 4.

37 Ibid, chapter 4.

38 Ibid, section 10.3.

39 The Financial System Inquiry 2014 (Murray), *Interim report*, 15 July 2014, p3-30.

laws were not appropriate in dealing with large failed banks, for the reasons set out in Box 2.2. These reasons included the potential for the objectives of insolvency practitioners (which focus on the interests of creditors) to be out of line with public policy objectives relating to financial system stability, and the potential threat to key functions and services when a large institution becomes insolvent.

In response to this concern, reforms to improve resolution regimes for responding to the financial distress and failure of SIFIs have been introduced in many jurisdictions. Resolution regimes include the introduction of special external administration schemes which over-ride or complement the provisions of normal corporate insolvency procedures. The regimes aim to meet public policy objectives, including the continuation of core functions and systemic stability.

A key objective of the reforms in the financial sector has been to introduce measures which will minimise the possibility for government bailouts in the event that a large financial institution fails. As well as introducing policies to reduce the risk of failure, these measures have included schemes for the orderly resolution of a failed bank, and in some jurisdictions, the establishment of resolution funds to which banks must contribute, to minimise any call on government funding.

The Second Interim Report discusses the limitations of traditional forms of external administration in the context of the failure of a systemically important NEM participant, and makes draft recommendations for the development of an alternative – which we have termed stability arrangements. The stability arrangements could apply when a systemically important NEM participant fails. This would involve a form of special external administration instead of the ROLR scheme and normal insolvency arrangements if a large retailer failed.[40]

3.2.8 Preparation and planning

Putting in place resolution plans for managing the failure of large businesses requires detailed consideration of the issues and implementation. This requires companies to prepare and agree with regulators detailed plans about how the institution would be wound up - including considering issues such as ring-fencing and establishing the rights of creditors during the resolution phase.

Regulatory authorities have recognised that a mixture of preventative measures and resolution plans are required - preventative options will not be themselves remove all the risk of financial contagion, and hence a wide range of resolution options is being developed and made available for regulatory authorities.

The Inquiry into the Australian financial system noted that:

> "many crisis management options are only credible with significant pre-planning. In a crisis, the more options available, the more likely a

40 See chapter 7 of AEMC, *Second interim report, NEM financial market resilience*, August 2014.

credible, low-cost option to prevent a disorderly collapse can be found that does not involve putting taxpayer funds at risk".[41]

The Inquiry noted that pre-planning can also increase the consistency of government approaches to crises and, through public communication, can increase the predictability and transparency of government responses. The importance of having sufficient preparation in advance of any failure is discussed in Second Interim Report.[42]

3.2.9 Regulatory coordination

The GFC highlighted that, in some jurisdictions, the supervisory structures and responsibilities between authorities were fragmented, which led to an absence of responsibility for system-wide risks. In addition, there was inadequate regulatory coordination between jurisdictions, particularly for financial institutions that operate across several jurisdictions.

To improve regulatory coordination, regulators around the world have sought to establish more formal cooperation arrangements among themselves. This includes the more prominent use of 'supervisory colleges', which are permanent, but flexible, structures for collaboration, cooperation, coordination and information-sharing among authorities responsible for the supervision of cross-border banking groups.[43]

Certain jurisdictions that have multiple financial regulators have also recognised the benefits of oversight councils to oversee system-wide risks. In Australia, the Council of Financial Regulators (CFR), which comprises of the RBA, APRA, ASIC, and Commonwealth Treasury, played an important role in developing comprehensive and coordinated responses to the GFC. Similar types of bodies have since been established in other jurisdictions, such as the Financial Stability Oversight Council (FSOC) in the US.

In contrast, there is limited formal protocol in the NEM regarding how the various jurisdictional institutions, regulators and market institutions would interact if there was a threat to the financial stability of the NEM.

3.2.10 Regulatory costs

Resolution planning for the finance sector is proving to be very resource intensive. Legislative reform has been required to provide regulators with the required powers, and the supervisory measures introduced have increased the information provided to regulators and brought them closer to the day-to-day operations of the firm. For example, the UK Prudential Regulatory Authority has a power to attend company board and management meetings (see section 7.2.2). This adds costs to the market which must be weighed against the expected benefits in reducing the risk of financial

41 The Financial System Inquiry 2014 (Murray), *Interim report,* 15 July 2014, p3-14.

42 See section 6.3.3 of AEMC *Second interim report, NEM financial market resilience*, August 2014.

43 See, Bank of International Settlements, Revised good practice principles for supervisory colleges – consultative document, January 2014.

instability. It also creates a risk that regulatory authorities become too involved in the commercial operations of the firm and closer to the position of quasi-management.

In undertaking its work on NEM financial market resilience the Commission has been cognisant of the relative merits of any proposed measure in reducing the risk of financial instability, compared with the costs it may impose on NEM participants or other parties.

The assessment framework outlined in the Second Interim Report includes consideration of both the costs and benefits of any new measure. In addition, it highlights the need to minimise the risk of moral hazard, which arises if there is a policy (explicit or implicit) that the government would 'bail out' a business in financial distress, using taxpayers money, rather than allowing it to fail.

3.2.11 Conclusion

It is important to view the proposed recommendations for the advice on NEM financial resilience in the context of the significant reforms being implemented in the financial sector. While the nature of the activities undertaken in the NEM and their associated risks are somewhat different to those undertaken by financial institutions, there are also parallels. In its advice on NEM financial market resilience the AEMC has noted these lessons as they inform on how policy makers in other markets have addressed risks to system stability. We have also considered how the financial reforms relate to the current arrangements in the NEM.

4 Stress testing

This Chapter discusses the growing use and importance of stress tests in the financial sector. It discusses both external stress tests (where stress scenarios are mandated by the regulator), as well as internal, institution-specific stress tests. Stress testing developments in certain jurisdictions are also discussed, including Australia, the US, the UK and Europe.

4.1 Stress testing mandated by regulators

A greatly enhanced program of mandatory stress testing by regulators is one of the key features that arose from the GFC. Over recent years, a number of financial regulators around the world have introduced more regular and rigorous forms of mandated stress testing, which aim to assess financial institutions' (typically large bank) ability to withstand highly adverse scenarios. In these mandated stress tests, the regulator prescribes the nature of the stress scenario, including the macro-economic (e.g. gross domestic product (GDP), unemployment) and macro-financial (e.g. house-price falls) shocks that are to be modelled by the institution.

The results of the stress test are then assessed by regulators to inform decisions around capital adequacy and other systemic risks. For example, in some jurisdictions, external stress tests have played a key role in guiding bank recapitalisation programs and helping to restore confidence in the banking system.

In Australia, APRA conducted macro-economic stress testing of Australian ADIs in 2009/10 and 2012. APRA is also currently in the process of conducting an industry stress test focused on risks that may emerge in a severe economic and housing market downturn. APRA's previous stress tests were applied to the four major banks and Macquarie Bank, using a 'bottom-up' approach. This bottom-up approach required the individual banks involved to use their own advanced capital models and internal data to test the impact of APRA's prescribed stress scenario on their balance sheets and capital positions.

APRA has pointed out that in parallel with the bottom up stress testing it has conducted, the International Monetary Fund (IMF) has also conducted 'top-down' stress test (i.e. a stress test fully implemented by the reviewing agency, using a common set of models and methodologies developed by the agency).[44] APRA is also planning on including insurers in the stress testing program over coming years.

Outside of Australia, the two most notable external stress test programs that have been implemented since the GFC are the:

- Comprehensive capital analysis and review (CCAR) program in the US, which is an annual assessment by the Federal Reserve Board of the capital adequacy of large and complex US bank holding companies and of the practices they use to manage their capital.

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44 IMF, *Australia: Financial System Stability Assessment*, November 2012.

- EU-wide stress tests, which have been conducted by the European Banking Authority (EBA) in 2009, 2010 and 2011 (a 2014 testing exercise is currently under way with results expected by the end of October 2014). The EU-wide stress tests have aimed to assess the resilience of financial institutions to adverse market developments, as well as to contribute to the overall assessment of systemic risk in the EU financial system.

In both these cases, the stress test results have been publicly reported and used to guide decisions on bank recapitalisation needs. Further details of the stress testing programs in these jurisdictions, as well as in the UK, are set out in Appendix A.

4.2. Stress testing by institutions

In addition to external stress tests mandated by regulators, financial institutions also use stress tests for internal risk and capital management purposes. As stated by the Basel Committee:

> "stress testing is especially important after long periods of benign economic and financial conditions, when fading memory of negative conditions can lead to complacency and the under-pricing of risk".[45]

In recent years, the regulatory focus on the quality and comprehensiveness of internal stress tests performed by banks has increased. Drawing on the lessons from the GFC, the Basel Committee developed a set of principles to guide the governance, design and implementation of stress testing programs at banks. In particular, the principles recognised that stress testing played an important role in:[46]

- providing forward-looking assessments of risk;
- overcoming limitations of models and historical data;
- supporting internal and external communication;
- feeding into capital and liquidity planning procedures;
- informing the setting of a banks' risk tolerance; and
- facilitating the development of risk mitigation or contingency plans across a range of stressed conditions.

As well as providing guidance for banks, the Basel Committee's principles provided supervisors with guidance on assessing the effectiveness of a bank's stress testing program (including corrective actions a regulator could take to address any deficiencies).

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45 Basel Committee on Banking Supervision, *Principles for sound stress testing practices and supervision,* Bank for International Settlements, May 2009, p1.

46 Ibid, p1.

The Basel Committee conducted a peer review of supervisory authorities' implementation of the Basel Committee principles in 2012.[47] The review found that, although operational stress testing frameworks were in place for many banks and supervisors, existing guidance had to be revised and new expectations put in place to broaden and deepen stress testing capabilities (for both banks and supervisors).

The review found that areas needing improvement in stress testing practices in banks included those relating to the governance and use of stress testing in bank decision-making, data and information technology infrastructure, and the severity of scenarios chosen for modelling.

In Australia, APRA's expectations on financial institutions' internal stress testing are largely encapsulated by its Internal Capital Adequacy Assessment Process (ICAAP) requirements. These expectations are specified in further detail in Prudential Practice guide CPG 110.[48]

At a high level, the key principles that APRA applies in relation to internal stress testing by institutions include:[49]

- stress test results should be enshrined in the internal decision making within the firm;
- stress test results should be formally reported to the board risk committee, and be challenged by them. APRA also expects that the board risk committee will particularly consider the mitigation actions that are assumed (and this relates to the 'recovery plan' work discussed later in this report);
- where mitigation actions are assumed to occur as part of the stress test, the results should also be prepared without that mitigation having occurred;
- the scenarios used need to confront the institution with 'realistic adversity', and the underlying economic scenario should be 'demanding'; and
- institutions should also design their own scenarios, which are relevant to their particular business/risk profile.

APRA understands that much depends on the details in the models used by the institutions to prepare the stress test results, and will use its powers to understand and review institutions' underlying assumptions and methodologies.

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47 Basel Committee on Banking Supervision, *Peer review of supervisory authorities' implementation of stress testing principles,* April 2012.

48 APRA, *Prudential practice guide CPG 110 - internal capital adequacy assessment process and supervisory review*, March 2013.

49 Laker , J., *The Australian banking system under stress - again?*, AB&F Randstad Leaders Lecture 2012, Brisbane, 8 November 2012.

5 Basel III reforms in banking

This Chapter discusses regulatory reforms which have been introduced in banking to increase the resilience of banks to adverse conditions. These measures, encapsulated under the Basel III reforms developed by the Basel Committee, aim to avoid systemic instability by requiring banks to hold sufficient capital and liquidity buffers to withstand severe stresses.

There are two key components to the Basel III reforms – capital and liquidity. Both of these components are discussed in further detail below, as well as national implementation for Australia, the US, the UK and the EU (refer also to Appendix B).

5.1. Basel III requirements

Basel III is a comprehensive set of reform measures, first agreed by the Basel Committee in 2010, to strengthen the regulation, supervision and risk management of the banking sector.[50] The reforms target:

- bank-level, or micro-prudential, regulation, which are aimed at raising the resilience of individual banking institutions to periods of stress; and
- macro-prudential, system-wide risks that can build up across the banking sector, as well as the pro-cyclical amplification of these risks over time.

Basel III is not a wholesale reworking of the international capital framework. The framework builds on previous global minimum capital frameworks – such as the original Basel Accord (or Basel I) introduced in 1988, and Basel II (first published in the mid 2000's). The underlying principle behind each of these international capital frameworks, which remains relevant under Basel III, is for regulatory capital to be determined by reference to the risks and assets held by a bank.

Basel III addresses deficiencies in the Basel II framework identified during the GFC by introducing more stringent criteria for instruments to be classified as regulatory capital, and by requiring higher minimum levels of that capital to be held against risk. It also addresses other prudential matters such as global liquidity rules, which were not incorporated in the original Basel Accord or Basel II framework.

At the global level, the Basel III reforms are being implemented using a phased timeline, with dates ranging from 2013 to the start of 2019 for the various elements. This phased approach was designed to ensure that appropriate transition arrangements were in place for banks and individual jurisdictions, and to allow the reforms to be introduced without disruption to the orderly strengthening of banking systems following the GFC. A summary of the Basel Committee phase-in arrangements is provided in Appendix B.

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50 The original version of the Basel III framework, *Basel III: A global regulatory framework for more resilient banks and banking systems*, can be found at: http://www.bis.org/publ/bcbs189_dec2010.pdf.

5.1.1. Basel III capital reforms

The Basel III capital reforms aim to raise the level and quality of regulatory capital in the global banking system. The key reforms involve:[51]

- A substantial increase in global minimum capital requirements. Under Basel III, there is a greater focus on a new category of capital called 'Common Equity Tier 1' (known as CET1), which comprises of only the highest quality capital such as common shares and retained earnings. Banks must meet a risk-based CET1 ratio of 4.5% (an increase from the existing 2% level). Certain equity instruments that are not eligible as CET1 (such as non-cumulative perpetual preferred shares) can count as "Additional Tier 1 capital".

- The minimum Tier 1 capital (CET1 plus Additional Tier 1 capital) is now 6% (an increase from 4% under previous Basel frameworks). Other hybrid capital instruments (which meet certain eligibility criteria) can count as Tier 2 capital with a minimum Total capital ratio (Tier 1 plus Tier 2 capital) of at least 8%.

- A considerable strengthening of the quality of capital. In addition to increases in the minimum required levels, Basel III requires a greater quality of capital by way of changes to the definitions of what constitutes capital (and a stricter approach to items that must be deducted from capital). The new framework takes a more restrictive approach to which capital instruments qualify as additional Tier 1 capital, with only some (not all) hybrid capital instruments qualifying as Tier 2 capital. Capital instruments that no longer qualify as Tier 1 or Tier 2 capital are to be phased out over 10 years beginning from 1 January 2013.

- The introduction of a capital conservation buffer (CCB). The CCB is designed to ensure that banks build up capital buffers outside periods of stress, which can be drawn down as losses are incurred. A CCB of 2.5%, comprised of Common Equity Tier 1, is required to be held by banks above the regulatory minimum CET1 ratio of 4.5% under Basel III. If a bank's CET1 ratio falls within the range of 4.5% to 7.0%, capital distribution constraints will be imposed by the regulator (e.g. restrictions on the amount of bonuses and dividend payments that can be paid out by the bank). Under the Basel III timeframes, the CCB will be phased in from 1 January 2016, with full implementation from 1 January 2019.

- The introduction of a countercyclical buffer. The countercyclical buffer brings a macro-prudential component into the framework by imposing an additional CET1 buffer of up to 2.5% when national authorities judge credit growth is resulting in an unacceptable build-up of systemic risk. The buffer will operate as an add-on to the CCB. It will be implemented with national discretion and is expected to be used infrequently.

- The addition of a simple leverage ratio. A non-risk-based leverage ratio that includes off-balance sheet exposures will serve as a backstop to the risk-based regime. In the lead-up to the GFC, many banks built up excessive leverage

51 The relevant Basel III documents can be found at http://www.bis.org/bcbs/basel3.htm.

while apparently maintaining strong risk-based capital ratios. Imposing a leverage ratio is intended to help contain system wide build-up of leverage.

The minimum leverage ratio is currently proposed to be 3% (ratio of Tier 1 capital to the exposure measure), although further adjustments and calibrations are likely to be made by the Basel Committee.

5.1.2. Basel III liquidity reforms

In addition to the capital reforms noted above, Basel III also imposes new liquidity requirements to improve the management of cash flow and funding liquidity risks by banks. Two new liquidity measures were introduced under Basel III - the Liquidity Coverage Ratio (LCR) and the Net Stable Funding Ratio (NSFR).

The LCR is intended to promote the short-term resilience of banks to potential liquidity disruptions by ensuring banks have sufficient high-quality liquid assets (HQLA) to withstand a 30-day liquidity shock, as specified by supervisors. The LCR is calculated as a percentage ratio, where the numerator is the amount of unencumbered HQLA a bank holds, and the denominator is the estimated amount of net cash outflows a bank could pay under a severe stress scenario. The LCR will be phased in from 1 January 2015, whereby a minimum LCR of 60% will be required by banks, with full implementation to start from 1 January 2019.

Complementing the LCR is the NSFR, which is a longer-term structural ratio designed to improve banks' funding stability. The objective of the NSFR is to promote resilience over a longer time horizon by creating additional incentives for banks to fund their activities with more stable sources of funding on an ongoing basis. The NSFR has a time horizon of one year, and has been developed to provide a sustainable maturity structure of assets and liabilities. Consultation of the NSFR continues with the ratio yet to be finalised, but with an expected effective date of 1 January 2018.

These minimum measures are supported by the Basel Committee's principles for sound liquidity risk management, which was released in 2008 to address some deficiencies exposed in banks' liquidity risk management banks during the GFC.[52] The principles underscore the importance of establishing a robust liquidity risk management framework that is well integrated into the bank-wide risk management process.

5.2. Implementation of Basel III reforms

The detailed implementation of the Basel III reforms is the responsibility of individual jurisdictions (or in the case of Europe, the EU).

Australia

In Australia, APRA released the final Basel III capital reform package for Australia on 28 September 2012. The capital reforms came into effect on 1 January 2013, ahead of the timelines proposed by the Basel Committee. The Basel Committee recently assessed

52 Basel Committee for Banking Supervision, *Principles for Sound Liquidity Risk Management and Supervision*, September 2008.

Australia's capital framework for ADIs as 'compliant' with the Basel capital framework. The assessment noted that some aspects of the capital regulations are more rigorous than that required under the Basel framework and that timelines are advanced. Having strengthened their capital positions in recent years and in anticipation of higher requirements under Basel III, all Australian ADIs currently meet the minimum CET1 ratio of 7% (including the CCB). On an ADI industry basis, the aggregate CET1 ratio is 8.7%, with Tier 1 ratio of 10.4% and a Total capital ratio of 11.8%.[53]

In December 2013, APRA also released final details of its implementation of the global liquidity standards – focussing on how it plans to introduce the LCR requirements.[54] APRA will apply the LCR requirement to larger, more complex ADIs in line with the Basel III timetable (from 1 January 2015). However, the LCR will be introduced without the phase-in arrangements stated by the Basel Committee, with ADIs required to meet the LCR of 100% from 1 January 2015. These requirements will not apply to smaller ADIs that are currently subject to a simple liquidity ratio.

Although APRA affirmed its commitment to implementation of the NSFR by 1 January 2018, it has noted that the details of the NSFR remain under review by the Basel Committee. Thus, the NSFR requirements were not included in the final prudential and reporting standards.

United States

In July 2013, the Federal Reserve Board finalised a rule to implement Basel III capital rules in the US. Consistent with the global standard, the final rule increases both the quantity and quality of capital held by US banking organisations, and became effective from 1 January 2014 (with the phase-in period for smaller, less complex banking organisations not beginning until January 2015). The Federal Reserve Board also published the Community Banking Organization Reference Guide, which helps small, non-complex banking organisations navigate the final rule and identify the changes most relevant to them.

The US has long had a leverage ratio but the new framework increases the minimum leverage ratio to 4% for all banking organisations. In addition, for the largest, most internationally active banking organisations, the final rule includes a new minimum supplementary leverage ratio of 3% that takes into account off-balance sheet exposures.[55] A final rule adopting an enhanced supplementary leverage ratio was issued in April 2014 to apply an additional 2% buffer to the eight large US bank holding companies (G-SIBs).[56]

In October 2013, the Federal Reserve Board proposed rules to implement the LCR in the US. The proposal would create for the first time a standardised minimum liquidity

53 APRA, *Insight, Issue Two, 2013*, p9, data as at 30 June 2013.

54 APRA, *Implementing Basel III liquidity reforms in Australia,* Response Paper, December 2013.

55 http://www.federalreserve.gov/newsevents/press/bcreg/20130702a.htm and Federal Reserve Final rule issued on 11 October 2013, with FDIC rule on 10 September 2013.

56 Federal Reserve Board, Press Release 8 April 2014, http://www.federalreserve.gov/newsevents/press/bcreg/20140408a.htm.

requirement for large and internationally active banking organisations and systemically important, non-bank financial companies designed by the FSOC.[57]

European Union

In mid-2013, the European Commission and European Parliament adopted a package of reform legislation which implements most aspects of the Basel III reforms (along with some specifically European aspects, such as caps on bonuses). The legislated reform package – known as the CRD IV package – replaces the previous capital requirements directives with two new instruments:

- the Capital Requirements Regulation (CRR), which is directly applicable to firms across the EU; and
- the Capital Requirements Directive (CRD IV), which must be implemented through national law.

The CRD IV package came into force on 1 January 2014 although some of the new provisions will be phased-in between 2014 and 2019. For example, the implementation of the LCR requirement is to be reviewed under a delegated authority by the European Commission and EBA in 2015.

United Kingdom

The UK's implementation of Basel III will follow that of the EU (i.e. through the implementation of the CRD IV package, including the CRR and CRD). As the CRR is directly applicable in all Member States of the EU, the UK Prudential Regulation Authority (PRA) will not transpose the text of the CRR into its rules. The PRA will, however, be required to delete any conflicting domestic rules.

Unlike the CRR, the CRD is not directly applicable and must be transposed into UK law, including through PRA rules. In December 2013 and April 2014, the PRA published final rules regarding the implementation of the CRD IV package and the capital buffer framework required under CRD IV.

Further details of the progress made towards implementation of Basel III in Australia, the US, the EU and the UK are detailed in Appendix B.

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57 On 3 September 2014, a joint final rule was issued by the US regulators to implement the LCR requirements. See Federal Reserve Board, Press Release, 3 September 2014, http://www.federalreserve.gov/newsevents/press/bcreg/20140903a.htm.

6 Systemically important financial institutions

Following the collapse of Lehman Brothers and the subsequent public rescue of many large banks, the G20 called on the FSB to propose measures to address the problems associated with SIFIs. These measures have aimed to address the problem which arises when a large institution threatened failure forces public authorities to bail it out to avoid large-scale financial instability.

This Chapter discusses the measures that have been implemented to address issues with systemically important financial institutions (SIFIs).

6.1. Additional requirements applying to G-SIFIs

In the aftermath of the GFC, the G20 requested the FSB to develop a policy framework to address the systemic and moral hazard risks associated with SIFIs. The rationale for adopting additional policy measures for SIFIs is to deal with the cross-border negative externalities that are created by such institutions, which current regulatory policies do not fully address.

In October 2010, the FSB released a report that sets out recommendations and timelines to address the systemic and moral hazard risks associated with SIFIs.[58] The recommendations set out in the FSB report aimed at improving regulators' ability to resolve SIFIs in an orderly manner, without exposing taxpayers to loss. The report paid particular attention to financial institutions that are systemic in a global context (G-SIFIs), and recommended that such institutions should be subject to:

- higher loss-absorbency capacity than the minimum levels agreed in Basel III;
- more intensive and co-ordinated supervision; and
- resolution planning to reduce the probability and impact of their failure.

The 2010 FSB report also noted that changes to resolution regimes and tools at national levels (including legislative changes to enable resolution authorities to co-ordinate in cross-border resolutions) would be needed to improve the resolution of failed SIFIs. Reforms that have been introduced in this context are covered in Chapter 7.

In 2011, the FSB (in conjunction with the Basel Committee) completed additional work to identify the G-SIFIs that would be subject to the additional G-SIFI requirements set out in the FSB's 2010 report. The Basel Committee developed the assessment methodology for identifying G-SIBs and, together with the FSB, identified an initial list of 29 G-SIBs. Box 6.1 provides an overview of the assessment methodology developed by the Basel Committee for identifying G-SIBs, and also describes the additional loss absorbency requirements that are to apply to G-SIBs.[59]

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58 FSB, *Reducing the moral hazard posed by systemically important financial institutions*, 20 October 2010.

59 Basel Committee on Banking Supervision, *Global systemically important banks: updated assessment methodology and the higher loss absorbency requirement*, July 2013.

Box 6.1: G-SIB Assessment Methodology

The assessment methodology for G-SIBs developed by the Basel Committee is based on an indicator-based approach and comprises five broad categories, being:

1. size;
2. interconnectedness;
3. substitutability;
4. global (cross-jurisdictional) activity; and
5. complexity.

The additional loss absorbency requirements will range from 1% to 2.5% CET1 depending on a bank's systemic importance.

The higher loss absorbency requirements will be introduced in parallel with the Basel III capital conservation and counter-cyclical buffers, i.e. from 1 January 2016 with phase-in arrangements such that the full requirements become effective on 1 January 2019.

The additional loss absorbency requirements for G-SIFIs will initially apply to those banks identified in November 2014 as globally systemically important using the Basel Committee methodology.

G-SIFIs that were identified by the FSB in its initial list were required to meet the resolution planning requirements of their national regulator by end-2012 (recovery and resolution plans are discussed in more detail in Chapter 7). The additional loss absorbency (i.e. capital) requirements are not yet in force (G-SIFIs identified in November 2014 using the Basel Committee methodology will be the first to be required to meet the additional capital requirements). The additional G-SIFI capital requirements will be phased in from January 2016, with full implementation by January 2019.

6.2. Types of G-SIFIs

SIFIs vary in their structures and activities, and hence in the nature and degree of the risks they pose to the international financial system. Since 2011, the FSB has extended its G-SIFI framework to cover a wider group of SIFIs than just banks, including financial market infrastructures, insurance companies and other non-bank financial institutions. The different G-SIFI frameworks are intended to recognise that systemic importance and impact upon distress or failure can vary significantly across sectors.

On 18 July 2013, the International Association of Insurance Supervisors (IAIS) published a methodology for identifying global systemically important insurers (G-SIIs), and a set of policy measures that will apply to these institutions, which the

FSB endorsed.[60] The policy measures that will apply to G-SIIs are consistent with the policy framework published by the FSB in November 2011. They include for each G-SII:

- recovery and resolution planning requirements, which should be developed and agreed by the end of 2014;
- enhanced group-wide supervision, which commenced in 2013; and
- higher capital requirements for non-traditional and non-insurance activities, which will apply starting from January 2019 to those G-SIIs identified in November 2017, using the IAIS methodology.

An initial list of nine G-SIIs was published by the FSB in July 2013.[61]

On 8 January 2014, the FSB and the International Organisation of Securities Commissions (IOSCO) published a consultation paper setting out an assessment methodology to identify systemically important non-bank non-insurer financial entities (NBNI G-SIFIs).[62] This consultative document complements the work performed for G-SIBs and G-SIIs, by extending the SIFI framework that currently covers banks and insurers to all other financial institutions (such as finance companies, market intermediaries and investment funds). While the consultative document proposes specific methodologies for NBNI G-SIFIs that broadly align with methodologies for identifying G-SIBs and G-SIIs, it does not propose any specific entities for designation. The paper also does not yet contain any policy measures that would apply to NBNI G-SIFIs, which will be considered at a later stage.

6.3. D-SIBs

In October 2012, the Basel Committee finalised its D-SIB framework, which involves a set of principles on the methodology to identify D-SIBs and on the higher loss absorbency capital requirement for banks identified as D-SIBs.[63]

The rationale for adopting additional policy measures for D-SIBs is similar to that for G-SIFIs; that is, while not all D-SIBs are significant from a global perspective, the failure of such a bank could have a greater impact on its domestic financial system and economy than that of a non-systemic institution. The D-SIB framework therefore takes a complementary perspective to the G-SIB framework by focusing on the impact that the distress or failure of banks will have on the domestic economy.

The Basel Committee's D-SIB framework responds to the strongly held view of the G20, that no financial firm should be 'too big to fail', and that taxpayers should not

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60 IAIS, *Global Systemically Important Insurers: Initial Assessment Methodology*, July 2013 and IAIS, *Global Systemically Important Insurers: Policy Measures*, July 2013.

61 FSB, *Global systemically important insurers (G-SIIs) and the policy measures that will apply to them,* 18 July 2013.

62 FSB, IOSCO, *Assessment Methodologies for Identifying Non-Bank Non-Insurer Global Systemically Important Financial Institutions*, 8 January 2014.

63 Basel Committee on Banking Supervision, *A framework for dealing with domestic systemically important banks*, October 2012.

bear the cost of resolution. The framework also emphasises that other policy tools, such as more intensive supervision, can play an important role in dealing with D-SIBs.

Individual national jurisdictions are responsible for determining what further requirements should be placed upon any D-SIBs. In December 2013, APRA released an information paper discussing its implementation of the Basel Committee's D-SIB framework, and designated the four major banks (Commonwealth Bank of Australia, Australia and New Zealand Banking Group, National Australia Bank and Westpac) as D-SIBs.[64]

APRA has determined that a 1% higher loss absorbency capital requirement will apply to the four D-SIBs. This must be met by CET1 capital and will be implemented as an extension of the CCB as defined in Prudential Standard APS 110 Capital Adequacy. The D-SIB framework will come into effect from 1 January 2016.

6.4. Ring-fencing

Following the GFC, several major jurisdictions introduced or proposed significant structural reforms to their banking sectors through ring-fencing. The aim of ring-fencing is to carve out specific financial activities that are critical to economic activity or the financial system, from other activities that are less critical. In financial services, ring-fencing generally involves separating retail banking activities from non-core financial activities such as investment banking activities.

Ring-fencing measures can help to address problems associated with 'too-big-to-fail' institutions by reducing the implicit government guarantee and bail-out costs for taxpayers in the event of failure (i.e. governments have more scope to limit support for non-core activities). It will also simplify resolution processes, as core activities are already separated. The costs and challenges of ring-fencing, however, can be material, and include:

- the complexity and expense associated with restructuring;
- deciding what sits in and outside the fence (particularly when banking products may contain elements of both commercial and investment banking);
- ongoing efficiency costs through reduced diversification benefits;
- requirements to conduct intra-group transactions on an arm's-length basis, increasing the amount of administration and cost for such transactions; and
- the potential lack of a level playing field for ring-fenced banks against non-ring-fenced competitors, including the risk of regulatory arbitrage where a bank sets up headquarters in jurisdictions without ring-fencing requirements.

In Australia, there are currently no proposals to adopt ring-fencing measures in the financial sector currently, although the Financial System Inquiry has sought views on

64 APRA, *Domestic systemically important banks in Australia,* Information Paper, December 2013.

the costs, benefits and trade-offs of such policy measures. A number of jurisdictions are currently implementing or considering ring-fencing requirements with a variety of different approaches (refer to Box 6.2).

Box 6.2: International approaches to ring-fencing[65]

United States — The 'Volcker rule' - The Volcker rule aims to reduce banks' exposure to speculative investments that could put depositor funds at risk. It does this by prohibiting banks (including foreign banks) from engaging in proprietary trading. They cannot buy or sell assets for speculative reasons for the bank's own purposes — only on behalf of a client — but they can still undertake hedging activity to manage their risks. The Volcker rule also prohibits banks from investing in hedge funds and private equity funds.

United States — Glass-Steagall Act - Operating prior to the GFC, for most of the 20th century the Glass-Steagall Act required that commercial banks and investment banks be separate entities. Its goal was to protect deposits in commercial banks from being exposed to the riskier activities conducted by investment banks. This provision of the Act was repealed in 1999.

United Kingdom — Vickers Report - Following the Independent Commission on Banking (the Vickers report), the United Kingdom is in the process of introducing ring-fencing of United Kingdom banks' core activities, ensuring that core services can continue, even if the risky parts of the business get into difficulty. This requires core financial services, such as retail deposits and overdrafts, to be placed in a separate subsidiary within a holding company, ring-fenced from any securities trading and other risky activities. Ring-fenced subsidiaries must be separately capitalised, with each meeting the regulator's capital and liquidity requirements, and should be legally, financially and operationally independent.

European Union — Liikanen Report

Current proposals in the European Union ban proprietary trading and, potentially, separate particular trading activities from deposit-taking entities. Hedging, trading on behalf of clients and trading for cash management purposes would still be allowed. If the regulator required a function to be separate, the function would need to be legally and operationally distinct from the rest of the bank.

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65 Box 6.2 is a direct extract from: Financial System Inquiry 2014 (Murray), *Interim report*, 15 July 2014, p3-21.

7 Resolution regimes

Despite increased requirements on capital and liquidity implemented under Basel III for banks, and the renewed focus on stress testing, there are no guarantees that financial institutions will remain viable under all circumstances. That is, despite regulators best efforts to improve the resilience of financial institutions, there will remain the possibility that an institution may fail and end up requiring recovery or resolution.

This Chapter reviews the development of international policy on resolution regimes in the financial sector. In the context of financial sector reforms, the term 'resolution' has been broadly defined as any action taken by a public authority in respect of a firm that is no longer viable (or likely to be no longer viable), and has no reasonable prospect of becoming so. Resolution regimes relate to all elements of the legal framework and policies that govern the application of resolution powers by national authorities, including normal insolvency laws as well as powers conferred under special administration regimes.

This Chapter discusses the objectives of resolution regimes in the financial sector, which institutions they are intended to apply to, the increased resolution powers that have been proposed, and the trigger for their implementation. It also discusses the concept of recovery and resolution plans (RRPs) in further detail.

7.1 Key attributes of effective resolution regimes

Following the GFC, the FSB published a paper setting out the *Key Attributes of Effective Resolution Regimes for Financial Institutions* ('Key Attributes') as part of a package of policy measures to address the moral hazard risks posed by SIFIs.[66] The Key Attributes paper sets out the core elements that the FSB considers necessary for an effective resolution regime, and represents the international standard on resolution regimes for the financial sector.

The Key Attributes paper sets out twelve essential features that should be part of the resolution regimes of all jurisdictions. These twelves features relate to, among other things, the scope of effective resolution regimes, the powers of resolution authorities, regulatory coordination (within jurisdictions and across jurisdictions), and recovery and resolution planning.

The Key Attributes were endorsed by the G20 at the Cannes Summit in November 2011.

7.1.1. Objectives of resolution regimes

The FSB's Key Attributes paper states that:

> "the objective of an effective resolution regime is to make feasible the resolution of financial institutions without severe systemic disruption and

66 FSB, *Key attributes of effective resolution regimes for financial institutions*, October 2011.

> without exposing taxpayers to loss, while protecting vital economic functions through mechanisms which make it possible for shareholders and unsecured and uninsured creditors to absorb losses in a manner that respects the hierarchy of claims in liquidation”.[67]

The paper goes on to state that an effective resolution regime (interacting with applicable schemes and arrangements for the protection of depositors, insurance policy holders and retail investors) should:

- ensure continuity of systemically important financial services, and payment, clearing and settlement functions;
- protect, where applicable and in coordination with the relevant insurance schemes and arrangements such depositors, insurance policy holders and investors as are covered by such schemes and arrangements, and ensure the rapid return of segregated client assets;
- allocate losses to owners (shareholders) and unsecured and uninsured creditors in a manner that respects the hierarchy of claims;
- not rely on public solvency support and not create an expectation that such support will be available;
- avoid unnecessary destruction of value, and therefore seek to minimise the overall costs of resolution in home and host jurisdictions and, where consistent with the other objectives, losses for creditors;
- provide for speed and transparency and as much predictability as possible through legal and procedural clarity and advanced planning for orderly resolution;
- provide a mandate in law for cooperation, information exchange and coordination domestically and with relevant foreign resolution authorities before and during a resolution;
- ensure that non-viable firms can exit the market in an orderly way; and
- be credible, and thereby enhance market discipline and provide incentives for market-based solutions.[68]

The FSB has recognised that not all resolution powers are suitable for all sectors and all circumstances. In particular, different national legal systems, market environments and sector-specific considerations (e.g. insurance, financial market infrastructures) should be taken into account when designing and implementing resolution regimes.

67 Ibid, p3.

68 Ibid, p3.

7.1.2. Scope and trigger for resolution arrangements

The FSB recommends that "any financial institution that could be systemically significant or critical if it fails should be subject to a resolution regime that has the attributes set out in the [Key Attributes paper]."[69] This includes all G-SIFIs and any financial market infrastructures (FMIs), such as clearing and settlement facilities, which play a critical role in financial markets.

The FSB contemplates that the trigger for resolution is "when a firm is no longer viable or likely to be no longer viable, and has no reasonable prospect of becoming so."[70] It also recommends that the resolution regime should provide for timely and early entry into resolution before a firm is balance sheet insolvent and before all equity has been fully wiped out.

The trigger for entry into resolution, as noted above, and how this interacts with existing arrangements under normal insolvency law, raises some questions as to how decisions about insolvency should be managed between an institution's directors and the resolution agency. Recognising the potential issues that may arise, the Key Attributes suggests that "directors and officers of the firm under resolution should be protected in law for actions taken when complying with decisions of the resolution authority."[71] In practice, however, there remains some uncertainty as to how the interactions between resolution authorities and company directors will play out in a number of jurisdictions.

7.1.3. Strengthening of regulatory powers and tools

The Key Attributes paper calls on relevant resolution authorities in each FSB member jurisdiction to have broad ranging powers and tools to resolve firms that could be systemically important. The FSB makes clear that jurisdictions should review their legislative frameworks to ensure that regulators have the requisite powers to implement the resolution tools necessary to pursue financial stability objectives.

The FSB suggests that each member jurisdiction, in dealing with failing SIFIs, have powers to:

- remove and replace the senior management and directors, and recover monies from responsible persons, including claw-back of variable remuneration;
- appoint an administrator to take control of and manage the affected firm;
- operate and resolve the firm, including powers to terminate contracts, continue or assign contracts, purchase or sell assets, write down debt and take any other action necessary to restructure or wind down the firm's operations;

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69 Ibid. p5.

70 Ibid, p5.

71 Ibid, p11.

- ensure continuity of essential services and functions by requiring other companies in the same group to continue to provide essential services to the entity in resolution, any successor or an acquiring entity;
- over-ride rights of shareholders of the firm in resolution in order to permit a merger, acquisition, sale of substantial business operations, recapitalisation or other measures to restructure and dispose of the firm's business or its liabilities and assets;
- transfer or sell assets and liabilities, legal rights and obligations, including deposit liabilities and ownership in shares, to a solvent third party;
- establish a temporary 'bridge institution' to take over and continue operating certain critical functions and viable operations of a failed firm;
- establish a separate asset management vehicle and transfer to the vehicle for management and run-down non-performing loans or difficult-to-value assets;
- carry out 'bail-in' within resolution as a means to achieve or help achieve continuity of essential functions;
- temporarily stay the exercise of early termination rights that may otherwise be triggered upon entry of a firm into resolution or in connection with the use of resolution powers;
- impose a moratorium with a suspension of payments to unsecured creditors and customers; and
- effect the closure and orderly wind-down (liquidation) of the whole or part of a failing firm with timely payout or transfer of insured deposits and prompt access to transaction accounts and to segregated client funds.

As noted above, the scope of resolution powers suggested by the FSB is far wider and more intrusive than the regulatory powers that currently exist in the NEM. Given the breadth of powers suggested by the FSB in its Key Attributes paper, major legislative reforms have been undertaken in a number of jurisdictions to meet the new international standard on resolution (particularly those directly affected by the financial crisis). This is discussed in further detail in Section 7.1.5 below and in Appendix C.

7.1.4. Regulatory coordination

Given the complexity associated with resolving large and interconnected financial institutions, there has been a concerted effort among regulators to improve supervisory coordination practices – particularly for complex cross-border financial groups. While the majority of these efforts have focussed on cross-border cooperation arrangements, some jurisdictions have also sought to improve regulatory coordination efforts within jurisdictions.

In the US, for example, the Dodd-Frank Act (DFA) created the FSOC, which is a body designed to ensure that key US financial regulators work with each other and share

information to address systemic risks. The FSOC is a collaborative body chaired by the Secretary of the Treasury that brings together the expertise of the federal financial regulators (such as the US Federal Reserve Board, the Securities and Exchange Commission, the CFTC and the Federal Deposit Insurance Corporation (FDIC)), an independent insurance expert appointed by the President, and state regulators. It has a statutory mandate to facilitate information sharing and coordination among the member agencies regarding domestic financial services policy development, rulemaking, examinations, reporting requirements, and enforcement actions.[72]

At the international level, efforts to improve regulatory coordination have been mainly driven by the FSB and other international standard-setting bodies such as the Basel Committee. For example, the FSB's Key Attributes paper recommends:

- That jurisdictional resolution regimes contain conditions that strongly encourage (domestic) resolution authorities "to act to achieve a cooperative solution with foreign resolution authorities"[73]; and
- The creation of Crisis Management Groups (CMGs) for all G-SIFIs. CMGs should include the supervisory authorities, central banks, resolution authorities, finance ministries and the public authorities responsible for guarantee schemes that the relevant G-SIFI operates. The objective of CMGs is to increase regulators' preparedness for, and management and resolution of, a cross-border financial crisis affecting a G-SIFI.

In January 2014, the Basel Committee also released revised good practice principles on 'supervisory colleges'.[74] Supervisory colleges are permanent, but flexible, structures for collaboration, cooperation, coordination and information-sharing among the authorities responsible for and involved in the supervision of the different components of cross-border banking groups.

While bilateral and multilateral arrangements among supervisors of global banking groups have existed for decades, many of these arrangements were not formalised until supervisory colleges were established in the years leading up to the financial crisis. Supervisory colleges are now regarded as an important component of effective supervisory oversight for cross-border banking groups, and the G20 has re-emphasised the significance of colleges in the wake of the financial crisis.

7.1.5. Jurisdictional developments with resolution frameworks

In light of the FSB's work, a number of jurisdictions have reviewed their resolution frameworks having regard to the Key Attributes standard:

- In the US, the DFA was enacted in July 2010 to enhance the supervision of financial institutions—particularly large bank and non-bank financial

72 In Australia, the CFR plays a similar coordinating role for Australia's financial regulators. The CFR comprises of APRA, ASIC, RBA and Treasury.

73 Ibid, p13.

74 Basel Committee on Banking Supervision, *Revised good practice principles for supervisory colleges*, January 2014.

companies—and required certain financial institutions (including those deemed to be systemically important) to develop resolution plans to facilitate a rapid and orderly resolution under the US Bankruptcy Code. Under the reforms, the FDIC's resolution powers significantly expanded. In particular, the orderly liquidation authority (OLA) under Title II of the DFA included broad powers for the FDIC to restructure and wind-up failing financial companies that meet certain systemic criteria. Title I and Title II of the DFA outline both a 'standard' and a 'special' administration regime as demanded by the circumstances.[75]

- In the EU, the European Parliament adopted the Bank Recovery and Resolution Directive (BRRD) in April 2014, which seeks to strengthen the crisis resolution framework across the EU. The BRRD is modelled closely on the FSB's Key Attributes.[76]

- In the UK, the Banking Act 2009 created a Special Resolution Regime (SRR) that replaced emergency legislation introduced in order to deal with the failure of banks and building societies. The UK Financial Services Act 2012, and the Financial Services (Banking Reform) Act 2013, also resulted in the Bank of England (including the PRA) being entrusted with significant new responsibilities.

- In Australia, legislation was enacted in 2008 and 2010 to strengthen the crisis resolution powers available to APRA, including with respect to powers of direction, business transfer powers, statutory management for ADIs, and judicial management for general and life insurers. These legislative changes also enabled APRA to establish a bridge ADI or insurer. In 2012, the Australian Treasury released a consultation paper on legal reforms to ensure APRA has the relevant additional powers based on the FSB's Key Attributes.[77]

Appendix C provides further details of developments in resolution frameworks in the jurisdictions noted above.

7.2. Recovery and Resolution Plans

In addition to the features noted above, the Key Attributes paper also calls on member jurisdictions to put in place an ongoing recovery and resolution planning process to promote resolvability of SIFIs as part of the overall supervisory process. Key to this process is the development of RRPs for firms that could be systemically significant or critical if they fail.

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75 FDIC, *Resolution of systemically important financial institutions: The single point of entry strategy*, Federal Registry/Vol. 78, No. 243, 76614, December 2013.

76 European Commission, *The European Parliament adopts the bank recovery and resolution directive – 15.04.2014*, viewed July 2014, http://ec.europa.eu/internal_market/bank/crisis_management/index_en.htm.

77 The Treasury, *Strengthening APRA's crisis management powers*, consultation paper, September 2012.

RRPs contain information on the key recovery and resolution strategies a firm may undertake when facing severe financial distress, and an operational plan for their implementation. This includes the identification of a firm's essential and systemically important functions, a description of the critical measures to implement the key recovery and resolution strategies, and an assessment of potential impediments to their successful implementation.

7.2.1 Distinction between recovery plans and resolution plans

Recovery plans detail the arrangements which institutions have in place and the early action that would be taken to restore their long-term viability in the event of severe stress conditions. Recovery plans must include consideration of a range of scenarios to test the effectiveness and adequacy of recovery options and indicators. As noted by the EBA, "the objective of recovery plans is not to forecast the factors that could prompt a crisis, but rather to assess institutions' resilience and their ability to react to a wide range of shocks".[78]

The responsibility for developing, maintaining and, where necessary, executing the recovery plan lies with the firm's senior management. It is 'owned' by the firm, with regulatory authorities responsible for reviewing the recovery plan as part of their overall supervisory processes. In reviewing the recovery plan, regulators would actively assess the credibility of the firm's recovery options, and ability for these options to be implemented effectively.

A resolution plan, while developed in close liaison with the firm, is 'owned' by the regulator, and aims to ensure that the regulators have a clear process to guide decision-making where recovery is no longer considered a viable option, and normal insolvency proceedings would risk financial instability. Resolution aims to ensure the continuity of the critical *functions* undertaken by the entity (rather than the entity itself), and preservation of financial stability. Firms are required to provide authorities with the data and information, including strategy and scenario analysis, required for purposes of resolution planning.

7.2.2. Institutions covered by RRPs and jurisdictional developments

The FSB's Key Attributes standard suggests that, at a minimum, RRPs should be required for domestically incorporated firms that could be systemically significant or critical if they fail.

In Australia, APRA initially required six of the largest ADIs to complete recovery plans in 2011. APRA has since extended its recovery plan requirements to other mid-sized ADIs.

In the US, the DFA requires that bank holding companies with total consolidated assets of $50 billion or more, and nonbank financial companies designated by the FSOC for

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78 EBA, *Guidelines on the range of scenarios to be used in recovery plans*, viewed July 2014, https://www.eba.europa.eu/regulation-and-policy/recovery-and-resolution/draft-regulatory-technical-standards-specifying-the-range-of-scenarios-to-be-used-in-recovery-plans.

supervision by the Federal Reserve Board, periodically submit resolution plans to the Federal Reserve and the FDIC.

In the EU, the BRRD requires banks to draw up recovery plans which set out measures they would adopt to restore long-term financial viability in case of severe distress. On 18 July 2014, the EBA published two final draft Regulatory Technical Standards (RTS) specifying (i) the information to be included in a recovery plan, and (ii) the criteria which competent authorities should apply when assessing the recovery plan of an institution or a group.[79] On 9 July 2014, the EBA also released for consultation draft RTS on resolution planning. The RTS forms part of the EBA's work to promote a consistent and coherent approach to bank resolution across the EU.

In the UK, the PRA issued a Policy Statement on Recovery and Resolution Plans and two accompanying supervisory statements (following on from earlier releases by the Financial Services Authority in 2011 and 2012) in December 2013 setting out its rules on RRPs.[80] The rules will require banks, building societies and PRA-regulated investment firms to produce recovery plans (identification of options to recover financial strength in stress situations) and resolution packs (information to support resolution planning by the authorities). The rules came into force on 1 January 2014. The PRA has also a Consultation paper in July 2014 on implementation of the BRRD (which addressed recovery and resolution planning)

Appendix C provides further details of the implementation of RRP requirements in the jurisdictions noted above.

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79 Ibid.

80 Bank of England Prudential Regulation Authority, *Recovery and resolution plans, Policy Statement PS8/13* and *Supervisory Statements SS18/13 and SS19/13*, December 2013.

Appendix A: Jurisdictional developments on stress testing

Australia

In both 2009/10 and 2012, the APRA stress tests used a hypothetical scenario based on a significant slowdown of the global economy and the Chinese economy in particular. Specifically, in the 2012 round of stress testing APRA applied a hypothetical scenario whereby there were 'disorderly resolutions' to Europe's debt problems, triggering a sharp downturn in North America, and a resulting reduction in growth in China. The resulting lower commodity demand was assumed to then cause a decline in the Australian dollar, and Australian unemployment was assumed to rise rapidly to a peak of 12% as the economy contracted by 5% in the first year, with house prices falling by 35% and commercial property values falling by 40%.[81]

APRA developed the parameters of their 2012 stress test by first providing the macro-economic parameters for the hypothetical scenario, then asked the banks to run these through their own internal models. Following an initial review of banks' modelling of the prescribed macro-economic parameters, APRA found that further specification was required around assumptions of default rates, financial asset migration, assumed mitigation responses and other detailed aspects. From this review, APRA then produced a common set of parameters that were provided back to the banks to include in a more detailed run of the models.

APRA stated that the tests were designed to be at the boundary of what was 'severe but plausible'. It should be noted that the reduction in GDP assumed in the stress test was "more than four standard deviations based on the annual volatility of GDP in Australia since 1960".[82] APRA notes that this is in line with the actual scale of GDP contraction experienced during the GFC in the US and UK.

Consistent with the trend in both the UK and the US, the 2012 round of testing was a tougher stress test than the one APRA undertook in 2009/10. The projected economic contraction was deeper and more prolonged than that assumed in the 2009/10 stress test, with a weaker recovery and a longer period before return to growth.

Unlike the EBA and the US Federal Reserve Board, APRA did not release detailed results for any individual bank. APRA instead outlined the aggregated results in terms of the percentage of losses incurred, and the resulting impact on Tier 1 capital.

United States

Comprehensive capital analysis and review stress tests

The CCAR program is an annual assessment by the US Federal Reserve Board of the capital adequacy of large and complex US bank holding companies and of the practices they use to manage their capital. It includes both a qualitative and quantitative

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81 Laker, J., The Australian banking system under stress - again ?, November 2012.

82 Ibid, p9.

assessment, including stress testing and scenario analysis. The results of the stress testing exercises are released on an individual bank basis.

The Federal Reserve Board describes CCAR as:

> "an annual exercise by the Federal Reserve to assess whether the largest bank holding companies operating in the United States have sufficient capital to continue operations throughout times of economic and financial stress and that they have robust, forward-looking capital-planning processes that account for their unique risks".[83]

The results of an institution's CCAR are used by the Federal Reserve Board to assess the capital plans made by the bank, including their proposals for capital distributions. Only institutions whose capital plans "demonstrate sufficient financial strength to continue to operate as financial intermediaries under stressed macro-economic and financial market scenarios, even after making the planned capital distributions" will have their capital distribution plans approved by the Federal Reserve Board.[84]

Since 2011, there have been four rounds of mandatory stress testing in the US as part of the CCAR, with both the scenarios applied and the entities required to perform them becoming wider with each round. The 2014 CCAR covered 30 large bank holding companies, including 12 that did not participate in previous CCAR exercises. While the same supervisory scenarios generally applied to all bank holding companies, a subset was also subject to additional scenario components. In prior years, six bank holding companies with large trading operations were required to factor in a global market (i.e. price) shock as part of their scenarios. For the first time in 2014, these six bank holding companies and two other bank holding companies with substantial trading or custodial operations were also required to incorporate a counterparty default scenario.

DFA stress tests

In addition to the stress testing required under the CCAR, separate but complementary testing is conducted under the DFA by the Federal Reserve Board. The DFA stress tests are a forward-looking exercise conducted to "help assess whether institutions have sufficient capital to absorb losses and support operations during adverse economic conditions".[85]

As stated by the Federal Reserve Board:

> "While DFAST [DFA stress testing] is complementary to CCAR, both efforts are distinct testing exercises that rely on similar processes, data, supervisory exercises, and requirements".[86]

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83 Federal Reserve Board, *Stress tests and capital planning*, at www.federalreserve.gov/bankinforeg/stress-tests-capital-planning.htm, viewed July 2014.

84 Federal Reserve Board, *Federal Reserve Board launches 2013 capital planning and stress testing program*, Press release, 9 November 2012.

85 Federal Reserve Board, *Stress tests and capital planning*, at www.federalreserve.gov/bankinforeg/stress-tests-capital-planning.htm, viewed July 2014.

86 Ibid.

The primary difference between the DFA supervisory stress tests and the CCAR quantitative assessment is the capital action assumptions that are used (the DFA uses a standardised set of capital action assumptions whereas the CCAR uses the bank's planned capital actions).

Financial institutions submitting capital plans will be evaluated to ensure they have sufficient capital to continue operations and to lend to households and businesses even under stressful conditions. In addition, they must incorporate the transition requirements from the recently finalised Basel III capital standards into their stress tests and capital plans.

European Union

As with the other jurisdictions, bottom-up stress testing has become a key feature of supervisory activity in Europe, with the EBA conducting EU-wide stress tests in 2009, 2010 and 2011. Its 2011 stress test was coordinated across 21 different countries with 90 banks involved. A new comprehensive 2014 stress testing exercise is currently underway (final templates were release by the EBA in August 2014) with results expected by the end of October 2014. The EU-wide stress test for 2014 will be conducted on a sample of 124 EU banks which cover at least 50% of each national banking sector. Unlike APRA, the EBA has released results to a granular individual-institution level for each year.[87]

According to the EBA, common scenarios were used to enable benchmarking and peer comparisons, supported by a common methodology and underpinning assumptions.[88] The stress test methodologies, scenarios and key assumptions were developed in cooperation with the European Systemic Risk Board (ESRB), the European Central Bank (ECB), the European Commission (EC) and the national supervisors, with banks required to apply their own models using the assumptions.

Similar to APRA's experience with the 2011 stress test exercise, the EBA found that further detailed guidance as to how to apply the scenarios was required as part of the peer review process, with the EBA specifying data such as 'haircuts' (i.e. discounts to asset classes), impacts on credit spreads, and many other detailed parameters. These additional parameters to the tests were published by the EBA.[89]

Following the publication of the stress test results, the EBA issued a recommendation that national supervisory authorities ensure that capital positions were strengthened at specific banks where shortfalls or concerns were identified.

87 The reports from the stress testing in 2009, 2010 and 2011 are available at www.eba.europa.eu/risk-analysis-and-data/eu-wide-stress-testing/2011/results, viewed July 2014.

88 EBA, *European Banking Authority 2011 EU-Wide stress test aggregate report*, July 2011.

89 Ibid.

Later in 2011, as Eurozone sovereign debt concerns escalated, the EBA followed up with the EU 'Capital exercise', in which it recommended that 71 large European banks build a temporary capital buffer to reach a 9% core Tier 1 ratio by June 2012.[90]

As the European Union prepares for the implementation of the Basel III reforms (as discussed in Chapter 5), the EBA will, for the first time, disclose a fully loaded CRR/CRD IV CET1 ratio for each bank as part of the release of the 2014 stress test results.[91]

United Kingdom

The UK Financial Policy Committee (FPC) was established on 1 April 2013 by the Financial Services Act 2012 as a vital element of recent reforms to the UK architecture of financial regulation. The FPC is responsible for financial stability and has a statutory responsibility to identify, monitor, and take action to remove or reduce risks that threaten the resilience of the UK financial system as a whole. The FPC can issue directions and recommendations to the PRA and the Financial Conduct Authority (FCA, responsible for conduct regulation) as well as other bodies (such as the Bank of England).

At its March 2013 meeting, the FPC recommended that the Bank of England and the PRA develop a framework for regular stress testing of the UK banking system from both macro-prudential and micro-prudential perspectives. In October 2013, the Bank of England released a discussion paper outlining how this will be conducted.[92]

Key aspects of the framework include the following:

- Annual stress testing is to be conducted across banks, building societies and PRA-designated investment firms ('banks').
- Over the medium term, the tests will cover "major UK banks and significant UK subsidiaries of foreign global systemically important banks".[93]
- The tests will comprise both common scenarios applied across all banks taking part (developed by the FPC, in consultation with the PRA), and bespoke scenarios (which will be developed by the banks themselves, and approved by the PRA). This approach will allow individual banks to highlight their own perceived strengths and weaknesses.
- The framework will use models which convert the scenarios into "projections of bank profitability and capital ratios"[94], involving modelling by Bank of England staff as well as by individual banks themselves. Various models will be applied, and the Bank of England staff under guidance from

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90 EBA, *Report on the fulfilment of the EBA Recommendation following the 2011 EU-wide stress test*, 30 April 2012.

91 EBA Press Release, *EBA publishes final templates for the 2014 EU-wide stress test*, 20 August 2014.

92 Bank of England, *A framework for stress testing the UK banking system, a discussion paper*, October 2013.

93 Ibid, p7.

94 Ibid, p7.

the FPC and PRA Board will prepare the results to be provided to both the FPC and the PRA.

- A key aim of the framework is to "strengthen risk management and measurement standards within banks themselves".[95]
- A key output of the stress tests includes a "qualitative assessment of the bank's own stress-testing and capital management processes and governance".[96]
- Crucially, the results of the stress tests are not expected to be mechanically linked to policy responses. That is, the stress testing is "not intended to be a simple 'pass-fail' regime. Rather, it aims to deliver a more graduated policy framework, with the magnitude of remedial actions taken being a function of regulators' judgement around capital adequacy, drawing on a range of information".[97]
- A key principle underpinning the proposed framework is that "the outcome of, and analysis associated with, the annual stress tests should be made public".[98]

The Discussion Paper focused primarily on the medium-term stress testing framework. Implementation of the first round of stress testing in the UK is now underway, with the exercise expected to be a stepping-stone towards the medium-term framework (as the 2014 test covers a smaller number of entities and more limited assessment). Results are expected to be published after the results of the EU-wide stress test are published in Quarter 4 2014.[99]

Following the completion of the 2014 exercise and taking into account both the responses to the Discussion Paper and the lessons learned from the first stress test, the Bank of England will publish further material setting out how it intends to develop the stress testing framework going forward.

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95 Ibid, p9.

96 Ibid, p29.

97 Ibid, p30.

98 Ibid, p32.

99 Bank of England, *Stress testing the UK banking system: key elements of the 2014 stress test*, April 2014.

Appendix B: Jurisdictional implementation of Basel III reforms

The following table provides the transitional periods for implementation of the Basel III reforms, with dates ranging from 2013 to the start of 2019 for the various elements.

Basel III Phase-in arrangements (all dates as of 1 January)

	Phases	2013	2014	2015	2016	2017	2018	2019
Capital	Leverage Ratio		Parallel run 1 Jan 2013 – 1 Jan 2017 Disclosure starts 1 Jan 2015				Migration to Pillar 1	
	Minimum Common Equity Capital Ratio	3.5%	4.0%	4.5%				4.5%
	Capital Conservation Buffer				0.625%	1.25%	1.875%	2.5%
	Minimum common equity plus capital conservation buffer	3.5%	4.0%	4.5%	5.125%	5.75%	6.375%	7.0%
	Phase-in of deductions from CET1*		20%	40%	60%	80%	100%	100%
	Minimum Tier 1 Capital	4.5%	5.5%	6.0%				6.0%
	Minimum Total Capital	8.0%						8.0%
	Minimum Total Capital plus conservation buffer	8.0%			8.625%	9.25%	9.875%	10.5%
	Capital instruments that no longer qualify as non-core Tier 1 capital or Tier 2 capital		Phased out over 10 year horizon beginning 2013					
Liquidity	Liquidity coverage ratio – minimum requirement			60%	70%	80%	90%	100%
	Net stable funding ratio						Introduce minimum standard	

* Including amounts exceeding the limit for deferred tax assets (DTAs), mortgage servicing rights (MSRs) and financials.

– – transition periods

Source: Basel Committee, http://www.bis.org/bcbs/basel3/basel3_phase_in_arrangements.pdf

Each jurisdiction is progressing its own implementation plans of the Basel III reforms, with many jurisdictions planning to implement certain elements ahead of the Basel timetable. This Appendix details the progress of national implementation for Australia, the US, the UK and the EU.

Australia

Australia's implementation of the Basel III capital reforms were effected through a series of prudential and reporting standards released by APRA on 28 September 2012.[100] The core Basel III capital measures were effective from 1 January 2013 (ahead of the proposed Basel timetable). It was noted by APRA that Australian ADIs were "starting from a sound and strongly capitalised position" and are "well placed to meet the Basel III timetable, which APRA has accelerated in some areas".[101]

Having strengthened their capital positions in anticipation of the higher requirements under Basel III, all Australian ADIs currently meet the minimum CET1 ratio of 7%

100 These standards are all available at the APRA website under 'prudential framework' at www.apra.gov.au/adi/PrudentialFramework/Pages/default.aspx.

101 APRA, *APRA releases final Basel III capital reform package*, Media Release, 28 September 2012.

(including the CCB). On an ADI industry basis, the aggregate CET1 ratio is 8.7%, while the industry Tier 1 ratio is 10.4% and the Total capital ratio is 11.8%.[102]

In relation to the Basel III liquidity reforms, APRA released details of its implementation of the global liquidity standards in December 2013 – focussing on how it plans to introduce the LCR requirements.[103] APRA will apply the LCR requirements to larger, more complex ADIs in line with the Basel III timetable (from 1 January 2015). However, the LCR will be introduced without the phase-in arrangements (i.e. ADIs are required to meet an LCR of 100% on 1 January 2015 whereas the Basel timetable commences at 60%). The LCR requirements will not apply to smaller ADIs that are currently subject to a simple liquidity ratio. Although APRA affirmed its commitment to implementation of the NSFR by 1 January 2018, it noted that the details remain under review by the Basel Committee and the NSFR requirements were not included in the final prudential and reporting standards.

In recognition of jurisdictions with insufficient supply of HQLA, the Basel III liquidity framework incorporates scope for alternative treatments for the holding of HQLA. Due to the lack of availability of government securities in Australia that would normally qualify as high quality liquid assets, an ADI may establish a Committed Liquidity Facility with the RBA to cover any shortfall. Each ADI requesting a Committed Liquidity Facility for inclusion in the LCR must demonstrate to APRA that it has sought to manage its own liquidity to the extent possible through balance sheet management.

United States

Consistent with the international Basel III capital framework, the US implementation of the Basel III capital reforms includes a minimum CET1 ratio of 4.5%, a CCB of 2.5% and a minimum Tier 1 capital ratio of 6% (increased from 4%) that will apply to all supervised financial institutions. The final rule was issued on 2 July 2013 after a 12 month consultation period.[104] The Federal Reserve Board coordinated the final rule with the FDIC and the Office of the Comptroller of the Currency (OCC). The phase-in period for smaller, less complex banking organisations will not begin until January 2015, while the phase-in period for larger institutions began in January 2014.

The US has long had a leverage ratio to provide a capital floor for institutions with low risk-weighted assets relative to total assets. The new framework increases the minimum leverage ratio to 4% for all banking organisations (an increase from 3% for highly rated banks). In addition, for the largest, most internationally active banking organisations, the final rule includes a new minimum supplementary leverage ratio

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102 APRA, *Insight*, Issue Two, 2013, p9, data as at 30 June 2013.

103 APRA, *Implementing Basel III liquidity reforms in Australia*, Response Paper, December 2013.

104 Federal Reserve Board, Press Release at 2 July 2013, at http://www.federalreserve.gov/newsevents/press/bcreg/20130702a.htm, viewed July 2014.

that takes into account off-balance sheet exposures.[105] The minimum supplementary leverage ratio is 3% for banks with advanced approaches to risk-based capital rules.[106]

A final rule adopting an enhanced supplementary leverage ratio was issued in April 2014 to apply an additional 2% buffer to the eight large US bank holding companies (G-SIBs).[107] This brings the leverage ratio to 5% for these interconnected institutions to avoid restrictions on capital distributions and discretionary bonus payments. Insured depository institution subsidiaries of these bank holding companies must meet a leverage ratio of 6% to be considered 'well capitalised'. The rule will be effective on 1 January 2018.[108]

The proposed US implementation of the Basel III LCR requirements was issued in October 2013. The LCR requirements were proposed to apply to all internationally active banking organisations (generally, those with $250 billion or more in total consolidated assets or $10 billion or more in on-balance sheet foreign exposure), and to systemically important, non-bank financial institutions.[109] The proposal also applies a less stringent, modified LCR to bank holding companies and savings and loan holding companies that are not internationally active, but have more than $50 billion in total assets. Bank holding companies and savings and loan holding companies with substantial insurance subsidiaries and non-bank, SIFIs with substantial insurance operations are not covered by the proposal.[110]

The proposal defines various categories of HQLA and also specifies how a firm's projected net cash outflows over the stress period would be calculated using common, standardised assumptions about the outflows and inflows associated with specific liabilities, assets, and off-balance-sheet obligations.

The proposed rule is generally consistent with the Basel Committee's LCR standard (as revised in January 2014), but is more stringent in several areas, including the proposed transition period (which is shorter than that included in the Basel agreement). The accelerated transition period reflects a desire to maintain the improved liquidity positions that US institutions have established since the financial crisis, in part as a result of supervisory oversight by the Federal Reserve Board and other US bank

105 Ibid.

106 Federal Reserve Board Final rule issued on 11 October 2013, with FDIC rule on 10 September 2013.

107 Federal Reserve Board, Press Release at 8 April 2014, http://www.federalreserve.gov/newsevents/press/bcreg/20140408a.htm, viewed August 2014.

108 On 3 September 2014, an additional final rule was also adopted to modify the definition of the denominator of the supplementary leverage ratio in a manner consistent with recent changes by the Basel Committee (i.e. the methodology for including off-balance sheet items). See Federal Reserve Board, Press Release. 3 September 2014, http://www.federalreserve.gov/newsevents/press/bcreg/20140903b.htm.

109 On 3 September 2014, US regulators issued a joint final rule on implementation of the LCR. The final rule is largely identical to the proposed rule with a few key adjustments. One important adjustment was the decision to not apply the LCR to non-bank financial companies designated by the FSOC for enhanced supervision. Instead, the Federal Reserve Board plans to apply enhanced prudential liquidity standards to these institutions through a subsequent order or rule.

110 Federal Reserve Board, Press Release at 24 October 2013, http://www.federalreserve.gov/newsevents/press/bcreg/20131024a.htm, viewed August 2014.

regulators. Under the proposal, US firms would begin the LCR transition period on 1 January 2015, and would be required to be fully compliant by 1 January 2017.

European Union

In mid-2013, the European Commission and European Parliament adopted a package of reform legislation, which implements most aspects of the Basel III (along with some specifically European aspects, such as caps on bonuses). The European Commission has provided an overview summary of the package, as well as links to the detailed text.[111]

The EU bank capital framework is represented by the CRD IV and associated CRR - which together reflect the European intended implementation of the Basel III Framework. The CRD IV package is made up of:

- the CRR, which is directly applicable to firms across the EU, and
- the CRD, which must be implemented through national law.

The CRR is the 'single rulebook' that gives effect to the majority of the provisions relating to Basel III. The CRR in particular contains details of the enhanced prudential requirements, which is a change from previous arrangements, in that the EU Commission is now able to directly alter the regulation in the CRR without requiring further legislation through the Member States.

The CRD includes provisions concerning remuneration, enhanced governance and transparency arrangements, supervisory powers, supervisory review and evaluation processes and the introduction of new capital buffers. The different legal nature of the two instruments has implications for how Member States will implement aspects of Basel III.

In line with the Basel III reforms, the total capital ratio requirement remains at 8% of risk weighted assets (before the CCB, the countercyclical buffer and any systemic risk buffers) with a CET1 minimum of 4.5% and a Tier 1 capital requirement of 6%. The underlying definitions of capital have also been brought into line with Basel III. Full implementation of Basel III across the EU is contemplated by 1 January 2019, although this is subject to further regulatory confirmation.

The CRD IV package also establishes the LCR and NSFR liquidity requirements for the EU. Many observers, including the EU Commission, were concerned that the original calibration of the LCR was too severe. As a result, the implementation of the LCR requirement is to be reviewed under a delegated authority by the European Commission and EBA in 2015. The delay in publishing a firm timetable at this point is at least in part because:

a) some member jurisdictions have expressed concern about the economic impact of imposing higher capital requirements at a time when the banking

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111 See European Commission, *Capital requirements regulation and directive - CRR/CRD IV* at http://ec.europa.eu/internal_market/bank/regcapital/legislation-in-force/index_en.htm#maincontentSec1, viewed July 2014.

sector is still fragile and economic growth is low or absent in many EU Member States; and.

b) the EU appears to be watching closely the US implementation of Basel III (which is also evolving), and does not wish to place its banks at too great a competitive disadvantage relative to US banks.

United Kingdom

The UK's implementation of the Basel III capital and liquidity reforms will follow that of the EU. In August 2013, the UK PRA issued a consultation paper setting out its proposals for the implementation of the CRD IV package.[112]

As the CRR is directly applicable in all Member States of the EU, the PRA will not transpose the text of the CRR into its rules. The PRA will, however, be required to delete any conflicting domestic rules. Unlike the CRR, the CRD is not directly applicable and must be transposed into UK law, including through PRA rules.

As part of CRD implementation, the UK PRA consulted on the UK's proposed implementation of the CCB and countercyclical capital buffer frameworks in August 2013.[113] It also addressed other CRD issues such as Pillar 2 changes, governance requirements, passporting and cooperation between Member States. Final rules and supervisory statements were issued by the PRA on 19 December 2013 and April 2014 (in relation to capital buffers).[114]

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112 PRA, Consultation Paper CP 5/13, *Strengthening capital standards: implementing CRD IV*, August 2013.

113 Ibid.

114 PRA, Policy Statement PS 7/13, *Strengthening capital standards: implementing CRD IV, feedback and final rules*, December 2013 and Policy Statement PS 3/14, *Implementing CRD IV: capital buffers*, April 2014.

Appendix C: Jurisdictional developments on resolution regimes and resolution and recovery plans (RRPs)

Australia

Resolution regime

Legislation was enacted in 2008 and 2010 to strengthen the crisis resolution powers available to APRA, the designated resolution authority in Australia. The legislative changes related to APRA's powers of direction, business transfer powers, statutory management for ADIs, and judicial management for general and life insurers. They also enabled APRA to establish a bridge ADI or insurer.

In 2012, the Australian Treasury released a consultation paper on legal reforms to ensure APRA has the relevant additional powers based on the FSB's Key Attributes.[115] Options canvassed in the consultation include the ability for APRA to appoint a statutory manager to other parts of the group (i.e. non-operating holding company), direction powers to require superannuation entities to take pre-emptive action, and to simplify and harmonise powers across industries.

The consultation paper noted that although many of the options proposed were of themselves relatively minor, cumulatively their implementation would significantly enhance APRA's resolution toolkit, and align APRA's crisis resolution powers more closely with international standards and best practice. APRA's crisis management powers continue to be subject to consideration, currently as part of the Financial System Inquiry.

RRPs

APRA established a pilot program on recovery planning for six of the largest ADIs in Australia in 2011.[116] The pilot commenced with APRA meeting with participating ADIs to discuss the concepts and potential scenarios on which recovery planning was to be based. The primary objective of the pilot program was for participant ADIs to prepare a comprehensive recovery plan, to be approved by the board, setting out a menu of recovery actions that could be deployed to restore financial soundness within a reasonable period of time, consistent with the need to quickly restore market confidence.

APRA did not issue a prescribed format for the recovery plans. However, APRA states that plans were expected to cover the following areas:

- an overview of the legal and operational business structure;
- analysis of the separability of core and non-core business functions;

115 The Treasury, *Strengthening APRA's crisis management powers*, consultation paper, September 2012.

116 APRA, 'Recovery planning for authorised deposit-taking institutions', *Insight*, issue 3, June 2012.

- a menu of credible recovery actions with a financial, operational and strategic assessment, and financial projections of the cumulative impact of these actions;
- non-financial actions, including a media and communications strategy; and
- roles and responsibilities for developing, reviewing and activating the plan.[117]

Draft recovery plans were received from the participant ADIs at the end of 2011, and reviewed by APRA. Feedback was provided to the ADIs by APRA in early 2012, and final plans were submitted in July 2012. Subsequent to the pilot program, APRA required a number of other mid-sized ADIs to prepare contingency plans (i.e. truncated recovery plans).[118]

APRA has stated that it expects the larger ADIs to continue to develop their recovery plans in the context of their normal stress testing and ICAAP processes. APRA has also stated that recovery planning will become a permanent component of APRA's supervision activities.

United States

Resolution regime

The DFA was enacted in July 2010 to enhance the supervision of financial institutions—particularly large bank and non-bank financial companies—and require certain financial institutions (including those deemed to be systemically important) to develop resolution plans to facilitate a rapid and orderly resolution under the US Bankruptcy Code. Under the reforms, the FDIC's resolution powers are significantly expanded. The DFA also provides a framework for better coordination between authorities through the establishment of an interagency council—the Financial Stability Oversight Council—to detect and deter emerging threats to the financial system.

Title I and Title II in the DFA provide significant new authorities to the FDIC to address the failure of a designated SIFI. Title I applies existing insolvency arrangements (Chapter 7 of the US Bankruptcy code), while Title II provides for an alternative special administration regime – the Orderly Liquidation Authority (OLA). The authority granted to the FDIC as receiver under Title II is analogous in many aspects to those the FDIC uses to resolve failed insured depository institutions under the FDI Act. The key difference is that the Title II under DFA prohibits the use of taxpayer funds.

The OLA establishes a new process to address the potential failure of a bank holding company or other financial company if "a resolution under the Bankruptcy Code could

117 Ibid.

118 APRA, *The Prudential Framework*, December 2013.

not be implemented without serious adverse effects on financial stability in the US."[119] The OLA is a process to quickly and efficiently liquidate a large complex financial company that is close to failing and poses a significant risk to financial stability. The FDIC has responsibility for implementing the OLA, and is the agency for the 'single point of entry strategy' discussed below.

The FDIC published a consultation document on the resolution of SIFIs and the single point of entry strategy on 18 December 2013. The single point of entry strategy has been developed by the FDIC as the mechanism through which the OLA will operate under Title II of the DFA. The single point of entry strategy arrangement involves the following:[120]

- Under the OLA, the FDIC will be appointed receiver of only the top-tier parent holding company for the SIFI, and subsidiaries would remain open and continue operations.

- A bridge financial company would be created, into which the assets from the receivership will be transferred by the FDIC, without requiring any consents or approvals from equity, debt or other commercial interests.

- Officers and directors responsible for the failure cannot be retained. The FDIC would appoint a board of directors and nominate new senior management to run the bridge financial company under the FDIC's oversight. During the resolution process, measures would be taken to "address the problems that led to the company's failure"[121] - in particular by potentially breaking up, shrinking, or placing specific subsidiary business units into normal (Chapter 7) liquidation proceedings.

- Losses would be apportioned according to the order of statutory priority among the claims of the former equity holders and unsecured creditors, whose equity, subordinated debt and senior unsecured debt would remain in the receivership. Such claims would be satisfied by "issuance of securities representing debt and equity in the new holding company".[122] That is, a mandatory debt-for-equity exchange would occur to ensure that the new operations are adequately capitalised.

- The newly formed bridge financial company would continue to provide the holding company functions of the covered financial company. The triggering of these arrangements at the top-tier holding company would not invalidate any contractual commitments made at the lower level companies.

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119 Further detail on the implementation of the OLA /single point of entry strategy - including numerical worked examples - is provided in FDIC, *Resolution of systemically important financial institutions: the single point of entry strategy*, Federal registry/vol 78, No. 243, 76614, December 2013, pp 76614-76624.

120 Ibid, p76615-76616.

121 Ibid, p76616.

122 Ibid, p76616.

The FDIC expects the well-capitalised bridge company and its subsidiaries to obtain funding from customary sources of liquidity in the private markets. However, if circumstances are such that private financing cannot be obtained, there is scope for access to the Orderly Liquidation Fund, which is a separate fund established by the US Treasury and available to the FDIC in connection with its receivership obligations under the DFA. The FDIC issues obligations to the Treasury Secretary to borrow funds (under prescribed conditions).

RRPs

On 1 November 2011, the US Federal Reserve Board and the FDIC jointly published a final rule to implement section 165(d) of the DFA regarding resolution plans (i.e. 'living wills'). Those designated institutions are subject to enhanced regulation and supervision by the US Federal Reserve Board and the FDIC. Specifically, under the DFA Title I requirements, those designated companies are required to prepare 'living wills' predicated on the application of existing US bankruptcy code proceedings (generally under Chapter 7 of the US bankruptcy code), and have those documents reviewed and approved by the US Federal Reserve Board and the FDIC. The resolution plans are to be maintained and submitted periodically to the regulators.

European Union

Resolution regime

On 30 May 2012, the European Commission announced a policy package on moving towards a Banking Union across the EU.[123] The Banking Union will rest on the following four pillars:

1. a single EU deposit guarantee scheme covering all EU banks;

2. a common resolution authority and a common resolution fund for the resolution of, at least, systemic and cross-border banks;

3. a single EU supervisor with ultimate decision-making powers, in relation to systemic and cross border banks; and

4. a uniform single rule book for the prudential supervision of all banks.

On 15 April 2014, the European Parliament adopted three texts to complete the legislative work underpinning the Banking Union:

1. the BRRD, which establishes a single rule book for the resolution of banks and large investment firms in all EU Member States. It harmonises and upgrades the tolls for dealing with bank crises across the EU. The BRRD relies on a network of national authorities and resolution funds to resolve banks.

2. the Single Resolution Mechanism (SRM), which implements the BRRD in the Eurozone and any other participating Member State. The SRM complements the

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123 http://europa.eu/rapid/press-release_MEMO-12-416_en.htm?locale=en.

Single Supervisory Mechanism (SSM) and would ensure that if a bank subject to the SSM faced serious difficulties, its resolution could be managed efficiently with minimal costs to taxpayers and the real economy.

3. the Directive on Deposit Guarantee Schemes, updating the scheme to strengthen the protection of depositors, continue the guarantee on depositor savings up to €100,000, and introduce pre-funded guarantee schemes in each Member State.[124]

The European BRRD introduces significant new powers to resolution authorities. When the trigger conditions for resolution are satisfied (currently proposed to be a likely breach of the CRD IV capital requirements), resolution authorities will have the power to apply the following resolution tools:

- sale of business, which enables resolution authorities to affect a sale of the institution or the whole or part of its business on commercial terms, without requiring the consent of the shareholders or complying with procedural requirements that would otherwise apply;
- bridge institution, which enables resolution authorities to transfer all or part of the business of an institution to a temporary publicly controlled entity, with the aim of selling the business to the private sector when market conditions are appropriate;
- asset separation, which enables resolution authorities to transfer impaired or problem assets to an asset management vehicle to allow them to be managed with a view to maximising their value through eventual sale or orderly wind-down; and
- bail-in of creditors, which will give resolution authorities the power to write down the claims of unsecured creditors of a failing institution and convert certain debt claims into equity.

When fully operational in late 2014, the SRM will apply to all banks supervised by the SSM which will see the ECB directly supervise banks in the euro area and in other member States which decide to join the Banking Union. National resolution authorities will prepare resolution plans and resolve banks which only operate nationally and are not subject to full ECB direct supervision, provided this does not involve use of the single resolution fund (see below).

Under the SRM, decision-making will be made by a centralised Single Resolution Board. In most cases, the ECB will notify that a bank is failing to the Single Resolution Board, the European Commission, and the relevant national resolution authorities. The resolution scheme would then be implemented by the national resolution authorities.

If resolution entails State aid, the European Commission will have to approve the aid prior to the adoption of the resolution scheme.

A single resolution fund will be created into which all the banks in the participating Member States will contribute, with a target level of 55bn Euros, or at least 1% of covered deposits, to be built up over an 8 year transitional period. During the

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124 European Commission, *Finalising the banking union: European Parliament backs Commission's proposals (single resolution mechanism, bank recovery and resolution directive, and deposit guarantee schemes directive*, Statement, Brussels, 15 April 2014.

transition, the fund will comprise national compartments which are gradually mutualised. The fund and the decision-making on its use are regulated by the SRM regulation.

RRPs

Under the BRRD, supervised institutions will be required to develop recovery plans at both group level and also potentially for the individual institutions within the group. The decision that a recovery plan, on an individual basis, should be drawn up for firms that are part of the group must be made in accordance with a joint decision-making process involving the consolidating supervisor and the competent authorities of subsidiaries. Local supervisors in conjunction with the EBA will assess and approve recovery plans. Some large European banks have already developed (or are in the process of developing) their RRPs, ahead of the EBA's publication of technical standards, guidelines and reports.

On 18 July 2014, the EBA published two final draft Regulatory Technical Standards (RTS) specifying the information to be included in a recovery plan, and the criteria which competent authorities should apply when assessing the recovery plan of an institution or a group.[125] The final draft RTS are complemented by Guidelines providing the range of scenarios to be used when testing recovery plans. They will provide a common framework and language across the EU which will assist in the joint assessment of recovery plans for cross-border groups. The final RTS will form part of the European Single Rulebook.

On 9 July 2014, the EBA also launched draft RTS for consultation on resolution planning.[126] The RTS forms part of the EBA's work to promote a consistent and coherent approach to bank resolution across the EU. The proposed RTS specify the contents of resolution plans to be drawn up by resolution authorities for individual institutions and groups. The RTS identify eight categories of information which a resolution plan should contain, and set out both general and specific requirements to be included in each category to ensure the preferred resolution strategy is achieved.

United Kingdom

Resolution regime

The UK has passed a series of legislation that implements new regulatory frameworks. The UK Financial Services Act 2012, and the Financial Services (Banking Reform) Act 2013 introduced new prudential authorities and resulted in the Bank of England (including the PRA) being entrusted with significant new responsibilities.

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125 https://www.eba.europa.eu/regulation-and-policy/recovery-and-resolution/draft-regulatory-technical-standards-specifying-the-range-of-scenarios-to-be-used-in-recovery-plans/-/regulatory-activity/press-release#.

126 https://www.eba.europa.eu/regulation-and-policy/recovery-and-resolution/regulatory-technical-standards-on-resolution-planning/-/regulatory-activity/press-release.

As noted in Appendix A, the legislative changes included the establishment of a new macro-prudential body, the FPC (hosted within the Bank of England) to monitor and respond to systemic risks; transferred responsibility for micro-prudential regulation to a new regulator, the PRA (as part of the Bank of England); and created a new conduct of business regulator, the FCA.

The Banking Act 2009 created a Special Resolution Regime (SRR) which gives the UK authorities a permanent framework providing tools for dealing with failing UK banks, building societies, investment firms and central counterparties. It gave the Bank of England a key role in implementing a resolution using statutory resolution tools. These tools include a special insolvency procedure for rapid payment of compensation to depositors, the transfer of all or part of the bank to a purchaser or a "bridge bank" (owned by the Bank of England) or placing the bank into temporary public ownership.

The Banking Act creates clearly-defined roles for operation of the SRR. The PRA, in consultation with the Bank of England and the Treasury, makes the decision to put a bank into the SRR. The Treasury would decide whether to put a bank into temporary public ownership (where the failing entity constitutes a serious threat to the stability of the UK financial system), and otherwise, the Bank of England, in consultation with the other authorities, decides which of the tools to use and implements the resolution.[127]

The Financial Services (Banking Reform) Act 2013 confers on the Bank of England a further option for the resolution for banks - the bail-in stabilisation option.[128] The Treasury and the PRA are currently consulting on the UK implementation of the BRRD (and the required amendments to the SRR and other legislation). The UK Government will make any amendments necessary to the bail-in legislation in order to transpose the BRRD, and will commence the legislation on 1 January 2015.[129]

RRPs

In December 2013, the PRA issued a Policy Statement on Recovery and Resolution Plans and two accompanying supervisory statements (following on from earlier releases by the Financial Services Authority in 2011 and 2012).[130] The rules came into force on 1 January 2014. The PRA also issued a Consultation paper in July 2014 on implementation of the BRRD (which addressed recovery and resolution planning).[131] The PRA is intending to update its rules to reflect the finalised BRRD. A core aspect of the PRA's approach is that it will ensure preparedness for either recovery or orderly resolution of a failing firm.

The PRA expects firms to maintain recovery plans, outlining credible recovery actions that they could implement in the event of severe stress to restore their business to a stable and sustainable condition. The recovery plan is a firm's complete menu of

127 http://www.bankofengland.co.uk/financialstability/Pages/role/risk_reduction/srr/default.aspx.

128 UK Treasury Consultation, *Bail-in powers implementation*, 13 March 2014.

129 UK Treasury Consultation, *Transposition of the Bank Recovery and Resolution Directive*, July 2014.

130 Bank of England Prudential Regulation Authority, *Recovery and resolution plans*, Policy Statement PS8/13, December 2013.

131 Bank of England Prudential Regulation Authority, *Implementing the Bank Recovery and Resolution Directive*, Consultation Paper CP 13/14, July 2014.

options addressing a range of severe financial stresses caused by idiosyncratic problems, market-wide stress or both. A recovery plan would include all credible options for addressing both liquidity and capital difficulties.

The PRA also require firms to submit resolution packs containing information to enable the authorities to prepare for orderly resolution. The information submitted in resolution packs will allow the authorities to:

a) identify the appropriate resolution strategy for a firm;

b) work with firms to identify barriers to an optimal resolution plan; and

c) develop the remedial actions for the removal of barriers.

Abbreviations

ADIs	Authorised Deposit-taking Institutions
AEMC	Australian Energy Market Commission
APRA	Australian Prudential Regulatory Authority
ASIC	Australian Securities and Investments Commission
BRRD	Bank Recovery and Resolution Directive
CCAR	comprehensive capital analysis and review
CCB	capital conservation buffer
CET1	common equity tier 1
CFR	Australian Council of Financial Regulators
CFTC	Commodity Futures Trading Commission
COAG	Council of Australian Governments
CRD IV	capital requirements directive IV
CRR	capital requirements regulation
DFA	Dodd-Frank Wall Street Reform and Consumer Protection Act
D-SIB	domestic systemically important bank
EBA	European Banking Authority
EU	European Union
FPC	Financial Policy Committee
FCA	Financial Conduct Authority
FCIC	Financial Crisis Inquiry Commission
FDIC	Federal Deposit Insurance Corporation
FMI	financial market infrastructure
FPC	Financial Policy Committee
FSB	Financial Stability Board
FSF	Financial Stability Forum
FSOC	Financial Stability Oversight Council
G20	Group of 20
GDP	gross domestic product
GFC	global financial crisis
G-SIB	global systemically important bank
G-SIFIs	globally systemically important financial institutions
HQLA	high-quality liquid assets

IAIS	International Association of Insurance Supervisors
ICAAP	internal capital adequacy assessment process
IMF	International Monetary Fund
IOSCO	International Organisation of Securities Commissions
NEM	National Electricity Market
OLA	Orderly Liquidation Authority
OTC	over-the-counter
PRA	Prudential Regulation Authority
ROLR	retailer of last resort
RRP	recovery and resolution plan
RTS	Regulatory Technical Standards
SIFI	systemically important financial institution
SRM	Single Resolution Mechanism
UK	United Kingdom
US	United States