

THE BANKING
REGULATION
REVIEW

NINTH EDITION

Editor
Jan Putnis

THE LAWREVIEWS

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REGULATION
REVIEW

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This article was first published in May 2018
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Published in the United Kingdom
by Law Business Research Ltd, London
87 Lancaster Road, London, W11 1QQ, UK
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Enquiries concerning editorial content should be directed
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ISBN 978-1-912228-30-0

Printed in Great Britain by
Encompass Print Solutions, Derbyshire
Tel: 0844 2480 112

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ACKNOWLEDGEMENTS

The publisher acknowledges and thanks the following law firms for their learned assistance throughout the preparation of this book:

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PREFACE

Banking regulation is a never-ending quest to balance the three major policy objectives of financial stability, consumer protection and the needs of developed economies for reliable services involving the provision and intermediation of finance. It is safe to say that the relative importance of these factors to policymakers will never be constant. Driven by events – whether political, economic or financial – governments and regulators will move their centre of focus from one objective to another as circumstances require, while continuing to pay lip service to the need to balance all three. For their part, banks have to maintain the right quantity and quality of resources to react to policy shifts and, hopefully, to ensure that they can communicate their views clearly to the authorities before those shifts take place.

But what happens when there are developments that leave everyone – governments, regulators and banks alike – unsure of how to react, or even, in some cases, unsure of whether or not there are serious concerns to address? That is what we now face with the rise of technology in banking. Is technology simply an opportunity for banks to improve their service or does it present threats to customers and ultimately to financial stability? If there are threats, do these go beyond the much-publicised cyber risks?

Starting with the opportunity, the position is not quite what many new so-called fintech banks would have you believe. Their orthodox view of the world is that large, established banks will be supplanted by nimbler upstarts, particularly those new firms that are not actually banks and are relatively unburdened by regulation (or think they are). Particularly in the area of payments, those upstarts aim to appropriate banks' customer relationships, not by shutting banks out of payment transactions entirely, but by relegating them to mere infrastructure in payment clearing. I refer to this view as 'orthodox' because it ignores at least four important and fast-developing features of the way that technology is revolutionising many major, established banks:

- a* The ability of banks to fight back and the vast resources that large, established banks have to throw at this effort if they are minded to do so and have sufficient strategic focus to stick to the task.
- b* The capacity of technology to cut the costs and improve the efficiency of established banks.
- c* The strategy (and ability) of some banks to follow an inorganic approach to acquiring technology and new ideas; while cultural differences and other integration challenges often mean that banks do not realise the full benefits of acquiring newer technology-focused firms, if only a small proportion of these acquisitions succeed then much of the apparent hype around some start-up firms pursuing novel fintech strategies could evaporate as large, established banks become the principal means by which new ideas hatched by the founders of start-ups are put into practice.

- d* Legal and regulatory changes in some parts of the world to open up banking, and payment services, to increased competition and therefore innovation – particularly PSD2 in the European Union – are pushing banks to adopt new technologies and are starting to foster a more creative and entrepreneurial culture in some banks.

Commentators frequently write that banks that fail properly to capitalise on the opportunities that technologies present will fail. This has become a truism as technologies once thought to be novel – contactless payments, for example – have become commonplace in many parts of the world. In other words, new technology has become such a pervasive feature of both wholesale and retail banking in most of the world that to say that banks have to use it effectively to survive has become little different from saying that banks will fail if they don't run their businesses effectively. That said, a proportion of banks will fail on this simple ground, and may therefore fail in business terms as others with a better understanding of the power of technology to improve and expand services and increase efficiency forge ahead. Many banks have also, so far, failed to create the right sort of creative environment in which genuinely new business ideas originate. There are a number of reasons for this that exist to varying degrees in all large banks, including complex and bureaucratic management structures, which can stifle innovation; a necessary preoccupation with legacy issues and structural reform; an understandably risk-averse approach to business development; and the opportunities that exist for talented and creative staff outside the banking sector. It would be entirely wrong, however, to assume that these issues simply cannot be overcome in any large, established banks.

So much for the opportunities; what about the threats? Cyber risk remains a very significant concern for regulators, perhaps the single most important area of bank regulatory concern worldwide at present. But there is another challenge that banks must face from technology, which is simply that more will be expected of them by regulators and customers alike once technology makes banking more transparent. So, from a front office perspective, technology does not just offer ways of providing better services to customers; it also raises their expectations, and banks will have to be ready to live up to those expectations, or they will simply lose customers. From a back-office perspective, technology is beginning to provide banks with innovative ways of understanding better the risks they have taken and their relationships with providers of funding, hedging services and other counterparties. For example, machine learning has now advanced to a level where it can provide real assistance to banks in understanding very quickly, in a very detailed way, the terms of the agreements to which they are party, how they interrelate with each other and how they would perform in a crisis. One of the lessons of the financial crisis was that recovery and resolution planning is a very resource-intensive exercise when done by means of a manual review of documents. Machine learning will eventually allow many of these review processes to be done in almost real time and for banks to verify the application of policies and procedures to documents and customer relationships as they develop, rather than retrospectively. Once these capabilities are developed to a usable level, which is likely to be in the next few years, it will not be surprising if regulators begin to expect banks to apply them. The fact that it might take a bank several months to review 100,000 documents manually will then no longer be a complete excuse for not having fairly immediate answers to regulators' straightforward questions about the nature of the risks on a bank's balance sheet; the bank should either know the answers or will be expected to have the means to find out quickly.

Much of this would suggest that the adoption of new technology may ultimately have more profound effects on large banks than post-crisis structural reform. Apart from customer services, I would expect these effects to manifest themselves in reductions in staff numbers, particularly in front-office roles, risk management and compliance. It is apparent that even the most sophisticated and well-resourced banking regulators around the world are still behind the curve in realising the true impact of these developments: just as the banks have an enormous challenge in devising profitable and prudent ways of applying technology, regulators have an almost equal challenge in understanding the risks as well as the benefits.

Away from technology, the past year has failed to produce the destructive earthquake in international regulatory initiatives that some commentators predicted following the election of Donald Trump as President of the United States. Nevertheless, further and deeper international regulatory cooperation now looks significantly less likely than it did two years ago and regulators should be trying to work out what this will mean in a future banking crisis. For their part, the Basel Committee on Banking Supervision and other international organisations that promulgate bank regulatory reform will no doubt be wary of proposing ideas that do not receive widespread support from major banking jurisdictions.

In Europe, the preparations that banks are making for the UK's departure from the European Union in 2019 continue apace, even as the progress towards a political agreement and related transitional arrangements remains, at the time of writing, slow and fraught with difficulty. Almost whatever the nature of this agreement, the legal and regulatory barriers to cross-border banking and securities business that will be erected between the United Kingdom and the European Union when, as currently planned, the UK leaves the EU single market, are expected to make Europe as a whole a more expensive region for global banks. As a result, many of these banks are reconsidering their participation in certain less profitable business lines and some geographical markets in Europe. It remains to be seen whether smaller EU banks with a domestic or a regional focus can capitalise on these developments. Meanwhile, attempts to strengthen and deepen the eurozone's banking union continue, albeit very slowly. The move of some business from London to mainland Europe as a result of Brexit is unlikely to achieve the natural desire of many European politicians and central bankers for the eurozone to have its own, genuinely global financial centre.

In Asia it remains, as ever, as foolish as it is difficult to generalise about developments across such a diverse and fast developing region. However, the continuing growth of wealth management services is still of great interest to many banks in the region and beyond. It remains to be seen whether all the most important bank regulators in the region can keep up with understanding and monitoring the increased risks associated with this development, from investor protection to money laundering.

In the United States, we saw tangible proposals for regulatory reform during 2017, although at the time of writing it is not yet clear what the outcome will be.

This ninth edition of *The Banking Regulation Review* contains chapters provided by authors in 35 countries and territories in March and April 2018, as well as the usual chapters on International Initiatives and an overview of the European Union.

My thanks go once again to the authors, who thankfully find this subject sufficiently interesting and profitable both to continue to advise clients on it as well as to write about it in their spare time. However, I remain conscious of the fact that spare time has been in very short supply to many of the authors during the past year, and I am therefore very grateful for their dedication in contributing to this book.

The team at Law Business Research have continued to tolerate the work schedules of the authors, and more particularly the editor, with their usual compassion, tolerance and sympathy, and to apply their usual high standard of professionalism to the production of this book. I would like to thank them for once again making this process look easy when it is anything but.

Thank you also to the partners and staff at Slaughter and May in London and Hong Kong for indulging the project that this book is, and for seeing value in it. Particular thanks are due this year to Ben Kingsley, Nick Bonsall, Peter Lake, Emily Bradley, Tim Fosh, Emily Garside, Tolek Petch, Jocelyn Poon, David Shone and Moonar Tsoi.

Jan Putnis

Slaughter and May

London

April 2018

INTERNATIONAL INITIATIVES

Jan Putnis and Tolek Petch¹

I INTRODUCTION

Banking regulation has never had a higher profile than it has today, and has arguably never been so important. The subject has risen up the agenda as politicians have realised the damage that the failure of banks can do to national and regional economies.

If anyone assumed that an internationally agreed set of common principles as to how banks should be regulated would emerge quickly from the financial crisis of 2007 to 2009, they have been disappointed. However, much of the new regulatory framework is now in place, and new standards have been or are in the course of being adopted on almost all the important issues. In particular, the Basel Committee on Banking Supervision (Basel Committee) has published and further developed the Basel III Capital Accord in response to the financial crisis and is carrying out work on updating other aspects of its prudential framework, including a fundamental review of the trading book and the treatment of securitisations.

Since the global crisis first manifested itself in 2007, it has at times been difficult to keep track of the numerous international initiatives that have been launched. These initiatives may broadly be classified as those developed to try to understand what went wrong before and during the crisis, and those developed to propose and monitor the implementation of reforms to prevent the recurrence of problems that have been identified. The proliferation of international initiatives has reflected the number of stakeholders involved, and the potentially conflicting approaches to identifying and addressing the causes of the crisis as well as differing political agendas, with the crisis being seen by some as an opportunity for advancing proposals that previously had attracted limited support. It has also reflected a period of intense reflection among financial regulators and governments on the causes and consequences of the financial crisis. However, cynics may argue that the world could have done with fewer ‘initiatives’ and greater clarity about the direction of reform in the past few years.

As far as banking regulation is concerned, we focus on the two main bodies that have emerged from the crisis to lead the debate: the Basel Committee and the Financial Stability Board (FSB), which emerged in 2009 as a new global leader in the debate on measures to improve international financial stability.

¹ Jan Putnis is a partner and Tolek Petch is a senior associate at Slaughter and May.

II BASEL COMMITTEE

i Introduction

The Basel Committee is the primary global standard-setter for the prudential regulation of banks and provides a forum for international cooperation on banking supervisory matters. It is principally concerned with the prudential regulation of banks rather than the regulation of their business activities as such. It must, however, be recognised that there are many overlaps between these two areas of regulation, with capital requirements creating incentives for banks to engage in certain activities but not in others.

The Basel Committee comprises senior officials with bank regulatory and financial supervisory responsibilities from central banks and banking regulators in 28 jurisdictions.² The current chair is Stefan Ingves, who is also chair of Sveriges Riksbank (the Swedish central bank). The Committee now reports to an oversight body, the Group of Central Bank Governors and Heads of Supervision (GHOS), which comprises central bank governors and (non-central bank) heads of supervision from member countries. The chair of the GHOS is Mario Draghi, president of the European Central Bank (ECB). The Basel Committee reports to the GHOS and seeks its endorsement for major decisions. In addition, the Committee looks to the GHOS to approve the Basel Committee on Banking Supervision Charter (BCBS Charter) and any amendments, to provide general direction for the Basel Committee work programme, and to appoint the Committee chairman from among its members.

The stated mandate of the Basel Committee is to strengthen the regulation, supervision and practices of banks worldwide with the purpose of enhancing financial stability.³ Its main focus has traditionally been on internationally active banks, although the Committee's standards have been applied more widely, particularly in the European Union.

The Basel Committee formulates standards and guidelines and recommends statements of best practice. The rules and guidance adopted by the Basel Committee have no legal force⁴ and their authority derives from the commitment of banking supervisors in member countries (and, increasingly, non-member countries) to implement the requirements agreed by the Committee. The Basel Committee has adopted standards on a wide range of issues relevant to banking supervision, including banks' foreign branches, core principles for banking supervision (revised in September 2012), core principles for effective deposit insurance, internal controls, supervision of cross-border electronic banking and risk management guidelines for derivatives.

However, in recent years, the Basel Committee has devoted most of its attention to regulatory capital, principles for effective banking supervision and cross-border banking

2 Argentina, Australia, Belgium, Brazil, Canada, China, the European Union, 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. (In addition to member organisations, a number of institutions currently hold observer status. These include (1) country observers: the Central Bank of Chile/Banking and Financial Institutions Supervisory Agency, the Central Bank of Malaysia and the Central Bank of the United Arab Emirates, and (2) the following supervisory groups and international agencies or bodies: Bank of International Settlements, Basel Consultative Group, European Banking Authority, European Commission and International Monetary Fund.)

3 Basel Committee on Banking Supervision Charter, Paragraph 1.

4 *Ibid.*, Paragraph 3.

supervision. It has also been active in the important areas of liquidity risk and developing frameworks for the recovery or orderly wind-down of internationally active banks that get into financial difficulties.

The Basel Committee's work is largely organised around groups, working groups and task forces. Groups report directly to the Committee and form part of its permanent internal structure. Working groups consist of experts who support the technical work of Committee groups. Task forces comprise technical experts from Committee members and are created to undertake specific tasks for a limited time; high-level task forces serve a similar purpose.

The Basel Committee's work is organised under five main groups:

- a* the Supervision and Implementation Group, which concentrates on the implementation of the Committee's guidance and standards and the advancement of improvements in banking supervision. The Supervision and Implementation Group is also responsible for the implementation of Basel III;
- b* the Policy Development Group, which is charged with identifying issues of importance to banking supervision as they emerge, and with developing policies for the Basel Committee that promote a sound banking system and high supervisory standards;
- c* the Macroprudential Supervision Group, which monitors and reports to the Committee on systemic risk and global developments that relate to macroprudential and systemically important banks' supervision policy;
- d* the Accounting Experts Group, which is concerned with international accounting and auditing standards and, in particular, with ensuring that those standards promote sound risk management at financial institutions, support market discipline through transparency, and reinforce the safety and soundness of the banking system; and
- e* the Basel Consultative Group, which provides an interface between the Basel Committee and non-member banking regulators.

ii The Basel framework

The Basel Committee on Banking Supervision has its origins in the financial market turmoil that followed the breakdown of the Bretton Woods system of managed exchange rates in 1973, which led to a number of banks across the globe incurring large foreign currency losses, with some forced to close as a result. In response to these and other disruptions in the international financial markets, the central bank governors of the G10 countries established a Committee on Banking Regulations and Supervisory Practices, later renamed the Basel Committee. At the outset, one important aim of the Committee's work was to close gaps in international supervisory coverage so that no foreign banking establishment would escape supervision, and supervision would be adequate and consistent across member jurisdictions. A number of principles and standards on sharing supervisory responsibility and exchanging information between the regulatory authorities followed, laying down the foundation for supervision of internationally active banks.

Once this initial framework was in place, capital adequacy became the main focus of the Committee's activities. In 1988, a capital measurement system (commonly referred to as the 'Basel Capital Accord' (Basel I)) was approved by the G10 governors and released to banks. Basel I comprised a set of international banking regulations setting out the minimum capital requirements aimed at minimising credit risk and creating a bank asset classification system. Over the next few years the framework evolved with several amendments and additions introduced to it, including the Market Risk Amendment, which took effect at the

end of 1997. One important aspect of the Market Risk Amendment was that banks were, for the first time, allowed to use internal models (value-at-risk models) as a basis for measuring their market risk capital requirements, subject to strict quantitative and qualitative standards.

In June 1999, the Basel Committee issued a proposal for a new capital adequacy framework to replace Basel I. This led to the release of the Revised Capital Framework in June 2004 (generally known as Basel II), which remained the prudential regulatory framework promulgated by the Basel Committee until the financial crisis of 2007 to 2009.

Basel II was based on three pillars that were intended to be interdependent and mutually reinforcing:

- a* Pillar 1 (minimum capital standards) set out the minimum capital requirements for banks;
- b* Pillar 2 (the supervisory review process) set out standards for banking supervisors in applying Basel II. In particular, it required that supervisors should have the power to compel banks to hold capital in excess of the 8 per cent minimum ratio under Basel II, where this was justified. Standards were also established for the control of interest rate risk in a bank's loan portfolio, and to capture other risks not specifically covered under Pillar 1 (e.g., certain risks arising out of securitisations); and
- c* Pillar 3 (market discipline) provided for extensive disclosure of information to the market. The intention was that pressure from a bank's counterparties, analysts and rating agencies would serve to reinforce the minimum capital standards and ensure that banks carried on their business prudently. As was seen in the 2007–2009 financial crisis, it is highly debatable whether this aim was achieved.

iii The structure of Basel II

Basel II provided a choice of approaches for determining capital requirements. For example, it set out three ways of calculating credit risk and up to four ways of determining the capital charge for operational risk. Generally, banks were free to choose between more complex methodologies with the potential for capital savings, and simpler approaches that generally led to a higher capital charge, but with lower operational and systems costs.

The focus of Basel II was on internationally active banks. However, the Basel Committee considered that the principles developed in Basel II, when taken with the reforms described later in this chapter, were suitable as an international benchmark.

Overall, Basel II was considerably more risk-sensitive than its predecessor, Basel I. It also marked a shift away from the approach in Basel I of allocating specific capital charges for particular exposures in favour of greater reliance on banks' internal models and methodologies and external credit ratings. It was the intention of the Basel Committee that most sophisticated banks would adopt internal models to determine their capital requirements once they had the operational capacity to do so. Given the perceived failures by credit rating agencies in the run-up to the financial crisis, more recently the focus on external ratings under the standardised approach has been challenged.

Basel II underwent a number of developments prior to the financial crisis. In July 2005, the Basel Committee published a document addressing the treatment of banks' trading books under Basel II, which it had prepared in conjunction with the International Organization of Securities Commissions (IOSCO). The Basel Committee integrated this document into Basel II, and published a revised consolidated text of Basel II in June 2006.

III FROM BASEL II TO BASEL III

i The limitations of Basel II

It is fair to say that critics of Basel II, who blamed aspects of the financial crisis on features of that regime, have not properly taken into account the fact that when the crisis arose, Basel II had not been implemented at all in a number of key jurisdictions, and had not long been implemented in others. The main requirements of Basel II came into force on 1 January 2007, with the most advanced methodologies only being implemented in January 2008. On the other hand, it is reasonable to conclude that, had Basel II been implemented in more countries for a longer period of time before the financial crisis, it is unlikely that the regime would have prevented many aspects of the crisis as they emerged. Hindsight is easy to employ, however, and there are many who argue that the crisis might not have been so severe had Basel II been implemented earlier.

In response to the crisis, the Basel Committee chose to build on Basel II rather than fundamentally change it. A consensus emerged that there were a number of deficiencies in the Basel II framework that needed to be addressed, including:

- a* insufficient capital in the banking system, often of inadequate quality;
- b* an excessive focus on capital at the expense of liquidity and leverage;
- c* a failure by firms and supervisors to see the overall picture;
- d* inadequate capital requirements in respect of banks' trading books; and
- e* deficiencies in respect of the treatment of securitisations.

ii The Basel Committee's July 2009 reform package

The first package of changes to Basel II following the financial crisis was adopted by the Basel Committee in July 2009, and included the following:

- a* increasing the capital charges for securitisation exposures, including introducing a new higher capital charge for resecuritisations (e.g., collateralised debt obligations and certain conduits) as well as increasing the capital charge for certain liquidity facilities. Banks that invest in securitisations are required to carry out due diligence on the underlying asset pool, and if they fail, or are unable to do so, they are required to deduct such positions from their capital;
- b* eliminating the regulatory arbitrage under which banks that choose to hold securitisation exposures in their trading book could avoid higher capital charges: instead, capital requirements for such exposures have been broadly aligned across the banking and trading books, based on the former's requirements;
- c* improvements to banks' models used to calculate capital charges for non-securitisation positions held in the trading book through a 'stressed' value at risk calculation, which takes into account a defined observation period relating to significant losses. The intention is to capture the risks of low-frequency, high-impact 'tail' events, as well as significant market movements over a sustained period; and
- d* the introduction of an incremental risk capital charge to address the effect of credit risk migration (i.e., ratings downgrades) on a bank's holdings of debt instruments in the trading book. This reflects the fact that trading book losses during the financial crisis did not principally result from defaults, but from credit migrations combined with the widening of credit spreads as a result of the loss of liquidity. In December 2017, the Basel Committee published enhancements to this treatment that will apply from 1 January 2022.

The Basel Committee's July 2009 reform package initially addressed the treatment of securitisation and trading book exposures. However, the Committee recognised the need for a comprehensive set of measures to strengthen the regulation, supervision and risk management of the banking sector. The result was a consultation paper entitled 'Strengthening the Resilience of the Banking Sector', published on 17 December 2009. This led to the adoption of a new, comprehensive reform package on design of the capital and liquidity requirements (Basel III) in 2010 (see below). Since then, the main focus of the Committee has been on finalising Basel III, which remains a work in progress.

iii Other work

The Basel Committee is also currently engaged in work in the following areas.

Systemically important financial institutions (SIFIs)

The Basel Committee is continuing to work with the FSB to implement an integrated approach to systemically important banks. On 28 September 2011, the Basel Committee finalised details of the additional capital buffer that will apply to global systemically important banks (G-SIBs). G-SIBs will be required to hold an additional buffer (above the Basel III requirements) of between 1 and 2.5 per cent of common equity, depending on the bank's systemic importance (the percentages being of risk-weighted assets (RWAs)). An initially empty 3.5 per cent bucket will be imposed on G-SIBs that become even more systemically important as a disincentive to such behaviour. Final rules for G-SIBs were published on 2 November 2011. In October 2012, the Basel Committee adopted a framework for domestic systemically important banks (D-SIBs), which builds on the rules adopted for G-SIBs. The framework is composed of 12 principles and gives states considerable national discretion to reflect the characteristics of their domestic financial system. D-SIBs will be required to meet higher capital requirements to reflect their degree of systemic importance. An updated assessment methodology for G-SIBs was published by the Basel Committee in July 2013. The latest FSB list of banks identified as G-SIBs using the Basel Committee's methodology was issued in November 2017 (the list will next be updated in November 2018). In March 2017, the Basel Committee consulted on a revised framework for G-SIBs. The proposed changes include removal of the cap on the substitutability category, expansion of consolidation to include insurance subsidiaries, introduction of a trading volume indicator, revisions to the disclosure requirements and transitional provisions.

Bail-in

Work continues internationally on the feasibility of developing debt write-down and conversion of debt to equity to enable a failing bank to continue (whether temporarily or permanently) as a going concern. The Basel Committee published its requirements for enhanced loss absorbency for additional Tier 1 and Tier 2 capital instruments on 13 January 2011. These requirements are summarised in Section IV.

IV BASEL III: CAPITAL REQUIREMENTS

On 12 September 2010, the Basel Committee announced its agreement on the new Basel III minimum capital requirements for banks, which significantly increased the amount of common equity that banks must hold. The detailed requirements were published

on 16 December 2010 and revised on 1 June 2011. Further guidance on the new capital definitions and the requirements for counterparty credit risk was published in the form of 'frequently asked questions' in September 2017.

Basel III reforms aim to strengthen the regulation, supervision and risk management of the banking sector, and are designed to target both microprudential regulation and macroprudential risks. More specifically, Basel III extends the framework in a number of ways, including introducing the following additional measures:

- a* a capital conservation buffer, an additional layer of common equity that, when breached, restricts distribution of capital to help protect the minimum common equity requirement (see subsection iv for further details);
- b* a countercyclical capital buffer, which places restrictions on participation by banks in system-wide credit booms with the aim of reducing their losses in credit busts (see subsection v for further details);
- c* a leverage ratio (a minimum amount of loss-absorbing capital relative to all of a bank's assets and off-balance sheet exposures regardless of risk weighting) (see subsection vi for further details);
- d* two liquidity requirements: a liquidity coverage ratio (LCR), a minimum liquidity ratio intended to provide enough cash to cover funding needs over a 30-day period of stress; and a net stable funding ratio (NSFR), a longer-term ratio intended to address maturity mismatches over the entire balance sheet (see Section V for further details); and
- e* additional proposals for systemically important banks, including requirements for supplementary capital, augmented contingent capital and strengthened arrangements for cross-border supervision and resolution.

i New definitions of capital

Much greater equity

Under Basel II, banks were required to hold common equity equal to 2 per cent of RWAs (although, in practice, most banks held more). Regulatory deductions were applied to total Tier 1, or total capital, so certain hybrid instruments and preference shares, as well as some subordinated debt, could be used to cover such deductions.

Under Basel III, the common equity component of capital (including reserves) increased to 4.5 per cent and the total Tier 1 ratio to 6 per cent. For banks structured as joint-stock companies, the equity requirement must be met solely with ordinary shares.

Non-core Tier 1 capital

Detailed requirements were adopted in respect of additional (i.e., non-core) Tier 1 capital, which has been effectively limited to 1.5 per cent of RWAs. These instruments must be perpetual, and may only be called after five years and with prior supervisory consent. Interest payments must be made out of distributable profits and, if the instrument is classified as a liability for accounting purposes, it must have principal loss absorption through either conversion to common equity or write-down of principal. The trigger level for write-down or conversion must be at least 5.125 per cent, although banks can choose to apply a higher trigger. The European Union also applies this requirement to equity-accounted instruments (e.g., most preference shares).

Other tiers of capital

Basel III abolished innovative Tier 1 and Tier 3 capital, and harmonised Tier 2 capital, based on lower Tier 2 capital under Basel II. Recognition of Tier 2 capital is effectively limited to 2 per cent of RWAs. Under Basel II, the limit was 4 per cent.

Under Basel III, all Tier 1 and Tier 2 capital instruments (other than common equity) must include a clause in their terms and conditions requiring the instrument to be written off on the occurrence of a trigger event (i.e., the bank ceases to be a going concern or receives an injection of public sector capital) if there is no statutory scheme under which such instruments can be required to absorb losses. The only compensation for such write-off that may be provided to investors is the issue of new ordinary shares (or the equivalent for mutuals).

The new requirements for common equity, as well as the other minimum ratios, are being phased in as shown in the following table.

	Common equity	Total Tier 1	Total Tier 1 and Tier 2	Total capital, including the capital conservation buffer (explained below)
Basel II requirement	2%	4%	8%	8%
From 1 January 2018	4.5%	6%	8%	9.875%
From 1 January 2019	4.5%	6%	8%	10.5%

Minority interests

Detailed rules set out the contribution that third-party minority interests in group companies can make towards consolidated capital. No recognition is given from 1 January 2018 for minority interests that do not satisfy the new requirements.

ii Grandfathering of existing capital instruments

The Basel III agreement includes a detailed approach to the grandfathering of existing instruments. It should be noted that the approach to grandfathering in the European Union under the Capital Requirements Regulation 575/2013/EU is different. Under Basel III:

- a* non-compliant capital instruments issued on or after 12 September 2010 are not grandfathered. It follows that any such instruments needed to satisfy the Basel III requirements for Tier 1 and Tier 2 capital if they were to be eligible from 1 January 2013. An exception to this rule is available for non-core Tier 1 and Tier 2 capital instruments that did not meet the requirement for write-down or conversion to common equity at the point of non-viability if issued before 1 January 2013. Non-compliant capital instruments are eligible for grandfathering;
- b* capital instruments that no longer qualify as non-common equity Tier 1 or Tier 2 capital under Basel III are being phased out over a 10-year period that started on 1 January 2013. The base is fixed at the nominal amount outstanding on 1 January 2013. The level of recognition was capped at 90 per cent on 1 January 2013, and is being reduced by 10 percentage points in each subsequent year. Recognition of capital instruments will be fully phased out by 1 January 2022; and
- c* recognition of instruments with an incentive to redeem (e.g., a step-up in their coupon if redemption does not take place on a certain date) will be phased out at their effective maturity date. This will catch most existing innovative Tier 1 issues as well as Tier 2 issues with a step-up.

iii Deductions from capital

Basel III provides for a harmonised set of deductions from capital, most of which are made from common equity. The list of deductions includes:

- a* goodwill and other intangibles;
- b* deferred tax assets that rely on future profitability to be realised;
- c* cash-flow hedge reserve relating to hedging of items not fair valued on the balance sheet;
- d* shortfall of provisions to expected losses;
- e* cumulative gains and losses owing to changes in a bank's own credit risk on fair-valued liabilities (including derivatives);
- f* defined benefit pension fund assets and liabilities;
- g* investments in own shares;
- h* reciprocal cross-holdings; and
- i* significant investments in the capital of banking, financial and insurance entities outside of the consolidated group.

These deductions will be made under a 'corresponding deduction' approach, so the deduction will be from the element of capital that it would have constituted had it been issued by the bank.

The new approach to deductions started on 1 January 2014 (i.e., one year after the implementation of the new requirements for common equity) and was phased in progressively, coming fully into effect on 1 January 2018.

iv Capital conservation buffer

A key element of Basel III is the requirement that banks hold a capital buffer on top of the minimum capital requirements. This buffer is not intended to form part of the minimum capital requirement. It follows that a bank that fails to hold sufficient common equity to satisfy the buffer (but meets the other minimum capital requirements) will not be subject to restrictions on its operations, and will not be at risk of resolution or the withdrawal of its banking licence. However, banks that operate within the buffer will be subject to restrictions on the distribution of capital, including the payment of dividends and staff bonus payments, with the result that the buffer is likely to be treated by banks as an effective floor. According to the Basel Committee:

- a* the purpose of the conservation buffer is to ensure that banks maintain a buffer of capital that can be used to absorb losses during periods of financial and economic stress. While banks are allowed to draw on the buffer during periods of stress, the closer their regulatory capital ratios approach the minimum requirement, the greater the constraints on earnings distribution; and
- b* banks will, of course, be able to rebuild capital buffers through raising new capital. However, in the Committee's view, it is not acceptable for banks that have depleted their capital buffers to use future predictions of recovery as justification for maintaining generous distributions to shareholders, other capital providers and employees.

The restrictions on distributions, share buy-backs and staff bonus payments are as follows:

Common equity Tier 1	Minimum capital conservation ratio (expressed as a percentage of earnings)
Between 4.5% and 5.125%	100%
Between 5.125% and 5.75%	80%
Between 5.75% and 6.375%	60%
Between 6.375% and 7%	40%
More than 7%	0%

The requirements apply on a consolidated basis, although supervisors will be able to apply the regime at a solo level to conserve capital in specific parts of the group. The new capital buffer requirements came into force on 1 January 2016 (i.e., after the new common equity and Tier 1 capital requirements were required to have been fully implemented), but once again a transitional period will apply:

Date	Amount of buffer
From 1 January 2018	1.875%
From 1 January 2019	2.5%

The Basel Committee has stated that national authorities should have the discretion to impose a shorter transition period, and ‘should do so where appropriate’. Banks that meet the minimum capital ratio during the transition period but whose common equity is less than 7 per cent ‘should maintain prudent earnings retention policies with a view to meeting the conservation buffer as soon as reasonably possible’.

v Countercyclical capital buffer

The countercyclical capital buffer is intended to ensure that capital requirements take account of the macroprudential environment in which banks operate. It will be applied when excess credit growth is associated with a build-up of system-wide risk. It is based on the following elements:

- a* each regulator will decide, based on credit conditions in its country, when to activate the buffer. Once activated, the buffer will take the form of an add-on to minimum capital requirements. At all other times the buffer will be zero;
- b* a decision to impose a buffer will be announced up to 12 months before it takes effect to give banks time to adjust (if necessary, by increasing capital or reducing lending). Reductions to the buffer will take effect immediately when announced;
- c* banks with purely domestic exposure will be subject to the full amount of the buffer; and
- d* banks that are internationally active will apply an add-on depending on the geographical location of their credit exposures.

The Basel Committee has stated that setting this buffer is likely to be appropriate where the ratio of credit to gross domestic product (GDP) exceeds its long-term trend. However, as this measure is not always a clear indicator of excessive credit growth, judgement will need to be applied.

The range of the buffer will generally be between zero and 2.5 per cent, and will be added to the capital conservation buffer. Unlike the capital conservation buffer, this additional

buffer may be satisfied by ‘common equity or other fully loss-absorbing capital’, although until the Basel Committee has issued further guidance on the requirements for such loss-absorbing capital, the buffer will need to be met with common equity. According to the Committee, countries that experience excessive credit growth should consider accelerating the build-up of the capital conservation buffer and the countercyclical capital buffer.

In December 2010, the Basel Committee published guidance for national authorities operating the countercyclical capital buffer, and in October 2015, the Committee published further guidance on the countercyclical capital buffer in the form of ‘frequently asked questions’.

vi Leverage ratio

The years leading up to the 2007–2009 financial crisis were characterised by a significant increase in the leverage of financial institutions, enhancing the (apparent) profitability of the financial sector, but also resulting in a greater probability of individual firms failing as well as increased systemic risk generally. Basel III’s leverage ratio is defined as the ‘capital measure’ (the numerator) divided by the ‘exposure measure’ (the denominator), and is expressed as a percentage. The capital measure is currently defined as Tier 1 capital, and the minimum leverage ratio is 3 per cent. Accounting values will generally be applied. More detailed requirements for the leverage ratio, including its disclosure from 1 January 2015, were published by the Committee in January 2014. In July 2015, the Committee published guidance on the leverage ratio in the form of ‘frequently asked questions’, and in April 2016 the Committee consulted on certain technical revisions to the leverage ratio.

Supervisors measured the leverage ratio between 1 January 2013 and 1 January 2017. Banks were required to disclose their leverage ratio from 1 January 2015. In December 2017, the Committee published various refinements to the definition of the leverage ratio exposure method. These include modifying the way in which derivatives are reflected in the exposure measure and updating the treatment of off-balance sheet exposures. The new definitions come into force on 1 January 2022.

In December 2017, the Basel Committee also published a revised leverage ratio framework for global systemically important banks, which will come into force in January 2022.

vii Counterparty credit risk

Basel III brought about a number of improvements to the treatment of counterparty credit risk with effect from 1 January 2013. The changes included the following:

- a* banks that use an internal model to calculate their counterparty credit risk on over-the-counter (OTC) derivatives, repurchase agreements and securities financing transactions are required to use stressed inputs to address the risk of the model underestimating low-frequency, high-impact events;
- b* a new capital charge was introduced to cover mark-to-market losses associated with a deterioration in the creditworthiness of counterparties;
- c* requirements have been imposed to address ‘wrong-way’ risk (i.e., where an exposure to a counterparty is adversely correlated to the credit quality of that counterparty);
- d* risk weights on exposures to large financial institutions are subject to a multiplier to reflect the fact that during the financial crisis, the credit quality of financial institutions deteriorated in a more highly correlated manner than that of non-financial counterparties;

- e* standards for collateral management and margining have been strengthened. Banks with large and illiquid derivatives exposures have to apply a longer margining period when determining their capital requirements;
- f* greater haircuts apply to securitisation collateral, with a prohibition on recognition of resecuritisation exposures as collateral to reduce counterparty exposures; and
- g* harmonised capital charges for exposures to central counterparties (CCPs) have been introduced.

viii Revised standardised approach (January 2022)

In December 2014, the Basel Committee published a consultation document on revisions to the standardised approach to credit risk. In December 2015, the Committee published a second consultation document, with the aim of addressing the issues raised by respondents with respect to the initial proposal. The new standardised approach was published in December 2017 and is due to be implemented by 1 January 2022. Securitisation exposures are addressed in the Basel securitisation standard. The key aspects of the proposals are:

- a* Exposures to sovereigns and public sector entities (PSEs) are unchanged from Basel II.
- b* Exposures to banks will be risk-weighted based on the following hierarchy: (1) external credit risk assessments and (2) the standardised credit risk assessment approach for unrated banks as well as jurisdictions that do not allow the use of external credit ratings. Under the latter approach, banks are allocated to three risk-weight buckets or grades ranging from 40 per cent to 150 per cent for the base risk weight. Compared with Basel II, some of the risk weights have been recalibrated. A stand-alone treatment for covered bonds has also been introduced.
- c* Exposures to corporates (including insurers) differentiate between general corporate exposures and specialised lending exposures. The former will be risk-weighted between 20 per cent and 150 per cent; unrated corporates will be risk-weighted at 100 per cent. Jurisdictions that do not allow the use of external ratings may allow a 65 per cent risk weight for exposures to 'investment grade' borrowers (as defined in the standard). Unrated SME exposures will generally receive a risk weight of 85 per cent. Specialised lending is now divided into three categories: (1) project finance, (2) object finance and (3) commodities finance. Issue-specific (not issuer-specific) ratings may be used where available and permitted. Otherwise, object and commodities finance will be risk-weighted at 100 per cent and project finance at 130 per cent during the pre-operational phase, and at 80 per cent or 100 per cent during the operational phase.
- d* A new risk class is introduced for subordinated debt, equity and other capital instruments not deducted from regulatory capital or risk weighted at 250 per cent under Basel III (i.e., threshold deductions). Speculative unlisted equity exposures will be risk weighted at 400 per cent and all other equity holdings at 250 per cent.
- e* A more granular treatment will apply to residential real estate, distinguishing between different types of portfolio.
- f* A new treatment for commercial real estate will be introduced based on the loan-to-value ratio and whether repayment is materially dependent on cash flows generated by the property.

ix Internal ratings-based approach (January 2022)

Basel II introduced two model-based approaches for the calculation of credit risk in the banking book: the foundation internal ratings based (IRB) approach and the advanced IRB approach. New requirements for the IRB approach were published in December 2017 and will come into effect on 1 January 2022 (at the same time as the revisions to the standardised approach). According to the Basel Committee, the 2007–2009 financial crisis highlighted a number of shortcomings in the use of internal models, including the excessive complexity of IRB approaches, the lack of comparability in banks' internally modelled capital requirements and the lack of robustness in modelling certain asset classes. The intention is to remove own-estimates of loss given default (LGD) and exposure at default (EAD) for those portfolios which the Committee considered were important sources of RWA variability.

As a result, the availability of the IRB approach will be significantly curtailed. In summary, the position under Basel III will be as follows:

- a* large and mid-sized corporates (consolidated revenues of less than €500 million): only the foundation IRB approach will be available;
- b* banks and other financial institutions: only the foundation IRB approach will be available;
- c* equities: no IRB approach will be available; and
- d* specialised lending: the same approaches will be available as under Basel II.

The advanced IRB approach remains available for sovereign, small corporate, specialised lending and retail lending. Where available, Basel III will introduce revised floors, depending on the type of transaction (except for sovereigns). However, the Committee published a discussion paper in December 2017 on the regulatory treatment of sovereign exposures. This includes a proposal (among others) that the IRB approach for sovereign exposures be withdrawn.

x CVA Risk Framework (January 2022)

As noted above, the Basel Committee published in December 2017 revisions to the framework addressing mark-to-market losses as a result of the deterioration of the creditworthiness of counterparties (CVA risk). The main changes are as follows:

- a* enhancement of the risk sensitivity of the framework;
- b* removal of the internal models approach to CVA risk. Instead there will be a standardised approach and a basic approach; and
- c* improvement of consistency with new market risk charges (see below).

xi Revised market risk framework (January 2022)

In 2009, the Basel Committee introduced amendments to the Basel II market risk framework to address the weaknesses in the capital framework for trading activities that became apparent during the crisis: it was updated in December 2010. In addition, the Committee initiated a review of the trading book with the aim of tackling a number of structural flaws in the market risk framework that were not addressed by the amendments introduced in 2009. This work has led to the revised market risk framework. Following a number of consultation papers and several quantitative studies, the Basel Committee issued the final standards on minimum capital requirements for market risk on 14 January 2016. The new framework takes effect in 2022. In January 2017, the Basel Committee published its first set of frequently asked questions on market risk capital requirements.

In summary, the revisions focus on three key areas:

- a* A revised boundary between the banking book and trading book to reduce incentives for a bank to arbitrage its regulatory capital requirements between the two regulatory books, while continuing to respect banks' risk management practices. In particular, stricter limits and capital disincentives are applied to the transfer of instruments between the banking book and trading book.
- b* A revised internal models approach for market risk with more coherent and comprehensive risk capture. In addition, the new approach introduces a more rigorous model approval process.
- c* A revised standardised approach for market risk that facilitates more consistent and comparable reporting on market risks across banks and jurisdictions, and is suitable for banks with limited trading activity while also sufficiently risk sensitive to serve as a credible fall-back for, as well as a floor to, the internal models approach.

In June 2017, the Basel Committee published a consultation document on a simplified alternative to the market risk standardised approach. The proposed reduced sensitivities-based method represents a simplified version of the sensitivities-based method (SbM), which is the primary component of the new standardised approach. Significant simplifications relative to the SbM include (1) removal of capital requirements for vega and curvature risks, (2) simplification of the basis risk calculation, and (3) reduction in risk factor granularity and the correlation scenarios to be applied in the associated calculations. As proposed, for banks that adopt the reduced SbM, the standardised approach market risk capital requirement would be the sum of three components: (1) the risk charges under the reduced SbM (as proposed in the consultative document); (2) the default risk charge; and (3) the residual risk add-on, with the latter two to be calculated as specified in the January 2016 standard.

xii Operational risk (January 2022)

According to the Basel Committee, the 2007–2009 financial crisis demonstrated flaws with the Basel II operational risk framework: basically, capital requirements for operational risk proved insufficient to cover losses suffered by some banks while the nature of those losses, such as those caused by misconduct, highlighted the difficulties associated with using internal models to estimate capital requirements. All existing operational risk approaches in Basel II are being withdrawn. Instead, a new standardised approach based on two components is being introduced: (1) a measure of a bank's income; and (2) a measure of a bank's historical losses. Operational loss will be calculated from 2022 as the multiplier of the business indicator component and an internal loss multiplier. The business indicator component is the sum of three components: the interest, leases and dividends component, the services component and the financial component. The internal loss multiplier (ILM) is a function of the business indicator component and the loss component, where the latter is equal to 15 times a bank's average historical losses over the preceding 10 years. It increases as the latter increases, although at a decreasing rate. At national discretion, the ILM may be set at 1, with the result that solely the business indicator component would drive the operational risk capital calculation.

xiii Interest rate risk in the banking book

Interest rate risk in the banking book is part of the Pillar 2 framework of Basel II and subject to 2004 guidance. In April 2016, the Committee decided to update the principles to reflect changes in market and supervisory practices that will remain within Pillar 2. The key updates to the principles are:

- a* greater guidance on expectations for a bank's management process, in particular the development of shock and stress scenarios, the key behavioural and modelling assumptions, and the internal validation process;
- b* updating disclosure requirements to promote greater consistency, transparency and comparability;
- c* updating the supervisory process; and
- d* Section IV of the standard sets out a standardised framework that supervisors could require banks to follow, or a bank could choose to adopt.

Banks were expected to implement the standard by 2018.

xiv Securitisation

The Basel Committee has undertaken a fundamental review of the securitisation framework, including an alternative treatment for 'simple, transparent and comparable' (STC) securitisations. The new framework will come into force in 2018. The changes reflect the following deficiencies in the Basel II securitisation framework:

- a* mechanistic reliance on external ratings;
- b* excessively low risk weights for high-rated securitisations;
- c* excessively high risk weightings for low-rated senior securitisation exposures;
- d* cliff effects; and
- e* insufficient risk sensitivity.

The new framework is based on a hierarchy that places the internal ratings-based approach at the top followed by the external ratings-based approach (where permitted in the jurisdiction) and then the securitisation standardised approach. A slightly modified (and more conservative) version of the standardised approach will be the only approach available for resecuritisation exposures. The STC framework increases the risk sensitivity of the securitisation framework but, owing to its potential to introduce significant operational burdens, jurisdictions retain the option not to implement it. The Basel STC criteria build on the July 2015 Basel and IOSCO criteria with certain enhancements.

In July 2017, the Committee published a consultation document on the capital treatment for STC securitisations. This sets out additional guidance and requirements for the purpose of applying a preferential regulatory capital treatment for banks acting as investors in or as sponsors of STC short-term securitisations, typically in asset-backed commercial paper (ABCP) structures. The additional guidance and requirements include that (1) investors have access to key monthly information on the performance and key characteristics of the ABCP structure; (2) the redemption risk of the underlying assets is addressed from the sponsor's perspective; and (3) the transactions funded by the conduit have an enforceable legal structure and that the relevant information is disclosed by the sponsor to investors.

xv Basel I floor ('output floor')

Basel II introduced a capital floor based on Basel I capital requirements of 80 per cent. Basel III will replace the Basel II floor with a new floor based on the use of standardised approaches to limit the benefit obtained by banks from the use of internal models. This will be introduced in stages from 1 January 2022 to 1 January 2027, rising from 50 per cent to 72.5 per cent.

V BASEL III: LIQUIDITY

The 2007–2009 financial crisis demonstrated the critical importance of liquidity. Before then, funding was easily available at relatively low cost. However, the rapid reversal of market sentiment demonstrated how quickly liquidity can evaporate, necessitating unprecedented central bank intervention to support the money markets and individual financial institutions. As a result, the Basel Committee has adopted two liquidity standards: the LCR and the NSFR. These liquidity requirements will be applied on a consolidated basis. Revisions to the LCR, incorporating amendments to the definition of high-quality liquid assets and net cash outflows, were adopted in January 2013. Details of the NSFR were published in 2014.

i LCR

The LCR is an essential component of the Basel III reforms. It seeks to ensure that banks have an adequate stock of unencumbered high-quality liquid assets that can be converted into cash to meet their liquidity needs over a 30-day period under a significant liquidity stress scenario. The 30-day period is based on the assumption that this will be sufficient for corrective action to be taken by the bank, or for the bank to be resolved in an orderly manner without exposing the taxpayer to losses.

Once fully implemented, the LCR standard will be as follows:

$$\frac{\text{Stock of high-quality liquid assets}}{\text{Total net cash outflows over a 30-day period}} \geq 100 \text{ per cent}$$

The LCR is being introduced in stages from 1 January 2015 (see below). It is based on two elements: a definition of high-quality liquid assets and a metric for calculating net cash outflows in a liquidity stress scenario.

ii High-quality liquid assets

The Basel Committee has identified two types of eligible assets: Level 1 and Level 2. Level 1 assets can be used to satisfy the LCR without limit, whereas Level 2 assets are capped at 40 per cent of the overall stock of assets held to satisfy the LCR. The calculation of the limit is adjusted to reflect the impact of secured funding transactions or collateral swaps.

Level 1 assets include cash, central bank reserves, claims on sovereigns and public sector entities assigned a zero per cent risk weight under the Basel II standardised approach, and claims on non-zero per cent risk-weighted sovereigns and public sector entities that are issued in the domestic currency of the relevant sovereign.

Following the January 2013 revision to the LCR, Level 2 assets are divided into Level 2A and Level 2B assets. Level 2A assets include claims on sovereigns and public sector entities risk-weighted at 20 per cent or below under Basel II, with corporate bonds and covered bonds

that are rated AA- or better and have a proven record as a reliable source of liquidity during stressed market conditions. Level 2 assets are subject to a minimum 15 per cent haircut on their current market value. Level 2B assets comprise lower-quality assets and are capped at 15 per cent of overall liquid assets. This subclass includes corporate bonds rated A+ to BBB-, certain equities and residential mortgage-backed securities rated AA or higher. Haircuts of 15 per cent or 50 per cent will apply to Level 2B assets. In addition, supervisors may choose to include within Level 2B assets the value of any committed liquidity facility provided by a central bank where this has not already been included in high-quality liquid assets.

iii Net cash outflows and inflows

Basel III sets out a metric with assumed outflows and inflows depending on the type of deposit or transaction, which was revised in January 2013. Some examples of outflows are set out in the following table:

Transaction type	Assumed cash outflow
Trade finance	0% or 5%
Fully insured retail deposits	3% or 5%
Less stable retail deposits	10%
Unsecured wholesale funding (small business)	5% or 10%
Unsecured wholesale funding within operational relationships	25%
Unsecured wholesale funding from non-financial corporates, sovereigns and public sector entities	20% or 40%
Unsecured wholesale funding from others	100%
Secured funding	0% to 100% depending on collateral
Derivatives	0% to 100% depending on collateral
Covered bonds and structured financing instruments	100%
Asset-backed commercial paper, conduits, structured investment vehicles (SIVs) and other financing facilities	100%
Committed credit and liquidity facilities	5% to 100% depending on borrower. The assumed outflow on committed liquidity facilities extended to corporates has been reduced from 100% to 30%

The Basel Committee has also specified parameters for expected cash inflows. Some examples are given in the following table:

Transaction type	Assumed cash inflow
Maturing reverse repos and similar transactions	0% to 100% depending on collateral
Lines of credit, liquidity facilities and similar arrangements	0%
Retail and small business receivables	50%
Receivables from non-financial wholesale counterparties	50%
Receivables from financial institutions	100%
Derivatives	100%

Of particular relevance to banks is the assumption that credit lines and other contingent funding arrangements provided by other financial institutions are assumed to be incapable of

being drawn. The intention is to reduce the contagion risk of liquidity shortages at one bank causing shortages at other banks. Inflows are capped at 75 per cent, requiring banks to hold liquid assets of at least 25 per cent of outflows.

As the LCR is being introduced in stages from 1 January 2015, banks will need to hold liquid assets at least equal to 60 per cent of the LCR from this date. This figure will then rise by 10 percentage points per year, reaching 100 per cent in 2019.

In January 2014, the Basel Committee published the final version of the disclosure requirements for the LCR. The Committee expected national authorities to give effect to the liquidity disclosure requirements relating to the LCR by no later than 1 January 2015. Banks were expected to comply with these requirements from the date of the first reporting period after 1 January 2015. In June 2017, the Committee published a second set of 'frequently asked questions' on the LCR.

iv NSFR

The Basel Committee was unable to finalise the detailed requirements for the NSFR in the text of Basel III. The objective of the NSFR is to establish a minimum amount of stable funding based on the liquidity characteristics of a bank's assets and activities over a one-year horizon. The aim is to ensure that longer-term assets are funded with at least a minimum amount of stable liabilities.

The requirement is as follows:

$$\frac{\text{Available amount of stable funding}}{\text{Required amount of stable funding}} \geq 100 \text{ per cent}$$

Stable funding is defined as the portion of those types and amounts of eligible equity and liability financing expected to be reliable sources of funds over a one-year period in conditions of extended stress. The required amount of this funding depends on a bank's assets, off-balance sheet liabilities and activities. The detailed definitions of stable funding were published in October 2014.

The amount of available stable funding is summarised in the table below.

Category of stable funding	Percentage recognised
Regulatory capital before the application of deductions	100%
Any capital instrument that has an effective residual maturity of one year or more	100%
Secured and unsecured borrowings and liabilities with effective residual maturities of one year or more	100%
Stable deposits provided by retail and small business customers	95%
Less stable deposits provided by retail and small business customers	90%
Funding with a residual maturity of less than one year provided by non-financial corporate customers	50%
Operational deposits	50%
Funding with a maturity of less than one year from sovereigns, public sector entities and multilateral and national development banks	50%
Other funding (secured and unsecured) not included in the above with residual maturity of not less than six months and less than one year	50%
All other categories including liabilities without a stated maturity	0%

The amount of stable funding required depends on the broad characteristics of the risk profile of a bank's assets and off-balance sheet liabilities. Some examples are as follows:

Asset	Required stable funding
Coins and banknotes	0%
Central bank reserves	0%
Unencumbered Level 1 assets	5%
Unencumbered loans to financial Institutions with residual maturities of less than six months where the loan is secured against Level 1 assets	10%
Unencumbered Level 2A assets	15%
All other unencumbered loans to financial institutions with a maturity of less than six months	15%
Unencumbered Level 2B assets	50%
High-quality liquid assets encumbered for a period of between six months and one year	50%
Loans to financial institutions and central banks with a residual maturity of between six months and less than one year	50%
Other assets not included in the above with a residual maturity of less than one year including loans to non-financial corporate clients, loans to retail customers, loans to sovereigns, central banks and public sector entities	50%
Unencumbered residential mortgages with a residual maturity of one year or more attracting a risk weight of 35% or less under Basel II	65%
Other unencumbered loans – excluding loans to financial institutions – with a residual maturity of one year or more and a risk weight of 35% or less	65%
Unencumbered performing loans – excluding loans to financial institutions – with risk weights greater than 35% and a residual maturity of one year or more	85%
Unencumbered securities that are not in default and do not qualify as Level 1 or Level 2 assets and exchange-traded equities	85%
Physical commodities and gold	85%
All other assets including assets encumbered for one year or more, net derivatives assets, non-performing loans and loans to financial institutions with a residual maturity of over one year	100%

Off-balance sheet liabilities will be subject to the NSFR, based broadly on whether the commitment is a credit or a liquidity facility, or some other contingent funding obligation, without assigning actual percentages other than for irrevocable and conditionally revocable credit and liquidity facilities. National supervisors will be able to specify the required stable funding based on national circumstances.

In June 2015, the Basel Committee published the final version of the disclosure requirements for the NSFR. The Committee expected national authorities to give effect to the liquidity disclosure requirements relating to the NSFR no later than 1 January 2018. Banks will be required to comply with these requirements from the date of the first reporting period after 1 January 2018. In February 2017, the Basel Committee published *Basel III – The Net Stable Funding Ratio: frequently asked questions*.

VI FINANCIAL STABILITY BOARD

i Introduction

The FSB is an international body that monitors and makes recommendations about the global financial system.

The FSB has its origins in the Financial Stability Forum (FSF), which was founded in 1999 by the finance ministers of the G7 countries.⁵ The foundation of the FSF arose from work carried out by the then Deutsche Bundesbank president, Hans Tietmeyer, on structures to enhance regulatory cooperation and cooperation between regulators and international financial institutions to promote international financial stability.

The FSF was re-established as the FSB at the G20 Summit held in London in April 2009, following calls in November 2008 by leaders of the G20 countries to enlarge the FSF's membership, and subsequent calls for the FSF to assume a more central role in developing structures and mechanisms to address international financial stability issues.⁶ The FSB emerged from the 2009 G20 Summit with a broader mandate to promote financial stability. On 28 January 2013, the FSB established itself as a not-for-profit association under Swiss law, with its seat in Basel, Switzerland.

The Charter and organisation of the FSB

The Charter of the FSB came into effect on 25 September 2009, but is not intended to create legal rights and obligations. It does, however, set out the FSB's objective, which is:

to coordinate at the international level the work of national financial authorities and international standard-setting bodies (SSBs) in order to develop and promote the implementation of effective regulatory, supervisory and other financial sector policies. In collaboration with the international financial institutions, the FSB will address vulnerabilities affecting financial systems in the interest of global financial stability.⁷

The mandate and tasks of the FSB are stated in the Charter to be to:

- a assess vulnerabilities affecting the global financial system, and identify and review on a timely and continuing basis, within a macroprudential perspective, the regulatory, supervisory and related actions needed to address them, and their outcomes;
- b promote coordination and information exchange among authorities responsible for financial stability;
- c monitor and advise on market developments and their implications for regulatory policy;

5 Canada, France, Germany, Italy, Japan, the United Kingdom and the United States.

6 The member jurisdictions of the FSB now comprise Argentina, Australia, Brazil, Canada, China, France, Germany, Hong Kong SAR, India, Indonesia, Italy, Japan, Korea, Mexico, the Netherlands, Russia, Saudi Arabia, Singapore, South Africa, Spain, Switzerland, Turkey, the United Kingdom, the United States and the European Union. Other members include international financial institutions (comprising the Bank for International Settlements, the International Monetary Fund, the Organisation for Economic Co-operation and Development (OECD) and the World Bank) and international standard-setting, regulatory, supervisory and central bank bodies (comprising the Basel Committee, the Committee on Payments and Market Infrastructures, the Committee on the Global Financial System, the International Accounting Standards Board, the International Association of Insurance Supervisors and the International Organization of Securities Commissions).

7 FSB Charter, Article 1. The Charter was amended and restated in June 2012.

- d* advise on and monitor best practice in meeting regulatory standards;
- e* undertake joint strategic reviews of, and coordinate the policy development work of, the standard-setting bodies (SSBs) to ensure their work is timely, coordinated, focused on priorities and addressing gaps;
- f* set guidelines for and support the establishment of supervisory colleges;
- g* support contingency planning for cross-border crisis management, particularly with respect to systemically important firms;
- h* collaborate with the International Monetary Fund to conduct ‘early warning exercises’;
- i* promote member jurisdictions’ implementation of agreed commitments, standards and policy recommendations through monitoring of implementation, peer review and disclosure; and
- j* undertake any other tasks agreed by its members in the course of its activities and within the framework of its Charter.⁸

The FSB has also taken on the task of coordinating the alignment of the activities of SSBs.⁹

The FSB comprises a Plenary Group, Steering Committee, standing committees, working groups, regional consultative groups, a chairperson and a Secretariat.¹⁰ The Plenary is the sole decision-making body of the FSB for all matters governed by its Charter, and comprises representatives of the members of the FSB,¹¹ chairs of the main SSBs and committees of central bank experts, and senior representatives of the International Monetary Fund (IMF), the World Bank, the Bank for International Settlements and the OECD. Decisions are taken by consensus.¹² The Plenary may establish standing committees and working groups as necessary.¹³

The Steering Committee of the FSB is mandated with providing ‘operational guidance’ for the FSB between meetings of the Plenary. The duties of the Steering Committee include monitoring the progress of the FSB’s work, distributing information to members of the FSB, and reviewing the policy development work of the SSBs for the Plenary to consider.¹⁴

The chair of the FSB is Mark Carney, currently Governor of the Bank of England.

Peer reviews

Peer reviews take place under a new FSB Framework for Strengthening Adherence to International Standards. Under this Framework, member countries of the FSB will disclose their level of adherence to international financial standards; they will undergo periodic, thematic and single-country peer reviews to evaluate their adherence to these standards; and the FSB will identify non-cooperative jurisdictions (especially those of systemic importance with weak adherence) and then assist them with adherence.

8 FSB Charter, Article 2(1).

9 FSB Charter, Article 2(2).

10 FSB Charter, Article 7.

11 The representatives are to be at the level of central bank governor or immediate deputy, head or immediate deputy head of the main supervisory or regulatory agency and deputy finance minister: FSB Charter, Article 10(1).

12 FSB Charter, Article 9(2).

13 FSB Charter, Article 9(3)(g).

14 FSB Charter, Article 12(3).

OTC derivatives and rating agencies

In October 2010, the FSB published a report on implementing OTC derivatives market reforms. The report includes 21 recommendations addressing practical issues in implementing the G20 leaders' commitments concerning standardisation, central counterparty (CCP) clearing, exchange or electronic platform trading, and reporting of OTC derivatives transactions. In particular:

- a* the report concluded that the proportion of the OTC derivatives market that is standardised should be substantially increased to promote CCP clearing and trading on organised platforms, to reduce systemic risk and improve market transparency;
- b* the report specifies factors that should be taken into account when determining whether a derivative product is standardised and suitable for CCP clearing;
- c* authorities may consider measures to limit or restrict trading in OTC derivatives that are suitable for clearing but not centrally cleared. Authorities should also ensure that access to CCPs is based on objective criteria, and that a safe and sound environment exists for indirect access. Supervisors should apply prudential requirements that appropriately reflect the risks of non-centrally cleared OTC derivatives;
- d* work should be undertaken to identify those actions needed to ensure that all standardised OTC derivative products are traded on exchanges or electronic trading platforms, where appropriate; and
- e* national authorities need to have a global view of the OTC derivatives markets through full and timely access to relevant data.

In Europe, these recommendations have been addressed through the new regulatory regime for OTC derivatives and CCPs contained in Regulation (EU) No. 648/2012 of the European Parliament and of the Council of 4 July 2012 on OTC derivatives, central counterparties and trade repositories (Chapter 20, Section VIII).

On 27 October 2010, the FSB published principles for reducing reliance on credit rating agency ratings. Excessive reliance on ratings as a substitute for independent credit analysis was a feature of the run-up to the financial crisis. The recommendations included the following:

- a* standard setters and authorities should assess references to credit rating agency ratings in standards, laws and regulations and, wherever possible, remove them or replace them with suitable alternative standards of creditworthiness;
- b* banks, market participants and institutional investors should make their own credit assessments, and not rely solely or mechanistically on ratings;
- c* central banks should reach their own credit judgements on the financial instruments that they will accept in open market operations, both as collateral and as outright purchases; and
- d* banks must not rely mechanistically on ratings for assessing the creditworthiness of assets. Larger, more sophisticated banks should be expected to assess the credit risk of all assets that they hold (either outright or as collateral).

These principles are echoed in the Basel Committee's consultation papers on the revisions to the standardised approach (see above).

Dealing with SIFIs

On 2 November 2010, the FSB published a report containing recommendations for enhanced supervision of SIFIs. The FSB considered that the level of supervision applied by national

authorities to SIFIs must be commensurate with the potential destabilisation risk that such firms pose to their domestic financial system, as well as the broader international financial system. The report made a series of recommendations covering the mandates of supervisors, independence, adequate resources, supervisory powers, techniques of supervision, group-wide and consolidated supervision, macroprudential surveillance and the use of third parties.

On 12 November 2010, the FSB followed up with a report on reducing the moral hazard posed by SIFIs. Its recommendations included the following:

- a* All FSB member jurisdictions should put in place a policy framework to reduce the risks and externalities associated with domestic and global SIFIs (G-SIFIs) in their jurisdiction.
- b* G-SIFIs should have a loss-absorption capacity beyond the Basel III standards. They should have a higher share of their balance sheets funded by capital or by other instruments that increase the resilience of the institution as a going concern. Depending on national circumstances, this could be drawn from a menu of alternatives, and achieved by a combination of a capital surcharge, a quantitative requirement for contingent capital instruments, and a share of debt instruments or other liabilities represented by 'bail-inable' claims. In some circumstances, further measures, including liquidity surcharges, tighter large exposure restrictions, levies and structural measures could reduce the risks that a G-SIFI presents. The Basel Committee's proposals for additional capital to be held by G-SIBs have already been mentioned. In November 2011, the FSB published an initial list of G-SIFIs that are subject to requirements for additional loss absorbency. The list is reviewed and updated annually; the most recent update was issued in November 2017.
- c* All jurisdictions should undertake legal reforms necessary to ensure that they have in place a resolution regime that makes feasible the resolution of any financial institution without taxpayer exposure to losses. National authorities should consider restructuring mechanisms to allow recapitalisation as a going concern by way of contractual or statutory debt-equity conversion and write-down tools.
- d* Recovery and resolution plans that assess G-SIFIs' resolvability should be mandatory. Authorities must have powers to require a financial institution to make changes to its legal and operational structure to facilitate resolution. If a SIFI has multiple significant legal entities, it should:
 - maintain information on a legal-entity basis;
 - minimise any undue intragroup guarantees;
 - ensure that service agreements are appropriately documented and cannot be abrogated in resolution; and
 - ensure that significant global payment and settlement services are legally separable.

Resolution regimes

On 4 November 2011, the FSB published its 'Key Attributes of Effective Resolution Regimes for Financial Institutions', setting out the core elements necessary for an effective resolution regime. This followed an earlier consultation in July 2011. The key attributes include essential features that should be part of the resolution regimes of all jurisdictions, including scope, the resolution authority, set-off, segregation of client assets, safeguards, crisis management and institution-specific cross-border cooperation arrangements. The key attributes continue to provide the fundamental practical and intellectual basis for resolution regimes in all major

banking jurisdictions. The FSB concluded that an effective resolution regime (interacting with applicable arrangements for the protection of depositors, insurance policyholders and retail investors) should:

- a* ensure continuity of systemically important financial services, and payment, clearing and settlement functions;
- b* protect, where applicable, depositors, insurance policyholders and investors that are covered by insurance arrangements, and ensure the rapid return of segregated client assets;
- c* allocate losses to firms' owners (shareholders) and unsecured and uninsured creditors in a manner that respects the hierarchy of claims;
- d* not rely on public support and not create an expectation that such support will be available;
- e* avoid unnecessary destruction of value, and therefore seek to minimise the overall costs of resolution and, where consistent with the other objectives, losses for creditors;
- f* provide for speed and transparency and as much predictability as possible through legal and procedural clarity and advanced planning for orderly resolution;
- g* provide a legal mandate for cooperation, information exchange and coordination domestically and with foreign resolution authorities;
- h* ensure that non-viable firms can exit the market in an orderly manner; and
- i* be credible, and thereby enhance market discipline.

It was also determined that resolution powers should include stabilisation options (through the sale or transfer of shares to a purchaser or to a bridge bank, recapitalisation, or both) as well as liquidation options.

In July 2013, the FSB published three reports on aspects of recovery and resolution planning for SIFIs to assist authorities and firms in meeting the requirements of the FSB's Key Attributes of Effective Resolution Regimes.

The first of these set out guidance on developing effective resolution strategies; that resolution plans should help achieve an orderly resolution and facilitate the effective use of resolution powers. Common considerations included:

- a* the sufficiency of loss-absorbing capital;
- b* the position of that capital in the creditor hierarchy and the operational structure, legal structure, enforceability and implementation of 'bail-in';
- c* the treatment of financial contracts in resolution;
- d* funding arrangements; and
- e* cross-border cooperation and coordination in the proximity of failure.

The report considered as alternatives a 'single point of entry' and 'multiple points of entry' in a banking group in a resolution scenario. In the former case, resolution powers would be applied at the top parent or holding company level, and would involve the write-down or mandatory conversion of unsecured debt into equity. Multiple point of entry resolution involves the application of resolution powers by two or more resolution authorities to different parts of the group, and is likely to result in the break-up of the group into two or more separate units. The choice of resolution strategy should take into account the structure and business model of the group concerned and the group's particular characteristics. According to the report, a single point of entry may represent the most effective option for a banking group that operates in a highly integrated manner, whereas a multiple point of entry strategy

may well be suitable for a group with a decentralised structure, with subgroups of relatively independently capitalised and separately funded subsidiaries. Neither strategy is, in reality, without significant legal and practical challenges, and it may be that, over time, the 'norm' for global banking groups (if there could be such a thing) will be a resolution strategy that is a hybrid of the single point of entry and multiple point of entry strategies.

The second FSB report set out guidance on recovery triggers and stress scenarios. The report referred to both quantitative and qualitative triggers. Quantitative triggers include ratings downgrades, credit risk limits, withdrawal of deposits or other funding, and the three-month interbank rate. Qualitative triggers could include requests from counterparties for early redemption of liabilities, difficulties in issuing debt at current rates, an unexpected loss of senior management or adverse court rulings. The report noted that G-SIFIs typically use two to four stress scenarios for recovery planning purposes. These may include both systemic and idiosyncratic stress scenarios. Examples of stress scenarios include losses through a rogue trader, a euro or dollar crisis, decreasing GDP rates, loss of goodwill, a significant withdrawal of deposits, an exodus of talent, a collapse of global financial markets and fraud. The report notes that some G-SIFIs also perform reverse stress testing (which involves identifying scenarios in which the group would fail).

The third FSB report provided guidance on the identification of critical functions and critical shared services that resolution regimes and strategies should seek to preserve. A critical function is one provided by a G-SIFI to third parties where the sudden failure to provide the function would be likely to have a material impact on third parties because of the systemic relevance of the function or of the G-SIFI in providing the function.

In October 2016, the FSB published 'Key Attributes Assessment Methodology for the Banking Sector'. The methodology is intended primarily for use in (1) assessments performed by authorities of existing resolution regimes and of any reforms, (2) peer reviews of resolution regimes, and (3) IMF and World Bank assessments of resolution regimes. The document sets out five preconditions for effective resolution regimes and 12 key attributes. The preconditions include:

- a* a well-established framework for financial stability, surveillance and policy formulation;
- b* an effective system of supervision, regulation and oversight of banks;
- c* effective protection schemes for depositors and clear rules on the treatment of client assets;
- d* a robust accounting, auditing and disclosure regime; and
- e* a well-developed legal framework and judicial system.

The key attributes set out essential criteria as well as explanatory notes.

In November 2017, the FSB consulted on proposed guidance to support resolution planning and promote resolvability. The first consultative document proposes a set of principles to assist authorities as they make G-SIB bail-in resolution strategies operational. The second sets out proposed guidance on the development of a plan for funding in resolution that builds on the FSB's August 2016 Guiding Principles on the temporary funding needed to support the orderly resolution of a G-SIB and existing supervisory and resolution guidance on liquidity risk management and resolution planning.

Shadow banking

The FSB published a report entitled 'Shadow Banking: Strengthening Oversight and Regulation' on 27 October 2011, addressing the risks posed to financial stability in the

pre-crisis period by non-banks that engaged in maturity transformation. The FSB defined shadow banking as credit intermediation involving entities and activities outside the regular banking system. National authorities should have appropriate system-wide oversight of the shadow banking system, backed up by adequate data-gathering powers and exchange of data within and between jurisdictions. The FSB proposed a three-step approach involving an assessment of the overall shadow banking system, the identification of systemic risk or cases of regulatory arbitrage followed by a detailed assessment of concerns identified. Particular attention should be paid to maturity transformation, liquidity transformation, credit risk transfer and leverage. The report also set out specific regulatory responses:

- a* consolidation rules should ensure that shadow banking entities that a bank sponsors are included within its regulatory balance sheet for the purposes of capital, liquidity and leverage;
- b* limits on the size and nature of a bank's exposures to shadow banking entities should be enhanced;
- c* risk-based requirements for banks' exposures to shadow banking entities should be reviewed to ensure all such risks are captured;
- d* banks' ability to stand behind non-consolidated entities should be restricted through stricter regulation of 'implicit support';
- e* the regulation of money market funds needed to be enhanced;
- f* further regulation should be considered in respect of other shadow banking entities where they pose systemic risk or provide opportunities for regulatory arbitrage (e.g., conduits, SIVs), finance companies, mortgage insurance companies and credit hedge funds); and
- g* regulation of repo agreements and securities lending should be considered.

In August 2013, the FSB set out an overview of policy recommendations for strengthening oversight and regulation of shadow banking.¹⁵ The FSB identified five areas in which oversight and regulation needed to be strengthened:

- a* mitigating risks in banks' interactions with shadow banking entities;
- b* reducing the susceptibility of money market funds to 'runs';
- c* improving transparency and aligning incentives in securitisation;
- d* dampening pro-cyclicality and other financial stability risks in securities financing transactions such as repos and securities lending; and
- e* assessing and mitigating financial stability risks posed by other shadow banking entities and activities.

The Overview was accompanied by two reports. IOSCO had previously published policy recommendations for money market funds and global developments in securitisation markets. The first report provided a policy framework for addressing shadow banking risks in securities lending and borrowing. The report made a number of recommendations, including the following:

- a* authorities should collect more granular data on securities lending and repo exposures among large international financial institutions;
- b* trade data and regular snapshots of outstanding balances for repo markets should be collected;

¹⁵ Available at www.fsb.org/wp-content/uploads/r_130829a.pdf.

- c* the total national and regional data for both repos and securities monthly lending should be aggregated;
- d* authorities should review reporting requirements for fund managers to end investors;
- e* authorities for non-bank entities that engage in securities lending should implement regulatory regimes meeting the minimum standards for cash collateral reinvestment in their jurisdiction;
- f* authorities should ensure that regulations governing re-hypothecation of assets meet minimum standards;
- g* authorities should adopt minimum regulatory standards for collateral valuation and management for all securities lending and repo market participants; and
- h* authorities should evaluate the costs and benefits of introducing CCPs in the inter-dealer repo market.

The report also set out a proposed regulatory framework for haircuts on non-centrally cleared securities financing transactions. This regulatory framework was revised in November 2015.

The second report set out a policy framework for strengthening oversight and regulation of shadow banking entities. The report included a set of ‘toolkits’ available to address risks presented by specific shadow banking entities. These are based on four overarching principles:

- a* authorities should define and keep up to date the regulatory perimeter (i.e., the activities that are regulated);
- b* authorities should collect information needed to address the extent of risks caused by shadow banking;
- c* authorities should enhance disclosure by other shadow banking entities; and
- d* authorities should assess non-bank financial entities based on their economic functions.

ii Total loss-absorbing capacity principles for G-SIBs

G-SIBs

In November 2014, the FSB published a consultation paper on the adequacy of loss-absorbing capacity of G-SIBs, expounding the concept of total loss-absorbency capacity (TLAC). The consultation paper consisted of two parts. The first proposed principles on loss absorption and recapitalisation capacity of G-SIBs in resolution. The second part contained a proposal for a term sheet for instruments that contribute to TLAC as an implementing measure of these principles in the form of an internationally agreed standard for G-SIBs.

On 9 November 2015, the FSB published the final TLAC principles and term sheet, which reflects changes made following the public consultation and the comprehensive impact assessment studies.

G-SIBs will be required to meet the TLAC requirement alongside the minimum regulatory requirements set out in the Basel III framework. Specifically, they will be required to meet a minimum TLAC requirement of at least 16 per cent of the resolution group’s RWAs (TLAC RWA minimum) from 1 January 2019 and at least 18 per cent from 1 January 2022. Minimum TLAC must also be at least 6 per cent of the Basel III leverage ratio denominator (TLAC leverage ratio exposure (LRE) minimum) from 1 January 2019, and at least 6.75 per cent from 1 January 2022.

G-SIBs headquartered in emerging market economies will be required to meet the 16 per cent RWA and 6 per cent LRE minimum TLAC requirement not later than 1 January 2025,

and the 18 per cent RWA and 6.75 per cent LRE minimum TLAC requirement not later than 1 January 2028. This period will be accelerated if, within five years of 2015, corporate debt markets in these economies reach 55 per cent of the emerging market economy's GDP.

The FSB will monitor implementation of the TLAC standard and will undertake a review of the technical implementation by the end of 2019.

In December 2016, the FSB consulted on the Guiding Principles on the Internal TLAC Capacity of G-SIBs (internal TLAC). Internal TLAC is the loss-absorbing capacity that resolution entities have committed to material subgroups. It provides a mechanism by which losses and recapitalisation needs of material subgroups may be passed with legal certainty to the resolution entity of a G-SIB resolution group without the entry into resolution of the subsidiaries within the material subgroup. A material subgroup is either an individual subsidiary or group of subsidiaries that are not resolution entities, and that meet certain quantitative criteria or are identified by a firm's crisis management group as material to the exercise of the firm's critical functions. Each material subgroup must maintain internal TLAC of between 75 and 90 per cent of the external minimum TLAC requirement that would apply if the subgroup were a resolution group. The guiding principles cover:

- a* the process of identifying material subgroups and their composition;
- b* the role of home and host authorities, and the factors to be considered when determining the size of the internal TLAC requirement;
- c* practical considerations relating to the issuance and composition of internal TLAC;
- d* features of the trigger mechanism for internal TLAC; and
- e* cooperation and coordination between home and host authorities in triggering internal TLAC.

The Basel Committee published a standard for the prudential treatment of banks' investments in TLAC in October 2016. Basically, G-SIBs and non-G-SIBs will be required to deduct non-regulatory capital TLAC holdings from Tier 2 capital. However, a materiality threshold will apply of 10 per cent of the common shares and TLAC holdings of the issuer. Amounts above 10 per cent will be deducted and lower amounts risk-weighted. For G-SIBs, there is a 5 per cent threshold for the investing bank's common equity for TLAC holdings held in the trading book and sold within 30 business days.

In December 2016, the FSB published a consultation document on guidance on continuity of access to financial market infrastructure for a firm in resolution.

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ISBN 978-1-912228-30-0