Inside

Insights from Deloitte

Companies are confronted with a changing environment and need to respond to challenges...

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Companies are confronted with a changing environment and need to respond to challenges...

Editorial

Dear Readers,

Welcome to the third international edition of Inside, a publication dedicated to governing bodies and internal control functions. Our objective is to explore the great challenges professionals involved in governance, risk, regulatory compliance, and internal audit will need to overcome for the interest of their organization.

Over the past years, our world has experienced exponential advances in the control of our environment. Paradoxically, we have a growing feeling to be particularly vulnerable to unexpected events. We are indeed evolving in a very sophisticated and highly interconnected world where a tiny blip might lead to devastating consequences. The events of 2016 remind us that it is entirely improbable that the unthinkable never happens, particularly for an environment that is continuously in transformation at an ever faster pace. This prompts the need to constantly revisit the fundamental principles that outline our thinking to ensure we are still in line with the driving forces governing our world, giving us the opportunity and time to anticipate and prepare for unlikely high impact threats.

Within this changing world, we explore in this edition the main challenges the year ahead may bring:

- The need for organizations to refresh their strategies for how they respond to regulation and how they do business in a regulatory, economic and political environment that will be fundamentally more constraining
- The necessity for companies to reinvent their business and operating models that are currently under pressure given the state of the global economy as well as the threats and opportunities coming from the RegTech Universe
- The need for organizations to strike a balance between wise risk taking and financial performance

To be successful in this revolution, boards and control functions should be the craftsmen of this transformation by acting as a catalyst for positive change and value creation.

In an environment of continuing uncertainty and an elevated degree of business and regulatory risk, risk governance will continue to be a key driver in the development of your business strategies and models.

We hope you will find this publication insightful.

Sincerely,

Rick Porter
Partner
Deloitte US
Global Risk Advisory Leader
Financial Services
Deloitte Touche Tohmatsu Limited

Laurent Berliner
Partner
Deloitte Luxembourg
EMEA Risk Advisory Leader
Financial Services

Part 01

From a strategic and regulatory perspective

Navigating the year ahead

EMEA Financial markets regulatory outlook 2017

Kevin Nixon
Partner
Head of Centre for Regulatory Strategy
Asia Pacific
Deloitte Australia

Christopher Spoth
Managing Director
Head of Centre for Regulatory Strategy
Americas
Deloitte US

David Strachan
Partner
Head of Centre for Regulatory Strategy
EMEA
Deloitte UK

Why the problems of the last decade need solutions in 2017

Compared to international peers, European financial services firms have faced a more challenging set of circumstances than most. The largest European firms, particularly banks, have struggled to adjust to the new post-crisis political economy in Europe – characterised by slower growth, lower interest rates and more regulatory uncertainty than in some other jurisdictions. Nearly a decade on from the beginning of the crisis, firms are still grappling with the task of demonstrating sustainable models for achieving both compliance and profitability. These challenges are exacerbated by Brexit and its resulting uncertainty.

There is growing recognition that the challenges faced by many European financial services firms are not cyclical, but are instead, deep, unresolved and structural in nature. Looking at the banking sector in late 2016, the International Monetary Fund (IMF) estimated that even in a cyclical upturn scenario, one third of Europe's banks, accounting for $8.5 trillion in assets, would remain weak and incapable of generating a return on equity above 7%.[1] This underlines a renewed impetus in 2017 for firms to develop comprehensive responses to the regulatory and economic headwinds they have faced in the decade since the crisis began.

How we see financial regulation in 2017

We have identified three major questions for management and boards in the year ahead:

Whether, or how far, the "regulatory pendulum" will swing – given the subdued economic outlook, especially in the EU, and the associated low interest rate environment challenging the profitability of many firms, will regulators be inclined, or encouraged, to ease the introduction of new rules or soften existing ones? Will this exacerbate international regulatory fragmentation?

How to develop sustainable business models – with economic and regulatory pressures undermining profitability, how can firms re-shape their business models and structures to be more competitive in this new environment while still managing to embed the right culture and practices in their organisations?

How new technology will change the financial sector – how can firms understand the widespread technology-driven change the industry is facing and appropriately harness its opportunities, while also guarding against the risks that will inevitably arise from it?

At the core of our outlook is the belief that to succeed in this challenging environment, firms must accelerate strategic choices aimed at improving the way they integrate regulatory and commercial thinking.

None of these questions have simple answers, but the trends that underlie them stand to shape the performance of the European financial sector in 2017 and beyond. Our 2017 outlook presents what we see as the 11 most pressing issues resulting from these trends. At the core of our outlook is the belief that to succeed in this challenging environment, firms must accelerate strategic choices aimed at improving the way they integrate regulatory and commercial thinking. This is crucial, not just for how firms approach their compliance activities, but also for how they design their future business models and strategies.

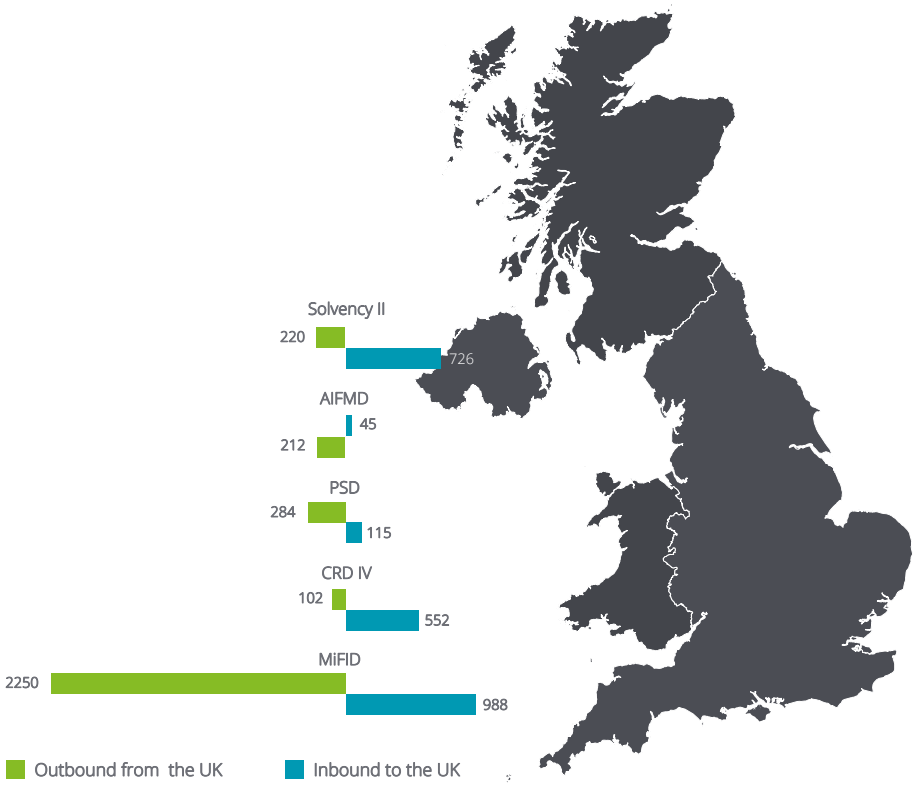
1. International Monetary Fund, Global financial stability report 2016

Brexit

Prolonged uncertainty is here to stay

For firms considering the strategic and regulatory implications of Brexit, the picture will remain unclear. The decision of the Supreme Court in the UK on whether the government has to involve Parliament in the decision to trigger Article 50 may complicate its intention to do so by the end of March 2017. Even if there is no delay, we expect that the forthcoming elections in France and Germany will mean that negotiations may need to be "reset" to reflect the views of elected leaders. Even at that point, however, uncertainty over the outcome of the talks is likely to persist until very near their conclusion. In the absence of meaningful clarity about the UK's future relationship with the rest of the EU in 2017, many firms will feel significant pressure to start implementing their contingency plans.

Number of firms with at least one market access passport under each EU Directive[2]



To understand the strategic and operational implications of a "hard Brexit", firms must consider a radical scenario in which no two-way market access is available at the end of the two-year negotiation period. This scenario can then be flexed for more favourable market access arrangements if and when they emerge. Contingency plans of other players in the financial ecosystem, and of the customer, also need to be taken into account.

While we do not expect UK regulators to make policy changes in response to Brexit, they will continue to have regular conversations with firms to understand their Brexit contingency plans and the possible resulting shape of the future financial services industry in the UK. Elsewhere in the EU, finance ministers and supervisors will have to determine their risk appetite to accept firms, products and activities onto their "national balance sheet", which, in turn, will be heavily influenced by the resolvability agenda. Some supervisors will need to expand and upskill their workforce to enable them to deal with new entrants. Lead times on authorisations, model approvals, senior management hires and leases of suitable premises in EU relocation destinations will be material considerations.

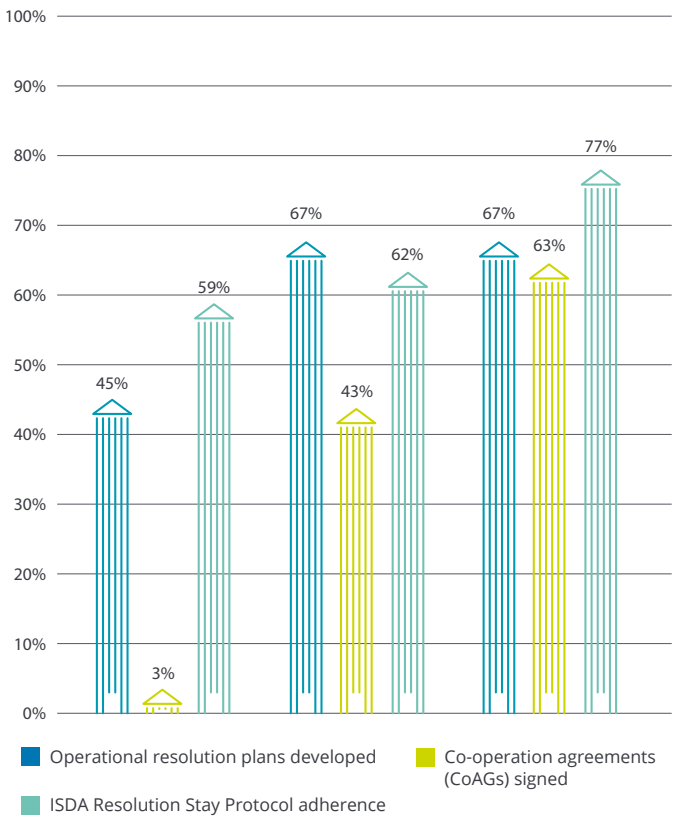
2. FCA, Letter from Andrew Bailey to Andrew Tyrie, August 2016

Resolvability

Europe test-drives bank resolvability

While the focus of new regulation has been on making institutions less likely to fail, failure will not always be avoided. Indeed, regulators are not trying to run a "zero failure" regime. Rather, the ambition is to build a framework in which firms can fail without an excessive destabilising effect on the wider system, through the process of resolution. The importance of efforts to make institutions resolvable is underlined by the continuing fragility of the banking sector in Europe; recent banking failures elsewhere in the world, such as in Kenya, also serve to highlight the relevance of resolvability beyond the EU and US.

Completion of the FSB's resolution planning objectives by G-SIBs[3]



Despite several years of work to build new resolution regimes, resolvability still has a long way left to run, and the real structural implications for firms have not yet played through. At least for banks, this should begin to change in 2017. In the Banking Union, the SRB will provide the largest banks with the findings of its first resolvability assessments, including statements of any "material impediments", which those banks will then need to address. Similar conversations will continue in the UK, where the BoE has been engaged with the largest banks bilaterally for some time now. But the US will remain further ahead, driven by its more challenging hurdle of Title I resolution. The US process will also remain more public than elsewhere. However, if economic circumstances in the Eurozone do not improve, the SRB may be the first to gain practical experience of resolving a bank, providing a major test of its operational capabilities.

Attention is turning to the practical side of resolvability: this goes beyond having a plan on paper. Banks will have to demonstrate that they are able to provide the relevant data in short periods of time, carry out the necessary valuation exercises, clearly articulate booking models and related processes, convene the right governance processes, and more.

3. FSB, Resilience through resolvability moving from policy design to implementation, 5th Report to the G20 on progress in resolution, August 2016

Financial resilience

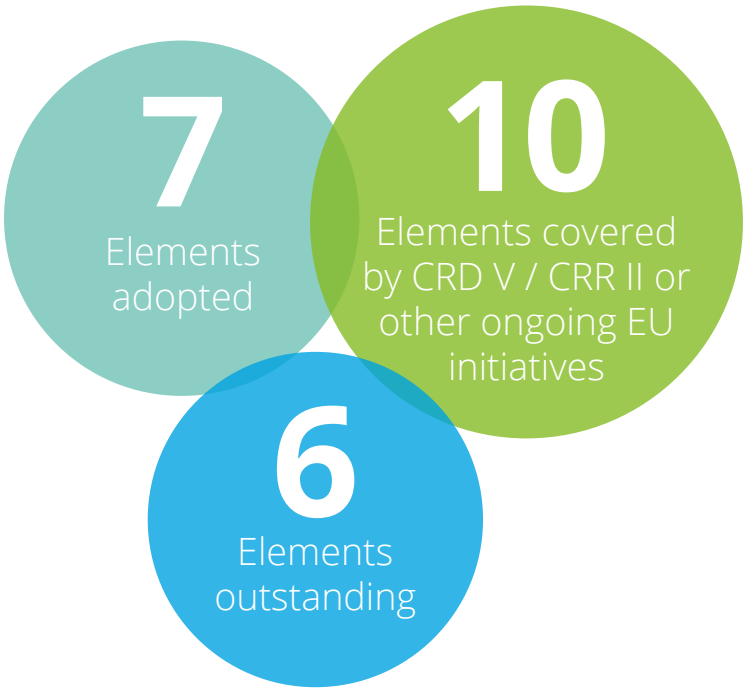
Significant implementation challenges ahead

Even though regulators are clear that overall bank capital requirements have reached their steady state levels, financial resilience remains a priority, and significant policy development at the EU and national levels is still due to occur in the coming years.

In 2017, we expect the BCBS to finish most of its work on the post-crisis capital agenda, with its standards on the revised approaches for credit, market and operational risks and capital floors likely finalised by early 2017. However, uncertainty will persist around implementation of the Basel standards in the EU. The European Commission's CRD V/CRR II proposal makes a meaningful step forward in terms of implementing measures such as the Net Stable Funding Ratio, TLAC, the BCBS's Fundamental Review of the Trading Book (FRTB) and a binding leverage ratio. The omission, however, of the BCBS's aforementioned work from this proposal will inevitably raise questions about the EU's approach to the final phase of the bank capital agenda. Ultimately, we expect that the EU will implement most BCBS standards, but it will likely do so more slowly than expected and with exceptions where EU economic priorities are at stake.

A further challenge for EU banks' resilience comes in the form of the legacy of Non-Performing Loans (NPLs). The European Central Bank (ECB) estimated that at the end of 2015, the 130 largest Euro area banks held around €1 trillion of impaired assets.[4] Following its consultation on NPLs, which closed in September 2016, the ECB will expect banks to apply its guidance in line with the scale and severity they face and put in place appropriate governance and operations structures to deliver effective NPL solutions.

Status of the EU's adoption of elements of the Basel III framework[5] As at December 2016



4. ECB, Financial Stability Review November 2016
5. BIS, Eleventh progress report on adoption of the Basel regulatory framework, October 2016, in addition to Deloitte analysis

Conduct and culture

Firms have yet to put misconduct truly behind them

Improving conduct in financial services firms remains a top priority for supervisors. The potential for the consequences of misconduct (in the form of fines, redress payments and erosion of franchise) to create systemic risks has been prominently highlighted, particularly by the FSB. Firms across jurisdictions must reinforce efforts to tackle poor culture, lack of accountability and misaligned incentive policies, or face further intervention.

Initiatives to improve conduct and culture have grown globally and greater convergence of approaches may occur. The 2017 workplans of the FSB and IOSCO will introduce measures to maintain the momentum in terms of establishing cultural change and better aligned incentive structures. EIOPA has signalled that a European supervisory culture that promotes consumer protection and enhances stability will be important in the coming years, and the EBA has revised guidelines on internal governance, placing more emphasis on conduct, culture and conflicts of interest.

In wholesale markets, the spotlight will remain on fixed income, currency and commodity markets, with the Global FX Code prepared under the auspices of the Bank for International Settlements (BIS) coming into effect. It remains to be seen whether products and markets other than FX will lend themselves quite so readily to global codes, given that most countries already have (often very different) statutory regimes for fixed income and some aspects of commodity markets. Nonetheless, the BoE has emphasised the importance of market participants creating industry standards and codes that go beyond the regulatory minimum and encourage behavioural and cultural change.

Assessed conduct risk losses for EU banks in the EBA's 2016 stress tests[6]

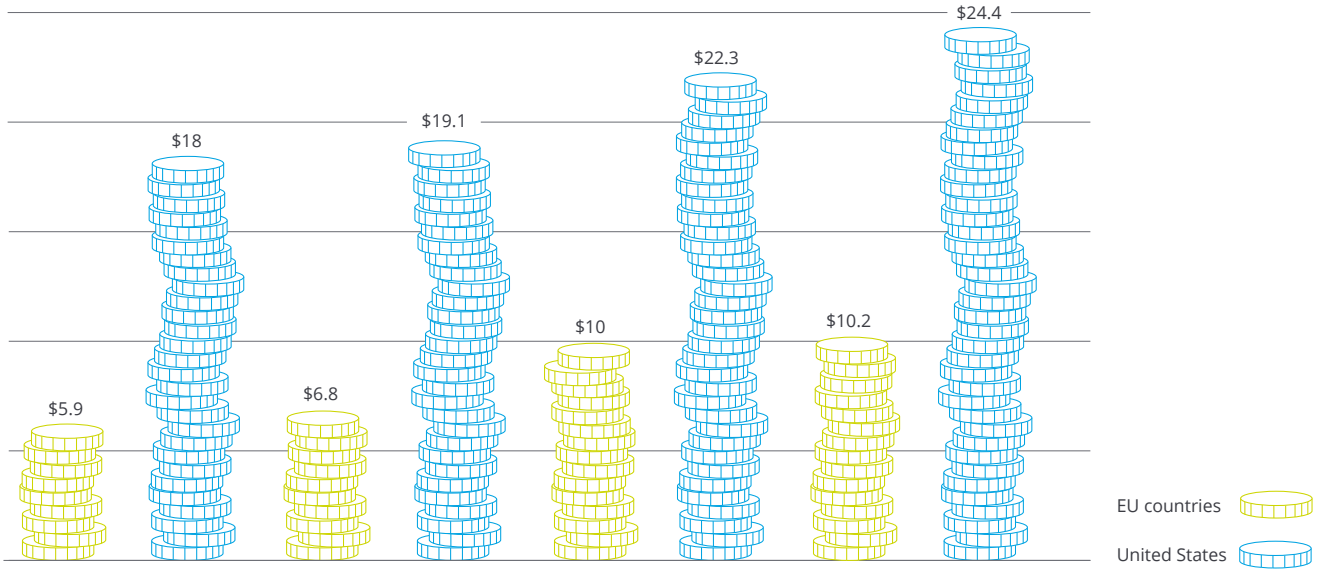
6. EBA, 2016 EU-wide stress test results, July 2016

Regulation of new technologies

The tricky business of keeping up with the times

Regulatory and political support for innovation and competition will remain very high, and regulators in continental Europe, which have so far taken a less active approach than the UK, will become much more engaged. French and German regulators recently established dedicated FinTech units, and Switzerland is considering a special licence and a tailored regulatory regime for providers of innovative financial technologies. Similar initiatives in other countries are likely to follow as they seek to stay in step with disruption.

Total projected value of FinTech investments (in USD $ billions)[7]



Regulators will adopt a proportional approach in their oversight of financial innovation, with a view to stepping up regulatory engagement as technologies approach, as the European Securities and Markets Authority (ESMA) said recently, a "tipping point", such as gaining the potential to pose systemic risk. This will not materialise in 2017, but the implications of a widespread adoption of new technologies will feature more prominently on the regulatory radar, and monitoring will intensify, both at micro and macro level. This means that the boards and senior management of large FinTech firms need to prepare for this increased scrutiny.

The FSB is closely monitoring FinTech's potential risks and benefits to financial stability, with a particular focus on Distributed Ledger Technologies (DLTs, including "blockchain"), peer-to-peer lending and Artificial Intelligence (AI). The European Commission will set out its initial views on the impact of FinTech on the financial services industry, as well as possible policy measures.

7. Market Research, Five banking innovations from five continents: USA, Europe, Asia, Africa, Australia, February 2015

Cyber and IT resilience

More specific and more demanding

Heightened interest in the ability of firms to cope with rising cyber risks and obsolete IT infrastructure set the scene for a more active supervisory approach to these issues in 2017. The $81 million theft from the Central Bank of Bangladesh using the SWIFT network last year, in particular, will spur supervisors to work more closely together to identify ways in which firms and the financial networks they rely on can become less susceptible to technological failures, cyber-crime and data breaches.

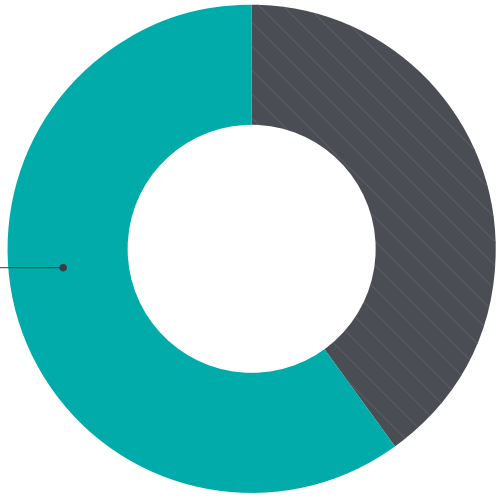
These efforts will lead to high-level statements from bodies such as the BIS and IOSCO, while more detailed expectations will begin to emerge from national supervisors who will look to integrate this work into their routine supervision of firms and to identify tangible signs of improvement.

Supervisors expect firms to demonstrate that they have put in place effective threat detection systems, robust plans (including communication plans) to respond to cyber breaches, third party provider risk, internal threats and technological failures and have designed a governance structure that creates appropriate degrees of responsibility and independence among senior management.

These plans can be put through organisation-wide tests and red-team exercises, potentially generating rich data to demonstrate the actual resilience of an institution to a hypothetical event. Some firms may choose to integrate this planning into their broader recovery and resolution war gaming.

Proportion of FS EMEA IT risk professionals surveyed that felt their exposure to IT risk had increased over the past 12 months[8]

Over 60%



8. Deloitte, EMEA Financial Services IT Risk Management Survey, 2016

Opening up markets

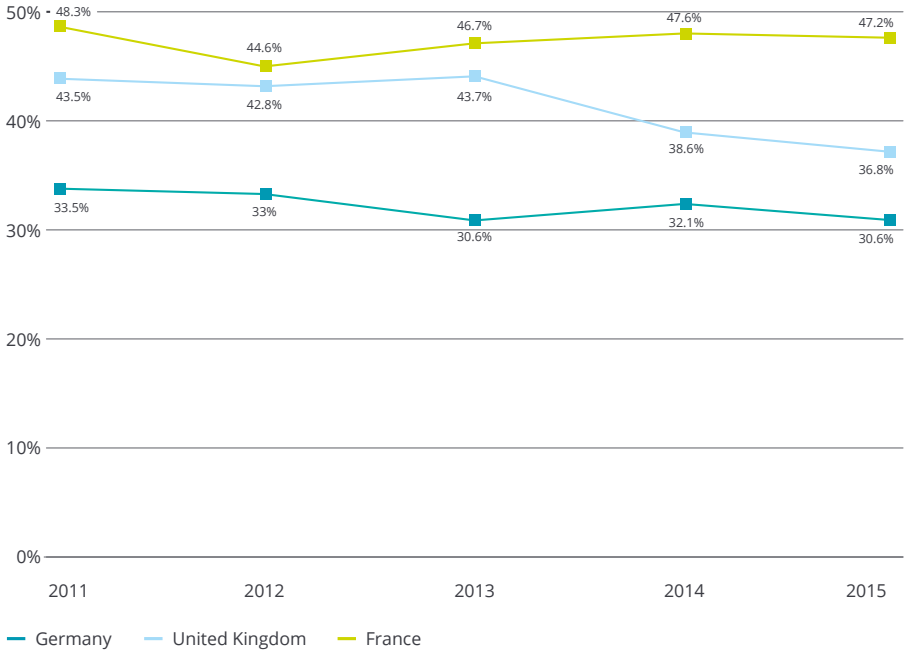
Vulnerable incumbents

In 2017 competition will remain high on the agenda of regulators in the EU and the UK. The most significant change will be for banks, which will be forced by PSD2 to share customer transaction data with third parties, following customer consent. This will allow non-bank providers such as payment "apps" to compete for the direct customer relationships, which could allow them to offer additional services, including lending to customers.

Transparency of disclosures on products and services, especially on costs and charges, is a key regulatory theme across the financial services industry. Firms providing investment products will need to prepare for MiFID II and the regulation on Packaged retail and Insurance-based Investment Products (PRIIPs) disclosures. The application date for the PRIIPs disclosure requirements (which also apply to insurers providing investment products) has been delayed by 12 months until 1 January 2018. In 2017, firms will need to put in place processes to collate the data required and ensure that information is exchanged between manufacturers and distributors.

Firms will also need to move beyond focusing on implementation and assess how their product and service costs and charges compare to competitors. With more costs and charges information going into the headline figures, investors will likely see an increase in headline costs and charges, even if there is no substantive change. This will put pressure on charges and lead distributors to scrutinise product value for money and continue to look for innovative ways to distribute cost-effectively.

Share of total assets of five largest credit institutions[9]



9. ECB, EU structural financial indicators annex, July 2016

EMEA Financial markets regulatory outlook 2017
Navigating the year ahead

Resolvability
Europe test-drives bank resolvability

In 2017, resolvability will become the driving force behind structural reform in the EU. The SRB will push Eurozone banks to demonstrate their practical preparedness for resolution as EU and international regulators step up their work on CCP resolution. Resolution regimes for insurers, however, will be less of a priority.

Financial resilience
Significant implementation challenges ahead

Following the BCBS's conclusion of most of its work on the risk framework early in 2017, the EU will deliberate how to adopt the new capital standards, while protecting the region's economic priorities. Banks will have to deal with uncertainty over the final shape of the rules as well as enhance balance sheet management capabilities for TLAC, MREL and IFRS 9 implementation.

Conduct and culture
Firms have yet to put misconduct truly behind them

The work of the FSB and IOSCO will introduce measures to tackle poor culture, lack of accountability and misaligned incentive policies. A key theme in 2017, however, will be on market participants creating industry standards that go beyond the regulatory minimum and encourage tangible behavioural and cultural change. In addition, conduct risk will increasingly be monitored by prudential regulators as part of ICAAP assessments and stress tests.

Regulation of new technologies
The tricky business of keeping up with the times

FinTech will continue to change the industry, along with Artificial Intelligence and data analytics. Innovative entrants will find more support from European and national regulators, who will also be vigilant about the risks they pose. While PSD2 presents many business opportunities, both FinTech firms and retail banks will find its implementation challenging, in part because of the lack of specificity in some of its provisions.

Cyber and IT resilience
More specific and more demanding

Spurred by a number of high-profile attacks on firms, supervisors will increase their focus on cyber resilience. Supervisory expectations will include more detailed planning for responses to scenarios such as cyber breaches and technological failures. Firms will increasingly use testing, war-gaming and red-team exercises to demonstrate the robustness of their resilience plans.

Opening up markets
Vulnerable incumbents

Increased competition and the higher degree of transparency and disclosure on products and pricing under MiFID II and PRIIPs will shift the ground for all firms providing investment products. In the UK, the introduction of pension freedoms will intensify competition between life insurers and investment managers in the retirement market. Banks will need to determine their strategic positioning following strengthened competition in the payments market.

Evolution of the trading landscape
Decision time for trading strategies

The introduction of new trading venues and the entry into force of the clearing and margining requirements will reshape how firms develop and execute their trading strategies. The authorisations and registrations for trading venues in preparation for the implementation of MiFID II will further play a crucial role. Firms will also choose to clear an increasing volume of OTC derivatives centrally.

Brexit

Prolonged uncertainty is here to stay

The picture for EU market access remains unclear for firms assessing the impact of Brexit on their business model and strategy. This is also the case for EU firms' access to the UK market. While supervisors in the UK and EU will be watching firms' preparations and actions closely, we do not expect regulatory changes while the UK remains a member of the EU. In the light of continuing uncertainty, firms may decide to start implementing their contingency plans during 2017.

Other drivers of macro-policy uncertainty:

- Low growth and subdued interest rates
- Political risk and policy volatility in developed markets
- Rising challenges to the free movement of capital and services across borders

Controls efficiency

The rise of RegTech

RegTech promises to enable firms to push down costs, rein in compliance risk and improve controls. However, the effective implementation of RegTech solutions will require up-front investment that may be hard to justify in the difficult commercial conditions that will prevail in 2017. For this reason we expect the adoption of RegTech to be gradual as firms seek to demonstrate how such investment will add value to the business.

Governance strategy

Too big to manage?

Boards and senior management teams will come under increasing pressure to show supervisors that they can effectively manage groups comprising a multitude of legal entities and activities spanning numerous countries. Questions related to organisational complexity will be raised, whether on the functioning of intra-group relationships or the ability of subsidiaries to operate independently of their parent company if the need arises. This, however, will be an opportunity for firms to reduce their complexity and, in so doing, become more manageable organisations.

Business model sustainability

Accelerating strategic change

In re-shaping their business models, firms hold the key to managing costs and restoring returns. As firms respond to the need to address new regulations and tackle increased macro-policy uncertainty, they will need to re-shape their financial resources to allow for strategic flexibility and efficiency. Supervisory and resolution authority discussions will add further pressure to integrate regulatory compliance, stress testing and resolution planning more comprehensively into business strategy and strategic planning.

Evolution of the trading landscape

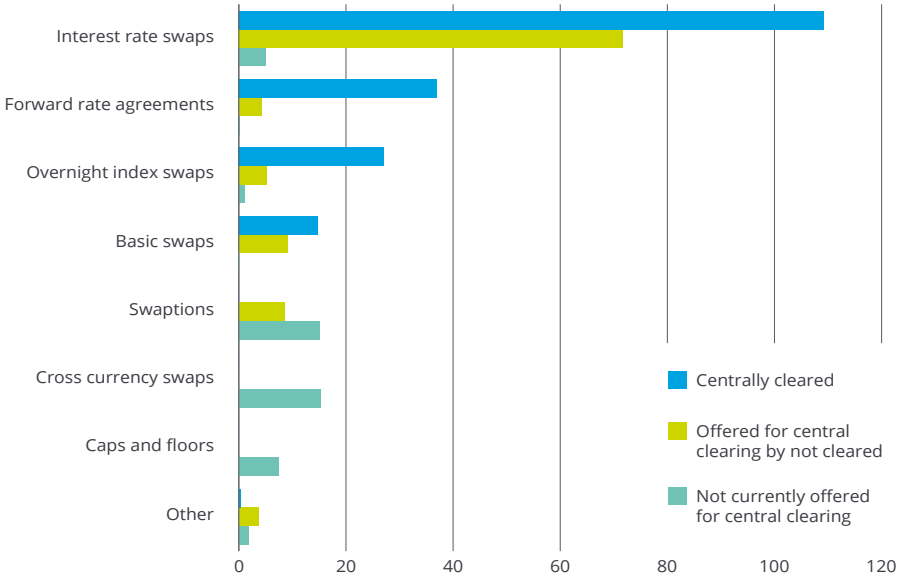
Decision time for trading strategies

The upcoming regulatory requirements around trading and post-trading activities in MiFID II, the European Market Infrastructure Regulation (EMIR) and the Central Securities Depositories Regulation (CSDR) will drive commercial considerations for market participants and prompt them to start revisiting their existing operations, systems and procedures to meet the new standards, and to adjust their business models to the new regulatory and market constraints.

From 2018, MiFID II will bring more OTC bilateral trading under the Systematic Internaliser (SI) regime and increase the number of Multilateral Trading Facilities (MTFs), particularly in bond markets. The trend of increased electronic trading will continue. Firms will also have the option of operating a new type of trading venue for non-equities, the Organised Trading Facility (OTF), which will most likely be taken up by brokers.

These changes come coupled with profitability concerns stemming from tougher capital requirements and market liquidity issues and will cause firms to make strategic decisions regarding their trading activities ahead of the MiFID II application date of January 2018. The decisions will include the choice of venues, the costs of reclassification and infrastructure investment to ensure connectivity. Firms authorising new venues or registering SIs will also need to meet organisational and transparency requirements before January 2018. Market participants will also need to start getting ready for the implementation of the derivative trading obligation, which is expected to come into effect as early as January 2018.

Central clearing of OTC derivatives by product type in USD $ trillions in 2016[10]



10. FSB, OTC Derivatives Market Reforms, Eleventh Progress Report on Implementation, August 2016

Controls efficiency

The rise of RegTech

The post-crisis increase in both regulatory requirements and supervisory scrutiny means financial services firms are spending ever increasing amounts of money and resources to manage their compliance risk. This cost, especially in the current low profitability environment, has now reached unjustifiable levels in the eyes of some investors.

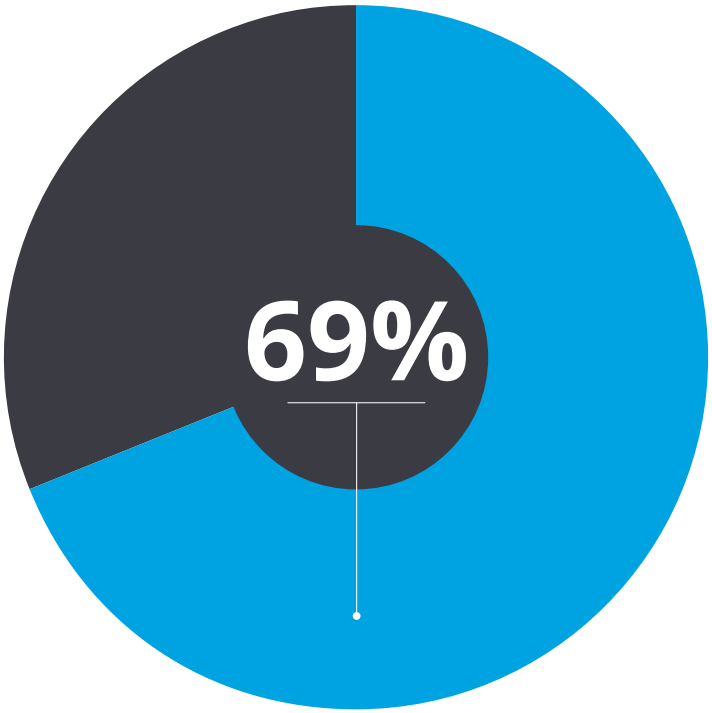
Some of the main cost drivers for compliance stem from inefficient IT systems, manual processes and reliance on post-event detective controls. Firms will continue to search for new technologically innovative solutions, including RegTech, to automate and modernize their compliance, risk management and internal controls frameworks, to enable them to manage risks proactively.

Regulators, who continue to focus on the effectiveness of systems and controls, are supportive of RegTech, with the FCA leading the way with its pledge to "act as a catalyst" to unlock the potential benefits of technology innovation. But in practice, it is for firms to take the lead.

We will see RegTech gain significant momentum in 2017, but its adoption will be gradual. Robotics Process Automation (RPA), Big Data and analytics, together with regulatory reporting solutions, are some of the RegTech offerings which will see the greatest degree of adoption in the shorter term. In the longer term, cognitive and AI solutions could revolutionise and automate much of firms' regulatory change management programmes.

RegTech solutions will not be a panacea, and their implementation will require an upfront investment which, in an environment of low shareholder returns, will be hard to justify.

Proportion of financial services respondents who expect an increase in their compliance budget over the next 12 months[11]



11. Thomson Reuters, Cost of Compliance 2016

Governance strategy

Too big to manage?

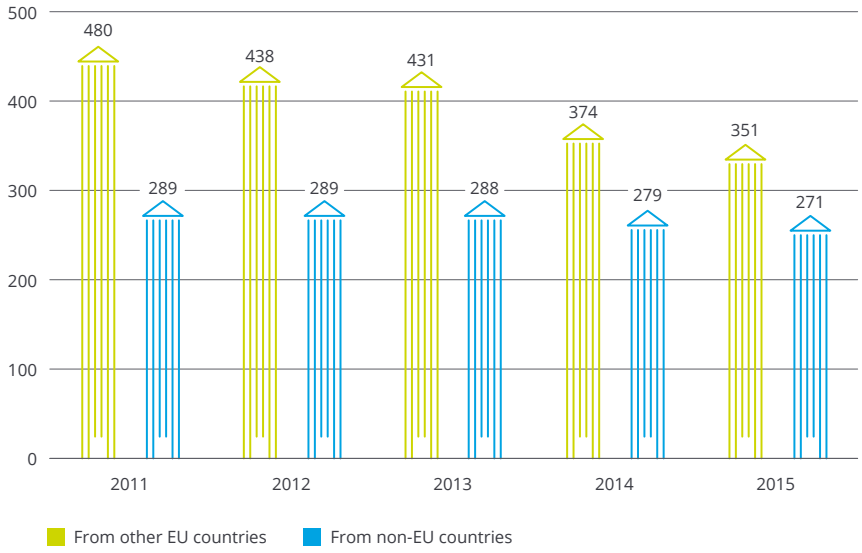
Organisational complexity within financial services firms has led many to struggle in an environment of increased regulatory and supervisory scrutiny. The breadth and complexity of some organisations are creating real impediments to compliance, and to a complete understanding of the business impacts of far-reaching regulatory change.

These impediments have been exposed by some firms' inability to identify potential sources of misconduct, or to track the location and value of capital, liquidity and collateral, or to determine how resolvable they are perceived to be by resolution authorities.

A more interventionist supervisory environment means that there are new ways for inadequate governance arrangements to be exposed in the normal course of business. Complex group structures are gradually being prised open by regulatory change: resolvability requires legal entity rationalisation; supervisory work on booking models is tracing complex networks of intragroup relationships; intermediate holding company (IHC) requirements for foreign banks in the US are shining light on previously opaque regional operations; and the UK's SM&CR and SIMR (which is in the process of being extended beyond banking and insurance) are providing supervisors with a "map" of clearly allocated management responsibilities.

In general, regulators expect more of senior management members in terms of their understanding of group structures, business models and operating models: "know your structure" is the watchword. And these expectations are not limited to executives – non-executives have their work cut out too, with the line between executive and non-executive roles on occasion being blurred by the growing need for non-executive directors (NEDs) to dive deep into the business.

Number of foreign subdiairies authorised in EU countries[12]



12. ECB, EU structural financial indicators annex, July 2016

Business model sustainability

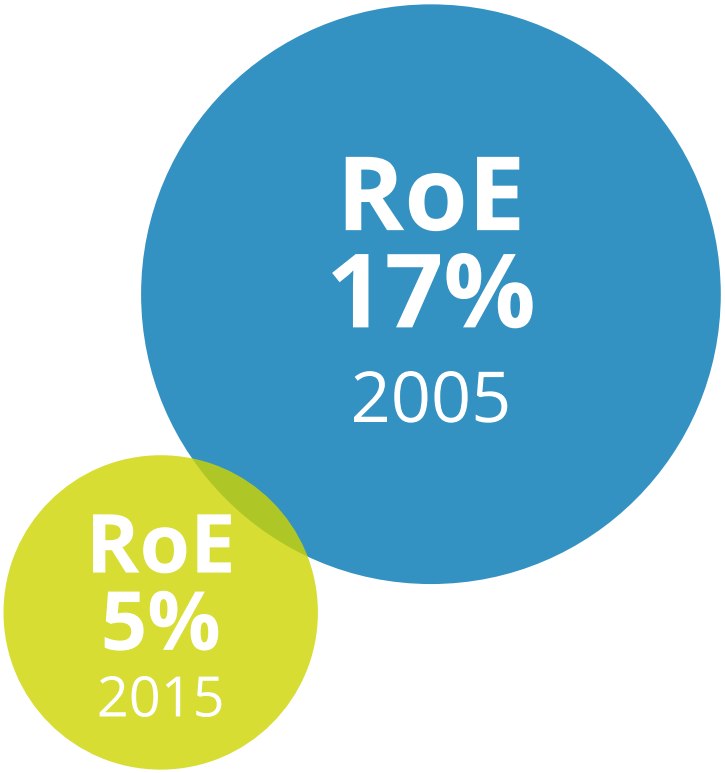
Accelerating strategic change

Financial services firms face challenges to their business models from a potent mix of low interest rates and low economic growth, higher operating costs and complexity, and heightened competition, including as the result of technological innovation. In Europe in particular, some banks face the additional problem of working through large portfolios of NPLs. The challenges are most acute for banks and insurers, but are still important for investment managers to assess. A result has been persistently lower profitability, downward revisions in profitability targets and, in some cases, clearly dissatisfied shareholders.

Amongst the factors driving these challenges is the wave of new and proposed regulations, which has increased regulatory complexity and uncertainty. Left unchecked, the changes will reduce strategic flexibility and lower efficiency. Despite the importance of the changes though, few firms have adapted their financial resources – and business strategy – to reflect the new constraints. Instead, many firms have focused on the near-term compliance challenge and hence have yet to take a strategic view. Firms are still grappling with the task of demonstrating a business strategy that delivers sustainable future returns.

Regulators have taken note of this. Sam Woods, CEO of the UK's PRA, observed recently that it was "too early to say how business models will shape up in the future... many banks have simply not yet adapted to the new prudential constraints or the lower-rate environment". Moreover, business models of financial services firms are under ever-increasing supervisory scrutiny.
Firms will be expected to develop and integrate a stronger understanding and analysis of business strategy in the new operating environment, and how their business compares to that of peers. After hinting at this in the past, supervisors will take more concrete action in 2017 to ensure it becomes a reality.

Return on Equity (RoE) for EU banks from 2005 to 2015[13]



13. ECB, Challenges for the European banking industry, 2016

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Thinking the unthinkable

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Andrew Blau
Partner
Strategic Risk Solutions
Deloitte US

Gerrie Lenting
Partner
Reputation and Crisis
Management
Deloitte Netherlands

Events such as Donald J. Trump's election to President of the United States, Britain leaving the European Union, the scale of the EU migrant crisis, Saudi Arabia forcing down oil prices by 60 percent, Russia's seizure of Crimea, Islamic State's capture of Mosul, and the threat of Ebola: these are some of the new "unthinkables" that corporate and government leaders failed to contemplate in recent months, despite evidence of their growing likelihood and impacts. Currently, the leader of France's far-right National Front party, Marine Le Pen, is running to be France's next president. Although pollsters are predicting a loss for Le Pen, do events such as Brexit and Trump's recent win signal a rise of populism and protectionism? If so, what was the reason for this, and what changes in the reality of the risk landscape does this signal? Furthermore, does reliance on conventional forecasting blind us to the prospect for disruptive change?

Around 60 candid one-on-one interviews with corporate and public service leaders and politicians reveal the full scale of executive unwillingness to contemplate the implications of this "new normal," as well as their preparedness. "Unthinkables" are, in reality, "unpalatables." With this in mind we need to ask why staff and colleagues often hold back from sharing data and evidence that C-suite executives need in order to be prepared for the unthinkables.

In their new research,[1] Nik Gowing and Chris Langdon reveal how current leadership assumptions and conformity are being challenged by new, overwhelming realities that they have yet to fully appreciate and embrace. Mindsets, behavior, and culture are out of date.

This is exacerbated by new public empowerment from digital technology. It frequently threatens to expose a growing perception of vulnerability at the top. With these formerly rare events appearing with increasing regularity in the realms of politics, economics, terrorism, technology, and business, what was once unthinkable now demands consideration. The definition of risk must be both deepened and broadened. New ideas and approaches need to be examined.

Thinking the unthinkable event on 7 June 2016

These new challenges were discussed by clients at the Deloitte Greenhouse Innovation Lab on Deloitte UK's London campus. Gowing and Langdon's report drove what became a frank and open conversation. Those present agreed with the premise in the report and discussed the need for more thought and action around "what next?" and possible solutions.

Amidst this turbulence, corporations may find their risk processes outmoded or discover that they lack the resilience, capacity, or objective judgment to mount an effective response. The pace at which previously unthinkable events are occurring also appears to be accelerating, participants said, driven by technology that amplifies messages on social media, mobile devices, and the internet. News that once remained local or took time to disseminate is now distributed to worldwide audiences within seconds.

There are no "unthinkables," if as a board we are ready to face one.

There is no crisis that cannot be made worse by how one responds to it.

1. "Thinking the Unthinkable: a new imperative for leadership in the Digital Age" at www.thinkunthinkable.org

Detecting the real problem
Deloitte US Partner for Strategic Risk Solutions Andrew Blau spoke of the need to confront the cognitive and institutional biases found in the business world—optimism bias, selective perception, and availability bias among them. Blau acknowledged that no one is immune from these biases; we all have biases and they can undermine the clarity with which we make decisions.

There is no crisis that cannot be made worse by how one responds to it. "There are ways that our brains get in the way when we're talking about complex things," Blau said. "It keeps us seeing evidence all around and undermines our ability to respond effectively."

"Speed is the key problem," a former bank executive said. "We're seven billion people connected. Public opinion is out there before the leaders have properly understood the problem."

Britain leaving the European Union as a result of the referendum on 23 June and Donald Trump winning the U.S. presidential election on 8 November were not realistic possibilities in the beginning of 2016.

"The problem is uncertainty," said an executive of a large European company. Planning for a wide range of possibilities presents challenges for business and political leaders.

There is a difference in thinking one is prepared and knowing one is prepared.

Solutions

"How can organizations navigate through some of this so they can not only survive but also thrive?" asked Rick Cudworth, Global Resilience and Crisis Management Leader for Deloitte Touche Tohmatsu Limited. "We need to keep an eye on disruptive technologies and be capable of disrupting ourselves," executives responded. Forecasts based on past performance may not be the best predictors of the future, especially when the future will be different to the past. There needs to be a shift to accept uncertainty as the "new normal".

Uncertainty brings risk and opportunity, winners and losers. The winners will be resilient, prepared and agile in response. They will have a clear purpose and values that are aligned with their stakeholders.

The group discussed the benefits of "disrupting themselves" in order to increase confidence in their ability to respond to high-impact events.

Multinational executives acknowledged that they have to change some aspects of their culture to cope with the new environment. "New developments and disruptions are constant," was one comment. While there may be crisis plans and controls in place, if crisis-readiness is not embedded in an organization, then there are opportunities to be better prepared for unthinkables.

An executive of a European family office said his organization has taken some steps toward those goals, but still has to fully embed crisis-readiness. "We have a big problem," the executive said. "One of the areas where we all score very, very low is being able to respond to a crisis."

The recent Deloitte Touche Tohmatsu Limited report, "A Crisis of Confidence," based on a Forbes Insights survey, highlighted the disparity between respondents' perceived readiness for a crisis and their actual readiness. Planning beforehand not only enables companies to better handle the unexpected, it also helps them to recover more quickly. Deloitte Touche Tohmatsu Limited Global Crisis Management Leader Peter Dent stressed that plans should cover communication.

"There isn't a crisis that cannot be made worse by a bad response," Dent said. "You don't actually have to say a lot to be effective."

Deloitte has advised clients in a range of industries on events such as man-made disasters, terrorist attacks, and large-scale cyber attacks and data breaches.
It established a crisis management center two years ago and its services include developing play books, leadership training, social media monitoring, and providing "surge resources."

Some organizations may fail to prepare for the extraordinary because their leaders don't encourage, or even suppress, subordinates who point out weaknesses in systems or volunteer novel ideas for fixing them, other participants said. The result is conformity, "group think," and employees who fear challenging the status quo or being perceived as too maverick, Gowing responded.

Other factors that he said can impede preparedness include: being overwhelmed by multiple intense pressures, willful blindness, risk aversion, fear of making a career-limiting move, reactionary mindsets, denial, and cognitive overload and dissonance.

"The last person through the door may well have the best answer or solution," one executive suggested. Dominant figures, CEOs, or "play makers" may need to be removed from the room and younger employees and those whose opinions aren't usually sought included, to enable new ideas and solutions to flourish. One executive of a multinational conglomerate said he wants to start "reverse mentoring" so he can gain a fresh perspective from 25-year-old colleagues. Others said they would like to emulate the military and use war-gaming and red-teaming in their crisis preparations.

Moving forward

Those present acknowledged the complexity of the current risk landscape for business in general, as well as for their own organizations. How this acknowledgement can help companies move forward and increase their preparedness and resilience remains to be seen. Gowing said the next stage of his research will focus on finding solutions, including how to adapt culture, mindsets, and behavior so that organizations are better able to face the unthinkables.

As we move forward, we need to consider how to work to accept uncertainty, to understand it, and make it part of our reasoning. As recent events show, uncertainty today is not just an occasional, temporary deviation from a reasonable predictability; it is a basic structural feature of the business environment. The method used to think about and plan for the future must be made appropriate to a changed business environment.

Strategic risk management in banking

Anna Mok
Partner
Strategic Risk
Deloitte US

Ronnie Saha
Manager
Strategic Risk
Deloitte US

The banking industry is currently in a period of heightened change and uncertainty. The competitive environment continues to evolve, with growing competition among banks, non-banks, and financial technology firms (FinTechs). At the same time, the ongoing low-growth, low-interest rate economic environment is putting pressure on traditional sources of profitability.

Banks are increasingly searching for new avenues for growth—developing new and innovative retail products, seeking yield through alternative investment vehicles, and implementing new sales and marketing strategies to increase volume. While failing to innovate in this environment may place banks at a competitive disadvantage, doing so without aligning business strategies with sound risk management practices may also heighten strategic risks.[1]

1. Office of the Comptroller of the Currency, Semiannual Risk Perspective, Washington DC, Spring 2016

Although risk management functions understand the importance of managing strategic risks, they have not traditionally had the mandate and resources to properly engage in this area—for understandable reasons. Despite the desire of risk leaders to be more forward-looking and proactive, over the last several years new regulations and enforcement actions have required them to place much of their time and energy into compliance and remediation activities.

However, over the next few years, leaders who continue to ignore the act of properly considering strategic risks could place their institutions in peril. A recent study published in the Harvard Business Review found that strategic risks proved to be the most damaging type of risk companies faced.[2] The analysis found that 86 percent of significant market capitalization declines in the past decade were caused by strategic risks—with operational risks (nine percent), legal and compliance risks (three percent), financial reporting risks (two percent) trailing significantly behind.

New regulatory approaches

Regulators have been pushing institutions to formalize capital-planning and stress-testing processes for many years to help ensure their ability to weather future events. These efforts have arguably made institutions more resilient, and efforts to integrate these processes into day-to-day operations should in theory be influencing key decisions and business strategies. However, many analysts have argued that deficient strategic risk management practices continue to contribute to problems at institutions—from lack of alignment between strategic choices and risk appetite, to the lack of systems to adequately challenge strategic choices for risks.

2. "How To Live With Risks," *Harvard Business Review*, July-August 2015

It is clear though, that both banks and regulators recognize that financial services is changing and that new approaches to managing risk—approaches that are more forward-looking—are needed. Regulators are themselves exploring new ways of approaching the changed financial services environment. Some regulators, for example, have started experimental initiatives to explore how they can work with technology companies by creating a "regulatory sandbox." They have also been exploring how they can apply new technologies to improve the efficiency of regulation (commonly known as "RegTech").

For institutions, there is of course a strong case to better demonstrate that they have integrated strategic thinking and risk awareness for more informed, value-based decision making. Banking regulators in the U.S. and globally are starting to make the management of strategic risks an important issue and enforcement priority. Speaking on strategic risk management, the U.S. Federal Reserve Governor Randall Kroszner has said:
"Their boards of directors and senior management, who bear the responsibility to set strategy and develop and maintain risk management practices, must not only address current difficulties, but must also establish a framework for the inevitable uncertainty that lies ahead. Notably, the ongoing fundamental transformation in financial services offers great potential opportunities for those institutions able integrate strategy and risk management successfully, and I will argue that survival will hinge upon such an integration in what I will call a *strategic risk management framework*."[3]

Similarly in the U.K., the Prudential Regulatory Authority (PRA) stated that regulators will:
"[Seek] to assess whether, on the balance of risks, there are vulnerabilities in firms' business models, capital and liquidity positions, governance, risk management and controls that cast into doubt their future financial soundness... [and] consider whether and how the wider external macroeconomic and business context may affect the execution of a firm's business model in a variety of different scenarios."[4]

A traditional regulatory or compliance approach may soon prove to be insufficient. These comments suggest that regulators expect institutions to have an embedded approach to managing strategic risks. Additionally, as regulators tighten standards in areas such as culture and conduct, they will expect institutions to have formalized processes to assess risks to the business model stemming from technology and other changes in the external environment, and that it has the appropriate structures in place to systematically assess risks to its strategic choices.

Banking regulators in the U.S. and globally are starting to make the management of strategic risks an important issue and enforcement priority.

3. "Strategic Risk Management in an Interconnected World" Randall S. Kroszner, 2008. https://www.federalreserve.gov/newsevents/speech/kroszner20081020a.htm
4. The Bank of England, Prudential Regulation Authority - Our approach to banking supervision, Bank of England Financial Services Authority, May 2011

Managing strategic risks requires financial institutions to better integrate the stakeholders responsible for strategy and risk management.

Defining Strategic Risks

What then are strategic risks? In short, they are the risks that threaten to disrupt the assumptions at the core of an institution's strategy— risks from changes that threaten to overturn the initial set of strategic assumptions and conditions.

But unlike operational and compliance risks, strategic risks are not inherently undesirable. There can also be an upside to taking these risks. The aim of managing strategic risks is not necessarily prevention, but also anticipation and understanding. Understanding strategic risks helps leaders to know how they should respond; for example, either by tweaking the current strategy, increasing investment, enhancing internal capabilities, or sometimes, even changing direction completely.

When strategic risks are fully understood, they help leaders assess which opportunities will give them the most long-term value, and which are no longer worth pursuing. We find that it can be helpful to think of strategic risks in terms of these three categories:

- **Strategic positioning risks:** Is the organization going in the right direction? Do the strategic objectives make sense and are they achievable? Are we well-positioned to create value and meet consumer needs for the foreseeable future?
- **Strategic execution risks:** Do we have the right talent, capabilities, and infrastructure to execute on our chosen strategy? Have we hired the right people, put in place the right technology, and hedged our risks appropriately?
- **Strategic consequence risks:** Could the strategic choices result in new risks or result in unintended consequences for the institution? Will our strategic choices create inappropriate incentives or create new risks for us (e.g., conduct, reputation risks)?

Thinking in these three categories can help risk leaders frame and bring clarity to the often clouded growth and strategy discussions.

Managing Strategic Risks

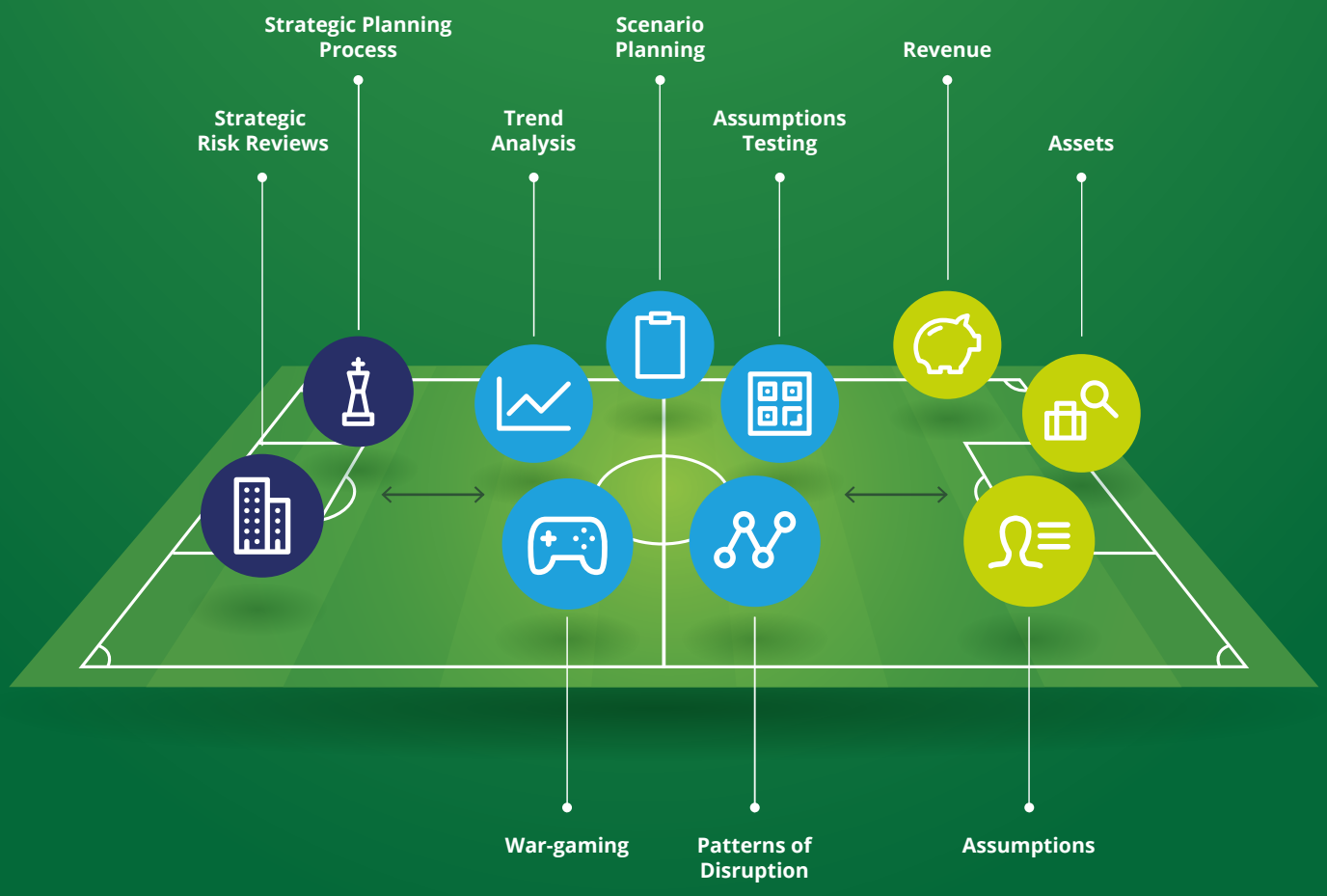
Effectively managing strategic risks requires financial institutions to: better integrate the stakeholders responsible for strategy and risk management; put in place processes that allow for independent reviews of strategies for strategic risks; train risk leaders in forward-looking risk management tools and approaches; and frameworks to understand how change and uncertainty will impact key business attributes. To help approach these challenges, the remainder of this article will explore some of the structures, processes, and tools that institutions have at their disposal.

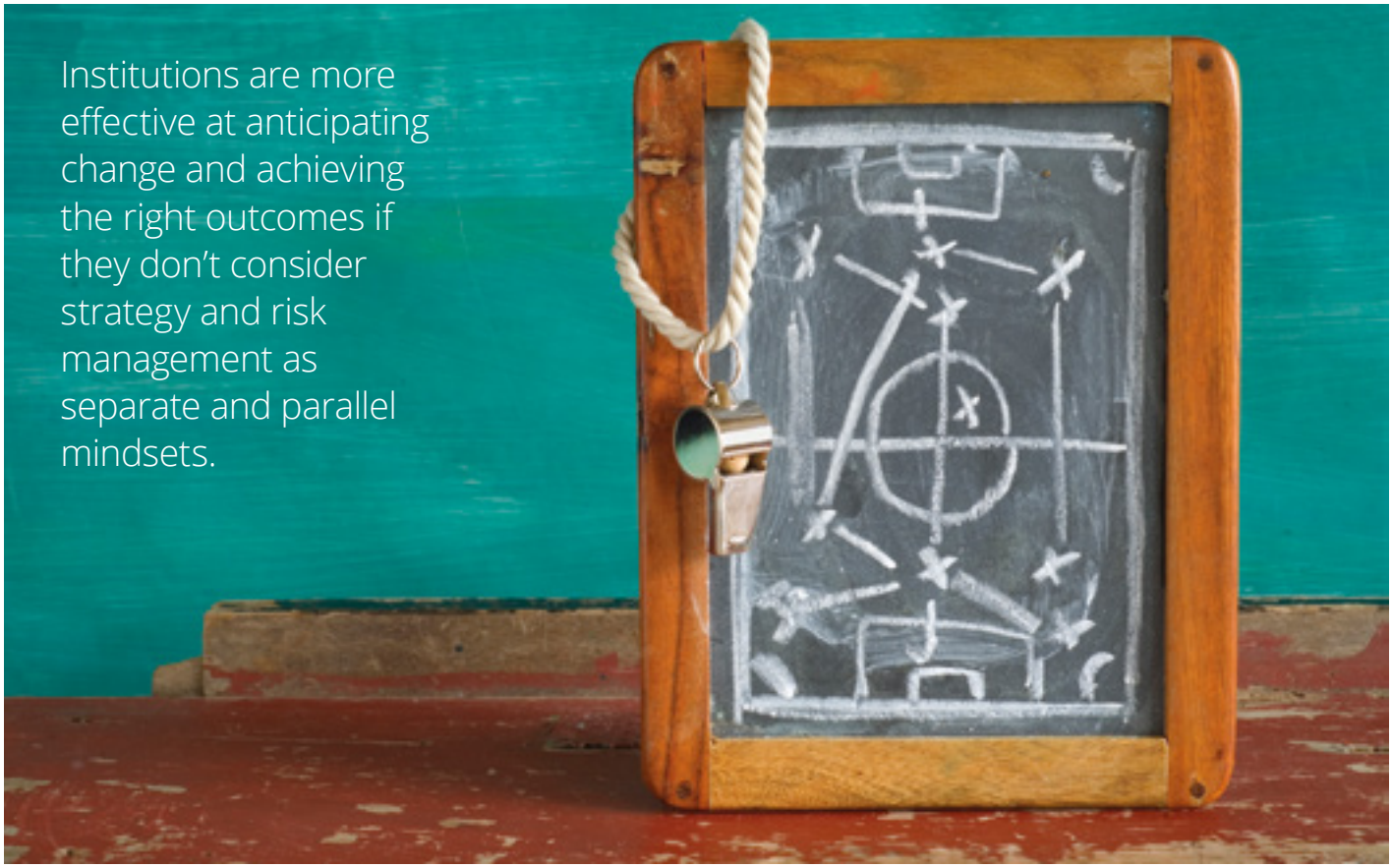
Key pillars of an effective strategic risk program

Greater integration of Risk Management with strategy and the business...
to help the enterprise take *smarter* risks

Enhanced tools and methodologies...
to identify strategic and emerging risks

Understand the impacts of change and uncertainty...
to the strategy, business, product or offering





Strategic Risk Ownership – The Role of the Chief Risk Officer (CRO)

Once a strategy is set, institutions will need to develop a view on whether it continues to head in the right direction, and whether it has put the talent and capabilities in place to meet the strategic objectives. These are an institution's strategic positioning and strategic execution risks. But who is responsible for managing these risks?

Given the strategic nature of these questions, it should be no surprise that stakeholders expect an institution's board and CEO to have significant responsibilities for overseeing and managing strategic risks. For example, in their "Principles for Enhancing Corporate Governance," the Basel Committee specifies that the board should "approve and monitor the overall business strategy of the bank, taking into account the bank's long-term financial interests, its exposure to risk, and its ability to manage risk effectively."[5]

In our experience, institutions that have been able to effectively manage strategic risk take it a step further. They empower their CRO to share responsibility for strategic risk management. In this way, the risk function is given a specific mandate to vet, challenge and facilitate important conversations about strategic choicesr risks. This is not meant to create an adversarial relationship between risk teams and the business, but rather to help the business to take smarter risks.

Institutions are more effective at anticipating change and achieving the right outcomes if they don't consider strategy and risk management as separate and parallel mindsets. Applying a risk lens to areas such as product development and sales is particularly important, as the focus of regulatory supervision shifts to assessing an institution's culture, and how they ensure that its consumers get fair and transparent outcomes.

In our experience, this will be a departure for many institutions, where risk management has traditionally focused on financial, operational, and compliance risks. Change will not happen overnight—taking on ownership of strategic risks will require new mindsets, competencies, and business relationships that risk management teams will need to grow and build over time.

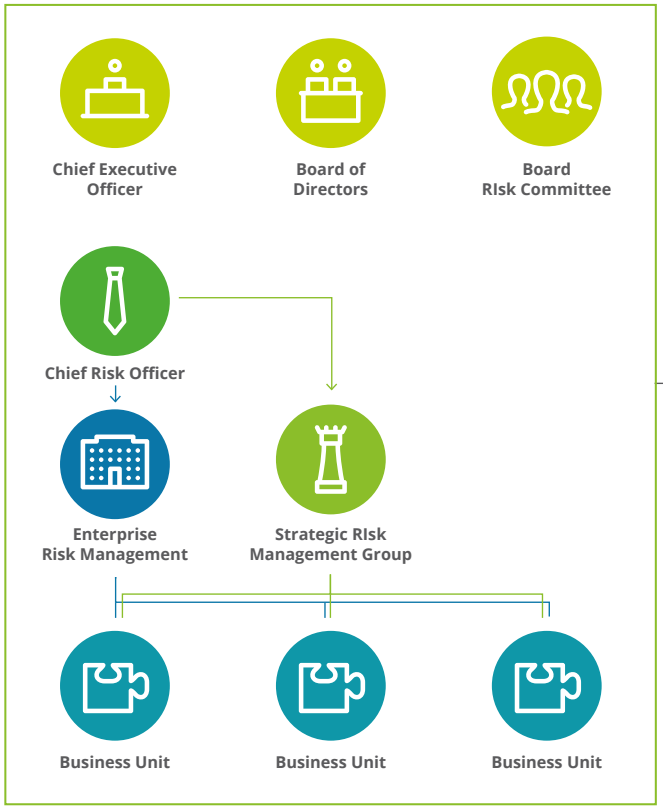
Institutions are experimenting with different governance and organizational models. For some institutions, an easier path to starting this journey may be alternatives such as creating a strategic risk "working group" or center of excellence that is co-owned by the CRO and Chief Strategy Officer (CSO), which includes cross-functional personnel from teams such as risk, strategy, technology, and innovation.

5. Bank for International Settlements, Basel Committee on Banking Supervision, 2015, "Principles for Enhancing Corporate Governance," BCBS 328

Strategic Risk Governance & Organizational Model (Illustrative)

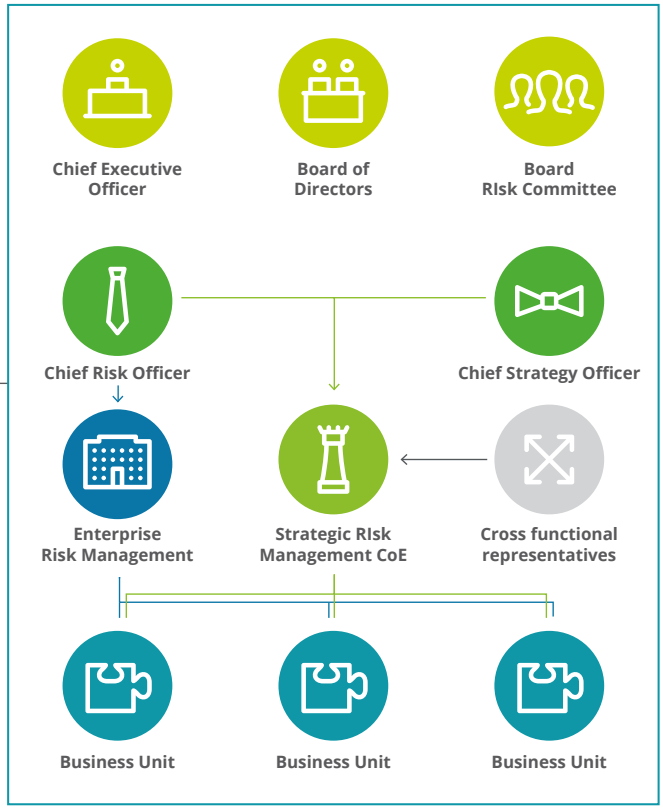
Option 1

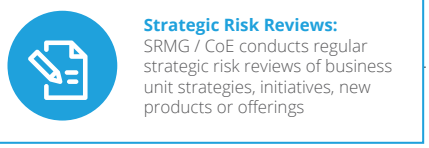
Risk driven Strategic Risk Management Group
Strategic Risk Management Group (SRMG) owned by the Chief Risk Officer, led by the risk management group



Option 2

Strategic Risk Management Center of Excellence
Strategic Risk Management Center of Excellence (CoE), co-owned by the Chief Risk Officer and Chief Strategy Officer, and including representatives from strategy, risk, innovation, technology, product development, data, and customer experience





Strategic Risk Reviews:
SRMG / CoE conducts regular strategic risk reviews of business unit strategies, initiatives, new products or offerings

Strategic Planning Processes:
SRMG / CoE works with the Strategy, the Board and CEO to assess risks to the enterprise strategy during the strategic planning processes

Strategic Risk Tools:
SRMG/CoE utilize enhanced tools and approaches to conduct strategic risk reviews or strategies, strategic initiatives, new products or offerings.

Trend Analysis | Scenario Planning | Assumptions Testing | Patterns of Disruption | War-gaming

Some Strategic Risk Processes and Tools

In addition to greater ownership of strategic risks, specifically designed processes and tools targeted at strategic risks have shown to be effective methods of bringing much needed clarity to an often complex area. Once an institution is familiar with these established methods, they could be applied at both an enterprise and at a more tactical level, to business-unit level strategies and initiatives.

Strategic Risk Review Processes

For most institutions, a fundamental first step is integrating a strategic risk review process into the annual strategic planning processes. This means conducting an independent, specific review of the enterprise strategy with an aim to answer the following questions: Is the institution heading in the right direction (strategic positioning risks)? Does the institution have the right talent and capabilities needed to execute its chosen strategy (strategic execution risk)? Could the chosen strategy create unintended consequences or new risks for the institution (strategic consequence risks)?

Similarly, at the business unit level, institutions should also establish formalized, regular processes for identifying, assessing, and reviewing strategic risks. For example, institutions may require strategic initiatives or capital investments over a certain dollar amount to undergo a strategic risk review.

Importantly, these processes should always involve members of the management teams, and not be conducted by risk management teams in isolation.

Conducting strategic risk reviews jointly and in concert with strategic planning processes will improve management's decision-making process by enforcing a disciplined approach to considering the continued relevance of set strategies, and the effect of uncertainty.

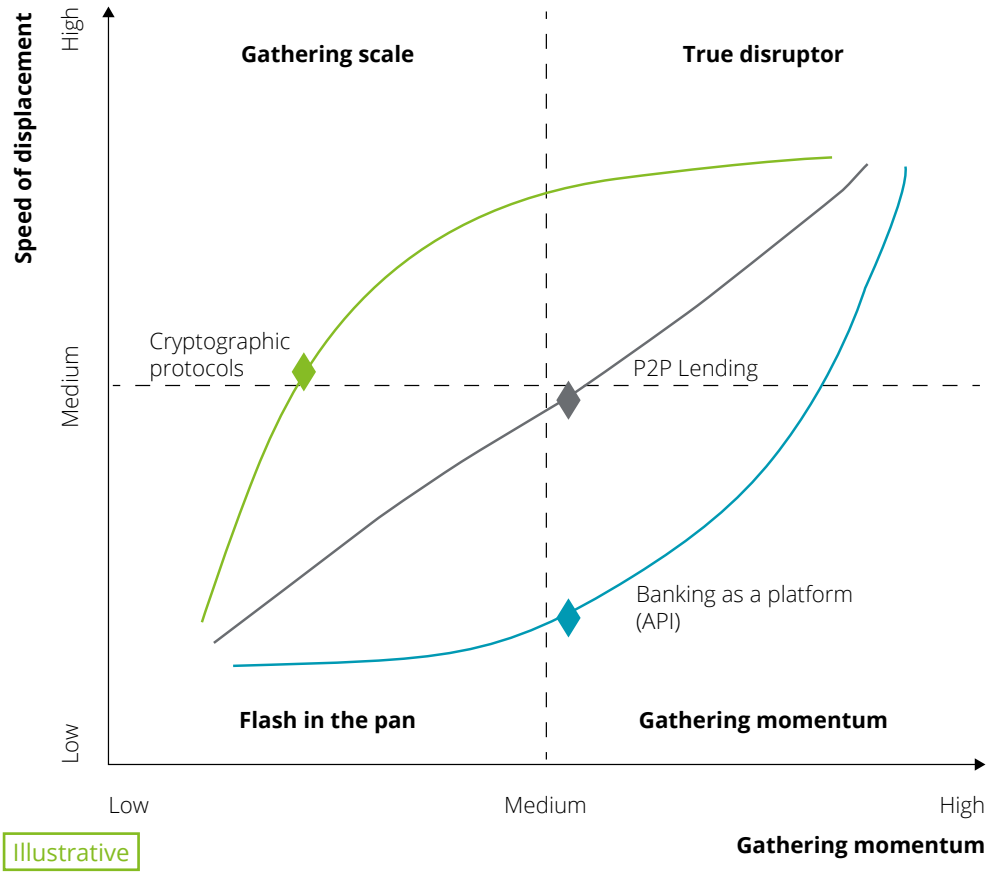
Trend Analysis

The problem for most business leaders is often not a lack of information, but the inability to distinguish signals from the noise. Executives are bombarded every day with claims of imminent disruption: blockchain; FinTech startups; changing customer behaviors. Without a means to evaluate the impact of identified trends, they are just buzzwords. Institutions can take a "watch and see" approach, but in our experience, successful institutions have systems in place to identify signals of change, evaluate the potential impact of trends on their business, and determine when a trend has gathered enough momentum to require action.

For example, should the institution "ride the wave" of the trend, and if so, should it partner, acquire, or form an alliance with a newly formed technology startup? Or should it avoid making costly investments, because the trend is a "flash in the pan"? What will be the magnitude and effect on the players in the market if so? These questions are not easily answered without experience in applying a systematic, analytical strategic risk lens.

The model below describes how a trend follows different trajectories to evolve into a disruptive force and the various factors/forces at play

Forces/factors at play	Flash in the pan	Gathering momentum	Gathering scale	True disruptor
Displaces leading incumbents	Minimum/No	At a slow but steady pace	Niche; needs mass adoption	Loss of market/share for incumbents
Expands market (beyond the substitution effect)	Minimum/ Temporary effect	Limited; aggregates products, segments	Limited; substitutes existing products	Yes; creates new market participants
Exceeds customer value expectations (meets latent needs)	Yes; Solution may be point-in-time	Yes; delivers options, efficiency	Yes; creates optionality, novelty	Yes; meets expressed and unmet needs
Creates an ecosystem/platform (low dependence on govt. subsidies; enables collaboration)	Minimum/No; scale is not achieved	Limited; success and pace depends on subsidized pricing	Limited; success and pace depends on subsidized pricing	Yes; economies of scale Achieved through multi-stakeholder participation
Exploits macro-economic/ social trends (tailored, modular solutions)	Yes; Solution may be point-in-time	Yes; addresses emerging, identified needs	Yes; addresses emerging, identified needs	Yes; tailored solution to meet evolving needs



Scenario planning

Scenario planning can help organizations see a set of both risks and opportunities more broadly, to imagine potential futures (or alternative scenarios) that might challenge their current strategic assumptions, and to spot potential sources of risk that may not surface in other ways.

Fundamentally, scenario planning provides an approach to rigorously confront and explore the uncertainties shaping an institution's business environment. For many institutions, this can be an important but difficult process, as very often when institutions face uncertainty they take a "head in the sand" approach. Unsure of how to think through the uncertainty and complexity taking place around them, many organizations go into a state of denial or paralysis. Leading institutions, however, learn to "lean in" to uncertainty. They cultivate an ability to see and interpret change before it becomes a strategic risk, and adapt their strategies to find new ways to create value.

Financial institutions may particularly find value in scenario planning, as they face significant sources of uncertainty, including the rise of FinTech and the changing regulatory landscape. Scenario planning can provide a useful means to organize thinking around these (and other critical) uncertainties, providing a way to explore plausible futures, identify risks and opportunities, and determine strategic choices.

Critical uncertainties shaping the future of banking (illustrative)

Regulation of FinTech
Next 3-5 years < > Next 5-10 years

State of Banking Regulations in 10 years
More stringent < > Self-regulating approach

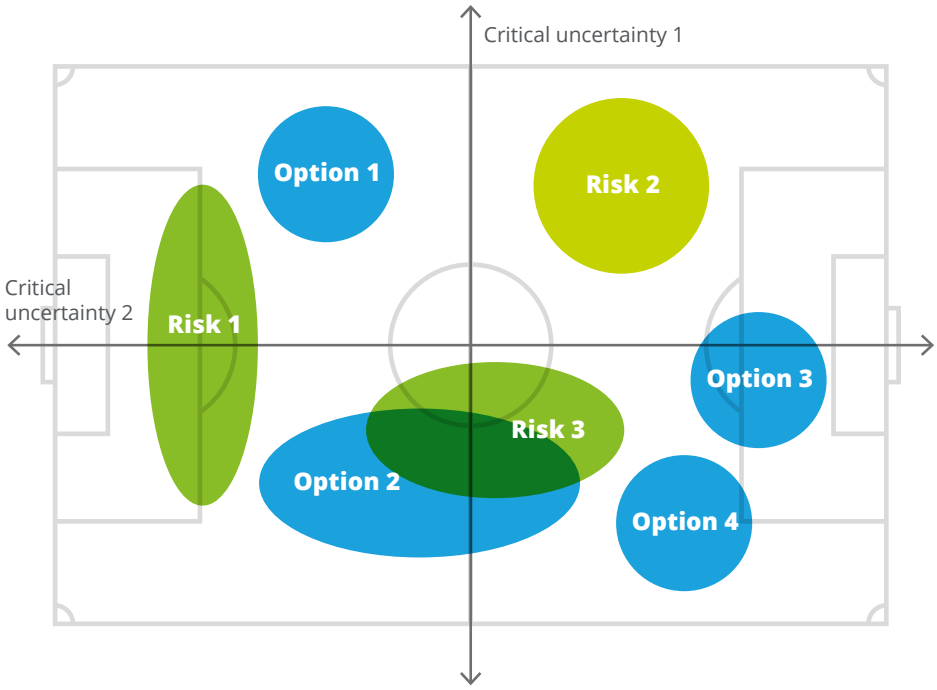
State of the Global Economy
Declining/Volatile < > Growing/Stable

Low Global Interest Rate Environment
Next 1-2 years < > Next 3-5 years

Occurrence and Ability to Manage Cyber-Threats
Frequency/Sources increases < > Frequency/Sources under control

Emerging Markets Competitors
Remain Regional Players < > Compete with Universal Banks

Look across the scenarios to create a new view of potential strategic risks



Assumptions Testing
The greatest source of risk to a strategy is often the assumptions underlying it. Making choices and assumptions about the state of the world or market is inherent in the strategy-setting process, but conditions will eventually change, potentially dislodging an initial set of assumptions. Developing the institutional skill to challenge assumptions is an important part of the strategic risk toolkit.

The assumptions testing process begins with making all assumptions explicit and understood, then challenging them against external forces. This allows the institution to establish indicators/triggers that can be monitored over time to alert the business when assumptions may be changing.

Surprisingly, in our experience, this is a process that is often more difficult than most would expect. Implicit assumptions are often so deeply ingrained, both in the way people see the world and in their business models, that many assumptions go unrecognized. However, it's generally preferable to challenge your own assumptions rather than to wait until they've been invalidated by external competitors or events.

Assumptions testing should also be utilized at both the enterprise and business unit levels. At the enterprise level, the board and executive team regularly assesses the viability of its strategy as well as vulnerabilities to its business model. This should foster questions not only about its risk appetite and capital adequacy levels, but also whether it has the right supporting operational model. For the business units, assumptions testing might occur before strategies or new products and offerings are rolled out. What is the expected growth of the customer segment we are targeting given new technologies like robo-advisers? Have we made the right assumptions about how much customers would be willing to pay for features like a virtual assistant to help them answer bank account questions? Is improving the user interface worth the investment?

Understand the Patterns of Disruption
In their recent article, *Patterns of disruption: Anticipating disruptive strategies in a world of unicorns, black swans, and exponentials*, leading researchers from Deloitte US Center for the Edge have identified nine patterns of disruption to help executives consider how they can start asking the right questions about their business.[6]

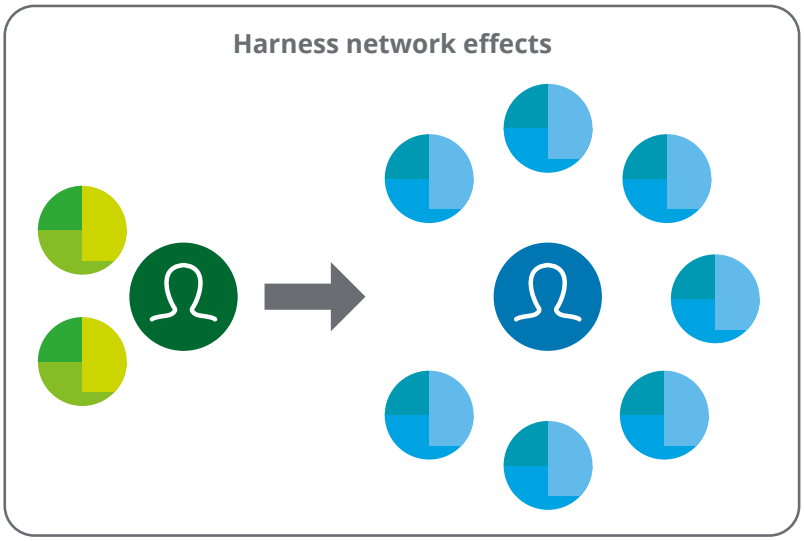
These nine patterns highlight ways forward-thinking institutions have created new value by adopting new, disruptive approaches. For example, by "connecting peers" or by "turning products into platforms," institutions have been able to gain market share, or in some cases, even change the landscape of an entire market. While these patterns can't describe every possible challenge an institution will encounter, they help leaders frame and make sense of the changing dynamics many institutions are experiencing. Armed with this understanding, banking executives can start to ask the right questions about their business—questions about which components of their traditional business are vulnerable to change and how to incorporate new approaches to create value.

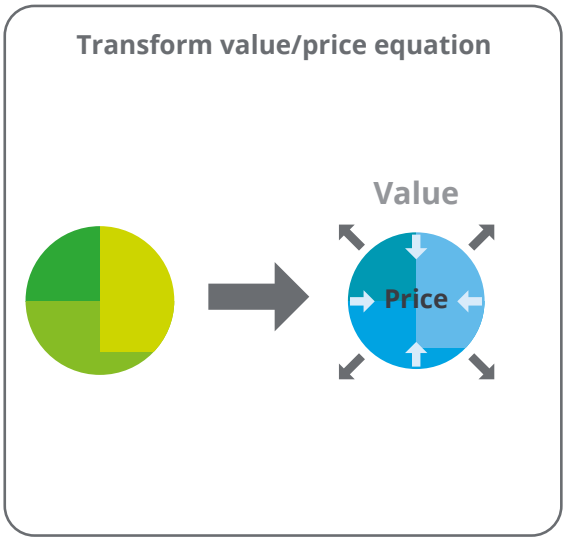
Leading institutions learn to "lean in" to uncertainty. They cultivate an ability to see and interpret change before it becomes a strategic risk, and adapt their strategies to find new ways to create value.

6. Patterns of Disruption, Deloitte University Press, 2015

Nine patterns of disruption

The nine patterns of disruption represent disruptive strategies and approaches that can be used (and are currently being used) to disrupt various markets. They provide incumbents with a framework to consider both threats to their existing strategies/business models and approaches they can leverage to become the disruptor.





Expand marketplace reach
Connecting fragmented buyers and sellers—whenever, wherever

Unlock adjacent assets
Cultivating opportunities on the edge

Turn products into platforms
Providing a foundation for others to build upon

Connect peers
Fostering direct, peer-to-peer connections

Distribute product development
Mobilizing many to create one

Unbundle products and services
Giving you just what you want, nothing more

Shorten the value chain
Transforming fewer inputs into greater value outputs

Align price with use
Reducing upfront barriers to use

Converge products
Making 1 + 1 > 2

The nine patterns highlight ways forward-thinking institutions have created new value by adopting new, disruptive approaches.

Relevant patterns of disruption for banking (illustrative)

Expand marketplace reach
Connecting fragmented buyers and sellers—wherever, whenever

Turn products into platforms
Providing a foundation for others to build on

Connect peers
Fostering direct, peer-to-peer connections

Business	Key characteristics/vulnerabilities
Trade finance	• Model has changed because of risk and compliance issues • Profit comes from client knowledge sufficient to assess and price counterparty risk • This information is opaque and incumbents are slow to assimilate new information for counterparty risk analysis
Security lending	• Opaque, bilateral business • Need to move to more democratized electronic and peer-to-peer • Incumbents looking to move out "non-core" activities to utility providers (e.g., counterparty credit or coporate actions)
Foreign exchange	• Slowly moving to more electronic platforms • Odd-lot, or large round-lot-trades have a lot of friction and thus profit • Buyers want transparency and best execution • Incumbents can partner or buy third parties to use or kill new capabilities

War-gaming

War-gaming provides a tool for improving decision-making under uncertainty, by providing opportunities to surface competitive dynamics, as well as to rehearse, refine, and test strategies in a realistic environment. For example, war-gaming and simulations can help organizations think through strategic questions such as: How will our competitors react if we launch our strategy? What would happen to our market position if we launched this product? What is the likely response from our employees given our culture and incentives? What data do we have—or need to have—to successfully pull off this strategy?

Like Scenario Planning and Assumption Testing, War-gaming provides a means to think outside of conventional mental models to discover threats and opportunities of strategic choices, and allows leaders to see the potential second- and third-order effects of their decisions. War-gaming is a versatile tool for institutions who can use it to help prepare for a range of issues, including preparing for everything from cyber breaches to testing a bank's ability to execute a coordinated crisis response to a major global counterparty and liquidity crisis.

Assessing impacts of change and uncertainty on the business

Managing strategic risks requires executives to understand how external trends, business model innovation, new approaches used by competitors, and internally-generated strategies or products could threaten an organization's historical sources of competitive advantage.[7]

In particular, it is important for organizations to qualitatively and quantitatively assess the impact of changes on three key variables: revenues, assets, and assumptions.

- **Revenue:**
  How will external changes or new approaches affect existing sources of revenue?
- **Assets:**
  How do external changes or new approaches render our existing assets and investments? Do they make them less valuable or obsolete?
- **Assumptions:**
  How do changing external trends or new approaches affect the long-standing assumptions we've made about our strategy, business model, or marketplace?

Conclusion

Risk management in banking has been transformed and shaped over the past decade, largely in response to regulations that emerged from the global financial crisis. But as the nature of banking changes over the next decade, so too will risk management need to evolve. Leading financial services organizations are rethinking and broadening the role of risk management, from solely a function to maintain regulatory compliance to a function mandated to help the business make better decisions and take smarter risks.

Strategic risk is the next frontier of risk management, one that will generate a more nuanced conversation about the risks that are sometimes imposed on companies and opportunities for new businesses. Armed with the right tools, leaders can accelerate how quickly they discover such risks and fit them into their ongoing strategy and decision-making processes. Those that do are going to see how strategic risk—and the ability to name it, track it, and deal with it—can turn into an important organizational resource going forward.

7. Ibid.

Business model implications of global regulatory requirements

David Strachan[1]
Partner
Head EMEA Centre for Regulatory Strategy
Deloitte UK

Simon Brennan
Director
Member of EMEA Centre for Regulatory Strategy
Deloitte UK

Financial services firms face challenges to their business models from a potent mix of low interest rates and low economic growth, higher operating costs and complexity, and heightened competition including as the result of technological innovation. In Europe, some banks in particular face the additional problem of working through large portfolios of non-performing loans. One consequence has been persistently lower profitability, and downward revisions to profitability targets. Against this backdrop, many firms are still grappling with the task of demonstrating a business strategy that delivers sustainable future returns.

Among the factors driving these challenges is the wave of new and proposed regulations that financial services firms face. Although the global financial crisis that triggered this wave began nearly a decade ago, regulatory change persists across the financial services industry.

Challenges from regulation manifest themselves in a number of ways. The task of implementing new requirements is invariably costly, and in general, compliance costs are higher post-implementation. Planning for and managing regulatory change projects also divert senior management's time and resources from other initiatives that a firm might want to pursue. In this article, we specifically consider the implications of regulatory change for business strategy. The immediate implications crystallize where new regulations impede existing business activities, for example through the introduction of additional costs, or by prohibiting certain activities. The even greater challenge is to understand the effect at a cross-business line or group level, across all of the changes being made—and to re-optimize the business model in light of the new constraints.

The regulatory framework remains unstable and difficult to anticipate, more so in recent months as efforts to finalize certain initiatives have brought to the fore the fact that some outstanding aspects to be agreed remain quite controversial.

1. This article draws on discussions with colleagues across Deloitte's global network of Member Firms, but in particular benefits from the input of Christopher Spoth, Richard Rosenthal, Alex LePore and Prateek Saha in the Deloitte Center for Regulatory Strategy North America.

The number, inter-connectedness, and complexity of regulations contribute to the difficulty of this task. The regulatory framework remains unstable and difficult to anticipate, more so in recent months as efforts to finalize certain initiatives have brought to the fore the fact that some outstanding aspects to be agreed remain quite controversial. Some of those elements where uncertainty remains are crucially important to determining the ultimate implications of the regulations for firms—the finalization of the remaining elements of the capital regime for banks is one example. Beyond those issues, to the extent that there has been any let up in the widening reach of regulation, there is increasing detail to be managed and assessed.

Sector implications

As an example of how these factors play out, for life insurers the low interest rate environment and its transmission through the Solvency II regime is exerting an increasingly powerful influence on business models. The current design of the Solvency II risk margin amplifies the balance sheet volatility effect of low interest rates, and increasingly incentivizes insurers to reinsure longevity business that is not covered by transitional Solvency II arrangements. The longer term regulatory response to this trend is uncertain, but among other responses it is likely to lead to greater supervisory scrutiny of insurers' risk appetites, governance, and controls in the reinsurance area. As low bond yields incentivize shifts in the portfolio mix of investments, supervisors are also likely to sharpen their focus on board oversight and understanding, and the quality of credit underwriting controls and monitoring. It is also possible that this trend, if adopted by a group of firms, attracts attention from regulators because of concern about risk concentration.

Business models of investment managers are under less extensive regulatory pressure. However, there is increased regulatory and supervisory focus on ensuring value for money for customers across the product value chain. In addition, increased transparency on costs and charges, strengthened inducement rules, and rules on unbundling of dealing commissions will mean investment research costs, fund management charges, and distribution costs will all be under pressure. Investment managers will be seeking more cost-effective and direct distribution channels, including increased use of automated financial advice.

The challenges though are currently the most acute for banks. Final calibration of the Basel III international regulatory regime is a case in point. Although the Basel Committee on Banking Supervision (BCBS) has committed to not significantly increase overall capital requirements with its latest reforms, Chairman Stefan Ingves acknowledged in 2016 that "it is inevitable that minimum capital requirements will increase for some banks."[2] Those changes come on top of a significant increase in the capital base and funding requirements for banks through reforms that have already been implemented.

More importantly for the assessment of business strategy, the overall prudential framework for banks is now very complex, with multiple initiatives driving changes to certain aspects of banking, or multiple constraints being introduced for certain activities.

The current design of the Solvency II risk margin amplifies the balance sheet volatility effect of low interest rates, and increasingly incentivizes insurers to reinsure longevity business that is not covered by transitional Solvency II arrangements.

2. Stefan Ingves, Chairman of the BCBS and Governor of Sveriges Riksbank, quoted in a press release accompanying publication of a proposal from the BCBS on revisions to the operational risk framework, 4 March 2016, available at http://www.bis.org/press/p160304.htm.

For example, the BCBS's Fundamental Review of the Trading Book (FRTB), the design of new internal market risk models, and a new mandatory standardized calculation will have a substantial impact on market risk-weighted assets; at the same time, IFRS 9, a revised accounting standard that determines how banks should classify and measure financial assets and liabilities, requires loan loss provisions based on expected credit losses instead of incurred losses; and the BCBS is considering the introduction of floors for risk-weighted assets. These changes all affect the calculation of risk-based capital—and in turn the per unit regulatory charge for risk. At the same time, banks have to tackle supervisory stress-testing initiatives and more intensive supervision—which both in practice tend toward a more conservative appetite for risk.

To illustrate the challenge of multiple constraints, consider a bank deciding whether or not to make a new loan to a customer. The loan will attract a capital charge under both the risk-weighted capital ratio and the leverage ratio, and the funding of the loan will be captured by two new regulatory liquidity ratios, a measure of short-term liquidity (the Liquidity Coverage Ratio), and the longer-term balance of maturities between assets and liabilities (the Net Stable Funding Ratio). Moreover, the commercial viability of the lending decision will be determined not just by this myriad of ratios over the course of the term of the loan under a baseline scenario, but also under stress. For internationally active banks, rules requiring the ring-fencing of certain activities or legal entities affect the fungibility of capital and liquidity across the group, further complicating the picture.

Sustainability of bank business models

Left unchecked, the accumulation of these regulatory changes will reduce strategic flexibility and efficiency. This point applies most immediately to banks, but other financial services firms can draw insights from how banks need to understand the challenge and the tools they need to develop to deal with it.

Business model analysis is a core component of the supervisory risk assessment framework in the forward-looking, judgement-based approach now commonplace for banking supervisors across the European Union.

In our experience, too few resources have yet been deployed for this strategic analysis. Many banks have—understandably—approached the implementation of regulatory changes by focusing on the immediate task of meeting compliance deadlines. Where there has been an assessment of the implications of regulation for business models, it has more often focused on a subset of business lines rather than the bigger picture.

This experience holds across the banking sector. The Financial Stability Board's most recent annual report on the implementation and effects of global financial regulatory reform notes that banks are "still in the process of adjusting their structures and business models in response to the new operating environment, in search of sustainable profitability."[3]

What is more, business models are under ever-increasing supervisory scrutiny. In the UK, Sam Woods, CEO of the Prudential Regulation Authority (PRA), said recently that it was "too early to say how business models will shape up in the future...many banks have simply not yet adapted to the new prudential constraints or the lower-rate environment."[4] For the European Banking Union, Sabine Lautenschläger, Vice-Chair of the Supervisory Board of the ECB, has noted that "from [the perspective of the ECB] as supervisors, the viability of business models is currently one of the main points of attention...[supervisors] are not only scrutinizing business models and profitability drivers, but are also taking a close look at risk management."[5]

Business model analysis is a core component of the supervisory risk assessment framework in the forward-looking, judgement-based approach now commonplace for banking supervisors across the European Union. Supervisors expect banks to develop and integrate a stronger understanding into their management approach, as well as an analysis of business strategy in the new operating environment, including how their business compares to that of peers. After hinting at it in the past, supervisors will also start to pay increasing attention to the coherence and integration of business strategy across stress testing, recovery and resolution plans, and individual capital and liquidity adequacy assessments, and the consistency with a bank's risk appetite framework.

Banks need to invest in developing new capabilities

The changes that banks need to make go beyond giving a nod to regulation in strategic discussions—their whole approach to understanding and responding to the implications of regulation for business strategy decisions needs to evolve. Banks need an approach that is comprehensive, forward-looking, and analysis-driven.

To prioritize investment in this area, banks should begin by benchmarking their current capabilities and requirements—the tools that they have available, and the issues and scope being assessed—across modelling, stress testing, capital and liquidity planning, financial planning and data, and taking account of people, technology, and governance. (The data question is in fact often the "elephant in the room," and will likely need to be addressed as part of the solution if the analysis is to be sufficiently grounded in the reality of the business.)

The best way forward for a bank will depend on the current state of its capabilities, and the complexity of its business. The elements to consider include:

- **Balance sheet optimization:** Many optimization approaches in the past considered only part of a bank's portfolio, or else pre-dated the myriad constraints now present in the regulatory framework.
- **Top-down modelling:** Banks need to be able to run a scenario analysis to consider the interaction between regulations and strategy decisions, but existing tools are typically too granular and cumbersome. A key decision will be the granularity of the balance sheet and income statement, informed by the specific business lines, model capability, and strategy of the banks.

These factors can ultimately be brought together, but in the near-term it is helpful to consider them separately. Data visualization, and the ability to run both static (point-in-time) and dynamic (including incorporating future regulatory changes) analysis should be considered as components of any solution. Decision-makers can then use the tools to do on-the-fly "what if" analyses showing the impact of their strategies and actions on a variety of past, present, and future business scenarios. The perspective then needs to be embedded in the way that the senior management team drives the business forward.

With many competing demands on resources, banks might think it simpler to prioritize those with nearer-term deadlines and more specific outcomes than the capabilities we have set out here. However, without investment in their ability to understand and assess their business strategy, banks will ultimately find themselves at a strategic disadvantage to peers, and on the back foot in conversations with supervisors.

3. Financial Stability Board, 'Implementation and effects of the G20 financial regulatory reforms,' 31 August 2016, available at http://www.fsb.org/wp-content/uploads/Report-on-implementation-and-effects-of-reforms.pdf.
4. Speech made by Sam Woods, Deputy Governor, Prudential Regulation and Chief Executive Officer, Prudential Regulation Authority, Bank of England, 'The revolution is over. Long live the revolution!', at the City Banquet, Mansion House, London, 26 October 2016, available at http://www.bankofengland.co.uk/publications/Documents/speeches/2016/speech933.pdf.
5. Speech made by Sabine Lautenschläger, Member of the Executive Board of the ECB and Vice-Chair of the Supervisory Board of the ECB, 'The European banking sector – a quick pulse check,' at a Euro Finance Week Conference, Frankfurt am Main, November 15 2016, available at https://www.bankingsupervision.europa.eu/press/speeches/date/2016/html/se161115.en.html.

Business model analysis
European banking sector model in question

Jean-Philippe Peters
Partner
Risk Advisory
Deloitte Luxembourg

Arnaud Duchesne
Director
Risk Advisory
Deloitte Luxembourg

The sluggishness of the profitability of the European banking sector should push a deep market transformation under the scrutiny of the Business Model Analysis (BMA) performed by European Competent Authorities, and especially by the European Central Bank (ECB) for banks supervised under the Single Supervisory Mechanism (SSM).

Since the financial crisis emerged eight years ago, the banking industry has been facing major disruptions shaped by several dynamics, resulting in a shift of the bank's playing field. One of those dynamics is driven by EU Supervisors, who are willing to create a more stable banking sector through harmonized rules at the EU level and stricter risk and capital requirements. A second dynamic distorting the bank's playing field is the low interest rate environment resulting from the state of the economy. Finally, the digital revolution has fundamentally changed the way people think and the way the world conducts economics and business practices, opening the door to competitors in a mature industry. Taking individually, those dynamics should have a positive impact on the banking industry—combined together, those forces are sources of disruption that requires financial institutions to reconsider their business model.

In this article, we are exploring the impact of those dynamics on the bank's playing field and explain why banks must reconsider their business models in order to remain viable and sustainable, especially with the introduction of regulatory oversight over EU banks' profitability (Business Model Analysis).

Business Model Analysis: risk appetite alignment, adequate funding mix, and sufficient profitability

In its Q2 2016 risk dashboard, and dating back to when it started to produce a risk dashboard to monitor the risk level of the EU banking sector, the European Banking Authority (EBA) has classified the Return on Equity indicator (ROE) in the red level (i.e., high risk). This red flag on EU banks' profitability results from harsh market and economic conditions, in which more than 44 percent of EBA's sample of banks generate a ROE per annum below 6 percent.

The poor performance of the EU banking sector stresses the need for the sector to adapt its business model to cope with a new financial environment of low interest rates, as well as to optimize its net profit generation capacity under stricter regulatory requirements.

In this respect, the introduction of regulatory oversight over EU banks' profitability with the launch of the Business Model Analysis (BMA) in 2016 may incentivize banks to compete on innovation and implement profitability enhancement projects.

The BMA performed under the Supervisory Review and Evaluation Process (SREP) by European Competent Authorities, and especially the ECB for banks supervised under the SSM, aims at assessing whether a bank's business plan ensures its viability and sustainability, respectively over a one-year and a three-year horizon.

The one-year viability will be assessed with a main focus on three elements: first, the relative level of risk allowed by a bank in its risk appetite as compared to its peer group in the pursuit of its business model or strategy; second, the acceptability of the level of profitability that is expected to be generated in the business plan; and third, the adequacy of the funding mix with respect to the business model or strategy.

The three-year sustainability will also be assessed with a main focus on three elements: first, the plausibility of the projected financial performance as compared to the current and foreseen business environment; second, a revision of the projected financial performance by the Competent Authority relying on its own business environment assumptions; and third, the likelihood of success of the bank's future strategy.

The poor performance of the EU banking sector stresses the need for the sector to adapt its business model to cope with a new financial environment of low interest rates, as well as to optimize its net profit generation capacity under stricter regulatory requirements.

The BMA will therefore require banks to develop robust strategic planning processes that are aligned with the current and prospective business environment within adequate acceptable risk appetite boundaries.

Business Environment

What is the **plausibility** of the institution's strategic assumptions, given the direction of macro-economic and market trends and the strategic intentions of the peer group?

Current Business Model

Understanding of the institution's strategy, financial drivers, and internal and external (counterparties and clients) profitability dependencies.

Strategy & Financial Plans

What is the **plausibility and riskiness** of the institution's strategy, and under which assumptions is it successful?

Business Model Viability

Given the business environment, key success drivers, and internal and external dependencies: is the institution able to generate **acceptable returns over the following 12 months?**

Strategy Sustainability

Given the business environment, its ability to generate acceptable returns and its strategic plans and financial forecasts: is the institution's strategy **sustainable over 3 years?**

Key Vulnerabilities

Poor expected financial performance	Reliance on an unrealistic strategy	Excessive concentrations or volatility	Funding structure concerns	Significant external issue (e.g., regulatory threats)

Measures to address problems and concerns

Viability of the business model and sustainability of the strategy

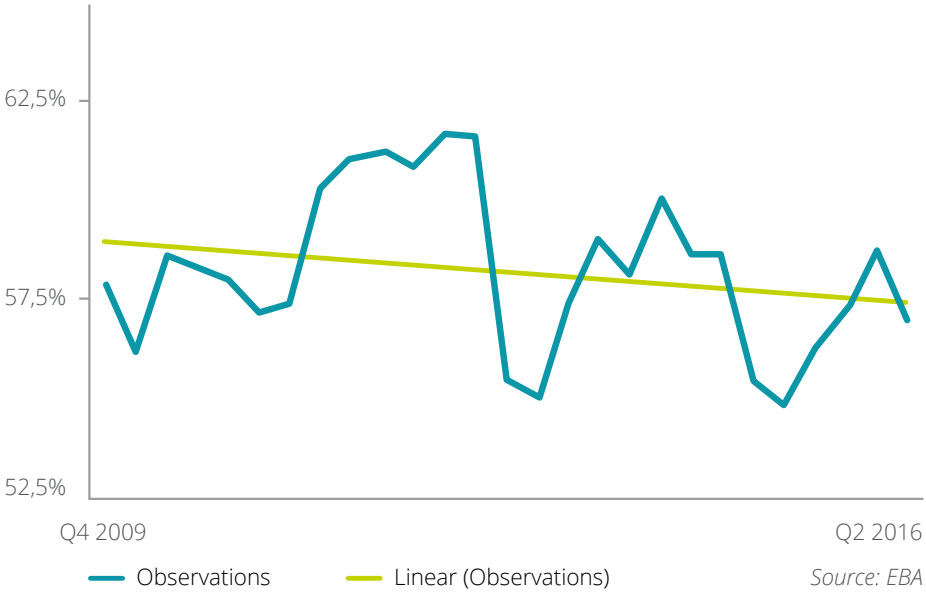
Interest rate dynamic

The net interest margin depression is one of the main elements explaining the persistent drag weighing on the profitability of the EU banking sector that will have to be addressed under the BMA. This depression of the banking net interest margin is resulting from a combination of low interest rate monetary policies and a shift of fundamental economic factors requiring banks to sustainably diversify their profit structure.

The European economic environment and especially the current low interest rate market configuration casts a new banking era in the EU. Within this new era, the industry's challenge is to evolve toward a profit model less reliant on the net interest margin. This profit diversification strategy is particularly important for Europe, where a significant share of the financing of the economy is achieved through the banking sector, which, as a result, relies heavily on interest rate revenues for raising the bottom line of its profit and loss statement.

A diversification strategy of profit sources should be a long-term strategy to preserve the profitability of the EU banking sector in response to multiple intertwined factors. First, the level of nominal interest rates is expected to remain low under the monetary policy of the ECB as uncertainty prevails around the re-ignition of growth and inflation in the Union. Second, demographic and world economic shifts have durably pushed back real interest rates. Finally, the decline of the contribution of the net interest margin in the profitability of the EU banking sector is projected to accelerate as the existing pool of high yielding assets is progressively prepaid or reaching maturity.

EU banks decreasing share of net interest income in the total operating income
(weitghted average Q4 2009 - Q2 2016)



Source: EBA

At the European level, demographics, and especially the rise of life expectancy, is the main driver explaining the increase of savings supply, driving real interest rates down.

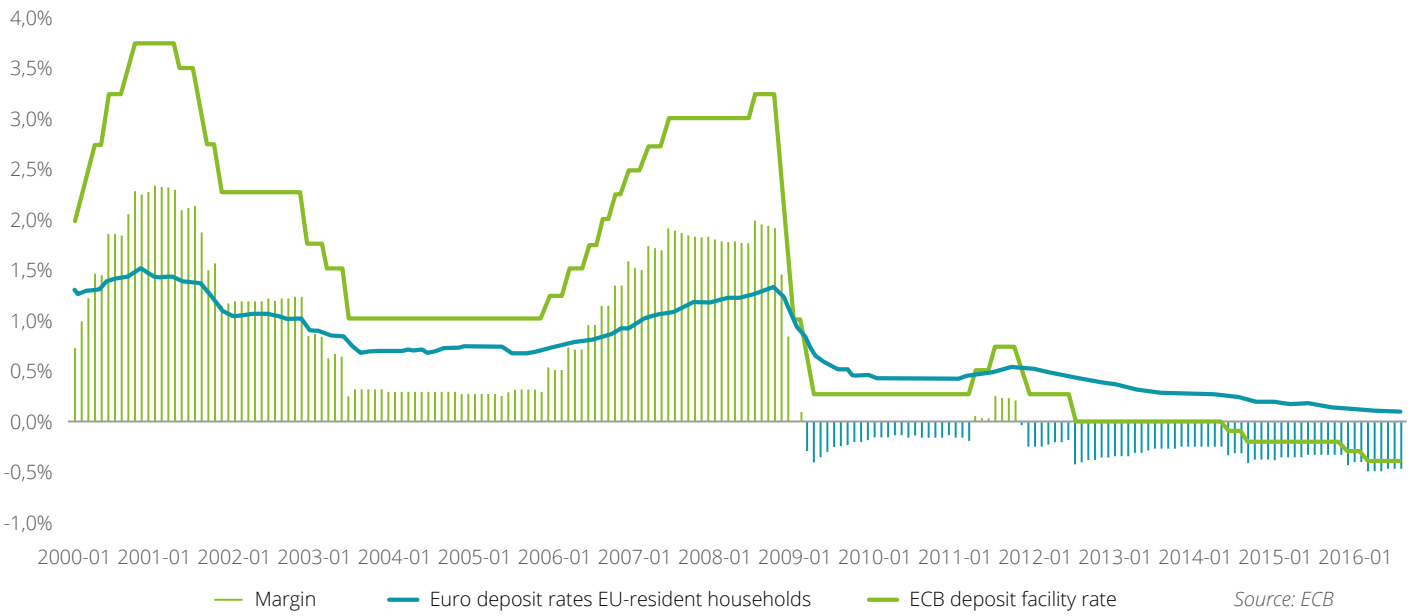
Central banks' monetary policies
The first factor leading to the erosion of net interest margins is the low/negative interest rate environment driven by expansionary monetary policies of central banks. Those monetary policies are meant to support economic growth, but banks active in the Eurozone especially suffer from negative interest rates, since they are reluctant to pass negative interests born on their liquidity placements through to their clients' deposits. A contraction of the bank's net interest margin is resulting from this situation, as interest incomes decrease while interest expenses remain stable given banks generally floor their deposit rates to zero.

Real interest rate decline
A second factor leading to the erosion of net interest margins is the fall in real interest rates driven by an increase in the supply of savings at both the European and global levels. These macroeconomic factors limit the rise of the nominal interest rate, compromising the potential of a net interest margin recovery.

At the European level, demographics, and especially the rise of life expectancy, is the main driver explaining the increase of savings supply, driving real interest rates down. This increase in savings supply is mainly explained by the faster pace of rise of the average life expectancy compared to the average age of retirement, implying a longer average period of retirement. Higher savings rates are therefore required today in order to support longer retirement times of tomorrow, which mechanically drives the yield of low risk assets downward to reach an equilibrium in capital and debt markets.

At the global level, the integration of emerging economies in the global economy that took place in past years, and especially countries without an organized pension scheme that encourage people to save even more, increasing the supply of savings and the downward pressure on assets yields.

Euro deposit margin in negative territory since 2009



Source: ECB

Euro area exeperiencing a decrease of its real interest rate while total economy savings is surging
(per annum, ECB euro 10Y government bond yield benchmark minus HCPI YoY % change 1997 - 2016)

The regulation dynamic

In the search for sustainable profitability enhancing strategies, the introduction of stricter regulatory capital and liquidity requirements in the EU does not favor volume-driven profit reinforcement strategies, nor alternative business model evolutions that significantly affect banks' balance sheets and commitments.

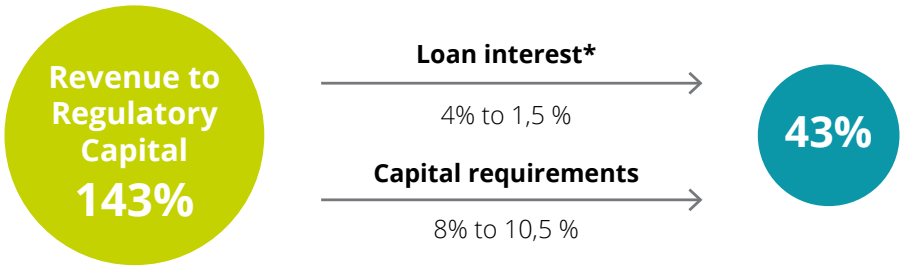
The implementation of the Capital Requirements Directive IV package (CRD IV) since 2014, and notably, the introduction of stricter capital and liquidity requirements must drive banks to seek to provide additional services to generate profit without increasing their balance sheet size and commitments.

Regulatory capital requirements

The increase of regulatory capital requirements under CRD IV through stricter capital definitions, increase of Risk Weighted Assets (RWA), and introduction of capital buffers limit the room for improving profitability through the origination of higher volumes of transactions or asset shifting from lower to higher yielding products.

The following illustration points out the combined negative effects of low interest rates and stricter capital requirements on banks' profitability. In this example, the ratio of "revenue to regulatory capital" on a loan risk weighted at 35 percent, such as a residential mortgage loan under the regulatory standardized approach, is decreasing by 70 percent from 143 percent (4 percent interest revenue to 8 percent of capital requirements on RWA) to 43 percent (1.5 percent interest revenue to 10.5 percent of capital requirements on RWA). In other words, where in the past a bank could generate 1 euro of revenue per unit of capital, in the current regulatory and interest environment, a bank is now able to generate only 0.3 euro per the same unit of capital.

The combined effect of interest rate decrease and capital requirements increase on the ratio "interest revenue on regulatory capital"



*Example of a loan with 35% regulatory risk weight

Liquidity requirements

The introduction of regulatory liquidity requirements by CRD IV must provide two incentives for banks to limit the generation of profit through transactions affecting the size of their balance sheet and commitments.

On one hand, increasing the size of regulatory High Quality Liquid Assets (HQLA) by acquiring debt securities represents a high interest rate risk, given the price inflation that low risk debt securities have experienced since the financial crisis. Should nominal interest rates rise in the medium term, the value of such debt securities will suffer from a significant loss of value.

On the other hand, constituting HQLA by increasing reserves at the central bank constitutes a threat for a bank's net interest margin as long as ECB interest rates are below zero.

ROE and market consolidation

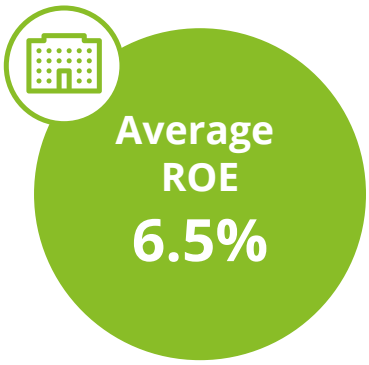
In the current economic and regulatory environment, pursuing an acquisition strategy targeting medium-sized players to foster profitability may prove to be a winning strategy thanks to potential efficiency gains. However, ultimately, succeeding a fee-driven strategy of profit diversification shall be supported by a fundamental business model review aiming to provide the utmost level of flexibility to clients with full digital support.

Since the financial crisis, the concentration of the EU banking sector has increased as a result of mergers and acquisitions (M&A) transactions, which helped to achieve overall efficiency gains in the sector. Banking statistics suggest however that in some regions the Euro area, the concentration of the banking sector remains low with high-branch penetration rates (see ECB Financial Stability Review, May 2016), pointing out that further efficiency and cost-cutting gains are achievable through mergers.

In this market configuration, banks able to allocate resources to M&A operations under their business development strategic plan may develop a long-term strategic competitive advantage in their market, notably through efficiency gains. Under this perspective, EU statistics suggest that medium-sized banks (EBA Risk Dashboard sample) may prove to be attractive targets. First, medium-sized EU banks are relatively inexpensive acquisition targets, since they appear to structurally lack profitability momentum in the current market and financial environment, experiencing persistently lower ROE relative to large-sized banks—respectively 1.6 percent versus 6.5 percent on average between 2014 and 2016.[1] Second, besides overall efficiency gains, integrating the acquired clientele of medium-sized banks into larger banks may prove to be a winning strategy in terms of profitability development, due to the fact that larger banks are able to offer their clients a wider range of financial services at a low marginal cost.

1. This trend will not be in the interest of consumers who will lose the advantage of competitive markets.

Gap in ROE between large and medium EU Banks underlines potential efficiency gains from market consolidation
(EBA Risk Dashboard sample of EU Banks ROE, Dec. 2014 - Jun . 2016) - *Source: EBA*



Large Banks

Medium-sized Banks

The digitalization dynamic: fees instead of penalties

The pursuit of the digitalization of banking is key toward a widening financial services offering and cross-selling under a strategy of profit diversification through the generation of fee income. Furthermore, market players able to increase the accessibility of their services to their customers by providing reactive and complete online and mobile banking platforms will develop strong competitive advantages over traditional banks and increase their resistance to external competitive threats, such as FinTechs.

The digitalization of banking, and its democratization to medium-sized banks, provides banks with key abilities to support the successful implementation of ambitious business and strategic plans:

- The dilution of branch networks leading to the reduction of branch and staffing costs
- Increased responsiveness to client requests and higher quality services
- Enhanced data analysis capabilities and behavioral understanding
- Increased funding management reactivity and accuracy
- Offering additional and complementary on-demand fee-based services

Finally, to be successful, the implementation of a fee-based profit diversification strategy through digital transformation must be coupled with a fundamental philosophy shift toward flexibility. Such strategy must indeed provide clients with the highest degree of flexibility with respect to the management of their personal finances, supported by the offering of a wide range of services and options as standard, such as the option to choose and modify loan conditions at any time in exchange of fees instead of penalties.

The pursuit of the digitalization of banking is key toward a widening financial services offering and cross-selling under a strategy of profit diversification through the generation of fee income.

This article illustrates the impact of several dynamics on banks' playing field and highlights the importance for the banking industry to reconsider their business model in order to remain viable and sustainable. Some banks have opted for a cost-cutting strategy or increase in management fees to support their performance, but they also need to reduce their dependence on interest income and integrate the ongoing digital revolution. Fee income is considered an alternative source of revenue, but the market appetite for complex products is decreasing, pushing market players toward simpler products that are protected by stricter consumer rules and characterized by lower fees.

Under the Business Model Analysis regulatory stream, EU Supervisors should spark initiatives to support banks' profitability but will at the same time control that the change does not bring systemic instability nor jeopardize the economy. To meet those requirements, banks will have to undertake a tremendous balancing act.

Part 02

From a digital perspective

Boards still need to go viral on digital

Monique Bachner
Non-Executive Director
Institut Luxembourgeois des Administrateurs (ILA)

Nicolas Hennebert
Partner
Audit
Deloitte Luxembourg

Pascal Martino
Partner
Strategy Regulatory & Corporate Finance
Deloitte Luxembourg

Vasily Shlykov
Manager
Strategy Regulatory & Corporate Finance
Deloitte Luxembourg

The modern economy is unthinkable without big and medium size corporations, and hence without board directors who steer the navigation of those corporations. Though their job has not changed dramatically, the challenges they are facing have. How the board can address the digital change is at the heart of this article.

Introduction

In these times of Uberization, universal digitalization, Big Data, and Blockchain, the discussion revolves around the astounding rapidity of change and the magnitude of its impact. Change itself is now a given, and the pace is only increasing.

To understand how well board members in Luxembourg are equipped to face the new digital era, the Institut Luxembourgeois des Administrateurs (ILA) and Deloitte Luxembourg jointly conducted a comprehensive survey of over one hundred board directors.

The results appear to indicate that the most common understanding of digital among board directors is largely limited to internal challenges, such as increases in efficiency and decreasing costs within the organization. External challenges related to strategy, such as opportunities and trends, disruptive ideas, and innovative solutions, lack attention at the board level according to the directors surveyed.

We believe boards must go viral on digital if their companies are to thrive—not only to survive.

In fact, as many as 48 percent of directors surveyed responded that they do not regularly receive—or in many cases never receive—reports or presentations highlighting such strategic subjects.

And yet it is clear that a lack of understanding of evolving technologies and disruptive innovations dramatically increases the risk of missed business opportunities, fosters competition and disruption threats, and may undermine investor trust.

We believe boards must go viral on digital if their companies are to thrive—not only to survive. Every director must invest heavily in understanding new technologies.

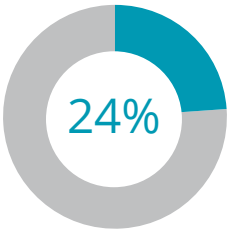
Boards must lead by example and must position themselves to ensure they can both challenge and contribute to management proposals and discourse. Boards must leverage the power of all digital and technological advances.

Board directors must also ensure—and continuously monitor—that the overall corporate strategy and the digital strategy are in absolute alignment. This would facilitate the digital transformation of organizations, adaptation of their operating models to new reality and business imperatives, and the closing of the talent gap. New KPIs will be required to effectively and efficiently measure the digital impact.

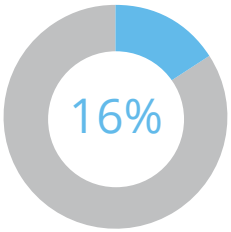
Digital and the role of the board

Digital transformation of organizations will involve adapting operating models to new business imperatives. Companies and their boards must leverage the convergence of multiple digital technologies to ensure they maintain a clear picture of not only internal challenges, but also external ones.

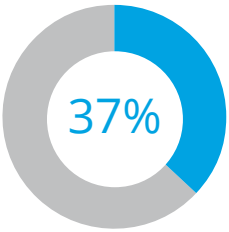
While corporations already strive to adapt themselves to the burgeoning world of innovations, forcing the entire board to be digitally savvy should help ensure their company's medium- to long-term survival.



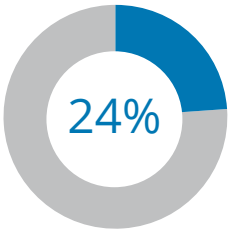
Board receives **detailed reports** about new and existing cyber security risks



Board receives **reports** regarding actual and simulated cyber security attacks on company



Board does not receive **information** about potential cyber security risks



Board is **not involved** in topics related to cyber security at all

It is important that boards take time to understand all that digital involves—a convergence of social, mobile, analytics and Big Data, cloud, consumerization, AI technologies, and the Internet of Things (IoT). Digital involves not only a technological change, but also a profound sociological one. Digital is not only new and evolving pieces of software, but a new and evolving way of doing things. This is why digital requires radically new approaches. This distinction is important, but not always evident at first.

Even if one is yet to see, for instance, whether Distributed Ledger Technologies (DLT), such as Blockchain (currently one of the biggest hypes in financial services), will become a Black Swan or will slowly fade to insignificance, boards cannot afford to ignore such important trends or leave the entire discussion to management. Together with management, boards must explore what the success of a given technology might mean. For example, some efficiencies may lead to revenue cannibalization across certain markets. Board and management need to have reflected in advance what this may mean for their entire business model.

While the survey results indicate directors are already focused on internal challenges such as increases in efficiency and decreasing costs within the organization, it was surprising that they had not radically questioned traditional focuses of risk management reporting. With new collaboration and communication technologies, cyber risks and other external threat increase. Yet surprisingly, few directors currently receive regular information about potential cyber security threats. They are also not involved in topics related to cyber security preparations. Along with executives, directors must play a critical role in preparing for and responding to cyber risks. Boards must become active partners in such matters, with cyber risk added to the board agenda.

Understanding new technologies is one thing, but making something of them is still another. Boards have started rethinking their digital ways of functioning, having largely moved beyond 20th century technologies such as emails, to at least simplistic web portals. However, only a fifth of respondents indicated they can access company data on mobile devices, and we still hear of resistance to simple things such as moving away from paper reports.

Dynamic data feeds would allow strategy KPIs, and even board packs, to be available on tablets with live data. This would improve the reliability of board reporting by ensuring that information reviewed was current, helping boards to become more forward-looking. Such feeds could also enable directors to access company information outside of scheduled board meeting cycles, enhancing the effectiveness of monitoring through strategic information flows with directors.

Boards are not, however, ready for routine replacement of regular face-to-face meetings. The importance of interpersonal dynamics required for effective group decision making cannot be neglected. Participation through technology does not allow as efficient signaling for effective communication as physical presence. Physical presence allows for better interpretation of subtle body language signals, which can be a crucial part of effective communication and debate. Technology can, however, enhance these processes and allow for the reality that a director will occasionally be unable to attend in person. In such circumstances, a director can better participate through visual conference, while having access to a tablet showing slides of the most recent reports, than by simple telephone conference with a board pack full of stale data. A director would also be able to comment on and question content directly, and share those observations with other board members in real time, even when not physically in the board room.

Digital requires a renewed focus on strategy

Survey responses indicate only 14 percent of boards are aware of their companies having a clearly defined and communicated digital strategy, with less than half of directors believing their company's digital strategy and overall corporate strategy are aligned.

Why is that? Within some organizations, efficient company-wide spread of digital ideas may suffer from traditional departmental structures and communication methods. In the absence of effective board communication on digital matters, boards risk setting (or keeping) their companies on a course toward disruption without even trying to avoid it.

Boards must ensure technologists are empowered and closely partnered with other C-suite stakeholders. We see a significant rise of CIO importance and powers on a par with the other C-suite cohort, with the evolution of the Chief Digital Officer (with much broader responsibilities than that of the traditional CIO). Directors must ensure that digital initiatives are given sufficient thought to evaluate viability and business potential. Boards may also need to re-think the traditional annual budgeting process, as many digital projects will require a multi-year roll out.

52%

Definition of digital strategy

Digital strategy is not clearly defined or directors are unaware of such

21%

Alignment with overall strategy

Digital strategy is aligned with the overall corporate strategy

38%

Communication

Company employees who have received communication about the digital strategy

The board must ensure—and continuously monitor—that the overall corporate strategy and activities with the digital strategy are in alignment and merged to become one vision. The board needs to be part of the setting and challenging of those strategies. All types of new or seemingly outlandish technological ideas must be considered. Who would have believed only a short time ago that we would be using drones for items such as topographical surveys, urgent medical deliveries, and even projects such as building rope bridges without human intervention. What seemed fantastical a year or two ago is now the reality. New ideas must constitute a part of a well-thought digital strategy with dedicated resources responsible for their implementation.

Going viral on digital can be great thing. On the other hand, too much digital too quickly could also backfire if projects end up unfocused, under-resourced, and lacking results. Internal conflicts of interest are inevitable, requiring a proper strategy roadmap to ensure success. The strategy roadmap must stem from a well thought-out digital strategy, and crucially, it must be supported by everyone in top management.

Given that organizational inertia and resistance to new ideas are cited among the main barriers to embracing an enterprise digitalization, board directors must proactively brainstorm how such barriers will be overcome. Boards should strive to break down silos, to ensure information flows freely across the enterprise, and encourage collective ways of working and communicating. "Department wars" and resistance to change must be monitored to ensure they are not putting brakes on the digital wheels.

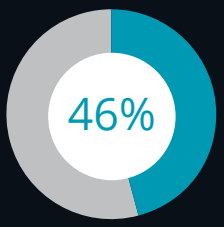
New KPIs may be required to track the digital strategy

Boards must ensure that their digital ventures always remain relevant, aligned with strategy, and advance at an appropriate pace. It is a key role of the board to monitor, among other things, implementation and budget. At the same time, boards will increasingly need to reflect on how these various ventures and evolving trends and technologies interact with each other to ensure that efforts are being maximized, or have not since become obsolete due to new external factors.

Boards will need to review internal measures of effectiveness and efficiency to ensure they remain appropriate. KPIs should be adapted to ensure effective monitoring of progress and return on investment of these new ventures. In its paper "Digital KPIs: Defining and Measuring Success," Gartner suggests to focus on two primary categories of digital KPIs: one measuring the pace of digitalization of the current business, and the other evaluating the impacts of digital on the company's business model, related to growth, changes in the market share, and competitive advantage. The two categories of KPIs are complementary, deliver differing information. For an example in a sales context, the first could be viewed as a metric to measure paper work reduction for salespeople, while the second could reflect increases in lead conversion ratios. Assessing such KPIs together improves the insight into where management should best focus for maximum impact.

We see a significant rise of CIO importance and powers on a par with the other C-suite cohort, with the evolution of the Chief Digital Officer (with much broader responsibilities than that of the traditional CIO).

KPIs to measure the progress of the realization of the digital transformation



KPIs do not exist or the respondents are unaware of them

Main barriers and challenges in the successful realization of the digital transformation

Too many competing projects

Lack of organizational agility and resistance to new ideas

Internal efficiencies for external impact: Using data to your advantage

Coming along with the advantages of digital, are also of course the challenges. Staying on top of things has become a major challenge for company management and for boards. Exponential increases in information volumes risk creating chaos if data is merely dumped on decision makers rather than curated to present only those aspects that are relevant.

To fully benefit from digital, companies must leverage the combined power of analytics, Big Data, artificial intelligence, the Internet of Things (IoT), and other digital innovations. These new technologies, when properly used, offer almost unlimited possibilities to interpret and use data. As data consumption abilities are not endless, it is only through analytics that it will be possible for companies and their directors to digest that data in a meaningful manner.

For instance, information gathered through social media can be used to tailor products or services for the "real" needs of clients—taking into account their current behaviors, preferences, and lifestyles. Such approaches should project a more accurate picture of what clients want and need, and could cover audiences who would never have responded to an old-school questionnaire.

Conclusion

It is the responsibility of boards to ensure their companies stay in (or even ahead of) the game. Avoiding disruption and obsolescence can only be done by embracing new technologies. Boards must find ways to ensure the company's capabilities are sufficiently adapting to changing paradigms, with strategic digital survival prioritized on the board agenda and at every level of the organization.
Success will only be achieved by those companies capable of adapting in rapid and smart ways. Not all projects or initiatives will succeed, but project success was never guaranteed in the past either.

Understanding and exploring new business opportunities offered by technological innovations is already a key focus of those few boards who are truly strategic. Every board and every director must now become digitally strategic, and must reflect on how their companies are addressing these challenges. Given the survey results, it would appear many companies and their boards risk being left in autopilot on a disused highway. They must urgently prioritize training in digital skills, refocus on the potential impacts of digital on their strategies, and adopt new forms of collaboration and communication at all levels of the organization.

Addressing the board's digital quotient

A digitally savvy and diverse board is not an option, but a must. How can boards address this digital deficit in order to get to the level required for ensuring meaningful conversations with the new generation of business leaders?

- **Directors themselves must become infinitely curious.** Each director must ensure they remain sufficiently informed of important trends and developments though a variety of media channels of their choice. Examples could include, for example, reading newspapers, blogs, listening to web and podcasts, subscribing to email newsletters, or following digital leaders on Twitter. Directors should consider attending events that are outside their usual comfort zone. It may be useful to dig deeper than usual into new areas in order to be able to master the concepts for later discussion and challenge.
- **All directors must strive to become digital champions.** Appointing a single digital champion will never be enough, as failure to detect "the next big thing" or a decision to block an initiative because of non-understanding could quickly lead to the loss of competitive advantage or even to obsolescence. The importance of having an extensive range of digital competencies among all board directors cannot be underestimated. The winners in the current innovation game will likely be those who have dreamed about and investigated the interconnectedness of new possibilities. Focusing on only one new technology will mean missing crucial elements and combinations. Boards must be in a position to question the CEO's digital agenda to ensure their company is not merely engaging in piecemeal or misguided initiatives, as although each initiative will likely begin in isolation, it ultimately needs to be fit within a fuller business strategy and fit with the company's organizational backbone.
- **Boards need to invest in their collective knowledge.** Boards must urgently consider the digital literacy of all directors on the same level as other required professional skills. Board education programs must include ensuring all directors are trained in appropriate digital skills, in addition to regulatory and other traditional focuses.
- **Boards need to regularly self-evaluate and review their composition.** While boards may go viral in training existing directors to upskill them for the digital challenge, this will rarely be enough. Boards need to embrace robust self-evaluation processes, and they must ensure the board composition remains appropriate in light of an increasingly regular refocusing of corporate strategy.
- **Boards must professionalize their director recruitment and succession planning processes** to ensure they are searching for—and finding—the most needed skills, personalities, and profiles for the current strategies of the organization.
- **Board diversity is needed more than ever.** Each director must bring unique viewpoints to discussions and ensure thorough debate from differing angles. Diversity in all its aspects—culture, gender, geography, age, backgrounds, etc.—has become more important than ever for boards to leverage a maximum of divergent viewpoints around which to debate and rally. Non-executive directors can also bring valuable viewpoints from other companies and other industries as traditional lines between sectors fall away. Boards that ignore these imperatives do so at their peril, and may be putting their organizations at risk.
- **Boards need to offer comprehensive induction and on-boarding support for new directors.** Comprehensive board induction programs must be offered to ensure that new directors quickly find their place and can perform with optimal impact in these fast-paced times.

The RegTech universe on the rise

François Kim Hugé
Partner
Financial Industry Solutions
Deloitte Luxembourg

Katja Krieg
Manager
Financial Industry Solutions
Deloitte Luxembourg

Federico Giuntini
Consultant
Financial Industry Solutions
Deloitte Luxembourg

The Big Bang...

Throughout the past decade, regulatory changes and the rapid development of financial technology (FinTech) profoundly changed the landscape of financial services as a whole.

One of these changes is the emergence of what could be a called FinTech's little brother: RegTech. Put simply, RegTech companies (RegTechs) offer solutions that use technology to solve compliance and regulatory issues.

As is the case with FinTechs, this description may apply to companies that were well in business before the buzzword RegTech was born.

The costs of regulatory obligations foster RegTech leap

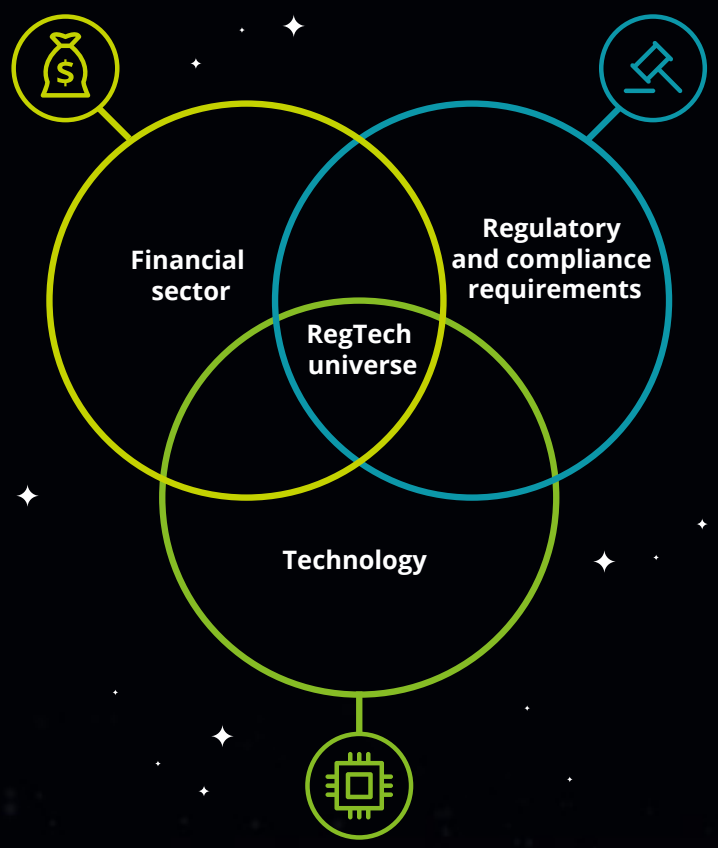
>USD 300 Billion
Post 2008 crisis regulatory fines
(source: FT research)

492%
Volume of regulatory change between 2008 and 2015
(source: Thomson Reuters)

RegTech

x45
Increase of regulatory fines in 20 large US and EU universal banks between 2010-2014
(source: McKinsey)

10-15%
Of total workforce dedicated to governance, risk management, compliance
(source: McKinsey)



The fact is that RegTechs are becoming more numerous every month and each of them promises to offer radically advanced solutions to existing problems or even brand new value propositions. The task now is to find those solutions that offer true added value and will pass the test of time.

To that end, we have been performing an analysis of the RegTech players on the market and mapped the companies we found into a "RegTech Universe." We consider this to be a continuous exercise, adding companies and information to the universe every day and are excited to share this information with you on an ongoing basis.

But for now, find some key findings on next pages.

Go to www2.deloitte.com/lu/regtechuniverse to see the RegTech universe we have analyzed so far.

Top benefits the financial sector can get from RegTech

A recent study by Thompson Reuters[1] showed that organizations are expecting to spend an increasing amount of money and time on compliance activities. How many of these activities could be facilitated by RegTech solutions? Think about an application that could save you valuable time during the ever increasing demands of the KYC process by allowing you access to a multitude of information sources and databases at once. The benefits of RegTech are there, if they are used smartly and are integrated seamlessly into the current organizational structure.

Cost efficiency
Significant savings in regulatory and compliance activities

Availability
More accurate and granular regulatory information

Flexibility
Address an array of compliance and risk management needs

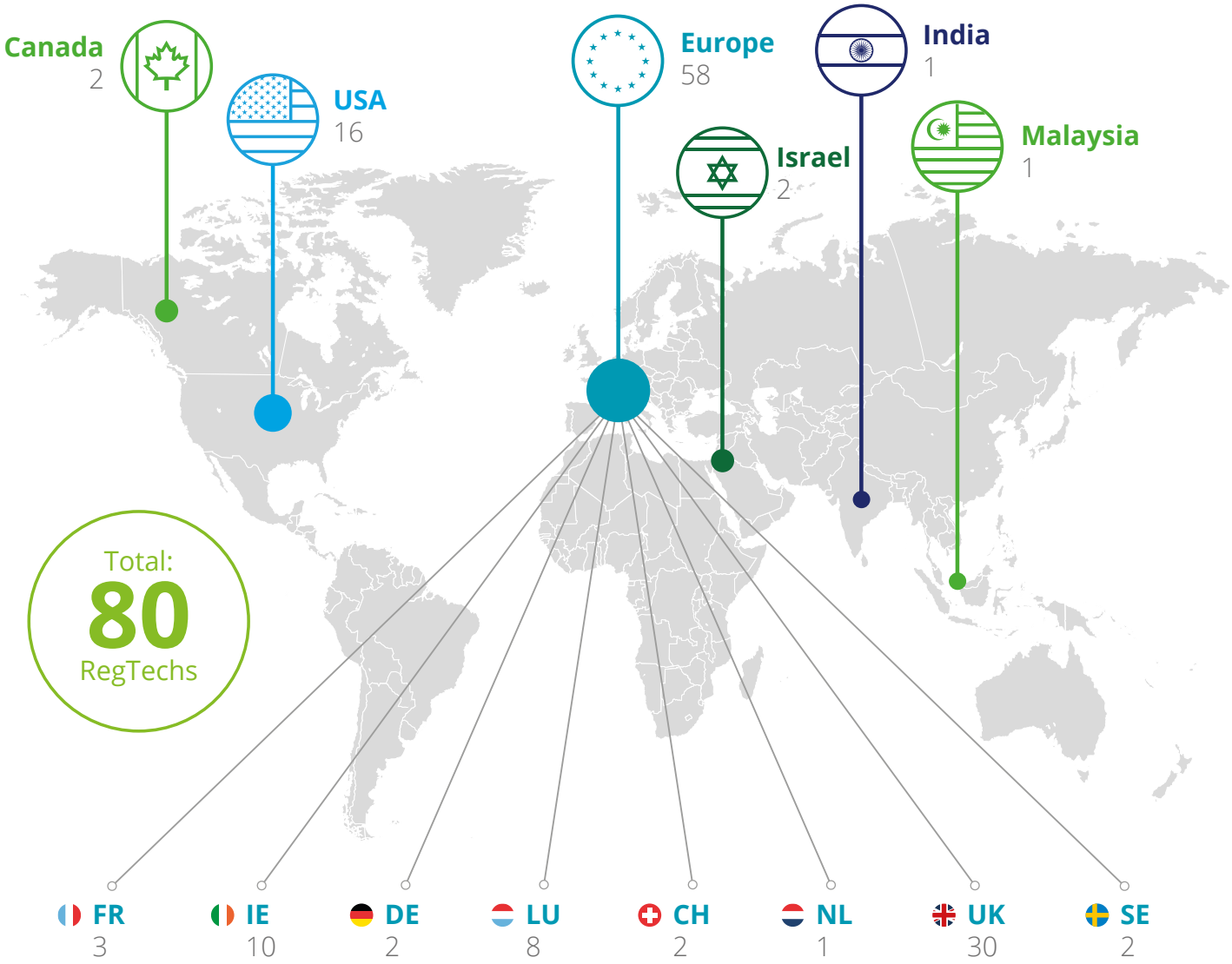
Security
Data encryption and secure transmission channels

Analytics
Big Data visualization and mining

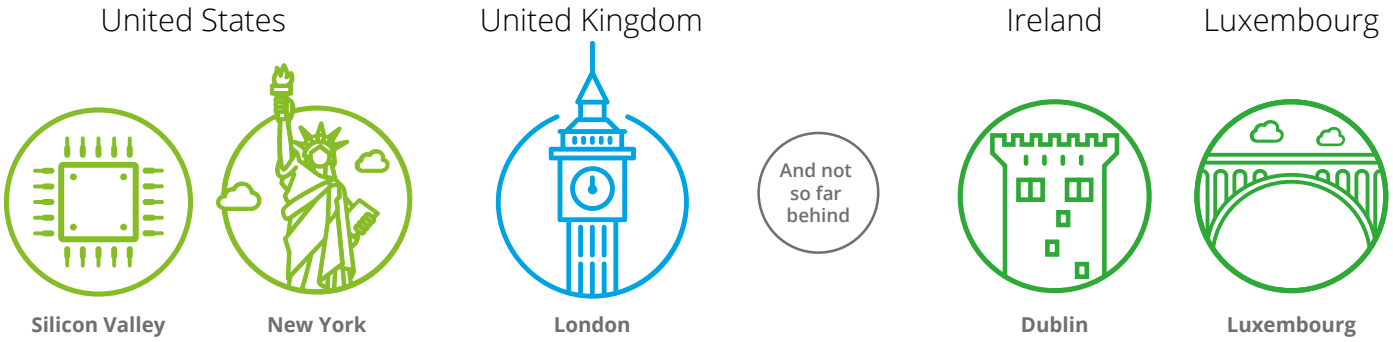
1. Source: please see on page 14

Geographical overview of the RegTech universe

While we kept Europe as our focus for the moment, we included quite a few RegTechs from further away that propose solutions that are too interesting to ignore. Stay tuned to watch the universe grow in the coming weeks and months.

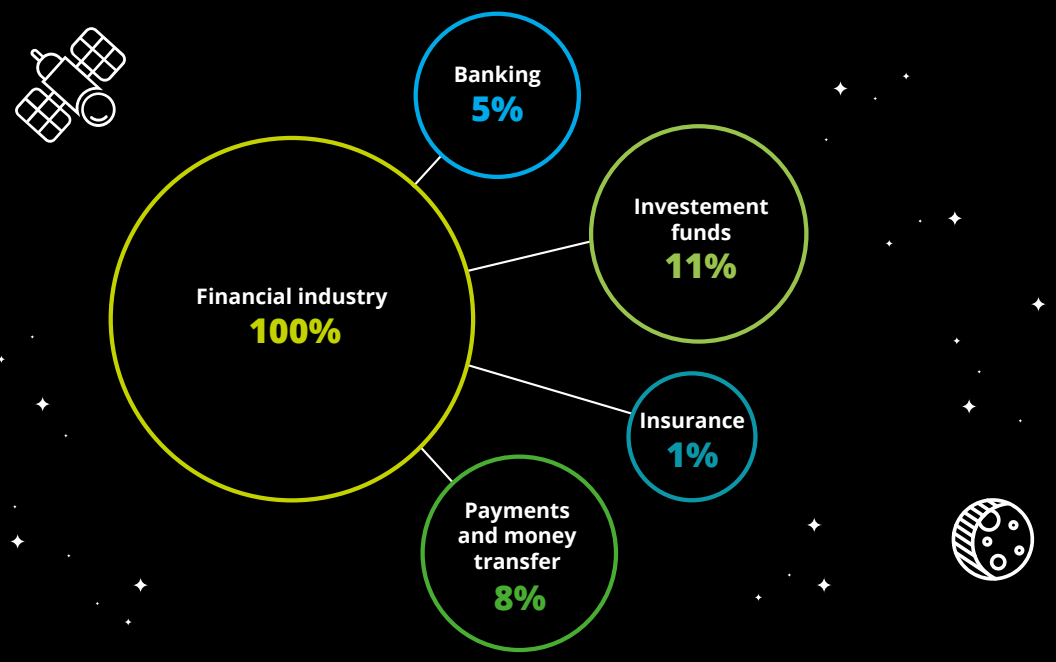


Cities with the highest number of RegTech startups

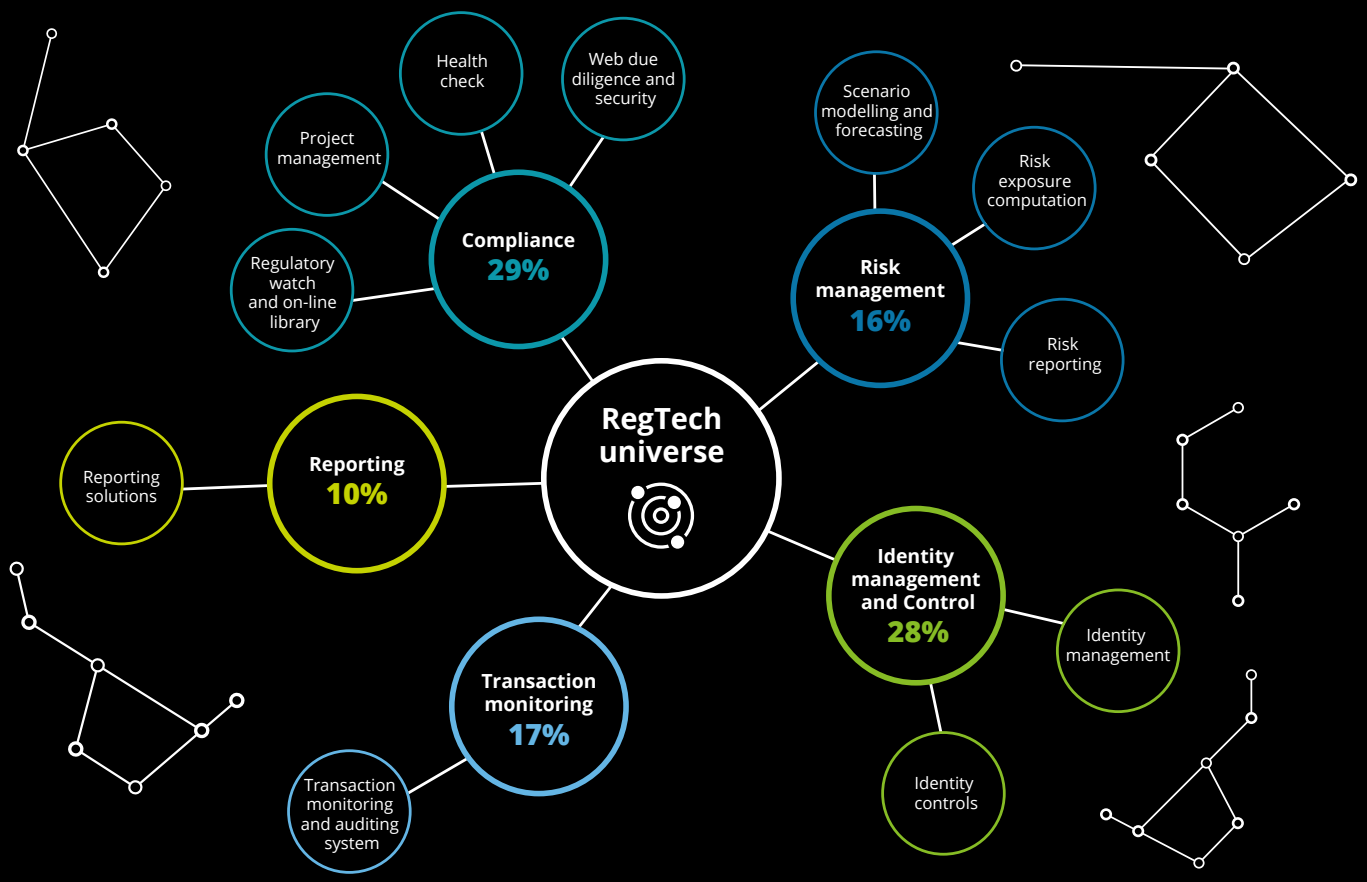


RegTech solutions favor a one-size-fits-all approach

RegTechs that focus purely on the banking or the insurance sector are few and far between. Most of the universe is looking to address all players in the financial industry with their solutions, providing an approach that is flexible and broad enough to cover a multitude of requirements across the band. Only a small number focuses specifically on, for instance, the banking or insurance sector.



From business needs to RegTech features



Main technology supporting RegTech solutions

Cloud computing
Cloud, open platforms and networks for sharing of data, format standards, and common processes.

Blockchain
Technology allowing the creation and verification of transactions on a network instantaneously without a central authority. Used to track and speed up the transaction life cycle and cut costs while lowering the risk of fraud.

Application program interface
Software solution that allows off-the-shelf RegTech tools to interact directly with regulatory reporting systems.

Machine learning
Technology that learns from data and allows automatic reassessment and refinement of processes in reaction to input from users.

Big Data
Real-time processing tools/techniques of Big Data to create value out of the massive amount of available heterogeneous and textual data.

Data mining and analytics
Use of machine learning and behavioral analysis that offers the potential of powerful data mining and simulation techniques for enhanced decision making and artificial intelligence.

Predictive analysis
Solution that looks to identify patterns of activity, such as unusual use of communications, non-routine patterns of leaving the office, non-completion of training, or missing mandatory leave, which may flag potential conduct concerns.

Smart contracts
Computer programs to enforce the negotiation or performance of a contract. Smart contracts aim to provide security that is superior to traditional contract law and to reduce other transaction costs associated with contracting through automation.

Visualization solutions
New technical solutions for a user-friendly data presentation in order to make sense and to speed up the understanding of complex, heterogeneous, and abundant data.

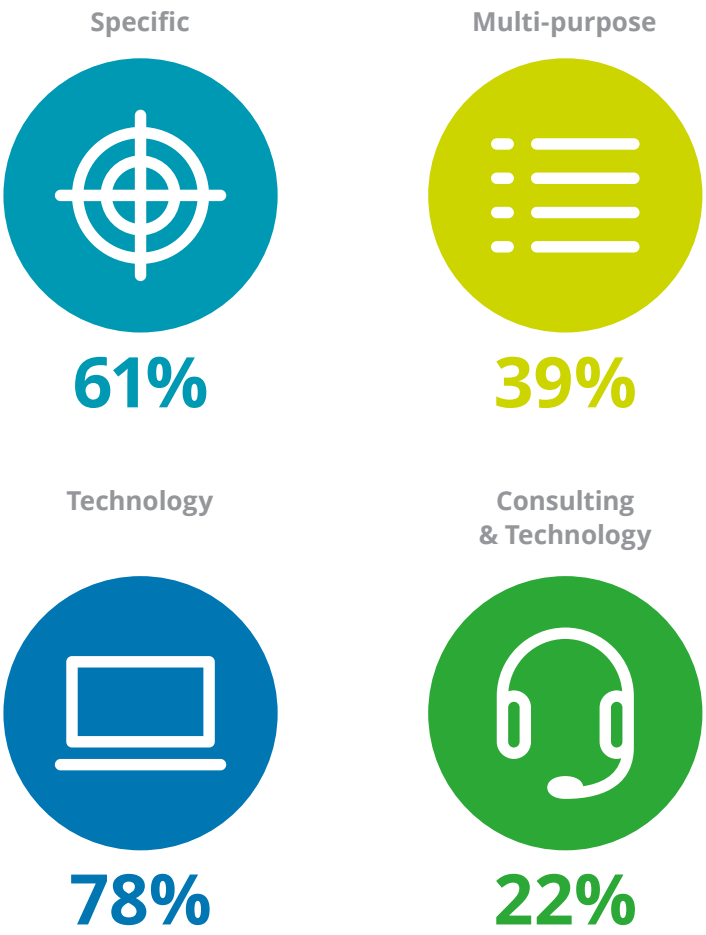
The majority of RegTechs are still in the startup phase and are no older than three years. With more than half of the RegTechs focusing on "Tech," there is plenty of room for added-value services.

Issues addressed

The one-size-fits-all approach that RegTechs take regarding the sector of the financial industry does not apply when it comes to the issue addressed. About half of the RegTechs focus on one specific problem that their technology intends to solve, e.g., certain KYC requirements. It remains to be seen if those RegTechs that concentrate their strength will endure over those that hope to address a multitude of issues.

Type of solution

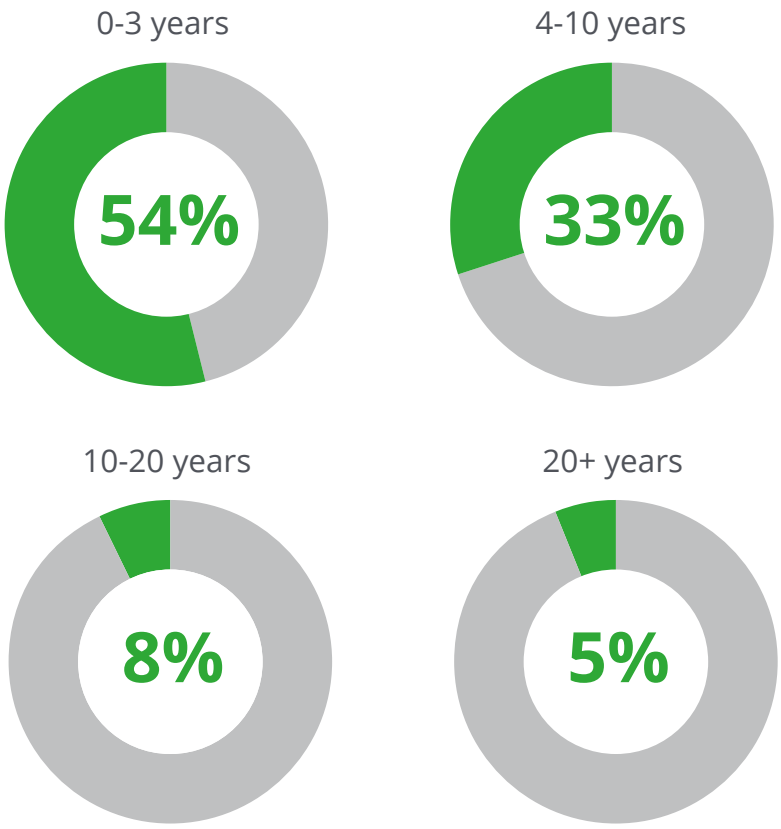
The "Tech" in RegTech holds true for the service offered, with the majority focusing on a technology-only approach and only some adding a service layer. This too might be a hurdle to overcome during the maturity process of the RegTechs analyzed.

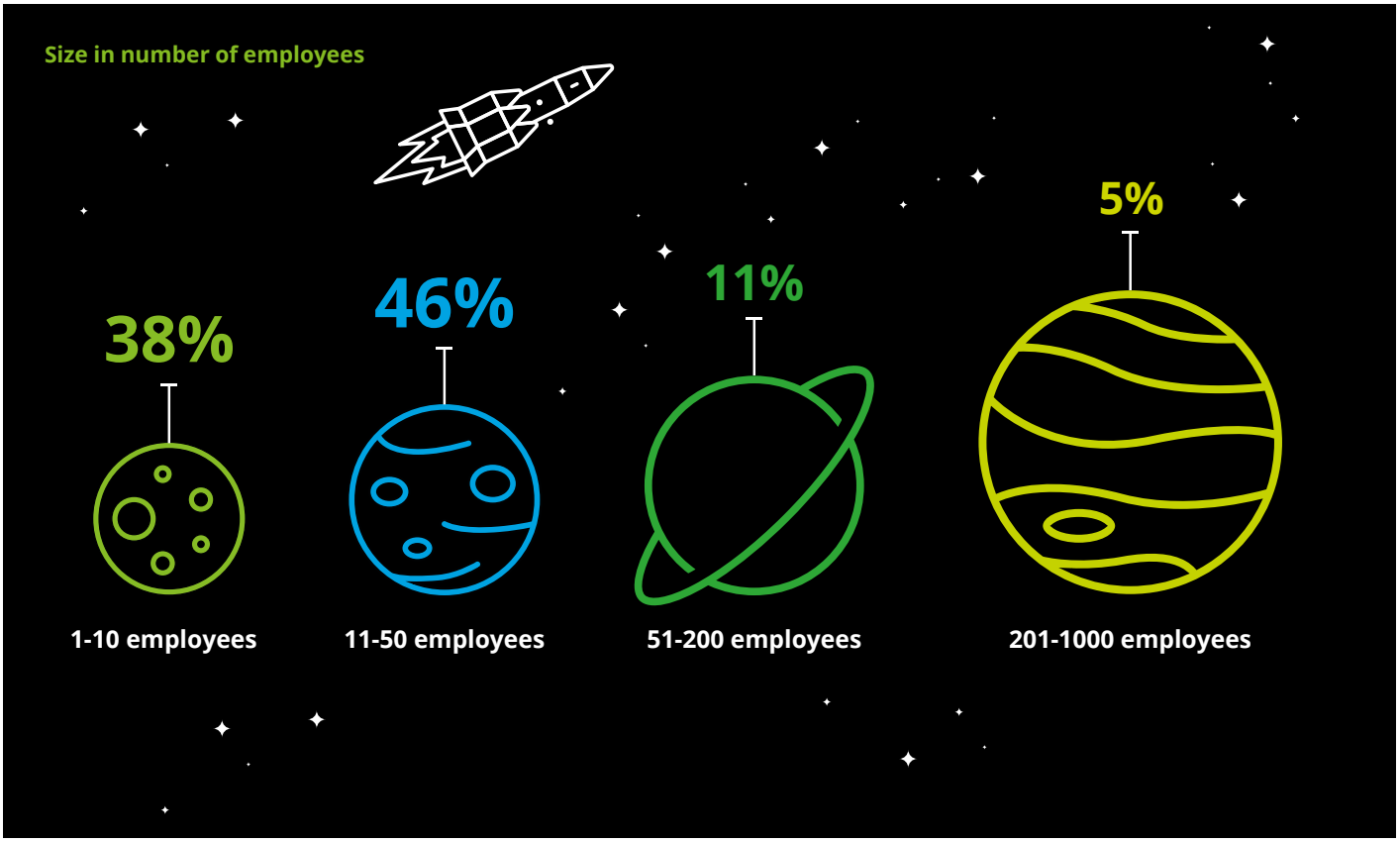


The majority of RegTechs are still in the startup phase and are no older than three years. However, more than 40 percent have more than ten employees. This gives a good indication of the potential of the market but it also shows that there is a long way to go before many of the RegTechs in the universe have built up enough reputation to really get to the movers and shakers of the financial industry.

With all this information fresh in our minds, let us take a look back at the introduction: "The task now is to find those solutions that offer true added value and will pass the test of time." The RegTech universe is a complex space that may seem like a strange new world and it is a continuing mission to seek out new solutions and understand their value propositions for concrete problems at hand. This in itself is an exciting assignment we look forward to working on. Another one is to look at the technology solutions out there and understand if there is a service gap that needs to be filled. In any case, many new players on the market make for interesting times ahead.

Years since incorporation





In order to ensure and eventually benefit from the growth of the RegTech concept, integrating innovation in the company culture and corporate structure of financial firms is key to stay ahead of the game

In addition to presenting you with our RegTech universe, find below some Q&A that might sound familiar; these are questions our clients are asking now.

What practical steps does the industry need to take to reap the benefits of the growth of the RegTech sector?
First and foremost, we need to invest in confirming what RegTech really can bring in terms of value. By overcoming the buzzword and understanding how RegTechs can influence existing processes today, the industry will not only ensure the continuous growth of the RegTech sector, but grow right alongside it.

Secondly, we believe that many players in the financial industry need to invest even more in innovation programs. Financial firms do have their product development teams, but R&D is not usually a part of their DNA; it is not embedded in their corporate structure. However, in order to ensure and eventually benefit from the growth of the RegTech concept, integrating innovation in the company culture and corporate structure of financial firms is key to stay ahead of the game.

What role do the regulators play when it comes to the adoption of RegTech in the financial services industry?
On one hand, regulators need to embrace new technology and be open and flexible enough to rapidly capture the opportunities that new technologies offer to facilitate processes for the industry and for themselves. Here, what is extremely important to factor in is that new technology has a global reach and cannot be looked at in isolation. For instance, the global recognition of standards with regards to electronic signatures would certainly be a great accelerator for many developments in business processes and for processes within the regulatory institutions.

One the other hand, regulators need to accelerate the creation of regulatory frameworks to help stabilize promising developments. For instance, cryptocurrencies such as bitcoin, the use of smart contracts, or cloud-based solutions need a sandbox-like environment in which they can improve and eventually prove their stability and maturity as serious concepts for the industry.

What we have seen in our endeavor to understand and promote the RegTech evolution, is that while there are countless promising concepts out there, deep understanding of the regulatory minefield only comes with experience. In this setting, Deloitte is uniquely placed to assist startups and incumbent companies to navigate through requirements and ensure their idea adds true value from a regulatory standpoint. At the end of the day, that is going to make the difference in terms of user and client expectation.

How can the interaction between RegTech solution providers and financial services firms be improved?
First, RegTech providers should find an appropriate way of presenting themselves to the financial community. They now come in numbers and in many different shapes and forms with different maturity levels. This makes it very difficult for established firms to identify the universe of RegTechs, and even more difficult to identify what will suit their needs. Hence, RegTech companies need to look at themselves through the eyes of the established firms, introducing their solution by addressing the particular needs of the firms and focus on how precisely they can add value. At Deloitte we are looking at ways to facilitate this process for RegTechs, using our established network within the industry, so we invite you to watch this space—there's interesting stuff to come!

How much of an imperative is there for heads of compliance/regulatory reporting to be looking into RegTech at the moment? Is it a given that firms will increasingly adopt RegTech solutions, or is there still work to be done?
"Growing and more demanding regulations" has been quoted as a very significant change factor in every single presentation of the challenges in the financial industry in the last 20 years. This is simply to make the point that those companies that will have the means to effectively tackle present and future regulatory developments will have a competitive advantage over the others.

In that sense, heads of compliance and regulatory reporting have a great role to play. They perhaps should change the way that they perceive their role, which is often linked to "safeguards and control" and incorporate "business enabler and business development" in their job description. We believe that this is a great paradigm for heads of compliance and we, at Deloitte, would certainly be happy to facilitate the transition.

Effective adoption of internal audit analytics in financial services institutions

Neil White
Principal and Global IA Analytics Leader
Internal Audit Analytics
Deloitte US

Laurent de la Vaissière
Director
Information Technology Risk
Deloitte Luxembourg

Ben Horton
Senior Manager
Internal Audit Analytics
Deloitte US

Geoffrey Kovesdy
Senior Manager
Internal Audit Analytics
Deloitte US

Alan Tua
Senior Manager
Risk Advisory Data Science
Deloitte UK

By capitalizing on the wealth of data now available—from your own business activities as well as external sources—Internal Audit (IA) can generate valuable new insights, provide greater assurance, and rewrite the rulebook on traditional auditing techniques.

Given the surge of big data and the belief that traditional notions of IA testing are no longer sufficient in providing assurance, embedding analytics into internal audit plans has taken root. New economy business models, disruptive technologies, and ever increasing expectations by global regulators have elevated the importance of effectively applying analytics to IA. A recent global survey[1] of 240 chief audit executives of financial services institutions foreshadows a dramatic increase in the use of advanced analytics. The research shows that about 20 percent of the surveyed participants are using advanced analytics in at least 75 percent of their audits, with that number expected to double in the next three to five years.

As internal auditors seek new ways to innovate in their roles, and gain impact and influence within their organizations, analytics is proving to be a key differentiator. By embedding analytics in every phase of the audit process, IA can help the business navigate a world that has become vastly more volatile, uncertain, and complex. We call this new approach to embedding analytics "insights-driven auditing."

1. Evolution or irrelevance? Internal audit at a crossroads – Global Chief Audit Executive survey; Deloitte Touche Tohmatsu Limited; July 2016; www.deloitte.com/globalcaesurvey

Setting the vision for internal audit analytics

There are a multitude of options to consider when implementing or enhancing analytical capabilities and delivering analytics-enabled audits: How and where to host the capabilities and solutions? What is the right technology to deploy and when? Who are our ideal resources to drive the efforts? And how does this affect the internal audit process and communication of results? These decisions will impact not just how you audit, but what and when you audit.

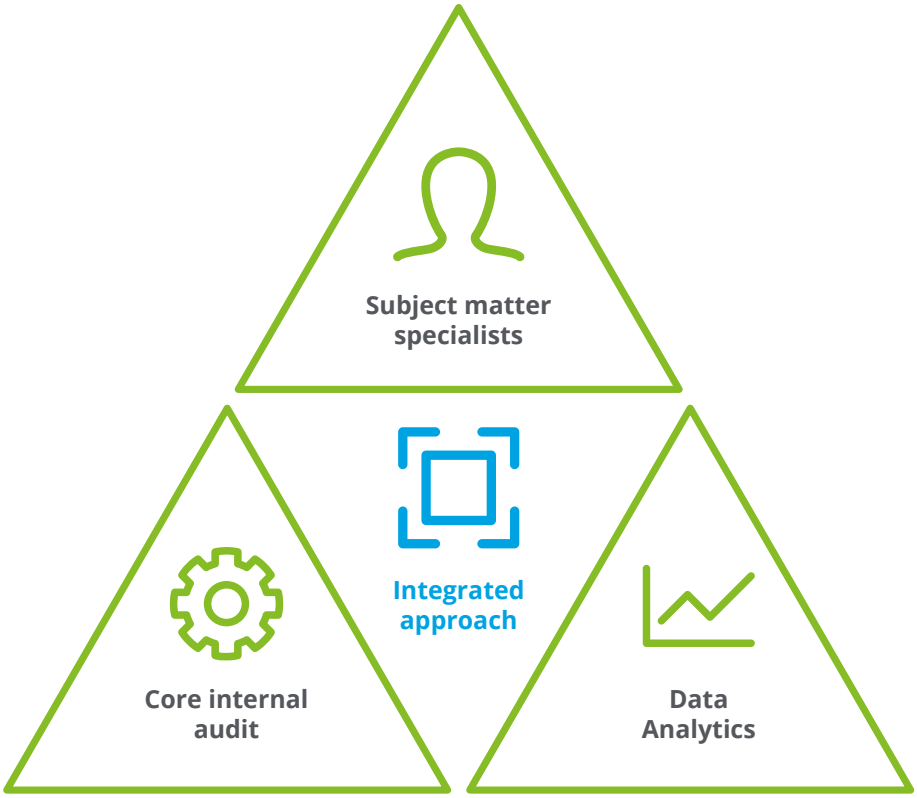
Data analytics can not only support the internal audit process, but it can also lead to the production of useful and actionable insights for decision-makers through modeling, visualization and forecasting. Insights can be historical, real-time, or predictive and can also be risk-focused (e.g. controls effectiveness, fraud, waste, abuse, policy/regulatory noncompliance) or performance-focused (e.g. increase revenue, decreased costs, improved profitability). Data analytics can also provide the "how?" and "why?" answers to the initial "what?" questions that arise after viewing the data. The IA function can use data analytics to advise the business in non-traditional ways by collaborating with other functions such as compliance, accounting, and risk management in areas such as strategic planning.

Delivering the strength of a multidisciplinary, insights-driven audit approach

Analytics is more effective when delivered as an integrated team. This means your core IA professionals are working together with the data science and analytics professionals and calling on subject matter specialists as appropriate (see figure 1). By co-developing scope, risk objectives, and approach for the internal audit, and jointly participating in walk-throughs, internal auditors significantly enhance effectiveness of the analytics. In addition, a shared understanding of the process and outcomes ultimately results in an audit with a greater impact on the business.

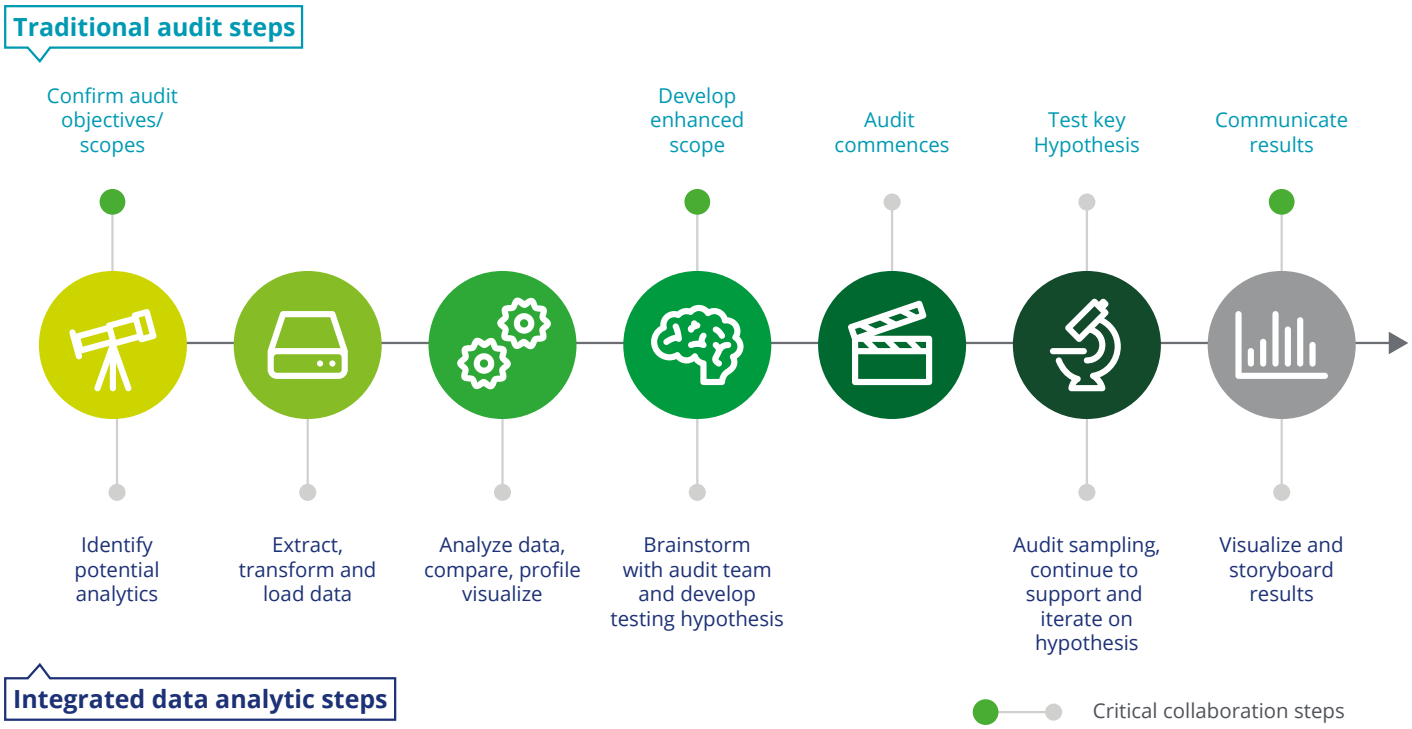
The effectiveness of any analytics-embedded internal audit is linked to those demonstrable results that can transform your organization, particularly when they translate to financial benefits. When seeking insight from data, it is important to ask the right questions and to always challenge yourself with "so what?" for any insight produced. Linking questions to key testing hypotheses—or "what could go wrong"?—can help drive the analytics approach. Hypothesis development needs to happen prior to scoping your audit to deliver the greatest benefit. Analytics as a "bolt-on" to the audit (i.e., during fieldwork alone) drives incremental rather than transformational benefit. Figure 2 illustrates the insights-driven audit approach.

Figure 1: Enhanced audit integration model



Refreshing the audit approach: Embedding analytics

Figure 2: Enhanced insights-driven audit methodology



Benefits of an insights-driven approach

The benefits of an insights-driven audit can be summarized into four simple statements:

1. **Perform the same audit faster**
   For example, improving your access to data and developing key insights before fieldwork commences; making connections and comparing performance and key benchmarks between products, processes, and business units means you focus only on what is of utmost importance and avoid merely confirming the obvious; or assessing transaction risks in real time.

2. **Perform the same audit cheaper**
   For example, connecting the auditor directly to the process, through the data with risk analytics and data visualization, allows exploratory analytics to drive a more focused audit, while still testing 100% of the population. Moving to automated routines over manual saves time and money.

3. **Perform better audits**
   For example, combining data from inside and outside your organization to add new richness and granularity to insights and understanding of risk. Benchmarks, comparative analysis, and trending enhance on-the-job learning and development while delivering a more impactful result to business stakeholders.

4. **Make innovation a centerpiece**
   For example, providing a rich combination of data science disciplines and use of a new generation of technologies to enhance, automate, and continuously improve the audit process, reporting, and service delivery.

Analytics is more effective when delivered as an integrated team.

Becoming an analytics-enabled function

For many IA leaders, knowing where to start on their analytics journey is one of the tougher decisions they'll have to make. It will begin with an owner who sets out a vision and remains ultimately accountable for decision making at every stage; a strategy in the form of a roadmap, which describes and sets out the vision and objectives two to three years in the future; and an agreed set of processes that take into account everything from the order and priority of key tasks, including technology- and human resources-related decisions, to the steps required to identify, map, and extract data for use in your first analytic embedded audit.

If a key element is missing, the vision will likely not be met. Your brand, along with the business, could be damaged. To help overcome this, we recommend a simple three-stage approach:

1. **Assessment.** Analyze current analytics capabilities both within IA and across the business and rapidly develop proof of concepts to identify challenges and opportunities.
2. **Roadmap.** Create a long-term strategy and vision for analytics; scope and prioritize projects to achieve this.
3. **Deliver and monitor.** Initiate the program, deliver the roadmap, and monitor your implementation successes against key performance indicators.

Becoming analytics-enabled relies on the fundamental building blocks of people, process, data, and technology, all being informed by an analytics strategy. This enables the embedding of analytics into the audit lifecycle, focusing on the right risks at the right time while aligning analytics to the IA strategy and value drivers of the business. The questions below can help form the basis of your current state assessment and implementation roadmap.

What does 'success' look like?

To deliver effective analytical insight as an everyday part of the internal audit process means IA must broaden its focus beyond data and technology. The goal is to develop cost-effective solutions that are targeted, underpin the internal audit process, and achieve a more efficient and effective audit delivery model.

To deliver effective analytical insight as an everyday part of the internal audit process means IA must broaden its focus beyond data and technology.

Analytics strategy: In order to implement or enhance analytic capabilities, IA leaders first should develop an upfront vision of the IA future state, define objectives for the proposed initiative(s), and set the overall strategic direction for the function. Along the way, questions they should consider asking include:

- What do we want the department to look like two to three years from now?
- How can we use analytics to be more strategic?
- Does executive leadership understand the importance and benefits of embedding analytics into the IA function?

Process: Shifting from a "checklist" or sample approach to insight-driven decision making requires a sustainable process framework that staff can follow, regardless of attrition or other changes. Some questions to consider in building this framework include:

- When is the right time to identify analytics projects? Which are the best projects to focus our efforts?
- What are the steps we need to take to ensure that these projects are effective?
- How will analytics change the approach of our current audits and what is the impact of this change?
- What are the steps we should be taking to extract and load data timely?
- How will we measure our progress and capture lessons learned?

Technology: Insights-driven auditing relies on analytic technologies to enable new ways of gathering, analyzing and presenting data. Accordingly, many believe that technology should come first when building a sustainable analytics function. However, in our view, it should come last. The overall strategy for the analytics function, along with the vision of its future state, should drive technology selection and deployment. With this in mind, IA leaders should consider:

- What technologies do we need not only to process the data but also to present the results in a meaningful way?
- Are these technologies already licensed by the business?
- Are these tools scalable and are they capable of supporting our long-term vision?
- How can we most effectively collaborate with IT?
- What kind of technical support is available?
- How will we document and map the data landscape to support our long-term vision?

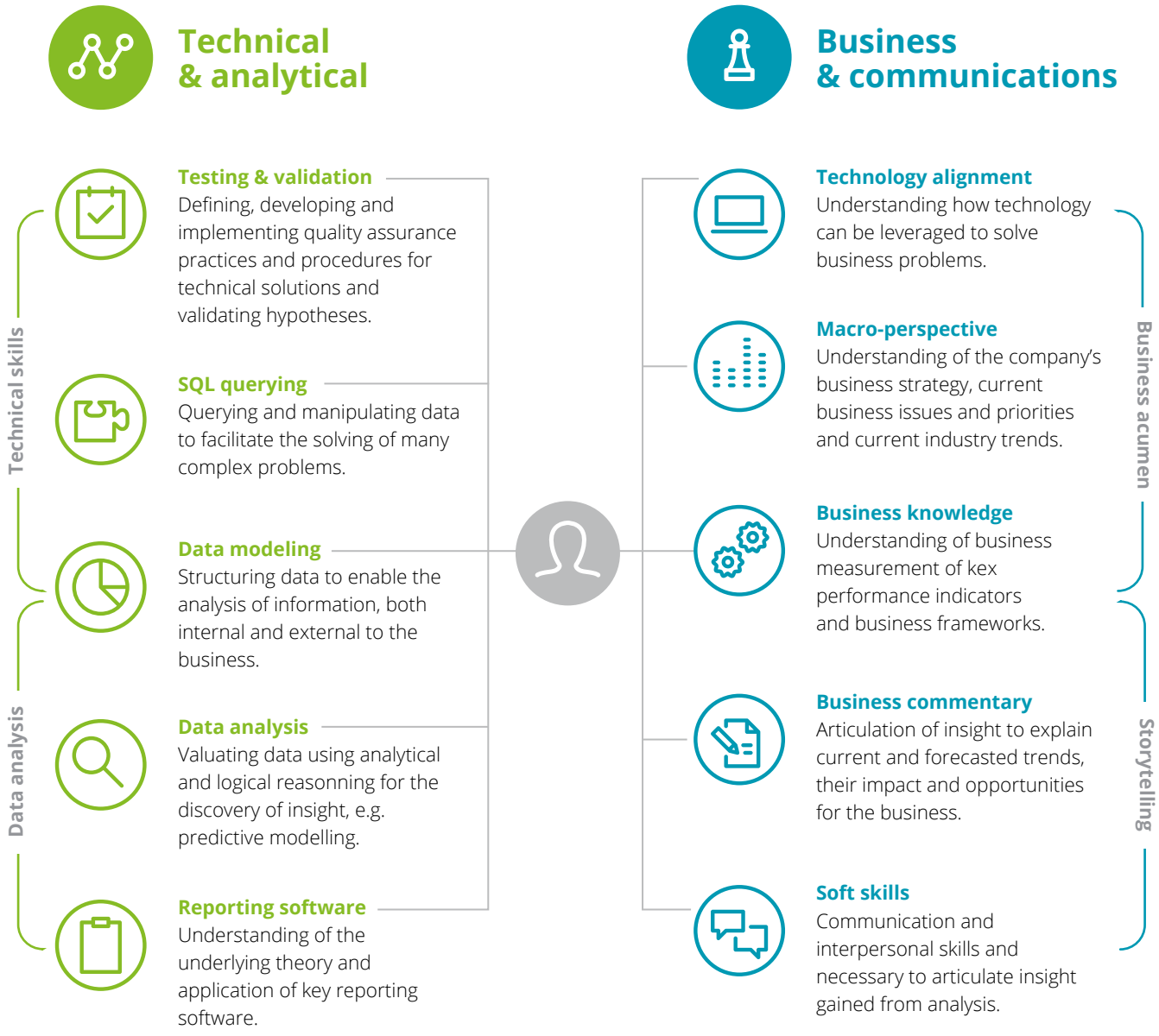
Data: Through analytics, IA leaders can harness vast amounts of data with greater accuracy and efficiency. It also helps IA leaders to understand and identify potential risks and opportunities farther into the future. Questions to consider include:

- Where does one set up an analytics hub?
- What data do we need to answer the important questions?
- From where is it sourced (i.e., internal, external, licensed, open, etc.)? Can internal efforts such as BCBS 239 be leveraged?
- How do we bring it together and what are the technical and governance challenges in transforming, linking and publishing it?
- What about quality and accuracy?

People: IA leaders will need to think through the human resources aspects of delivering insights-driven audits, including roles and responsibilities, skill sets, staffing needs, competency models, and training requirements. Questions to consider include:

- Who is the accountable IA owner?
- What organizational structure do we need to put in place to support our analytics strategy?
- Do we need new skill sets, such as statistical know-how, data-management expertise, and visualization and presentation skills? (see figure 3)
- Who do we need to engage in other departments as well as our own?
- How will we train our staff?

Figure 3: Data analytics competency model



Getting started

A proof of concept can serve as a feasibility study to provide a current state assessment of the organization's analytics capabilities and the strength of the insights that can be produced. To begin, the IA team would identify key business issues or important questions facing their department. We call this process "hypothesis development." The IA team can use the proof of concept to share visible, tangible insights with their business stakeholders and get to the heart of the issue.

Plan around roadblocks

Leveraging advanced analytics for internal audit may result in significant cost savings across an organization; however, many IA teams are not garnering the efficiencies afforded by its use. While many audit teams use analytics techniques in their fieldwork, survey data[1] indicates that a minority leverage the more advanced and vastly more valuable procedures during risk assessment and audit scoping. This suggests something is holding them back, and cultural change is a likely culprit.

One of the most formidable obstacles in building a sustainable analytics capability for IA is changing the traditionalist mindset. Forward planning is essential and often requires a rethink of the audit methodology and approach to allow for analytics (see figure 2).

Survey results[1] also show other barriers to the effective use of internal audit analytics - primarily the availability of quality data and internal audit's ability to effectively extract, transform, and load that data for use in audits. Solving for these data problems requires a focused approach that brings together the major stakeholders for data within the organization. Internal Audit should invest in the talent and solutions that enable reasonable and timely access to data while effectively addressing concerns related to privacy and security.

The path forward

While traditional IA functions may leverage analytics to select samples, extrapolate results, or identify exceptions, insights-driven auditing goes beyond this basic process in order to better address business issues and risks and provide new and valuable insights to management. It can help IA professionals ask the right questions, improve confidence in audit results, and identify the most appropriate actions.

While few organizations are on the cutting edge right now, our experience suggests that insights-driven auditing will become pervasive among leading companies by 2020. Soon, effective IA departments will integrate analytics as a core capability across their function and throughout the audit lifecycle. By acting now, IA leaders can get ahead of this trend, generating valuable new insights and more effectively help their business to navigate the future.

Leveraging advanced analytics for internal audit may result in significant cost savings across an organization; however, many IA teams are not garnering the efficiencies afforded by its use.

1. Evolution or irrelevance? Internal audit at a crossroads – Global Chief Audit Executive survey; Deloitte Touche Tohmatsu Limited; July 2016; www.deloitte.com/globalcaesurvey

The power of this method lies in the fact that the grouping is not stipulated by the analyst or auditor, but rather is purely driven by the data, and can therefore offer a robust way of circumventing potential auditor bias when developing an analysis

Analytics in action: Data-driven insights

Addressing auditor bias through advanced analytics

Internal audit objective: Conduct an internal audit of a real estate asset management firm's debt portfolio

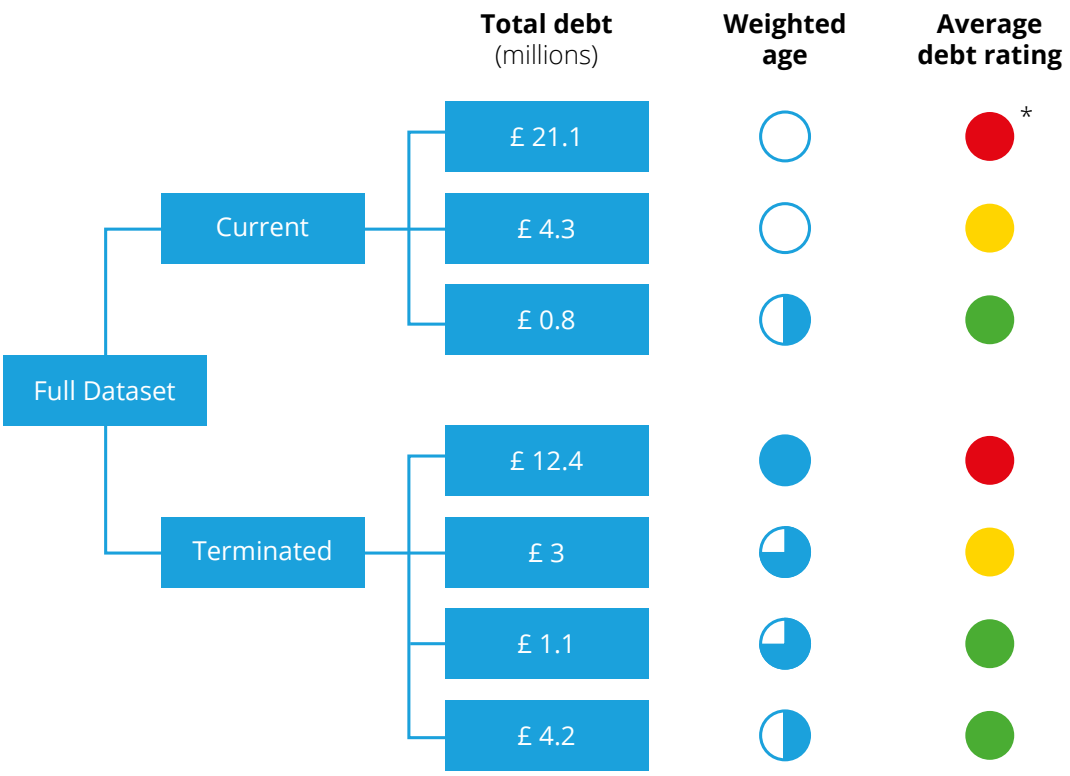
Initial approach and challenge: The audit team used analytics testing based on a set of risks drawn up by the business audit team based on their subject matter expertise. However, this approach may not have considered potential unknown risks due to auditor bias.

Removing auditor bias through clustering: To address potential auditor bias, the team leveraged an anomaly detection technique known as *clustering*.

The power of clustering lies in the fact that the grouping is not stipulated by the analyst or auditor. Rather it is purely driven by the data and can circumvent potential auditor bias when developing an analysis.

They began by gathering a dataset containing key information about the debt portfolio such as value of debt, age of debt and various characteristics of the fund and property managers (Figure 4). Then, every debt item in the dataset was grouped together based on shared characteristics (Figure 5). Any data point that is not grouped within any of the main clusters can be given an outlier score. This is a single,

Figure 4: Dataset of key information



* This cluster contained a large volume of poor quality debt and was eventually written off by the business in order to recover tax.

purely data-driven number that ranks how atypical each item is.

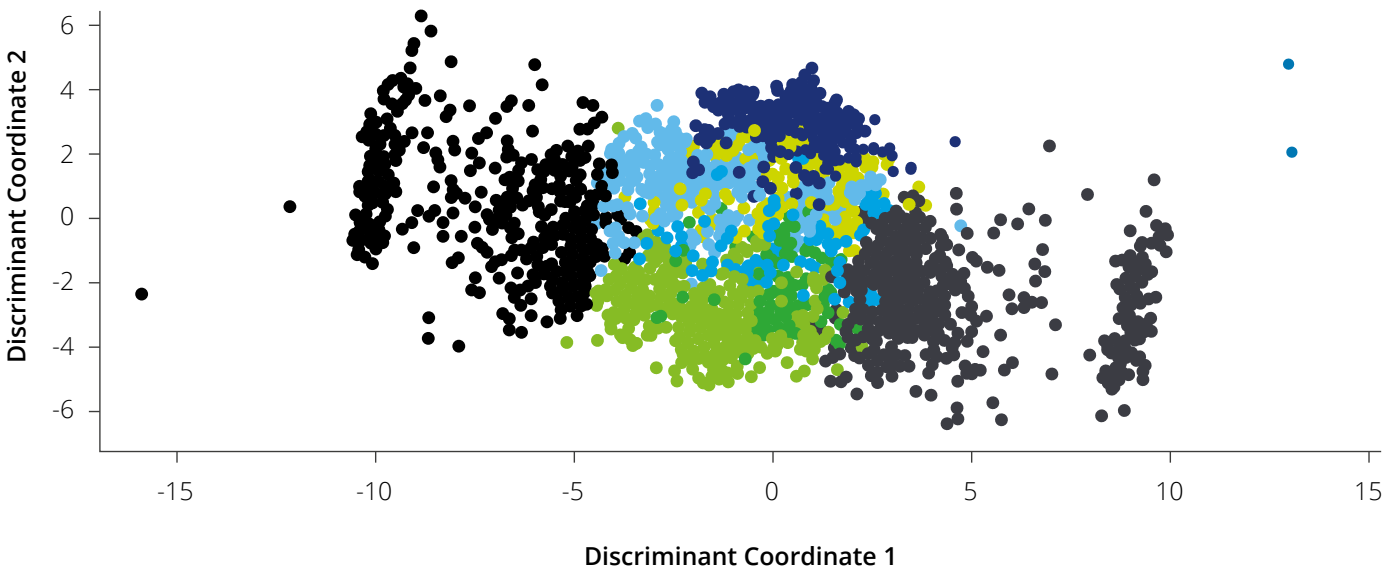
Analysis and outcomes: The clustering identified seven groups of aged debt items spread across the portfolio. Analyzing each of the clusters, the team employed a targeted approach to address each one. In particular, one group was a pocket of debt with particularly high risk. The finding helped lead the asset manager to the decision to write off the debt, allowing the business to claim back tax.

Additionally, analysis of the outliers uncovered multiple debts which were of moderate value and age that were not classified as high risk per the business audit team's original analytics. However, they were atypical as both the relevant fund and property managers had left the real estate firm, making them a high challenge in terms of recovery. A follow-up, in-depth investigation of these individual items ensued and led to the subsequent re-assignment of responsibilities to current employees.

Key learning: Using the advanced analytics method, clustering, allowed the audit team to carry out a more robust evaluation of the debt portfolio and address outstanding debt more efficiently and effectively, and without bias.

The risks uncovered can be incorporated into standard internal audit analytics to be implemented in subsequent audits. The same cluster analytics can be used year-over-year as the method is designed to uncover anomalies in any dataset, irrespective of whether there have been changes to the underlying business processes creating the data.

Figure 5: Clusters can be visualized using scatter plots



These plots make it easy to identify atypical points in a visual fashion. The outlier shown here was one of the debt items where both the fund and property managers had left the organization.

Part 03

From a governance and compliance perspective

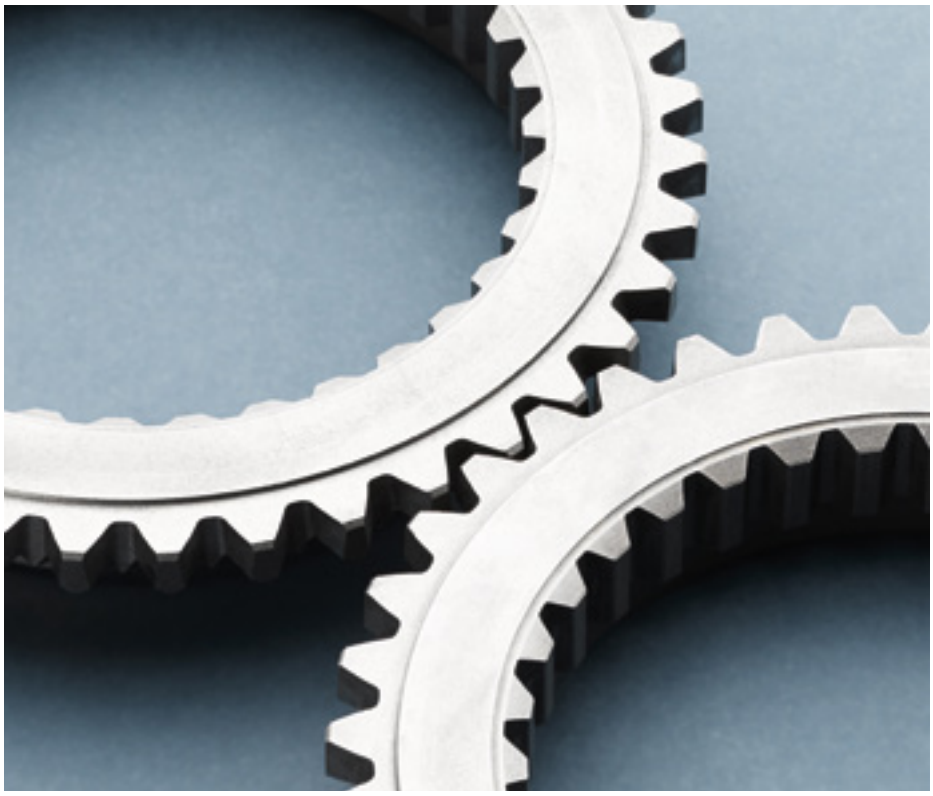
Internal audit priorities in the financial sector

Paul Day
Partner
Internal Audit
Deloitte UK

Chris Mayo
Director
Internal Audit
Deloitte UK

In an era of continued challenges around conduct and behavior for firms, regulators and boards are more aware of the issues and prepared to act. Customers and clients continue to expect more from the industry with work well-progressed on topics such as the Senior Managers Regime and Conflicts of Interest.

This leaves a critical question for internal audit functions to address—how does their work provide confidence in the conduct and behavior of firms, and ultimately help build trust with customers and clients? Are they focused on the priorities that matter? In addition, we should expect market disruption, innovation, and changing business models to put pressure on internal audit functions. The expectations on internal audit to cover the basics while adding more insight and value—being a genuine partner and critical friend—continue to grow. Many organizations are seeking to enhance growth and returns to build market share or access new technologies through acquisition, development into new markets or products, or partnerships to access talent. This adds pressure on internal audit to have a credible opinion on topics which in some cases didn't exist a year ago. Making an impact is becoming more challenging.



Economic Outlook

Growth in the United Kingdom for 2016 has been better than many economists had expected. Output in the first half of the year surpassed forecasts and, going in to June's EU referendum, markets were buoyed.

The outlook for the UK economy now and in 2017 will be shaped, in many ways, by how the economy responds to the UK's surprise vote to leave the EU. Following Brexit, economists have cut their average forecasts for growth in 2017 from 2.1 percent to 0.4 percent.

For the UK to experience a full-blown recession, consumers, who account for two-thirds of GDP, would need to stop consuming as they did in 2009-10. Forecasts suggest inflation will rise to 2.4 percent in 2017 on the back of a weaker pound and higher import prices, hitting consumers' take-home pay. Economists surveyed by Bloomberg in July give a 40 percent probability of the UK sliding into its first recession since 2009, up from 18 percent in June.

As things stand at this publication's date, the scale of the predicted downturn is not comparable to that which followed the collapse of Lehman Brothers in 2008. In this respect, the impact of fiscal, monetary, and regulatory policies will be crucial.

In response to weaker growth expectations, policy has become more accommodative. Chancellor Philip Hammond has abandoned the previous chancellors' target of reaching a surplus by 2020, and has stated a willingness to loosen fiscal policy to boost growth. The Bank of England cut interest rates further, to a new record low of 0.25 percent, and engaged in further monetary stimuli.

Thus it seems that the UK economy faces slower growth in 2017, albeit a milder slowdown than in the last recession, and with the opportunity for policy-induced stabilization.

This adds pressure on internal audit to have a credible opinion on topics which in some cases didn't exist a year ago. Making an impact is becoming more challenging.

Regulatory Outlook

Regulatory expectations continue to evolve and expand. Regulatory attention has, in most instances, moved beyond the planning phase and is now focused on implementation. Strong ethics, culture, and accountability at every level of the organization are now as important as financial resilience.

New regulatory requirements and expectations across a range of conduct and prudential topics that have recently come into effect include the Senior Managers Regime, MiFID II/Markets in Financial Instruments (MiFIR), and Basel Committee on Banking Supervision (BCBS) 239, as well as requirements tackling financial crime, consumer credit, and conflicts of interest, among others.

Furthermore, the Bank of England is expected to continue carrying out stress-testing exercises throughout the coming year. The European Commission's report on how market liquidity can be improved, and the potential impact of reforms and market developments, is also to be published. The report and policy proposals are expected to be published by The Financial Stability Board (FSB) on the need for additional prefunded financial resources and liquidity arrangements for Central Counterparties (CCPs). This is expected to be accompanied by standards and guidance on CCP resolution planning, tools, and the cross-border coordination and recognition of resolution decisions.

Additionally, a particular area of current supervisory emphasis is each institution's ability to respond to shocks or crises. The current list of possible risks is long, with consequences for macro¬economic and financial market instability and dislocations. These put the spotlight on IT infrastructure, contingency planning, and stress testing, among others.

Some banks have exited markets and changed how they participate in other markets, often leading to an influx of non-bank financial companies. This shift is prompting regulators to examine how regulatory requirements need to adapt to accommodate and respond to new entrants, and the new risks to the overall stability of the financial system they bring.

Additionally, these changes introduce new risks and challenges for banks themselves, since exiting an existing market or entering a new one is rarely straightforward.

When tackling regulatory change, many organizations have traditionally operated reactively, only making changes in response to a particular regulatory deadline, supervisory direction, or other type of regulatory pressure. However, organizations have increasingly started to shift toward a more proactive stance, with a more strategic approach to managing regulatory change and by establishing stronger links to business strategy and engagement with the regulators.

A forward-looking regulatory strategy creates opportunities to better align regulatory responses with business objectives. It can also improve the efficiency of implementation. By identifying connection points between regulatory and business strategies—instead of managing regulatory strategy as a side activity—banks can discover ways to achieve common objectives more efficiently and align compliance activities with their broader organizational goals.

Retail Banking outlook

Cost savings

Banks' core competitive advantages are being eroded by technology. Specifically, technology-enabled innovation, which leads to the rise of non-bank competition (e.g., Fintechs—although this also affects the insurance and investment management sectors) in areas such as payments. Additionally, the proliferation of non-bank Fintech organizations is disintermediating the traditional banking value-chain, which has historically been organizations largely owned or controlled by incumbent banks. This will make the fight to generate returns above the cost of capital particularly challenging.

Channels are key, particularly in terms of whether digital and non-proprietary distribution can reduce variable front-line costs, and whether increased straight-through processing (STP) can help rationalize the middle and back office. New analytical capabilities may enable banks to optimize their client relationships through their branch networks, and enable them to exploit their unrivalled treasure-trove of data.

Managing Innovation

Emerging business models are using new technology to re-invent key elements of FS, e.g., payment specialists and marketplace lenders. The danger is not that non-banks replicate the universal banking model, but rather that by innovating around it in support of their own core business, they fundamentally undermine the traditional integrated bank business model.

Banks' growth models and strategies should closely link to the digital customer and tech-enabled disruption. The question here is how banks can best "future proof" themselves at a time of considerable uncertainty and when shareholders are demanding a focus on cost efficiency. This is tied to how banks collaborate with Fintechs, including through investments and acquisitions of Fintechs, as well as cultural points around employee incentives and capabilities. It also requires a framework to understand which areas are priorities for investment.

The current list of possible risks is long, with consequences for macro¬economic and financial market instability and dislocations. These put the spotlight on IT infrastructure, contingency planning, and stress testing, among others.

Capital Markets outlook

Operational and conduct risks

The use of high frequency, electronic, and algorithmic trading practices within wholesale markets increases the susceptibility to operational risk events and poor conduct outcomes for clients. Often this is a result of historical programming development, IT issues, and a weaknesses in governance. While the global regulatory landscape is both comprehensive and complex, there is a growing regulatory expectation that firms demonstrate better compliance of electronic trading regulatory requirements. This has led to a greater focus within firms to have a common, homogenous approach that is applied in electronic algorithmic trading governance. This ensures best execution and compliance with MiFIR/MiFID II.

Bank of England's Fair and Effective Markets Review

The Bank of England's FEMR, issued in June 2015, concluded that Fixed Income, Currency, and Commodities (FICC) markets require stronger collective processes for identifying and agreeing on standards of good market practice, consistent with regulatory requirements, which respond more rapidly to new market structures and trading patterns. As a consequence, the FICC Markets Standards Board (FMSB) was established. This body is now defining and sustaining good practice standards for FICC markets to raise standards of behavior, competence, and awareness across those markets. The work of the FMSB is a timely reminder for firms to reconsider the application of established practices in wholesale markets.

Innovative technologies

Many capital market institutions are currently piloting and adopting innovative technologies, some of which are likely to have far-reaching consequences for their value chains, processing capabilities, and control frameworks. While many Fintech, and especially blockchain, initiatives are in the early stages, the implications for internal audit functions are significant and will require close interaction to maintain strong business and technology controls.

Insurance outlook

Conduct

In their 2016/2017 business plan, the Financial Conduct Authority (FCA) has emphasized that insurers need to check that they take steps to positively address the known behaviors and traits that consumers may exhibit, rather than seeking to capitalize on them. The FCA also outlined that unfair contract terms will come into sharper focus as the Consumer Rights Act is due to come into force. Part 2 of the Act deals with unfair contract terms in a wide-range of sectors, including insurance, and the FCA will widen the scope for the assessment of fairness.

Digital innovation

Many parts of the insurance industry now are either technology-related or have technology as a key driver. Trends such as growth of peer-to-peer insurance, cyber insurance, gamification, aerial and digital imagery, and customer adherence apps will have a larger role to play in future. Startups are emerging in the insurance sector with fresh, innovative, and potentially popular business models. New peer-to-peer startups claim to be 80 percent cheaper than traditional policies, for instance.

Internet of Things and Big Data

The growth of internet connected devices and sensors, which are projected to number 50 billion by 2020, is changing the insurance market. Through the use of low cost of sensors, improved communication, and increased data processing power, the Internet of Things is fueling the rapid growth in the availability of real-time or near-real-time information—a trend often referred to as Big Data. Insurers who can exploit this information to identify customers' needs and risks and to support better pricing, underwriting, and loss control will have a distinct competitive advantage over their peers.

Change in business models

Over the last five years, insurance business models have evolved significantly to embrace the digital age, often through an increased use of outsourcing and specialists. As such, insurance business models are exploiting growth opportunities to meet ever-changing consumer needs. Similarly, delegated underwriting and claims handling firms are increasingly engaged, either to bring in specialist skills or access new markets globally.

Investment Management outlook

Industry and Technology

Scale and process advantages of established investment management players are diminishing over time. The playing field will level as firms of all sizes take advantage of emerging networks and platform-based services to lower cost, improve compliance, and focus on markets with true competitive advantage.

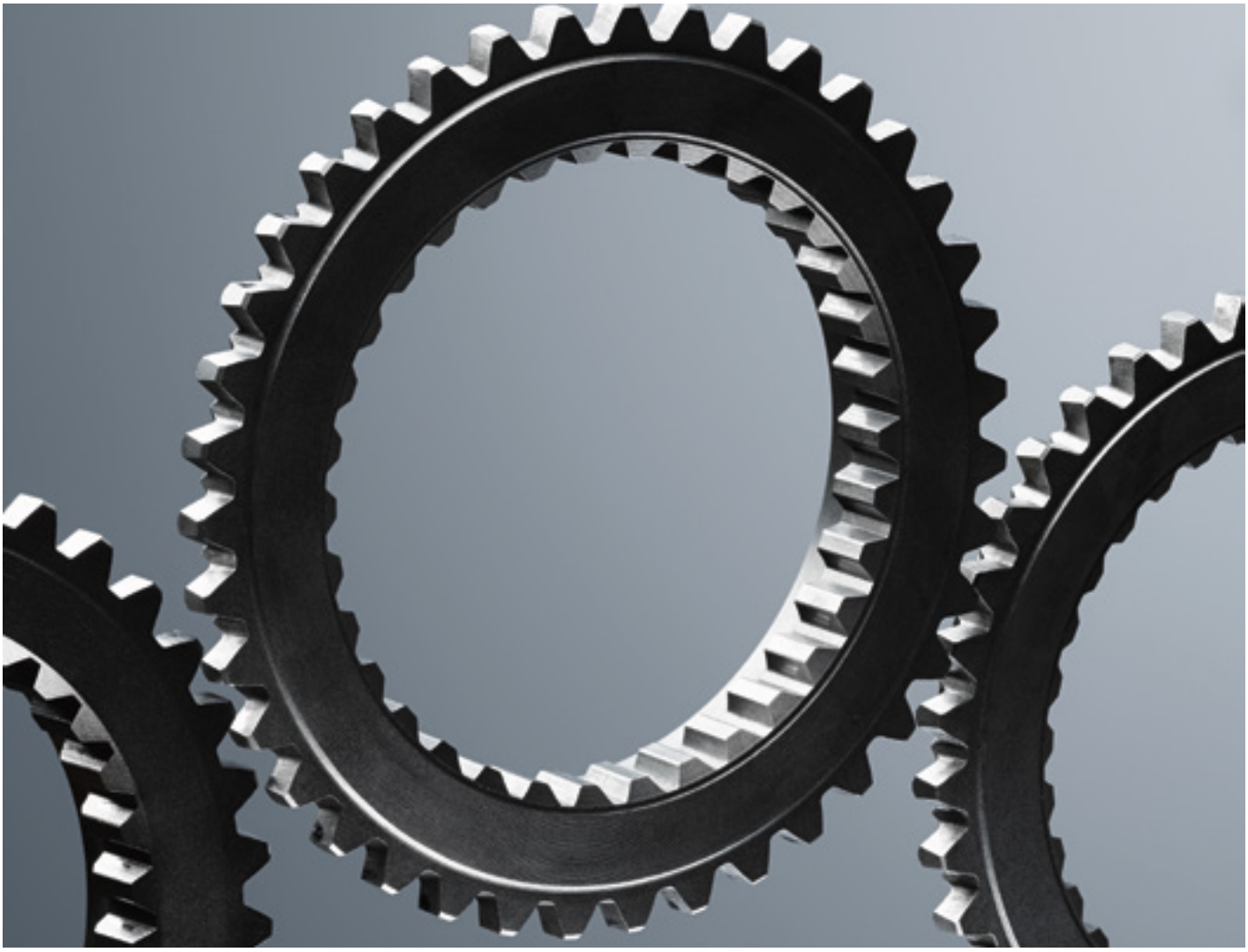
Product and Customer

Cognitive technologies and automation will enable the targeting of new investor segments through lower costs and increased customization. Increased sophistication of robo-advice will alter distribution models, forcing fewer traditional advisers to move upmarket.

Business and operations

Strong above-market performance history has helped traditional investment managers navigate headwinds ranging from slowing fund inflows to share gains by absolute return and passive strategies. Rising transparency, and consequent fee and margin pressure, remain.

Interest in managed service solutions to drive front and back office cost savings will accelerate, both in core trading and customer records management. Several UK big fund houses have joined forces in testing blockchain technology by cutting out intermediaries and reducing staff. It is also viewed that blockchain will likely be gradually adopted for reconciliation, clearing, and settlement, which would increase accuracy and speed while decreasing costs.



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BCBS 239
Zoom on the scope

Jean-Pierre Maissin
Partner
Technology & Enterprise Application
Deloitte Luxembourg

Loic Saint Ghislain
Senior Manager
Technology & Enterprise Application
Deloitte Luxembourg

Context

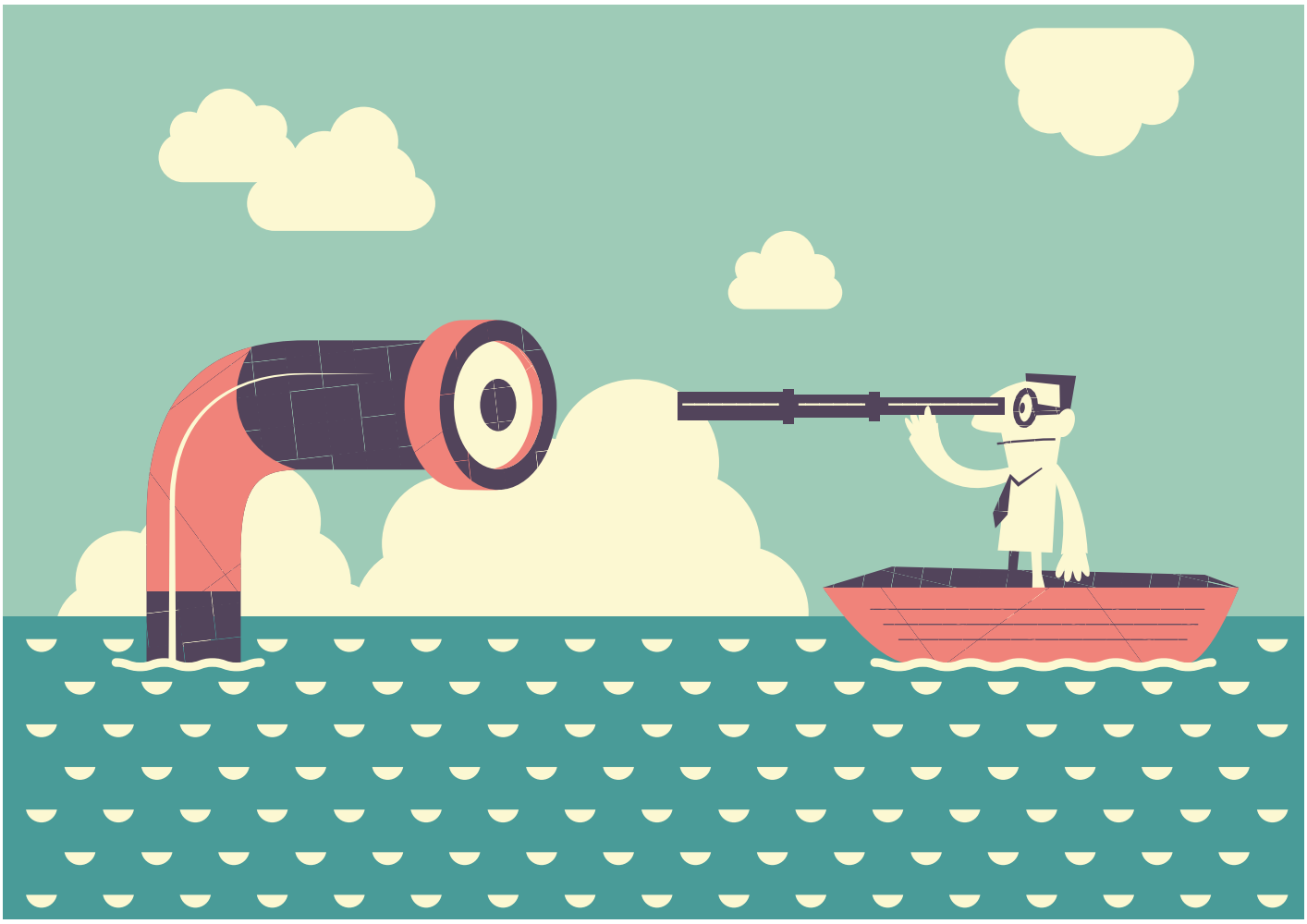
In January 2013, the Basel Committee on Banking Supervision published the BCBS 239 paper: "Principles for effective risk data aggregation and risk reporting." Impacts of the publication are significant for "global systemically important banks" (G-SIBs) and "domestic systematically important banks" (D-SIBs) as it defines strong requirements in terms of data management. The objective of this regulation is to ensure that data used for risk calculation and reporting have the appropriate level of quality and that the published risk figures can be trusted. This implies that not complying with these principles would jeopardize the trust of regulators, which could lead to capital add-on. At this stage, both G-SIBs and D-SIBs have been identified. The lists are available from ECB or CSSF as per the Regulation 15-06.

On the other hand, BCBS 239 is a data-intensive regulation with strong data quality requirements, implying that data quality management should addressed cautiously, not only on risk data, but throughout the bank. Indeed, data quality issues have already been the cause of significant losses through a lack of productivity or incorrect decision making. A significant example of poor data quality impact is an online banking provider that lost many customers who opted-out of receiving future solicitations from their provider because they repeatedly sent offers for products they already owned.

The application of the BCBS 239 regulation will have a direct consequence on the data management of banks. Indeed, all of the principles explained in the text aim to push banks toward risk evaluations based on optimized, documented, and transparent data usage. Banks have to deal with several challenges that can be tackled without too much difficulty if they perform the right technological component selections and organizational designs.

The BCBS 239 principles represent an opportunity to improve data management and IT infrastructure. Making appropriate investment in information systems will generate enterprise-wide benefits, such as data quality, process optimization, and the improvement of the decision-making process.

The application of the BCBS 239 regulation will have a direct consequence on the data management of banks.



Three categories of principles and requirements

I. Overarching governance and infrastructure

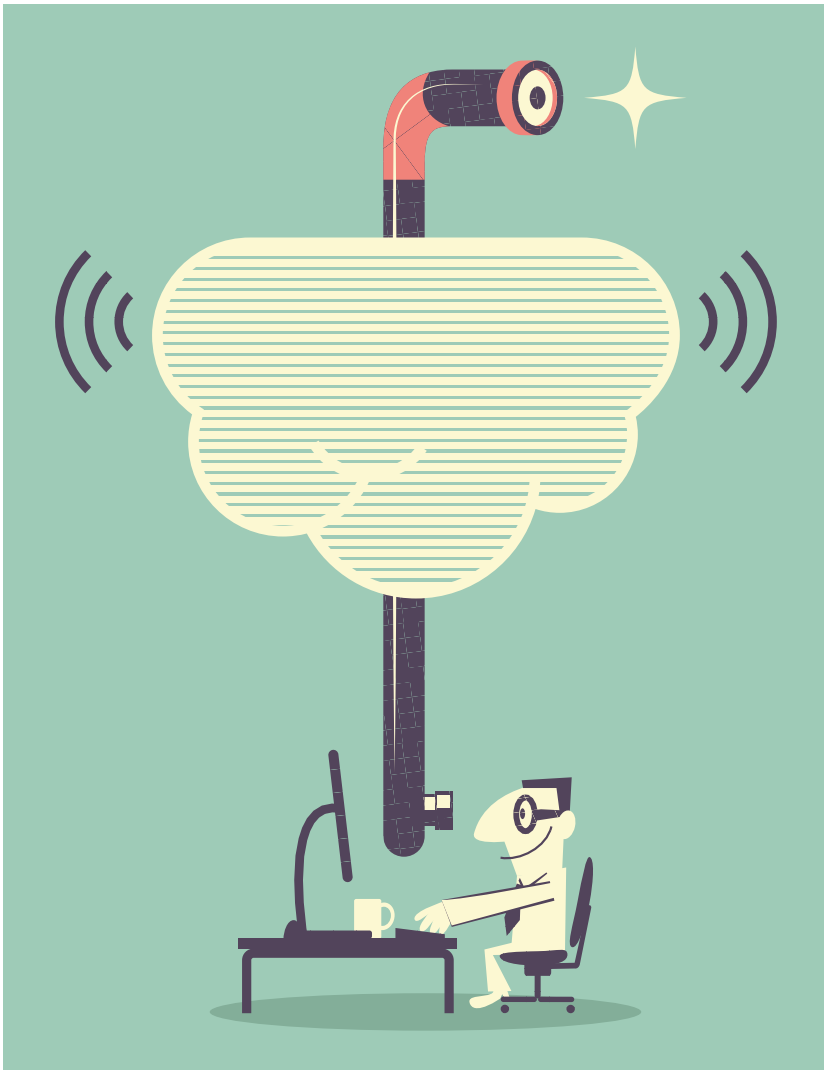
These principles mainly cover two fundamental aspects of data management: sponsorship and IT infrastructure.
The point here is to ensure ownership of the risk data aggregation processes by senior management in order to put an appropriate level of controls in place. This also requires the IT infrastructure to be robust and resilient enough to support risk reporting practices at a time of stress and crisis. For example, risk reporting should be integrated into the BCP of the bank, and a bank should establish integrated data taxonomies and architecture across the banking group.

II. Risk data aggregation capabilities

The main focus of these principles is the processes and controls put in place prior to risk calculation. It especially focuses on data quality monitoring, the procedures applied, and the documentation produced (e.g., definition of the single point of truth for all data or maintenance of a cross functions data dictionary of terms). It considers most of the dimensions of data quality from accuracy to timeliness. It also recommends adaptability of the processes to enable fast decision making.

III. Risk reporting practices

With these principles, data quality is again emphasized in this category with reference to the accuracy of the reporting made. It also recommends clarity in this reporting to make it useful for senior management in decision making. For example, it is necessary to define requirements and processes to reconcile reports to risk data or that the frequency of reports should be increased during times of stress or crisis: "Some position/exposure information may be needed immediately (intraday) to allow for timely and effective reactions."



The concrete impacts of BCBS expected

How will BCBS 239 requirements affect operations and business?

Impacts for CROs

Not surprisingly, the Risk Management team will be highly affected by the new principles. If we take for example the concentration risk modelling, the principal role of the Risk Management team today is to build a model that appropriately measures the concentration risk for the organization. Obviously, any model requires input data and this is where the BCBS 239 principles apply: in order to ensure completeness, accuracy, and integrity, it is necessary to clearly define the data requests that are to be handled by the back office departments. These definitions, as required per the model, will have to be formalized and documented by the Risk Management team. On top of this, the Risk Management team will have to be ready to answer ad hoc requests from the regulators. Obviously, they will rely on IT departments to support them in getting the data and implementing automations, but they will be responsible for the effectiveness of the control of the data quality in the end. This means that the Risk Management team will have to play a significant role in the governance of the risk data. Risk Management will also be affected as it must be able to face these new challenges with the appropriate skills, e.g., project management, requirements analysis, and formalization—skills that were not strictly needed before.

However, the Risk Management team is not the only team affected by the principles; other entities in organizations should also prepare for change.

Impacts for COOs

Back office teams will also be affected, as they are the main data providers of Risk Management. This means that they have to be proactively involved in the data governance and the data quality process in order to be able to anticipate data requirements or corrections to be performed—to have the capacity to deliver accurate data in a timely manner. Data requirements may lead to identification of gaps, as for detailed collateral data in the AQR exercise. Filling these gaps may induce significant workload in the back office teams to record this missing data in an electronic format. This will also mean a probable impact on the underlying systems and tools that will require updates or new developments, which will affect the overall capacity of the teams as per their involvements in implementation projects. The COO will then face the choice of determining the level of functional coverages and related investments in the IT tools depending on the target remaining operational workload on the long run. Finally, the back office functions could be in a position of shared ownership for specific

data. For example, client-related data might be cross-functional in the organization, which requires alignment from all departments to have unique, agreed, and validated data structure and content of this data.

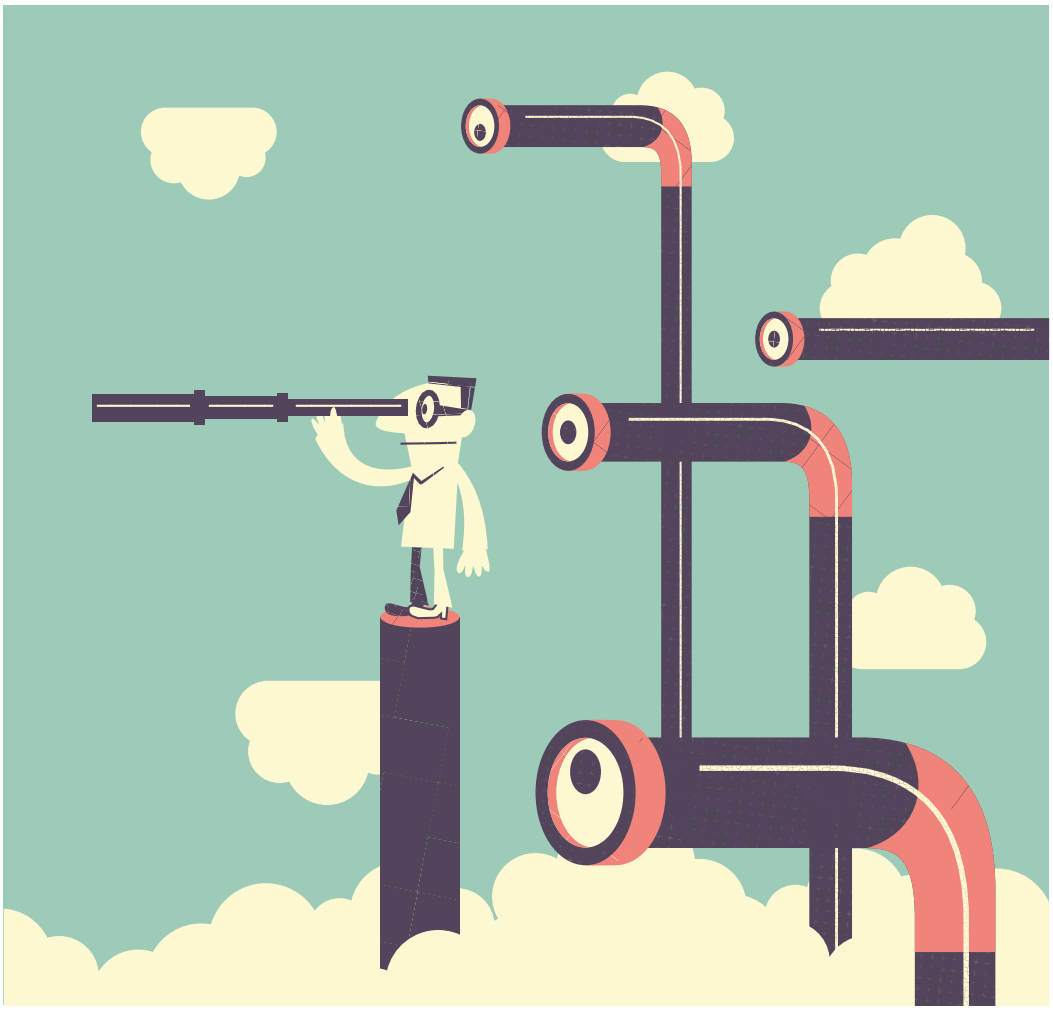
Impacts for HR management

The impacts described above will lead organizations to look for different skillsets than the usual ones. Looking at the insurance sector and how Solvency II has affected it, we can clearly anticipate that banks will in turn look for new business profiles that have experience in IT development projects, good knowledge of algorithms and automation, SQL, and data modelling. These types of profiles will leverage on technical and data skills to enhance organizations' efficiencies in the design of their risk models and reports. This means that HR functions will have to be able to detect and assess this new variety of skills and competencies to include these in their recruitment plans.

Impacts for CIOs

Information technology departments will certainly be affected in the support that they will provide to Operational and Risk teams. On top of this, they are likely to be leaders in the technical and functional gap analysis to be performed on existing reporting chains (Basel III for example) to identify gaps and propose resolutions to meet BCBS239 requirements. Below is an example on how BCBS 239 can have an impact on a typical data value chain, which will have to be managed and maintained within the CIO's responsibilities.

The Risk Management team will have to play a significant role in the governance of the risk data.



How will BCBS 239 requirements affect the data value chain?

1. **Data collection**, which enables all the required information used to calculate risks to be centralized. There can be different types of sources, as they are associated with specific applications from each banking department.

2. **Data quality controls** must then assess the reliability of data and demonstrate that the level of quality is sufficiently high for risk assessment purposes.

3. **Data aggregation** can take place once the data has been collected, cleansed, and validated by its owners. This step is particularly sensitive as it must be flexible enough to quickly accommodate market changes and potential new risk drivers.

4. Finally, **reporting** shall be produced. This step must take strict constraints into account, such as enabling banks to answer ad hoc inquiries from the management or the regulator very quickly in stressful situations.

The different steps of a typical data value chain highlight four major areas of impacts to consider:

Data governance
Although most banks have already taken this into account, data governance aspects should not be underestimated, as this may have significant impact on the bank's organization.

IT Governance
The impact on IT governance and especially release management may be significant as the BCBS will require more agility in the release cycle to reduce the time to provide the end users with new reporting.

Reporting technology
The reporting technology should encompass strong visualization, exploration, and self service capabilities to meet clarity and adaptability principles.

Data quality technology
The technology components for data quality controls should be robust but flexible enough to meet the accuracy and adaptability principles.

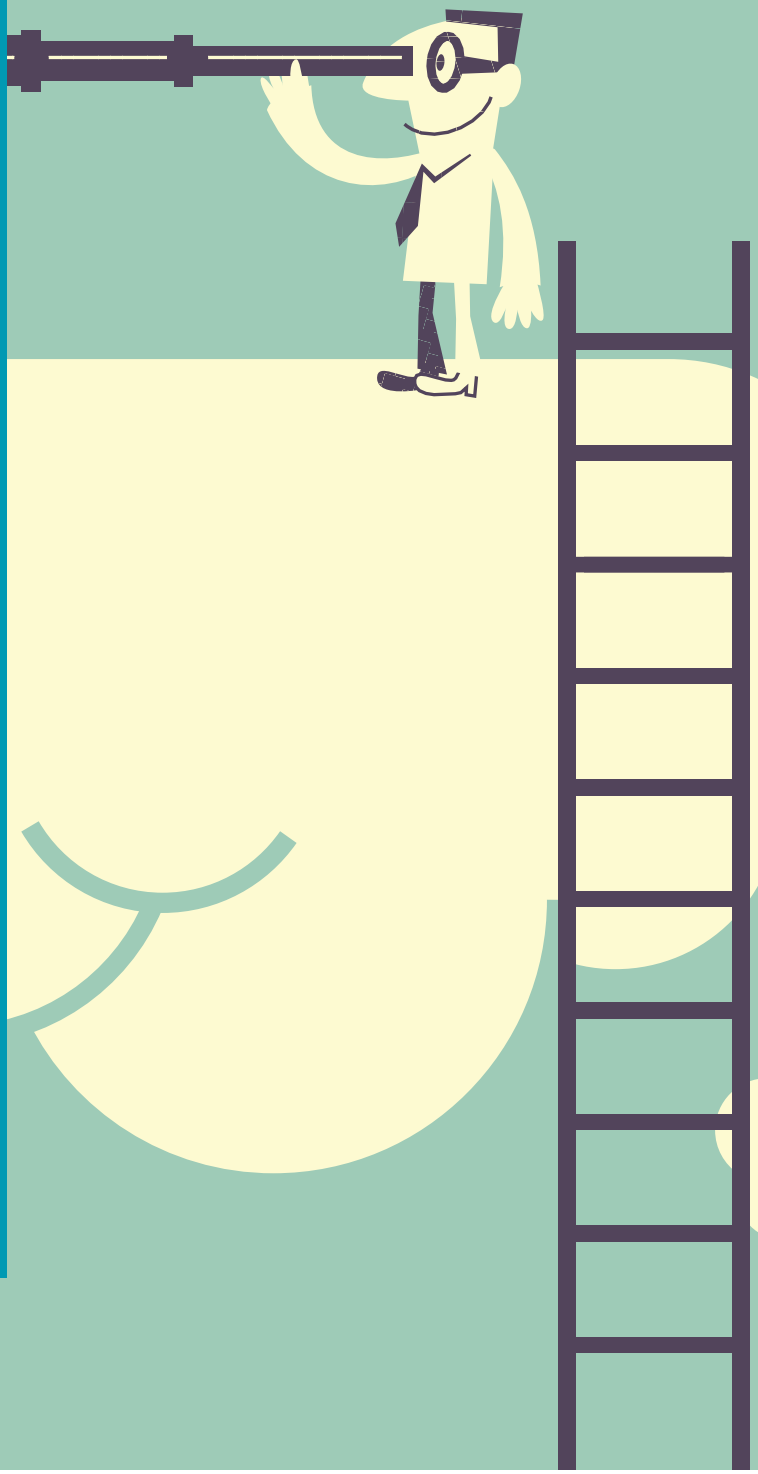
Conclusion

The application of the BCBS 239 regulation will have direct and significant consequences for banks' data management. To meet these challenges, banks will have to consider the adoption of generic components to manage data quality and also conduct an appropriate review of their reporting tool. These generic components should be designed or bought thinking about other regulatory challenges involving data such as GDPR or MIFID regulations in order to maximize the reusability of the tools.

Targeting compliance should not prevent banks from making the few steps further to high business value impact. Indeed the adoption of a data management framework can help banks to efficiently leverage from regulatory obligations to operational gains.

On top of this, successful implementation will not happen without new approaches to data governance and release management. These major changes shall be addressed with a broader perspective with an enterprise data warehouse in order to get benefits for the whole company in terms of reporting and make a viable business case out of the regulatory constraints.

Along with this, the changing IT infrastructure and applications landscape should lead to further reflections in the use of new technologies such as digital channel enablers or data lakes, which will be decisive for leading banks to stay ahead of the pack in the future.



A drain on resources?

The impact of IFRS 9 on banking sector regulatory capital

Mark Rhys
Partner
Global IFRS for Banking Co-Leader
Deloitte UK

Ian Wilson
Partner
Head of Financial Risk Measurement, Risk Advisory
Deloitte UK

Damian Hales
Partner
UK IFRS 9 Target Operating Model Lead
Deloitte UK

Thomas Clifford
Director
Risk Advisory
Deloitte UK

Susanne Hughes
Director
Risk Advisory
Deloitte UK

Alex Beighton
Manager
Risk Advisory
Deloitte UK

The scope of this article applies to banks and building societies (banks) that are prudentially supervised according to Basel Committee for Banking Supervision (BCBS) rules and prepare financial statements in accordance with International Financial Reporting Standards that include "IFRS 9 Financial Instruments."

Banks must be well versed in the relationship between credit impairment and regulatory capital to avoid an unexpected capital shortfall.

1. In summary...

It is widely expected that IFRS 9 will increase the stock of credit impairment provisions. Four-fifths of banks expect their stock of retail and corporate impairment to rise, with one in six preparing for a 50 percent increase or more.[1] As a result, we expect many banks to suffer a decline in regulatory capital, with EBA Quantitative Impact Study (QIS) respondents expecting an average 79 basis point reduction in their Tier 1 ratio.

This paper describes the interaction between accounting credit impairment and regulatory capital, in which banks must be well versed to avoid an unexpected capital shortfall. This is particularly important given the challenging regulatory environment, as part of which automatic dividend caps are imposed on banks that fail to meet increasingly stringent capital requirements.

Rising impairment provisions invariably deplete the equity of banks that use the Standardized Approach to credit risk. The result will be similar for banks that use Internal Ratings Based (IRB) models, subject to the relationship between their stock of accounting impairment and Regulatory Expected Loss, which is a key component of their capital formula. On average, we expect Standardized banks to suffer twice the capital reduction of IRB peers.

Look more deeply, and it is clear that the capital impact will vary markedly between junctures in the economic cycle and banks' risk profiles. We expect a particularly wide range of impacts for IRB banks given the nuances associated with Regulatory Expected Loss. Furthermore, the new IFRS 9 standard is likely to weigh on banks' stress testing results and make the stress testing process more onerous in the short-term. However, as new processes become embedded across the industry, banks are likely to realize efficiency gains from the greater alignment between impairment modelling, stress testing and, potentially, IRB modelling.

As of November 2016, our two core recommendations to banks in this area are as follows:

- Prepare a fair and open assessment of potential IFRS 9 impacts, to provide prudential regulators with the facts to establish whether the impact could be significantly greater than currently modelled. In particular, banks should transpose all quantitative IFRS 9 assessments into a regulatory capital impact, bearing in mind that capital rules are a moving target
- Devote resource to integrating IFRS 9 into stress testing procedures, also potentially looking to exploit synergies with IRB modelling

In October 2016, the BCBS published two papers to describe the interaction between IFRS 9 impairment and regulatory capital:

- A discussion paper[2] setting out long-term policy options, proposing changes to the Standardized and potentially IRB approaches to credit risk after moving to ECL provisioning
- A consultative document[3] proposing a transitional period in which banks can continue to use the current approach to provisioning for regulatory capital calculations

Banks must be well versed in the relationship between credit impairment and regulatory capital to avoid an unexpected capital shortfall.

These papers are positioned as the start of a discussion process with the industry. This means the much-craved period of stability of banks' capital treatment will be further delayed.

2. Drivers of rising impairment under IFRS 9

Banks must recognize credit impairment to reflect expected credit losses, and hold capital to protect against the unexpected.

Policymakers developed the impairment rules in IFRS 9 in response to the global financial crisis, which exposed the lack of foresight in banks' credit impairment estimates. Under the current IAS 39 "incurred loss" model, banks only recognize impairment due to objective evidence of a credit loss, principally loan arrears. This is now widely considered to be an unduly reactive approach.

Credit impairment provisioning, which should form the first layer of protection against losses, did not rise sharply enough to reflect the true extent of losses that would materialize from the crisis. This led to a perception of profit overstatement, with regulators and investors lacking credible data at a vital time.

Accordingly, IFRS 9 introduces a forward-looking view of credit quality, under which banks are required to recognize an impairment provision (and a corresponding impairment loss), prior to the occurrence of a loss event (e.g. becoming credit impaired or subject to default). This approach can result in an impairment provision even when the probability of loss is low.

We anticipate three specific drivers of higher impairment under IFRS 9.

1. Deloitte: "Sixth Global IFRS Banking Survey", May 2016
2 BCBS, "Regulatory Treatment of Accounting Provisions: Discussion Document", October 2016
3 Regulatory Treatment of Accounting Provisions: Interim Approach and Transitional Arrangements", October 2016

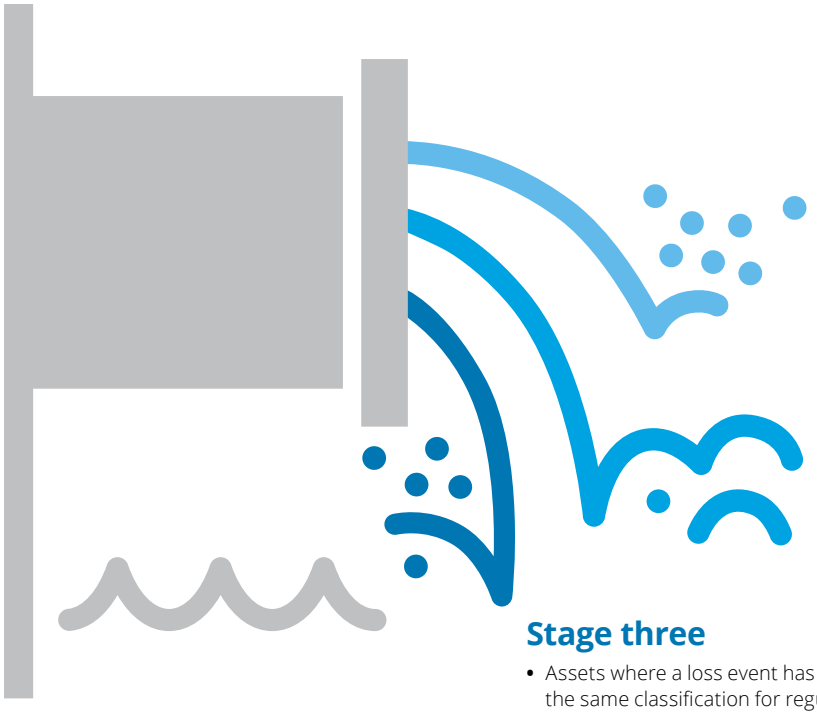
First, banks must allocate all credit exposures to one of three "credit stages" (see Figure 1) which determine how impairment is calculated. Most notably, IFRS 9 requires banks to provide for the lifetime expected credit loss of exposures where there is a significant decline in creditworthiness but a loss event has yet to occur (those allocated to "Stage Two"). This should increase the impairment of long-tenor loans such as mortgages, to which banks may respond by strengthening underwriting or reviewing product terms.

Second, IFRS 9 requires firms to recognize expected credit losses on undrawn commitments, including committed revocable facilities. Estimates should reflect the tendency for customers to draw down on credit lines and the bank's ability to identify and to manage problem accounts. The treatment of revolving facilities is a well-established part of the capital requirements framework, but under IFRS 9 it may also drain the capital resources of credit card, overdraft and trade guarantee providers amongst others. This may encourage banks to manage undrawn credit lines more tightly.

Third, banks will need to develop forward-looking, probability- weighted loss estimates against a range of macroeconomic scenarios. We anticipate that banks will develop at least three scenarios: a "best estimate" of the future, a stressed case and a more optimistic forecast. The task of demonstrating that the subjectivity involved has not led to a material misstatement may prove to be a particular challenge. This approach should reflect the uneven distribution of losses that can arise in different economic scenarios.

IFRS 9 introduces a forward-looking view of credit quality, with banks expected to recognize credit impairment before a loss event.

Figure 1: Summary of IFRS 9 credit stages



Stage one

- Performing assets not subject to significant credit deterioration since origination or acquisition
- Banks estimate one year of expected credit loss for accounting purposes (it is possible, but unlikely, that none will be identified)
- Interest income reflects the gross carrying amount of assets

Stage two

- Assets for which credit quality has significantly deteriorated, but where a loss event has not occurred
- Banks estimate lifetime expected credit loss
- Interest income reflects the gross carrying amount of assets

Stage three

- Assets where a loss event has occurred, normally with the same classification for regulatory capital purposes
- Banks estimate lifetime expected credit loss
- Interest income is net of the impairment provision

3. Impact on regulatory capital

Deloitte estimates that the impact of IFRS 9 on Pillar 1 regulatory capital – banks' "base" level of capital adequacy – will be twice as great for Standardized firms compared with those using IRB models. IRB banks do not get off lightly, however, as IFRS 9 may weaken stress testing results, thus pushing up "capital buffer" requirements. Overall, we expect a wide range of impacts across the industry.

Retained earnings are a key component of Common Equity Tier 1 (CET1) resources, the most loss-absorbent type of capital and that to which investors and regulators pay most attention.

Retained earnings are driven by Profit After Tax and shareholder distributions. As such, additional impairment acts as a drag on capital resources.

This is important because banks must preserve a basic level of capital adequacy to pay dividends to shareholders and avoid being forced to take capital actions such as raising equity, deleveraging their balance sheet or transitioning to less risky and profitable activities. Specifically, the BCBS introduced the concept of Maximum Distributable Amounts, which restrict dividends for banks that breach capital buffers. These rules have been adopted by national and supranational bodies.

Meanwhile, the capital rulebook is becoming ever more stringent. Banks must meet several layers of capital requirements, including Pillar 2 guidance, which reflects the evolving stress testing regime and the impact of CRD IV Capital Buffers.

Figure 2: Summary of the Basel regulatory capital framework

Capital resources

Common Equity Tier 1 (CET1)
Retained earnings and share capital, less regulatory deductions for asse ts that cannot absorb losses or that are difficult to monetize.

Additional Tier 1 (AT1)
Principally hybrid debt instruments that convert to equity if the firm's CET1 position breaches a pre-defined trigger, thus reducing liabilities.

Tier 2 (T2)
Mainly long-dated subordinated debt that amortizes for regulatory capital purposes, in addition to the stock of general credit risk adjustments (see Section 4.1).

Capital requirements

Pillar 1
Foundation layer of requirements, based on harmonized formulae according to Standardized or internal approaches.

Pillar 2
Requirements proposed by firms and set by the regulator to capture risks, both quantitative and qualitative, that Pillar 1 does not fully address.

Capital Buffers (e.g. CRD IV Buffers in EU)
A range of buffers, including those that target perceived credit bubbles and those that bolster the capital requirements of systemic banks.

The following figure outlines the impact of movements in accounting impairment on a bank's regulatory capital position, which is described in more detail during the remainder of this paper.

Figure 3: Regulatory capital impact of rising impairment

	Standardized Banks	IRB Banks
CET1 Resources	One-for-one depletion due to new credit risk adjustments (see Section 4.1), subject to tax effects	One-for-one depletion due to new credit risk adjustments, subject to tax effects and relationship between Credit Risk Adjustment stock and Regulatory Expected Loss
T2 Resources	One-for-one accretion for new general adjustments, subject to Standardized ceiling	One for one accretion for new credit risk adjustments, subject to IRB ceiling and relationship between Credit Risk Adjustment stock and Regulatory Expected Loss
Capital Requirements*	Reduction by new specific adjustments, multiplied by the relevant risk-weight and other regulatory adjustments,** all multiplied by 8%	If asset is performing and/or bank uses F-IRB (i.e. no own estimates of exposure at default or loss given default): no impact on capital requirements. If asset is defaulted and bank uses A-IRB (i.e. own estimates of Exposure at Default (EAD) and Loss Given Default (LGD) at default and loss given default used): impact depends on relationship between credit risk adjustments, Expected Loss Best Estimate (EL_{BE}) and Regulatory LGD

* Impact on Pillar 1 requirements shown; Pillar 2 impact depends on firm-specific factors
** Including credit risk mitigation and credit conversion factor adjustments

Credit risk adjustments

These are the amount of specific and general loan loss impairment provision for credit risks that has been recognized in a bank's financial statements in accordance with their accounting framework.*

* Definition in the EU as per CRR Article 4.1.95

As of November 2016, we have no reason to believe that Brexit negotiations will affect the relationship between capital and impairment for UK banks. FRS 9 and BCBS standards are a global standard, which the UK continues to align with.

4. Impact on Standardized banks

Assessing the impact of rising impairment is more straightforward for banks that use the Standardized Approach, since these firms do not rely on internal estimates of Exposure at Default (EAD), Probability of Default (PD) or Loss Given Default (LGD) for regulatory capital purposes. This removes a layer of complexity compared with IRB banks, though some subjectivity in the interpretation of Standardized rules remains which the BCBS is striving to mitigate.

Note that IRB banks would do well to understand the impact on their Standardiszed counterparts, since the two credit risk capital approaches are founded on similar principles. In any case, all banks tend to use the Standardized Approach for at least a small portion of exposures.

The key takeaway for Standardized banks is that rising impairment invariably consumes their CET1 capital resources. Although BCBS rules allow for offsets in lower quality resources (i.e. Tier 2) and capital requirements, the net impact is always capital depletive.

4.1 Capital resources

Impairment charges reduce retained earnings and, by extension, CET1 resources. The relationship between impairment and capital resources may not be one-for-one, however, because profitable firms pay less corporation tax as impairment rises.

Basel capital rules distinguish between Specific credit risk adjustments and general credit risk adjustments[4].

The former is a classification of impairment stock that reflects realized losses, while the latter captures "freely available provisions." Importantly, banks may add some general adjustments back to Tier 2 capital because they do not arise from actual monetary losses (though inclusion in Tier 1 would contravene the "going concern" principle of this capital tier).

Some uncertainty remains around the definition of general credit risk adjustments. Banks take different approaches in practice and permission to recognize credit risk adjustments in Tier 2 capital may depend on supervisory discretion. The EBA has previously contended that "for the IFRS framework as it currently stands [pre-IFRS 9], no example for general adjustments can be given". As set out in Section 1, the BCBS is expected to clarify the interaction between General and specific adjustments in due course.

Regardless of the potential for banks to add back capital in Tier 2, investors and policymakers tend to focus on Tier 1 resources, which rising impairment always depletes. For example, Tier 1 ratios form the basis of solvency indicators used by the Bank of England to set capital buffers[5]. Note also that the BCBS rules cap recognition of general adjustments in Tier 2 capital at 1.25 percent of Standardized risk-weighted assets.

There is not a one-to-one mapping between the BCBS definitions of credit risk adjustments (i.e. general versus specific adjustments) and the accounting impairment terminology typically used in banks, which typically relates to the process used to arrive at an impairment outcome (i.e. individual versus collective impairment).

Note that we do not anticipate a clean mapping between Figure 4 and IFRS 9 "credit stages". Ostensibly, it makes sense that banks should reserve Stage Three for individual impairment since it captures actual loss events. But for practical reasons, many banks may build portfolio level loss models even if they perform stage allocation by customer. In short, banks' individual accounting policies are likely to dictate impairment classification.

Basel capital rules distinguish between Specific credit risk adjustments and general credit risk adjustments[4].

4 EBA Final Draft RTS: "Calculation of specific and general credit risk adjustments", July 2013

5 Bank of England: Financial Policy Committee "Core Indicators"

Figure 4: Matrix of BCBS credit risk adjustments and IAS 39 accounting impairment

	Accounting Classification (IAS 39)	
	Individual Impairment	**Collective Impairment**
	BCBS Capital Classification	
Specific Credit Risk Adjustments	Account has been assessed on an individual basis and an impairment is raised against an incurred credit loss. This includes: • Impairment based on individual analysis of most likely Net Present Value of future cash flows for impaired assets (normally corporate portfolios); and • Modelled impairment for homogeneous asset pools with individual and measurable characteristics (e.g. loan-to-value at default).	Credit loss has not yet been allocated to a customer (or account) by credit risk models. This includes: • Collective impairment, typically modelled, for impaired assets (normally, but not exclusively, in retail portfolios); and • "Incurred but not reported" (IBNR) impairment, estimated using statistical or qualitative methods.
General Credit Risk Adjustments	Account has been assessed on an individual basis and becomes less creditworthy but no impairment event (including default) has been observed.	Macroeconomic or market conditions have led to a less creditworthy pool of assets, with impairment provisions freely available to absorb future specific credit losses.

4.2 Capital requirements

Standardized banks must remove specific adjustments from the exposure value on which capital requirements are calculated. The purpose is to calculate requirements for unexpected losses only, since impairment is intended to cover expected losses. This is a key principle of BCBS rules.

All else being equal, the capital impact of netting specific adjustments depends on the performing risk-weight of impaired assets. Intuitively, it makes sense that a higher risk-weight means a larger portion of capital requirements fall away as impairment rises.

On the other hand, banks normally classify assets with specific adjustments due to credit deterioration as "in default" for regulatory purposes. This is important because the non-impaired portion of a defaulted asset incurs a higher risk-weight than most performing assets.

According to BCBS, defaulted assets secured by collateral such as property or credit guarantees receive a 100 percent risk-weight, as do unsecured defaulted assets with sufficient impairment coverage (specifically, where specific adjustments are no less than 20 percent of the gross asset value). All other defaulted assets incur a 150 percent risk- weight. To put this in perspective, most performing mortgages are risk-weighted at 35 percent under the Standardized Approach, with top- rated corporates (AA-/AA3 or above) incurring a 20 percent risk-weight.

So the question of whether capital requirements rise or fall as an asset becomes impaired depends on which of the following has the greatest impact:

- Capital requirements falling due to banks netting specific adjustments from the exposure value before applying a risk-weight

- Capital requirements rising due to the non-impaired portion of a newly defaulted asset incurring a higher risk-weight

If the emergence of IFRS 9 does not increase banks' default stock (which in part depends on firms' individual accounting policies) then capital requirements will fall alongside rising impairment.
However, the consumption of capital resources will significantly outweigh any offset in requirements (excluding assets with exceptionally high risk-weights such as some securitizations and free deliveries, which the Standardized Approach risk-weights at 1,250 percent).

4.3 Proposed changes to the Standardized Approach

In addition to improving transparency around Credit Risk Adjustment definitions, the BCBS has also posited a move to a regulatory Expected Loss (EL) framework for the Standardized Approach, though details are limited as of November 2016. Under such a framework, banks would calculate EL for Standardized exposures as a function of risk-weighted assets (as an example, the BCBS suggests a circa 0.5 percent EL rate for a 100 percent risk-weighted exposure).

Any Excess Expected Loss (EEL) compared with accounting impairment would be deducted from CET1 capital resources in response to the excessive variability in approaches to credit risk adjustments identified by the BCBS. Naturally, the result may be a fall in capital adequacy for banks with lower than average provision coverage, though with most banks expected to report significantly higher impairment under IFRS 9, the isolated impact of the BCBS proposal may in practice be limited.

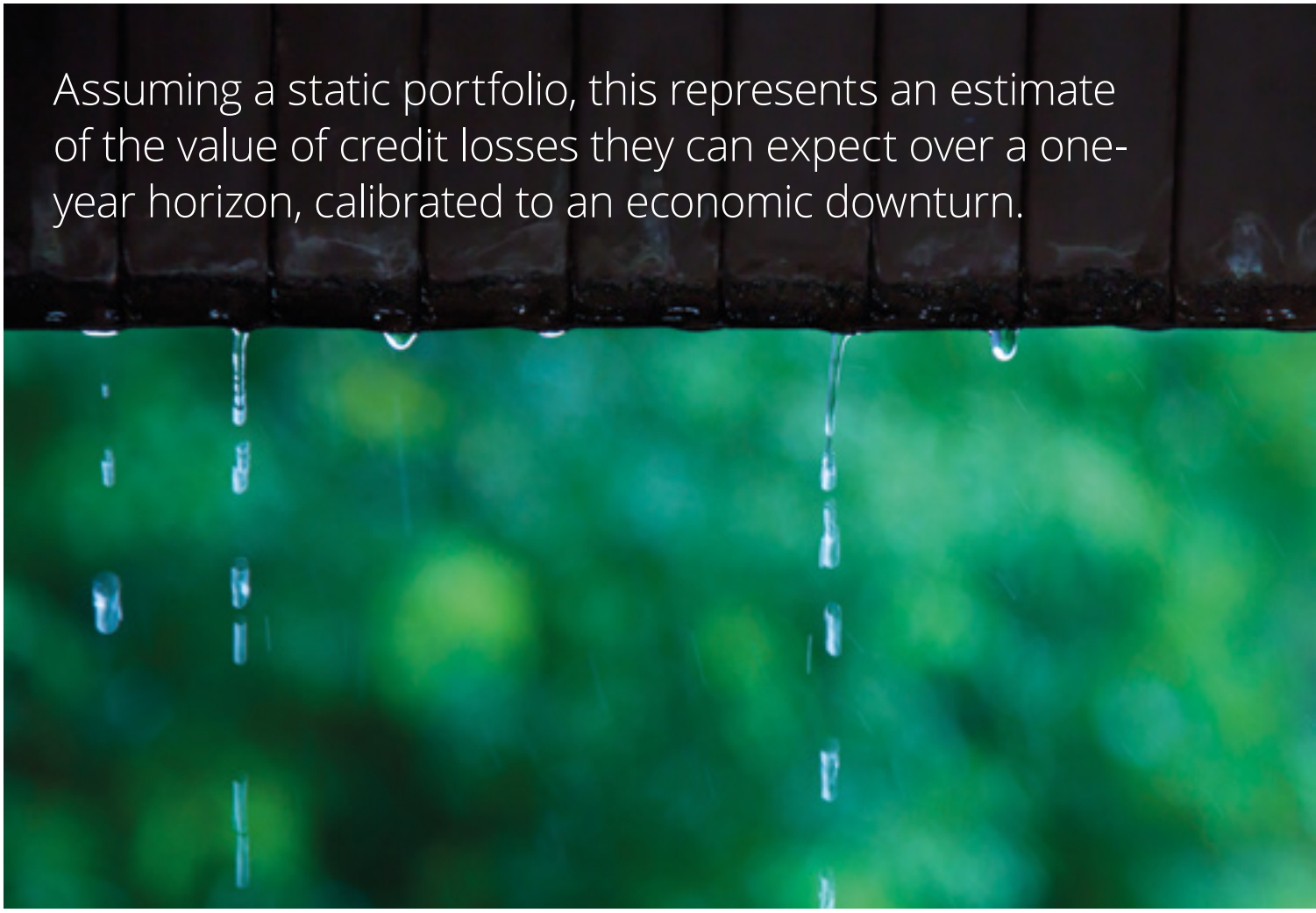
Further changes to the Standardized Approach are also afoot in the form of BCBS proposals to revamp risk-weight rules.[6] The proposals advocate a more conservative capital treatment for some exposure types, notably specialist property

lending, high loan-to-value residential lending and undrawn credit lines. Although there is no direct impact on banks' impairment calculation, Standardized banks transitioning to IFRS 9 should bear in mind that, if policymakers adopt the proposals, they must risk- weight unsecured defaulted assets at 150%.

In addition, as described in Section 5.3, BCBS proposals to remove IRB permissions for low default portfolios may lead to a larger portion of banks' capital requirements being calculated under the Standardized Approach. Note that BCBS proposals in respect of aligning credit risk adjustments and introducing a Standardized EL framework are in a consultative stage, which is due to close in January 2017. Any subsequent rulemaking is likely to take some months following the consultation.

In addition to improving transparency around Credit Risk Adjustment definitions, the BCBS has also posited a move to a regulatory Expected Loss (EL) framework for the Standardised Approach, though details are limited as of November 2016.

6. BCBS, "Revisions to the Standardized Approach for credit risk", second consultative document, December 2015



5. Impact on IRB banks

The capital impact of IFRS 9 on IRB banks includes some additional nuances. Certainly, it is more dependent on firms' individual circumstances, and the relationship between impairment and regulatory LGD for defaulted stock in the eyes of prudential regulators.

IRB firms estimate (or are prescribed by regulators) the Exposure at Default (EAD), Probability of Default (PD) and Loss Given Default (LGD) of their assets. Accordingly, these banks can calculate the regulatory Expected Loss (EL) of their portfolio as EAD × PD × LGD.

Assuming a static portfolio, this represents an estimate of the value of credit losses they can expect over a one-year horizon, calibrated to an economic downturn.

Capital requirements for IRB credit risk are calibrated to Unexpected Loss (UL) at a 99.9% confidence level under BCBS rules. That is, holding the ensuing level of capital should protect banks from insolvency in all but a one-in-1,000 event (subject to numerous assumptions such as a diversified portfolio and normally distributed PDs that fluctuate around a constant mean).

Under the IRB Approach, banks must hold capital equivalent to Regulatory UL less Regulatory EL (since the combination of accounting impairment and regulatory EL are structured to cover business as usual credit losses). In addition, IRB banks must deduct from capital resources any surplus Regulatory EL over impairment stock to reflect under-provisioning relative to regulatory rules. This is known as the Excess Expected Loss (EEL) deduction, which has a significant impact on some banks, particularly in benign economic conditions when the stock of impairment tends to be lower.

Banks normally calculate regulatory EL over a one-year horizon, reflecting regulators' historic comfort that this is sufficient for Pillar 1 capital planning. However, we expect that assets in "Stage Two" under IFRS 9 – those that have significantly deteriorated in credit quality but have not yet incurred a loss – will now be assessed for lifetime credit losses for accounting purposes.

Banks normally calculate regulatory EL over a one-year horizon, reflecting regulators' historic comfort that this is sufficient for Pillar 1 capital planning.

Figure 5: Relationship between IFRS 9 impairment and regulatory expected loss

IFRS 9 Accounting impairment	Regulatory Expected Loss
Neutrality The objective is to provide the market with an unbiased, probability-weighted view of future losses.	**Prudence** The calculation of regulatory EL errs towards conservatism. For example, loss estimates are calibrated to an economic downturn, whilst regulators impose PD and LGD floors.
Lifetime losses Banks must calculate lifetime expected credit loss for assets in Stages Two and Three – that is, assets with significant credit deterioration and/or actual credit losses.	**One-Year Losses** Banks typically calculate regulatory EL over a one-year horizon, except for assets that have incurred a credit loss.
"Point-in time" modelling Banks will typically produce forward-looking, probability-weighted, unbiased loss estimates against discrete scenarios that do not necessarily correspond to a stylised economic cycle.	**"Through-the-Cycle" modelling** Many banks apply a through-the-cycle philosophy (or point-in-time plus buffer), using long-term averages to calculate PD. These banks may maintain an Excess Expected Loss (EEL) during an upturn, and a deficit in a downturn.
EIR Based Discount Rate Banks are expected to discount future cash flows at the original Effective Interest Rate (EIR). The discount rate can be lower or higher than that used for calculating Regulatory EL.	**Stressed Risk Premium Based Discount Rate** Banks typically use their cost of equity or funding as the discount rate for calculating Regulatory EL.

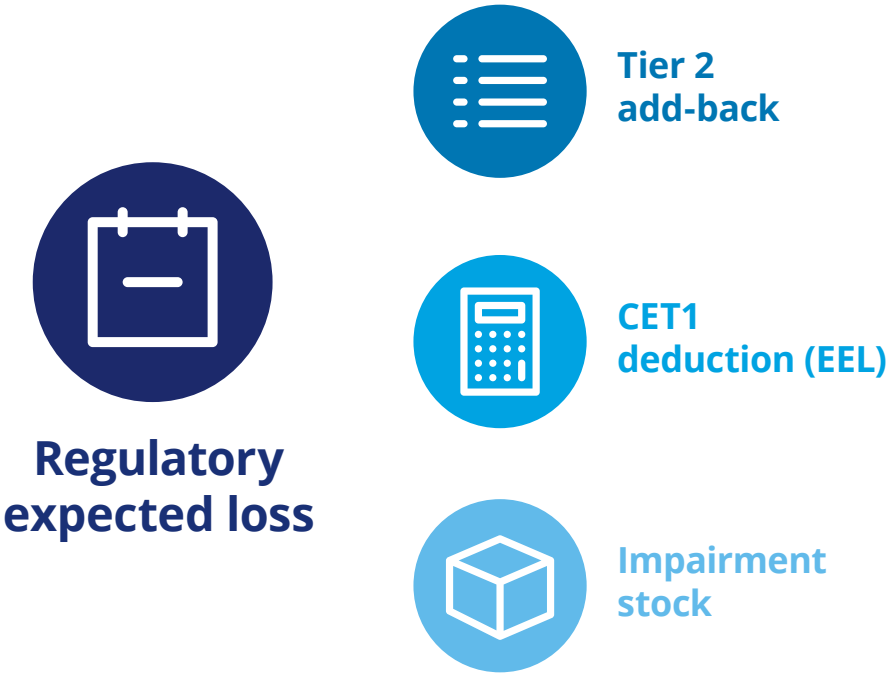
5.1 Capital resources

Accounting impairment reduces the CET1 resources of all banks, subject to Regulatory Expected Loss. In addition, IRB firms deduct Excess Expected Loss (EEL) from CET1, along with several other regulatory deductions (e.g. relating to deferred tax and intangible assets), which ensure capital resources are loss-absorbent. Many banks make an EEL deduction now and, if this continues, their capital adequacy may be unaffected by IFRS 9 because impairment is not the binding constraint.

On the other hand, firms with a surplus of impairments compared with Regulatory EL may add this amount back to Tier 2 capital. So the general picture is not necessarily one of capital depletion as impairment rises: more one of capital realignment.

Furthermore, higher impairment reduces profits so may yield tax benefits, while the EEL calculation uses a gross impairment figure, providing a further offset for some banks that are facing higher impairment.

Figure 6: BCBS capital treatment of accounting impairment and regulatory expected loss



Note that the Tier 2 add-back is similar to Standardized rules that permit capital recognition of impairments, except: i) the IRB add-back must be made net of regulatory EL; ii) it applies to the entire impairment stock, not just general adjustments; and iii) it is stricter than the Standardized equivalent, limited to 0.6 percent of IRB risk-weighted assets.

For IRB firms, therefore, the capital impact of IFRS 9 depends heavily on the relationship between impairment and Regulatory EL, hence there is no "standard model" for a worked example. Banks with a significant Excess Expected Loss (EEL) may find that the transition to IFRS 9 does not affect capital resources. For other IRB banks, IFRS 9 could materially deplete capital adequacy. As outlined in Figure 5, surplus impairment –which increases the chance of IFRS 9 making an impact – is more likely in an economic downturn given that many banks estimate Regulatory EL on a "through-the-cycle" (or point-in-time plus buffer) and "downturn" basis.

5.2 Capital requirements

Contrary to the Standardized Approach, IRB banks do not deduct specific adjustments from the exposure value on which capital requirements for performing assets are calculated. The rationale is that the IRB formula sets requirements to UL less EL, with a key assumption being that the latter approximately corresponds to impairment stock.

Similarly to the Standardized Approach, accounting impairment does not directly affect the risk-weighting of performing exposures. Defaulted assets, however, are often afforded a lower IRB risk-weight than performing assets, which is logical given the reduction in capital resources as credit quality declines. Under Foundation IRB, defaulted assets receive a zero risk-weight.

Advanced IRB banks, meanwhile, only need to capitalize defaulted exposures if regulatory LGD exceeds the firm's "best estimate of expected loss" (EL_{BE}) for these assets. EL_{BE} broadly equates to impairment stock but is calculated inconsistently across the banking industry, with guidance on its relationship with IFRS 9 impairment awaiting confirmation from regulators.

All else being equal, a rise in impairment normally leads to lower IRB capital requirements, though this may not be true in the case of significant default migration. However, the net impact of higher impairment will often be capital depletive.

5.3 Proposed changes to the IRB Approach

The BCBS has indicated a move toward risk-weight floors for IRB banks, potentially in the region of 60-90 percent of Standardized risk-weights, albeit without concrete details as of November 2016.[7] The previous consultation paper on this topic stated that introducing floors would require a different regulatory capital treatment of impairment, specifically the alignment of the IRB and Standardized Approaches, such that EEL is no longer deducted from capital resources. All IRB banks, but particularly those with low average risk-weights that are most at risk of being affected by the floor, will be eager to engage with the rulemaking process.

Since it first mooted the idea of risk-weight floors relative to the Standardized Approach, the BCBS has also debated removing IRB permissions for data-poor, low default portfolios.[8] In March 2016, the Committee proposed discarding IRB for sovereign, large corporate, equity and specialized property lending exposures (though with a view to retaining the IRB "slotting" approach for the latter). This may lead to higher capital requirements depending on, inter alia, the current relationship between impairment and Regulatory EL for these portfolios.

If imposed, the changes would increase the portion of banks' capital requirements driven by the Standardized Approach. On the other hand, however, the planned implementation of IFRS 9 may encourage more banks to apply to their regulators for IRB permissions given the potential synergies. Naturally, Standardized banks may look to leverage the skills and systems developed in response to IFRS 9 to build IRB models, incentivized by potential capital requirement reductions (which, although potentially large at present, may become less attractive if BCBS proposals are implemented).

In the UK, for example, the Bank of England has signaled a move towards widening the current population of IRB firms. In November 2015, for example, then Chief Executive of the PRA, Andrew Bailey, advised HM Treasury that the PRA was reviewing "whether its approach to internal model application could be made more proportionate for smaller banks and building societies."

Furthermore, as described in Section 3.1, the BCBS has indicated it may work towards harmonization of Credit Risk Adjustment definitions and remove the distinction between Specific and general adjustments. The latter proposal is unlikely to affect IRB banks' capital adequacy since there is no current distinction between the two in IRB rules.

7 BCBS, "Capital floors: the design of a framework based on standardized approaches", December 2014

8 BCBS, "Reducing variation in credit risk-weighted assets," March 2016

6. Impact on stress testing and capital buff

Stress testing is likely to become more analytically challenging, and may yield more pessimistic results, when IFRS 9 comes into force subject to any transitional arrangements adopted by regulators.

Likely rises in impairment volatility – potentially driven by the cliff effects of many exposures migrating to "Stage Two" and incurring lifetime ECL estimates – have the potential to increase firm-specific capital buffers that banks may absorb under an actual stress (e.g. Pillar 2 Capital Guidance in the EU). Firm-specific buffers reflect capital depletion over banks' planning horizon. Figure 7 illustrates the potential for additional impairment volatility under stress to increase this demand for capital.

The transition from IAS 39 to IFRS 9 (i.e. from the blue to the green line) causes CET1 ratios to fall (as the increased impairment charge reduces regulatory capital). Importantly, the quantum of capital depletion under stress also rises in this stylised example, leading to an increased demand for capital.

Furthermore, to remain strictly IFRS 9 compliant when performing a stress test, banks must generate "point-in-time" forecasts during the hypothetical stress scenario – thus a forecast of a forecast – which would need to be conservative to reflect the likely response of senior management, bank economists, credit risk teams and accountants to a genuine stress. In the first instance, national regulators are expected to collect information about the impact of IFRS 9 on stress testing results in order to understand the outcome of forecasting relationships between stage migration and increased impairment rates, with the potential for pro-cyclicality a key focus area. This will place short-term pressures on banks that are already challenged to implement IFRS 9 on time.

It is not all bad news, however, since many banks will realise synergies between their approach to stress testing and IFRS 9 impairment as scenario-based modelling becomes the norm for banks of all sizes and business models. Already, many banks are carefully considering how to integrate IFRS 9 into capital planning and stress testing, ahead of confirmation as to when and how regulators will require them to do so.

7. How banks should respond

We make two core recommendations, in the context of regulatory capital adequacy, to banks that are transitioning to IFRS 9.

First, banks should prepare a fair and open assessment of potential IFRS 9 impacts (including potential sensitivities), to provide prudential regulators with the facts to establish whether the impact could be significantly greater than currently modelled. This should include consideration of operational and financial consequences.

The onus is on dual US GAAP and IFRS reporters to identify how the two-year gap between the effective dates could affect their interpretation and assumptions for prudential capital calculations during transition: based on the two differing ECL accounting standards: IFRS 9 and the US GAAP equivalent, Current Expected Credit Loss (CECL).

In particular, banks should transpose all quantitative IFRS 9 assessments into a regulatory capital impact, bearing in mind that capital rules are a moving target with various options on the table for regulators. Banks should assess whether potential regulatory changes would unduly penalise their business model.

Third, banks should devote resource to understand the impact of IFRS 9 on their stress testing results, which are a key driver of capital buffers. Where possible, banks should look to exploit synergies between IFRS 9 modelling, stress testing and IRB modelling. They should also bear in mind that some regulators have indicated a strategy to approve IRB permissions for more banks, which could ease capital requirements and encourage banks to develop a fuller understanding of their risk profile.

8. Worked example – Impact of IFRS 9 on Standardised banks' capital adequacy

To illustrate the impact of rising impairment on Standardised banks' capital positions, we overlay two impairment charges onto the stylised capital position set out in Figure 9. The first is a lower incurred loss under IAS 39; the second a higher expected credit loss under IFRS 9.

As described in Section 4, credit risk adjustments do not automatically align with IFRS 9 credit stages. The impact of IFRS 9 implementation may differ depending on the outcome of BCBS discussion and consultative papers (described in Section 1), for example if transitional provisions relating to IFRS 9 credit losses are ratified.

Banks should transpose all quantitative IFRS 9 assessments into a regulatory capital impact, bearing in mind that capital rules are a moving target.

Figure 8: Capital position pre-impairment charge

Capital resources	
Share Capital	100
Retained Earnings	200
Common Equity Tier 1 Capital	**300**
Subordinated Debt	60
general credit risk adjustments	0
Tier 2 Capital	**60**
Total Capital	**360**

Capital requirements	
Gross Performing Exposure	3,000
Average Risk-Weight	75%
Performing RWAs	**2,250**
Gross Defaulted Exposure	150
Net of specific adjustments	80
Average Risk-Weight	**125%**
Defaulted RWAs	**100**
Total Risk-Weighted Assets	**2,350**

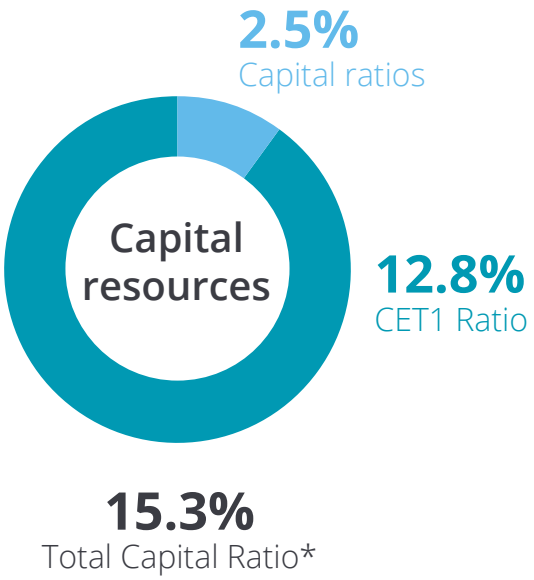
Figure 9: Worked example assumptions

Capital resources	IAS 39	IFRS 9
New impairment charge*	20	40
Of which: Specific credit risk adjustments	20	30
Of which: general credit risk adjustments	**0**	**10**

This scenario assumes no IBNR nor migration to default as a result of rising impairment

* Impairment charge is defined as the period-on-period change in credit impairment stock

Figure 10:



* CET1 Ratio equals CET1 capital resources divided by total risk-weighted assets. Total capital ratio equals total capital resources divided by total risk-weighted assets.

Figure 11: Capital resources post-impairment charge

Capital resources	Pre-charge	IAS 39	IFRS 9	Commentary
Share Capital	100	100	100	Retained earnings fall by total impairment, net of tax effects. This example assumes a profitable firm and a 20% corporate tax rate.
Retained Earnings	200	184	168	
Common Equity Tier 1 Capital	**300**	**284**	**268**	
Subordinated Debt	60	60	60	The IFRS 9 General Credit Risk Adjustment stock (in this example, a combination of Stage 1 and Stage 2 exposures which are not in arrears) falls below the regulatory cap, which is 1.25% of Standardised RWAs (2,313 × 1.25% ≈ 29).
General credit risk adjustments	0	0	10	
Tier 2 Capital	60	**60**	**70**	
Total Capital	**360**	**344**	**338**	The move from IAS 39 to IFRS 9 has a more pronounced impact on the CET1 Ratio due to the Tier 2 recognition of general adjustments.

Figure 12: Capital requirements post-impairment charge

Capital requirements	Gross	IAS 39	IFRS 9	Commentary
Gross Performing Exposure	3,000	100	100	No impact assuming no new default migrations under the regulatory definition.
Average Risk-Weight	75%	184	168	
Common Equity Tier 1 Capital	**2,250**	**3,000**	**268**	
Gross Defaulted Exposure	150	150	150	Specific adjustments are netted from gross exposure value before risk-weighting, resulting in a fall in RWAs.
Net of specific adjustments	80	60	50	
Average Risk-Weight	125%	**125%**	**125%**	
Defaulted RWAs	100	**75**	**63**	
Total Risk-Weighted Assets	**2,350**	**2,325**	**2,313**	Assuming no new default migrations, RWAs fall as the Specific Adjustment stock rises.

Figure 13: Capital requirements post-impairment charge

Capital resources	Pre-charge	IAS 39	IFRS 9	Commentary
CAPITAL RATIOS				The move from IAS 39 to IFRS 9 has a more pronounced impact on the CET1 Ratio due to the Tier 2 recognition of general adjustments.
CET1 Ratio	12.8%	12.2%	11.6%	
Total Capital Ratio	15.3%	**14.8%**	**14.6%**	

Contacts

Argentina

Martin Carmuega
Partner
+54 11 432 027 00
mcarmuega@deloitte.com

Australia

Timothy Oldham
Partner
+61 293 225 694
toldham@deloitte.com.au

Austria

Kurt Blecha
Partner
+43 153 700 5800
kblecha@deloitte.at

Dominik Damm
Partner
+43 153 700 5400
ddamm@deloitte.at

Belgium

Arno De Groote
Partner
+32 280 024 73
adegroote@deloitte.com

Brazil

Luiz Dias
Partner
+55 115 186 6206
luizdias@deloitte.com

Elias Zoghbi
Partner
+55 115 186 6469
eliaszoghbi@deloitte.com

Canada

Bruno Melo
Partner
+1 416 601 5926
brmelo@deloitte.ca

Caribbean Bermuda Countries

Lawrence Lewis
Partner
+1 242 302 4898
llewis@deloitte.com

Central Europe

Andras Fulop
Partner
+36 1 428 6937
afulop@deloitteCE.com

Jakub Bojanowski
Partner
+48 22 511 0953
jbojanowski@deloitteCE.com

Colombia

Elsa Mena
Partner
+57 142 620 60
emenacardona@deloitte.com

Cyprus

Panicos Papamichael
Partner
+357 223 608 05
ppapamichael@deloitte.com

Denmark

Thomas Brun
Partner
+45 30 93 6571
tbrun@deloitte.dk

Finland

Lasse Ingström
Partner
+358 207 555 389
lasse.ingstrom@deloitte.fi

France

Laurence Dubois
Partner
+33 1 40 88 28 25
ladubois@deloitte.fr

Germany

Jöerg Engels
Partner
+49 211 877 223 76
jengels@deloitte.de

Dr. Andreas Knaebchen
Partner
+49 152 090 076 00
aknaebchen@deloitte.de

Greece

Alithia Diakatos
Partner
+30 210 678 1100
adiakatos@deloitte.gr

Hong Kong & China

Tony Wood
Partner
+852 285 266 02
tonywood@deloitte.com.hk

Iceland

Sif Einarsdottir
Partner
+354 580 3009
sif.einarsdottir@deloitte.is

Bjorn Ingi Victorsson
Partner
+354 580 3318
bjorn.victorsson@deloitte.is

India

Muzammil Patel
Senior Director
+91 22 6185 5490
muzammilpatel@deloitte.com

Ireland

David Kinsella
Partner
+353 141 725 29
davkinsella@deloitte.ie

Israel

Linur Dloomy
Partner
+972 3 608 5423
ldloomy@deloitte.co.il

Italy

Mariano dal Monte
Partner
+39 063 674 9293
mdalmonte@deloitte.it

Japan

Masayuki Tanabe
Partner
+81 908 349 3699
masayuki.tanabe@tohmatsu.co.jp

Korea

Young Sam Kim
Partner
+82 266 761 522
youngskim@deloitte.com

Luxembourg

Laurent Berliner
Partner
+352 451 452 328
lberliner@deloitte.lu

Malta

Steve Paris
Partner
+356 234 324 00
stparis@deloitte.com.mt

Mauritius

Peter Manju
Partner
+230 403 5818
mpeter@deloitte.com

Mexico

Carlos Perez
Partner
+52 55 5080 6444
caperez@deloittemx.com

Morocco

Fawzi Britel
Partner
+212 661 154 586
fbritel@deloitte.com

Netherlands

Harmen Meijnen
Partner
+31 882 884 258
HMeijnen@deloitte.nl

New Zealand

Rodger Murphy
Partner
+64 930 307 58
rodgermurphy@deloitte.co.nz

Norway

Sverre Danielsen
Partner
+47 232 798 43
sdanielsen@deloitte.no

Portugal

Sandra Carla Martins
Associate Partner
+351 21 042 7506
smartins@deloitte.pt

CIS

John Robarts
Partner
+749 578 706 00
jorobarts@deloitte.ru

Julia Brovkovitch
Director
+749 578 706 00
jbrovkovitch@deloitte.ru

Saudi Arabia

Aejaz Ahmed
Partner
+966 1 282 8400
aeahmed@deloitte.com

Fadi Sidani
Partner
+971 437 688 88
fsidani@deloitte.com

Singapore

Tse Gan Thio
Partner
+65 6216 3158
tgthio@deloitte.com

Serena Yong
Partner
seyong@deloitte.ca

Middle East

Akiva Ehrlich
Director
+271 180 661 75
akehrlich@deloitte.co.za

Spain

Alfonso Mur
Partner
+34 914 432 103
amur@deloitte.es

Mercedes Gutierrez
Partner
+34 914432620
megutierrez@deloitte.es

Sweden

Elisabeth Werneman
Partner
+46 752 462 486
ewerneman@deloitte.se

Switzerland

Mark Carter
Partner
+41 58 279 7380
markjcarter@deloitte.ch

Taiwan

Thomas Wan
Partner
+866 225 459 988
thomaswan@deloitte.com.tw

Thailand

Somkrit Krishnamra
Partner
+66 2676 5700
somkrishnamra@deloitte.com

Turkey

Cüneyt Kırlar
Partner
+90 212 366 604 8
ckirlar@deloitte.com

United Kingdom

Julian Leake
Partner
+44 207 007 1223
jileake@deloitte.co.uk

United States

Scott Baret
Partner
+1 212 436 5456
sbaret@deloitte.com

Alok Sinha
Principal
+1 415 783 5203
asinha@deloitte.com

West and Central Africa

Anthony Olukoju
Partner
+234 190 417 39
aolukoju@deloitte.com

Contacts

Rick Porter
Partner
Deloitte US
Global Risk Advisory Leader
Financial Services
Deloitte Touche Tohmatsu Limited
+1 312 486 2046
rickporter@deloitte.com

Laurent Berliner
Partner
Deloitte Luxembourg
EMEA Risk Advisory Leader
Financial Services
+352 451 452 328
lberliner@deloitte.lu

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