The Banker

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THE CCAR IS NOT JUST A RISK OR LOSS-BASED STRESS-TEST, BUT RATHER A COMPREHENSIVE FINANCIAL STATEMENT AND REGULATORY CAPITAL PROJECTION EXERCISE

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The Banker

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Tel: +44 (0)20 7873 3000. Editorial fax: +44 (0)20 7775 6421 Website: www.thebanker.com

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Editor: Brian Caplen +44 (0)20 7775 6364, brian.caplen@ft.com **Senior Editor:** Philip Alexander +44 (0)20 7775 6363, philip.alexander@ft.com **Editor Emeritus:** Stephen Timewell +44 (0)7764617824, stephen.timewell@ft.com **Economics Editor:** Silvia Pavoni +44 (0)20 7775 6366, silvia.pavoni@ft.com **Technology and Transaction Banking Editor:** Joy Macknight +44 (0)20 7775 6325, joy.macknight@ft.com **Middle East and Africa Editor:** James King +44 (0)20 7873 4131, james.king@ft.com **Europe Editor:** Stefanie Linhardt +44 (0)20 7873 4325, stefanie.linhardt@ft.com **Asia Editor:** Stefania Palma +44 (0)20 7873 4820, stefania.palma@ft.com **Capital Markets Editor:** Michael Watt 6545 michael.watt@ft.com **Data editor:** Matthew Karwacki +44 (0)20 7873 4841 matthew.karwacki@ft.com **Head of research:** Alberto Berardi +44 (0) 20 7873 4866, alberto.berardi@ft.com **Database publisher:** Adrian Buchanan +44 (0)20 7775 6370, adrian.buchanan@ft.com **Editorial Logistics:** Simon Duffy +44 (0)20 7873 3373, simon.duffy@ft.com

Contributing Editors: Edward Russell-Walling, Nick Kochan, David Lane, Frances Faulds, Michael Marray, Jane Monahan, Simon Montlake, Joanne Hart, Michael Imeson, James Gavin, John Rumsey, Peter Wise, David O'Byrne, David Wigan, Charles Smith, Jules Stewart

Publishing Director: Angus Cushley +44 (0)20 7775 6354, angus.cushley@ft.com **Global & Asia Sales Manager:** Adrian Northey +44 207 775 6333, adrian.northey@ft.com **Associate Publisher Capital Markets & Transaction Banking:** James Newman +44 (0)20 7775 6332, james.newman@ft.com **Central and Eastern Europe and CIS:** Anton Paul +44 207 775 6355, anton.paul@ft.com **Associate Publisher Latin America:** Tanny Ribeiro +351 918 669 188, tanny.ribeiro@ft.com **Associate Publisher Middle East & Africa:** Luke McGreevy +971 4391 4398, luke.mcgreevy@ft.com

Production Editor: Richard Gardham +44 (0)20 7775 6367, richard.gardham@ft.com **Deputy Production Editor:** Andrea Crisp +44 (0)20 7775 6338, andrea.crisp@ft.com

Art Editor: Lisa Sheehan +44 (0)20 7775 6539, lisa.sheehan@ft.com **Head of Production:** Denise Macklin +44 (0)20 7775 6557, denise.macklin@ft.com

Senior Marketing Manager: Raj Rai +44 (0)20 7775 6340, raj.rai@ft.com **Subscription Agent and Trade:** Salima Nezam +44 (0) 20 7873 4956, salima.nezam@ft.com **Subscription Enquiries/Corporate Access:** +44 (0) 20 7873 4240, thebanker@ft.com **Missing Copy/Payment/Online Access:** +44 (0) 20 7873 4240, thebanker@ft.com **Customer Service/Change of Address:** thebanker@ft.com

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THREE LINES OF DEFENCE REBUILT FOR CYBER THREAT

Risk

The UK's Senior Managers Regime seeks to formalise responsibility for risk, yet the threat of cyber attack sits outside of traditional risk governance standards, and means that protecting against such attacks will require a rethink of the traditional 'three lines of defence' model. Dan Barnes reports.

"A LACK OF PERSONAL RESPONSIBILITY HAS BEEN COMMONPLACE THROUGHOUT THE INDUSTRY," said UK MP Andrew Tyrie, who is the chairman of the UK's Parliamentary Commission on Banking Standards, upon release of the commission's report 'Changing Banking for Good' in June 2013. "Senior figures have continued to shelter behind an accountability firewall," he added.

Individual and collective responsibility at senior management and board level is being codified to address this 'lack'. On March 7, 2016, the Senior Managers Regime (SMR) will come into effect in the UK. It will ask that banks, building societies, credit unions and certain firms designated by the Prudential Regulatory Authority (PRA) – typically large investment banks and branches of foreign banks – are able to identify who specifically is responsible for areas of the business, with written responsibilities and a map put in place to formally link these up.

Any staff who take material risk or are considered to pose a risk of significant harm to the firm or customers (for example, as advisors) must be identified by the time the regime comes into effect and be certified for their role within the following 12 months.

TAKING RESPONSIBILITY

Michael Ruck, senior associate at law firm Pinsent Masons, says: "[The authorities] want to see increased transparency within firms, and they want [firms] to almost stop and think carefully about who should be responsible, who is the best person, the appropriate person, for example, whether that be the person most experienced in the relevant roles, as to where that responsibility should fall. When they walk through the door, they know exactly who is responsible for what."

Within financial institutions, the 'three lines of defence' model has traditionally been used to deliver risk governance. The model outlines: a primary function that owns and manages risk; a secondary specialist supervisory risk management and/or compliance function; and a tertiary function that provides independent oversight and internal audit functions.

> THE BOARD HAS TO ASK IF IT IS GETTING THE RIGHT INFORMATION TO WORK OUT IF THE BANK HAS TAKEN A WRONG TURN OR IF THE STRATEGY IS TAKING IT INTO A HIGH-RISK AREA
>
> ***Patricia Jackson***

Patricia Jackson, risk governance leader at consultancy EY, says that the application of this model has become skewed. This will affect the way firms can react to an imposed model of risk governance, in particular increased individual accountability.

"A question that arises is whether individuals have the wherewithal to discharge the responsibility," she says. "That dovetails with thinking globally that the way the three lines of defence model has been applied has put increasing focus on the second-line control functions at the expense of ownership of risk on the frontline. That was a very damaging outcome. The role of the second line cannot be weakened, and in fact must be strengthened, but you have to have ownership of all risk – including behaviour – in the frontline."

Where risk can be defined and quantified, ownership is possible. A new and ill-defined area creates a challenge even for firms applying the three-line model effectively; cyber risk management. In the context of the SMR, this is a hot potato.

THE GREATEST RISK

The "accountability firewall" that Mr Tyrie referred to has proven more resilient than the electronic firewalls that are used to defend firms from cyber attack. From JPMorgan to Nasdaq, major financial institutions have fallen victim to electronic infiltration, bombardment or both. Tackling this amorphous threat is enormously complicated. For individual firms, calculating the potential losses and risks that they are exposed to is a real challenge. Theft of intellectual property does not require the removal of the property but the copying of it. Breaking into a firm does not require any damage to be caused. Intruders can exist within a firm's technology infrastructure for years. The intruders could be

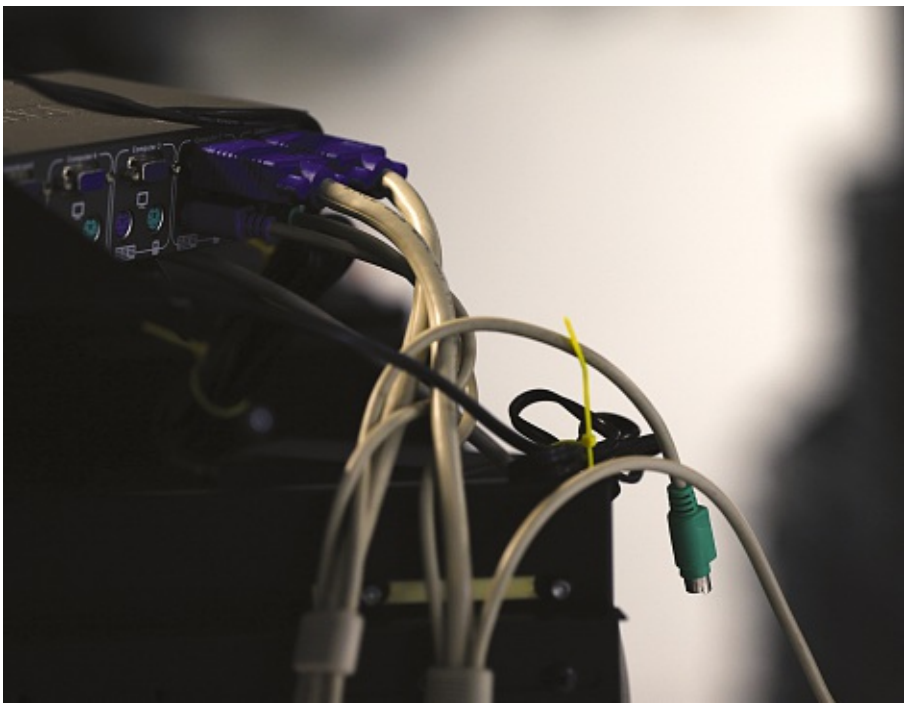
foreign government agents breaking in via the internet or staff members.

Investors are voicing concern about the awareness that boards and senior management have of the threat. Legal & General Investment Management (LGIM) has called for action from the government and major investors together with the introduction of compulsory cyber audits, citing cyber security as "a significant risk to our investee companies".

Ken Allan, global information security leader at EY, says that in the eyes of stakeholders, the issue has moved from the realm of IT to the realm of risk governance. "If you presided over a major breach, there are often questions to be asked; they are no longer in the realm of 'why were you breached?' they are more in the realm of 'what you did to prepare for it?'," he observes.

Sarbjit Nahal, equity strategist at Bank of America Merrill Lynch, notes that 35% of companies say cyber risk is not on the board-level agenda and he believes that it should be. That will require board members who have knowledge not only of technology but of cyber security. "We see more companies hiring people with knowledge of this topic, able to provide independent oversight over this," says Mr Nahal. "Where does this function sit? Is it board level? Does it end at a chief security officer?"

This is crucial if a firm is to get a perspective on the risk that reflects its impact on the whole business rather than the IT team, warns Mr Allan. "The loss of service on a rack of servers bears no relation to three years of research into a brand new drug that [the company] has been planning to bring to market," he says. "IT people in general don't understand that."



Bit of a tangle: the Senior Managers Regime requires firms to identify the individuals responsible for specific areas, but the question of who is responsible for cyber risk management is causing problems within this new model

CYBER RISK GOVERNANCE

Faced with a new regime for accountability and a poorly understood threat, boards must have a demonstrable plan for approaching the problem that can appease stakeholders and regulators.

In Consultation Paper CP 18/15 published in May, the PRA said that while "even a broadly constituted and well-experienced board cannot necessarily be expected to have expertise in every aspect of a broad and complex financial business", it ought to have "the diversity of experience and capacity to provide an effective challenge across the full range of the firm's business and the opportunity to explore key business issues rigorously".

Ms Jackson says that although boards are not in the same position as senior management when it comes to knowing or understanding all of the risks to which a firm is exposed, that does not mean they will avoid the burden of that risk management.

"Boards will never know all of the risks being conducted in the firm, they can't be as close to it as senior management. It would be inappropriate for them to be. They don't run the day-to-day business," she says. "The PRA tried to clarify that earlier in 2015 when it issued a paper saying, for example, that the chair of the risk committee is responsible for the governance of the risk committee and the way that information flows to it, but board members are still very fearful that regulators expect them to manage the risk in a way that is not possible or appropriate."

David Patt, senior analyst for corporate governance and public policy at LGIM, argues that investors do not expect the board to understand day-to-day IT operations, or to offer a guarantee, but they do expect the board to be dealing with this risk at a strategic level.

"Breaches do happen, however if it were the case that a firm had not prepared itself for a breach, with the board failing to implement best practice and keep itself informed, then it would have to answer to investors for that," he says. "Risk culture comes from the top."

REMOVING THE MYSTERY

To successfully manage the position in which it finds itself, the board of directors will first need to engage itself in discussion of the issue and start to remove the mystery surrounding it.

Ms Jackson says: "The board has to ask if it is getting the right information to work out if the bank has taken a wrong turn or if the strategy is taking it into a high-risk area. The risk appetite discussion is hugely helpful: asking how much loss they want to take, or they can take, really crystallises the matter."

Formalising the approach to managing this risk in such a way that satisfies the SMR but goes beyond a box-ticking exercise will require a rethinking of the three lines of defence model to specifically deal with cyber security, says Mr Allan. The first line of defence would be policies and user education and people understanding their responsibilities, and the second line of defence would require a highly sophisticated monitoring capability to track the vast activity within the firm while looking for anomalies in the data.

"My third line of defence is going to be the act of looking outside the organisation," adds Mr Allan. "Who might be attacking me? What do they have to gain by doing that? What intelligence can I gather to try to defend against it? So it's not three lines of defence as the head of internal audit would think about it, it's three lines of defence on a completely different scale." TB

STRUCTURAL REFORMS: PAST THEIR USE-BY DATE?

Structural reform

Structural reforms have consumed an immense amount of time and effort from regulators and industry participants in the past few years, but will they be made obsolete by more general changes to the global banking market?, asks Michael Watt.

For many years, the US Volcker Rule was the poster-child of structural reform in the banking sector. Though it was never originally intended for inclusion in the 2010 Dodd-Frank Act, an endorsement from president Barack Obama and other senior figures saw it added as a late-stage amendment, creating furious debate over whether it was appropriate, or even feasible.

In theory, prohibiting banks from engaging in 'proprietary trading' – that is, trades designed solely to turn a profit for the bank, rather than hedge risk or offer liquidity to clients – with depositors' money sounds simple. As it turned out, the stricture dropped regulators and banks into a rule-making minefield.

Merely defining what did and did not constitute proprietary trading proved incredibly complicated. For instance, can regulators ever tell for sure if a position is a legitimate hedge, or a speculative trade? What if a bank pre-hedges a client position it expects to take on in the near future? Is that trade in contravention of the rule for the short time in which it sits on the books without a matching position?

MEETING VOLCKER STANDARDS

The amount of time and effort spent resolving this question and others like it was indicated by the sheer heft of the final Volcker Rule text, which ran to more than 900 pages when it was finally introduced in 2014.

Banks have employed a range of tools to comply with the measure. Chief among these has been internal infrastructural controls on trading that can help prove that trades are legitimate should regulators ever come knocking. "We have designed software to check whether a trade is permissible or non-permissible, and to prevent rogue traders using synthetic trades to bypass risk and compliance controls," says Kelvin To, founder and president of Data Boiler Technologies. "However, banks still have a long way to go and a lot of work to do to be fully at peace with the Volcker Rule standards."

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>
> ***Thomas Huertas***

Worse still, just two years after the rule was introduced, many in the industry feel that it has not produced anything worth the massive amount of time and effort spent constructing it. "In my view, it's a dead weight loss. It's not something that was needed, it creates cost and doesn't materially improve the safety and soundness of the banking system," says one former senior banker. "Other than that, it's been a great success."

Others point to problems with Volcker's risk-blind approach to which proprietary positions are acceptable, and which are not. "It is evidently alright to make a long-term illiquid investment in a loan, but if that exact same cash flow is packaged as a security, then you have a problem if you want to stay in compliance with Volcker," says Thomas Huertas, chair of the EY global regulatory network and former deputy chair at the European Banking Authority. In other words, taking proprietary positions on potentially illiquid loans using depositor cash is permitted, but taking proprietary positions in provably liquid securities with depositor cash is not.

TO USE, NO POINT?

In the end, Volcker may be overtaken by other developments in the derivatives landscape. Volcker was designed to control banks' derivatives use, but that use seems to be declining day by day. Significant increases in required capital ratios and the introduction of new liquidity ratios brought in by Basel III have made market-making a much more expensive exercise. The steady introduction of mandatory central clearing for standardised, over-the-counter derivatives has added an extra logistical headache to participation in the market. Constraints on risk weighted assets (RWAs) have already prompted some smaller scale structural changes at big dealer banks.

"Banks have reacted to higher capital requirements by slashing RWAs. Part of that is making sure the RWAs you do have are doing the most for you – making sure you've got your exposures and collateral domiciled

in the same place, for instance. Your book is fundamentally mismatched if your bond portfolio is in Hong Kong but the derivatives portfolio that hedges it is in London. A lot of work has been done around building a consistent booking model, making sure collateral is in the right place, making sure all the documentation supporting each trade is correct," says Keith Pogson, global banking and capital markets assurance leader at EY in Hong Kong. "RWAs come at a high premium in modern banking, so everyone is looking to eke out a bit more."

In many cases, this paring back of RWAs has not been enough to produce a workable business model that includes large derivatives trading books. Consequently, some banks have either made cutbacks in some product lines, or left markets entirely. The Royal Bank of Scotland, for instance, has shut down its equities and equity derivatives business. Deutsche Bank is pulling back from credit derivatives, UBS has already exited from fixed-income trading in general, and other banks are pursuing radically slimmed down derivatives operations. US banks are typically in a stronger position in terms of capital and profitability, but a readjustment toward the derivatives market is under way there, too.

Highlighting the specific impact of individual regulatory changes to overall market or bank behaviour is hard, but there is a growing sense that the Volcker Rule is becoming obsolete. "It was a good transitioning discussion, but if we took the rule away, would all the US banks rush headlong back into proprietary trading? Maybe one or two would, but most simply couldn't due to cost increases. Derivatives books are run from a very different viewpoint these days," says Mr Pogson.

FROM VOLCKER TO VICKERS

Structural reform in Europe, particularly the recommendations made by the UK's Independent Commission on Banking, known colloquially as the Vickers recommendations after the commission's chairman, Sir John Vickers, promises to be much further reaching than Volcker. Vickers will mandate the ring-fencing of the investment banking activities of UK banks from their retail activities.

"In some ways Vickers goes a step beyond similar structural reforms, such as the US Glass-Steagall Act, as it will force UK banks to carve up their businesses in a manner that is really quite radical. It puts limits on the ability to invest in securities, to engage in derivatives and foreign exchange trades, and to establish foreign branches, all of which are legitimate banking activities. None of these were prohibited for US commercial banks under Glass-Steagall," says Mr Huertas at EY.

As with Volcker, the impact of any specific structural reform programme in other jurisdictions may be eclipsed by more generic changes. As Mr Pogson notes above, banks are becoming more regionalised of their own accord, aligning capital, liquidity and collateral to local exposures and local trading books.

"The universal banking model is suffocating. The global banking model may soon follow. Perhaps the best that can be hoped for from the very largest banks is that they operate a global network of virtually standalone subsidiaries, all covered by a warm, fuzzy wrapper of branding and service consistency," adds Mr Pogson.

STRUCTURAL CONSISTENCY

Rather than setting up a hodge-podge of branches, subsidiaries and holding entities across a swathe of countries, banks are more and more aiming for structural consistency across the board. This makes sense from an operational perspective – having similar governance structures across multiple locations means that personnel can be plugged into different locations without the time-consuming and expensive training process that would be required under a clunkier, customised operating model.

It is also a popular solution among regulators. The US Federal Reserve requires foreign banks operating within its jurisdiction to establish themselves as 'intermediate holding entities', effectively a subsidiary system that requires banks to hold locally a significant amount of capital and liquidity against their US activities. The Bank of England can also require foreign banks to establish themselves as subsidiaries if they deem their activities to be systemically significant. As this trend picks up speed, the idea of imposing specific structural reforms could soon look a little dated. Especially as continuing work on recovery and resolution makes dealing with a bank collapse a little easier, and the Financial Stability Board's total loss-absorbing capacity (TLAC) proposals make a bank collapse a little less likely.

"The intent of structural reform was to increase the safety and soundness of banks and make them more resolvable. There is another way to do this more efficiently – the introduction of TLAC and improvements in resolution procedures. Had the innovations been in place quickly after the crisis, I personally doubt there would have been as much support for structural reform," says Mr Huertas. TB

> YOUR BOOK IS FUNDAMENTALLY MISMATCHED IF YOUR BOND PORTFOLIO IS IN HONG KONG BUT THE DERIVATIVES PORTFOLIO THAT HEDGES IT IS IN LONDON
>
> ***Keith Pogson***

MISCONDUCT DEBATE MOVES BEYOND REGULATION

Industry standards

The search for industry standards focuses minds on fostering an open and innovative environment, writes Philip Alexander, where good conduct and good performance co-exist.

In November 2015, the Financial Stability Board (FSB) delivered a report to the meeting of G20 heads of state on progress with measures to reduce misconduct risk in the financial sector. Inevitably, the FSB's focus is on regulatory steps including rules on pay and enforcement powers for supervisors. However, the FSB also noted guidelines produced by the Basel Committee on Banking Supervision in July 2015 that exhort bank boards to set a code of ethics or conduct intended to "foster a culture of honesty and accountability to protect the interest of its customers and shareholders".

"Given recent events, a better understanding is needed of the effectiveness of financial institutions' governance frameworks and the tools, beyond compensation schemes, to promote appropriate behaviours. This should involve both supervisors and institutions," said the FSB.

The report is permeated with a sense that regulators are now establishing a substantial body of conduct rules, such as the UK's senior managers and certification regime due to come into force in March 2016, and a global code of conduct for foreign exchange markets that is expected in 2017. Increasingly, the initiative must pass back to the industry itself to do more than just complying with rules and codes. The FSB convened a high-level panel with industry representatives in September 2015, whose conclusions included the need to "integrate behaviour and ethics considerations in staff hiring, professional development, compensation and promotion decisions".

In the UK, the response from the industry is being spearheaded by two independent bodies created with regulatory encouragement – the Banking Standards Board (BSB) and fixed-income, currencies and commodities markets standards board.

"Every bank is at a different starting point, but the industry has a collective challenge to demonstrate that it can manage itself appropriately and focus on the customer, setting standards especially where you most want them – for instance, the treatment of staff or customers. These responsibilities cannot be delegated to regulators," says Alison Cottrell, chief executive of the BSB.

> THE INDUSTRY HAS A COLLECTIVE CHALLENGE TO DEMONSTRATE THAT IT CAN MANAGE ITSELF APPROPRIATELY AND FOCUS ON THE CUSTOMER, SETTING STANDARDS ESPECIALLY WHERE YOU MOST WANT THEM
>
> *Alison Cottrell*

RESPONDING TO REGULATION

The UK senior managers' regime introduces high-level rules including the requirement for executives and board members to attest that they have done everything possible to prevent misconduct. The institution must also demonstrate that key risk-takers and decision-makers are suitably qualified.

"The senior managers and certification regime is a compliance challenge, but also a huge opportunity for banks to look at whether they have the right people in the right roles, both in the management and on the board, and to fill in any gaps," says Mikael Down, director of policy and analysis at the BSB.

In practice, industry efforts to raise standards pre-date the work by regulators. The Chartered Banker Institute set up a professional standards board in 2010 and produced a code of conduct in 2011. To date, about 187,000 banking professionals have attained the foundation standard, and the intention is for all customer-facing staff in the UK to have achieved this level by the end of 2015.

"There is some overlap with the UK accountability regime, and banks see professional standards as part of the evidence that they are implementing individual conduct rules. But our standards are much more detailed and go well beyond regulatory requirements on integrity and putting customers first. What we want is not just a positive culture in each institution, but an industry aggregate culture," says Simon Thompson, chief executive of the Chartered Banker Institute.

Ms Cottrell says conduct legislation such as the senior managers' regime tends to be intentionally high-level because regulators actively want banks to take ownership of their approach.

"Good governance, professionalism and fitness to practice mean many different things, and there are advantages to developing a common sense of what 'good' looks like across the industry and how to measure and assess it. This may not be the same as a compliance minimum that a purely legal focus might imply," she says.

The BSB has been undertaking an assessment exercise with an initial 10 banks, to be extended in 2016. This aims to elicit

input directly from chairs of boards, and from junior and mid-level staff in different business units and locations. Topics covered include how respondents see the culture of the bank, how far the tone set by the management is resonating, and how readily staff feel they can speak up or innovate.

"These are bilateral conversations with each member intended to provide material for meaningful and challenging feedback. Our interest is in the detail, not the average, so this is not a league table exercise," says Mr Down.

RULES VERSUS PRINCIPLES

However, there is a debate within the industry about how far standards or codes should go into detail, regardless of whether they are defined by regulators or the industry. The alternative is a broader examination of how organisations operate and the principles that they seek to instil. Roger Steare, visiting professor of organisational ethics at Cass Business School and a strategic advisor to EY, suggests that any codes emerging from the BSB and other industry initiatives should be kept simple, based on an appeal to human virtue.

"The BSB is an opportunity to create a microculture among its members, to discuss how to act with integrity and develop diagnostic tools to provide client solutions. It can contribute to an environment of constructive dissent, where people feel able to discuss what to do and how to do it. The best way to learn is to emulate good practice that already exists in many parts of an organisation – that is more effective than a half-hour ethics training session," he says.

Mr Steare was one of the creators of MoralDNA, an online ethical psychometric profile that assesses people based on three decision-making preferences: the law, logic and love.

"By understanding how people think and make decisions, we are more likely to be able to predict their likely behaviour, and in particular to notice any change in how people act in the workplace compared with their personal profile – while the person stays the same, the context changes," says Mr Steare.

One crucial insight from this process is the concept of microcultures. Large companies are highly unlikely to have a single uniform culture, but instead present a series of different environments from the board itself to individual teams. Each may be subject to specific cognitive biases that can lead to poor decision making.

"When you investigate a crisis episode such as a rogue trader, you almost always find a tipping point, and that is usually to do with individual or team profit and loss going wrong. It is a binary outcome – do people feel able to raise the problem with their manager, is the management style fostering honesty, or does fear drive people to break the rules," says Klaus Woeste, a partner in the EY financial services human capital practice.

Mr Woeste assesses staff and business units based on a four-box grid of high and low performance, and high and low integrity. Regulators see their aim as fencing off the high-performance, low-integrity corner, but Mr Woeste says many bankers consider themselves to be in the high-integrity, low-performance corner.

"The challenge is to work out what the high-performance, high-integrity corner looks like; essentially a business model for sustainable performance. Excessively detailed rules will stifle innovation, and that is perhaps why we are seeing innovation shift to the financial technology sector – these companies are not being told what they cannot do, so their decision making has a different quality to it," says Mr Woeste.

GLOBAL AND LOCAL

The report of the FSB high-level meeting noted a further difficulty in building a corporate culture that discourages misconduct. This is the challenge posed by large, global banking groups, which need to find a balance between maintaining a coherent organisation while operating on a localised basis.

"The issue was not the articulation of codes or standards, but their effective implementation and enforcement across diverse business lines and across jurisdictions. The 'tone at the top' is not always supported by consistent actions that demonstrate that conduct and ethical considerations visibly determine hiring, promotions, professional standing and success," the report observed.

Banks have tended to drive standardised interventions such as training and performance management modules, seeking to set a single tone from the top and break down silos. But in reality, the conduct of most staff is shaped by their direct line manager. Some global banks have developed high-performing, high-integrity teams that are relatively separate from the rest of the organisation, and find it difficult to disseminate the positive aspects of those teams more widely.

"There is a real tension between operating effective teams that stay close to clients, and wanting efficient control and surveillance over the whole organisation. We are not yet at equilibrium on that question, and banks will arrive at different answers," says Mr Woeste. TB

> BY UNDERSTANDING HOW PEOPLE THINK AND MAKE DECISIONS, WE ARE MORE LIKELY TO BE ABLE TO PREDICT THEIR LIKELY BEHAVIOUR
>
> *Roger Steare*

BANKS ADJUST TO STRESS-TESTING AS SUPERVISORY TOOL

Stress-testing

With post-crisis recapitalisations hopefully in the past, writes Philip Alexander, stress-testing has become a means to push banks to enhance their risk and data governance.

As regulators prepare a new round of stress-tests, there is growing focus on enhancing risk management and information about systemic risks rather than just capital adequacy. The Bank of England unveiled a new strategy for stress-testing alongside the 2015 test, the results of which were published on December 1, 2015. The European Banking Authority (EBA) has also given more insight into how its 2016 stress-test will be conducted, with scenarios due to be published in February 2016, and results released in the third quarter.

Speaking at a conference at the London School of Economics in October 2015, the US Federal Reserve's deputy director for financial stability policy, Andreas Lehnert, emphasised the difference between what he called "wartime and peace-time" stress-tests. The first type is designed to identify capital shortfalls and re-establish the credibility of the financial system and regulators during a crisis.

"Now we have moved beyond that stage and are well into an economic recovery, stress-testing has become part of routine process for regulators and for authorities that are accountable for financial stability. Our thinking is that we will go into the next downturn with a much better capitalised banking system and with a set of quantitative tools with forward-looking, imaginative hypotheses about what the risks are in the system," said Mr Lehnert.

The 2016 stress-test of 53 EU banks provides an unambiguous example of this change. The EBA has decided not to set a pass/fail threshold for how much capital banks must be left with at the end of the adverse scenario.

"However, competent authorities will apply stress-test results as an input to the supervisory review and evaluation process," the EBA said in an explanatory note.

TEST OF GOVERNANCE

On a similar note, all seven banks assessed passed the UK stress-test in December 2015 in terms of their capital ratios. But the Bank of England's report included lengthy observations on the shortcomings of data and process management at the banks.

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>
> ***Adam Girling***

"For some banks, the coverage, scope and adequacy of model management standards were found to have improved. But others needed to make considerable improvements, including implementing and embedding model management policies more fully. Some banks lacked formal processes to approve stress-testing models and had weak model governance," the prudential regulator noted.

In addition, the report flagged deteriorating data quality in a number of areas, including net interest income, traded risk and structured finance.

"While the quantitative impact of stress-testing remains important for capital and dividends planning, and the setting of regulatory buffers, the focus of regulators is increasingly on the provision of reconciled granular data to describe the detailed risks banks are exposed to, and to test that banks are able to effectively understand, quantify and manage these risks," says Gerald Chappell, a partner in the financial services advisory division at EY.

This also takes the Bank of England down a similar road to the US Federal Reserve, which has in the past objected to bank capital plans in the comprehensive capital analysis and review (CCAR) due to perceived quantitative failings. Adam Girling, a principal in EY's financial services office in the US, says future CCAR exercises could pose a higher capital hurdle if the surcharge for global systemically important banks (GSIBs) is included. Nonetheless, the distinguishing feature of the CCAR in general is the level of sophistication required for internal scenario development.

"The CCAR is not just a risk or loss-based stress-test, but rather a comprehensive financial statement and regulatory capital projection exercise. Banks need to look at how their balance sheet, income statement, risk-weighted assets and related liquidity needs and funding costs dynamically evolve under a stress scenario, and the leading US banks have incorporated all of those aspects and their interdependencies," says Mr Girling.

MANAGEMENT TOOL?

Mr Girling believes firms still need to develop more robust infrastructure to extend the stress-testing process to the business-as-usual capital allocation of the bank. In the meantime, banks are already using stress-

tests to identify particular sensitivities in their risk-weighted assets models or potential sources of loss.

"The integration of stress-testing with risk appetite, business planning and return-on-equity management is still an aspiration, rather than being fully embedded at most banks. That is partly because banks have had to respond rapidly to regulatory stress-test demands that impose reporting views, assumptions and methodology requirements which are very different from their business-as-usual approaches to managing risks. So they need to focus on being able to comply with the exercise first, and then look to extract value by feeding into management decision making," says Mr Chappell.

The UK Prudential Regulatory Authority is pushing hard to oblige banks to integrate stress-testing into management and risk appetite decisions. Alex Brazier, Bank of England executive director for financial stability strategy and risk, announced in October 2015 that UK tests would now be used as a countercyclical tool. Stress scenarios defined by the regulator will be more severe at the top of the cycle, to oblige banks to build capital buffers during the good times that can be depleted during downturns. Perhaps the most radical step is the requirement announced by Mr Brazier for banks to assume continued lending growth of 10% per year for each of the five years in the stress scenario.

"We're not just interested in whether banks stay afloat. We want the system to be strong enough to continue to serve the real economy, even in the storm," said Mr Brazier.

In other respects, the Bank of England stress-test is dynamic, with banks allowed to set out how they would respond to the shock. Those management responses themselves are carefully examined by supervisors, but may sit awkwardly with the loan growth requirement.

"It is true that you do not want a self-reinforcing cycle of deleveraging, but one has to think about what would be happening in the real economy in the stress scenario. Loan-to-value ratios would be deteriorating significantly, so it may not be realistic to expect banks to preserve their risk appetite in those conditions," says Cecilia Gejke, head of stress-testing at Japan's Mizuho International in London.

EXPECTED CREDIT LOSSES

Stress-testing is just one aspect of the pressure on banks to strengthen internal risk data governance. Another major change is the adoption of the IFRS 9 international financial reporting standard for credit loss accounting, which is set for adoption from January 2018. This will switch financial reporting from an incurred loss to an expected loss protocol. Assets must be moved from one-year expected loss accounting to lifetime expected loss in the event of a "significant deterioration" in credit quality.

In December 2015, the enhanced disclosure task force (EDTF), which is convened by the Financial Stability Board, published a detailed 32-page report on the impact of expected credit loss approaches on bank risk disclosures. The report concluded that: "For many banks, significant changes to systems and processes may be required, which will require substantial time and resources to deliver. Some banks will need to develop and enhance governance over the recognition and measurement of credit losses, particularly to develop capability to make informed judgements about the use of forward-looking information."

Tara Kengla, an assurance partner in the financial services team at EY, says there are estimates already in bank financial statements, including the current loan loss provisioning numbers. But expected credit loss will require more data points, models, processes and controls to audit, potentially leading to further guidance on auditing this complex estimate.

"With forward-looking lifetime calculations there are additional modelling needs and inputs, and there will also be a need for additional credit risk modelling specialists and economists to think about how to incorporate the macroeconomic factors and forecasting," says Ms Kengla.

To some extent, deciding the trigger point between one-year and lifetime losses will place greater emphasis on the governance elements that are also under scrutiny in stress testing. The Bank of England noted in its December 2015 report that certain aspects of the stress-test required expert judgement that went beyond pure financial models.

"There were features of the scenario, such as falling corporate profits in the UK, that [we] had expected banks to consider separately through the use of judgement and quantitative analysis. Such analysis was not evident in banks' submissions," the regulator concluded.

The EDTF is recommending that GSIBs disclose the quantitative impact of IFRS 9 on their financial statement from 2017. Ms Kengla emphasises, however, that this 2017 disclosure will be based on the portfolio at that point in time, so investors will not yet be able to assess the effects of IFRS 9 on actual reported numbers from 2018 onward. TB

THE INTEGRATION OF STRESS-TESTING WITH RISK APPETITE, BUSINESS PLANNING AND RETURN-ON-EQUITY MANAGEMENT IS STILL AN ASPIRATION *Gerald Chappell*

REINVENTING BITS OF THE BANK
Financial technology

Fintech start-ups are adept at pulling apart the banking business, neatly picking off low-hanging fruit. Joy Macknight examines the disruptive business models erupting in the financial industry and the banks' response to this wave of innovation.

SOCIAL CONNECTIVITY, DATA accessibility and technological advances have come together to create the right conditions for a surge in fintech start-ups. Add in a growing capital stream – global investment in these ventures tripled to more than $12bn in 2014 – and there seems to be no shortage of bright ideas.

An estimated 15,000 fintech companies worldwide are successfully eating away at the banks' revenues with innovative products and business propositions in areas such as alternative finance, peer-to-peer (P2P) lending, crowd funding, robo advisors and payments.

The industry has witnessed a dramatic lowering of the barriers to entry, costs of deploying modern technologies and time to market, all which have contributed to the 'democratisation' of financial software development, according to David Webber, managing director at digital banking software provider Intelligent Environments. "It is the ability to innovate, deploy quickly and, if necessary, fail fast that has allowed the alternate finance operations and challenger banks to emerge," he says. Intelligent Environments provides the software platform underpinning Atom Bank's mobile apps.

"The role these alternative finance and fintech firms play in developing and taking new ideas to market is critical," adds Matthew Hatch, partner, advisory services, at EY. "These start-ups can spin up a server and compete at scale in a matter of weeks." Cloud computing has been a major contributor to the increase in pace and drop in cost, but so has design thinking and agile and lean development methodology.

Fintech start-ups are not looking to reinvent the whole bank. Instead they are focused on discrete segments of the value chain, with the aim of doing one piece better, faster and cheaper. Colm Lyon, CEO at Fire Financial Services, calls this trend the "dismantlement" of financial services. "It isn't really disrupting because it is still the same products under the bonnet," he says. "Financial services are being unbundled and these new companies are offering different sections of the banks' overall proposition."

> I CAN IMAGINE A FUTURE WHERE WE TRACK WHAT A CUSTOMER IS SAYING ON TWITTER ABOUT HAVING A BABY AND THEN OFFER THEM THE OPTION OF CREATING AN INVESTMENT FUND FOR THAT CHILD ***Nick Hungerford***

NEW BUSINESS MODELS

There is no denying that these new start-ups are disintermediating incumbent financial services providers. Nutmeg, the first online investment manager, is a case in point. "Most people don't have time to manage their own money, and while they know they don't have the expertise either, they struggle on and do it themselves. They want the best bits of all worlds: lower costs, access to great service and someone to manage their investments. The internet is how we make that happen," says Nutmeg CEO Nick Hungerford.

The pain points are clear: lack of time and transparency, high fees and low returns, plus what Mr Hungerford refers to as "cultural misalignment". "Financial advisors don't look or sound like the vast majority. They tend to be in their 50s, white and male. They aren't used to doing business with people who are tech savvy," he explains.

Nutmeg's aim is to provide clients with a transparent online money management service and help to educate them so that they can do it themselves. Self-service, as well as 24/7 availability, is seen across fintech start-up offerings.

In the remittance space, Xendpay intends to overhaul the traditional money transfer model, where firms profit from foreign exchange spreads and high fees by offering international money transfers on a 'pay what you want' basis.

Xendpay CEO Rajesh Agrawal says: "I wanted to make a difference in the world and saw that people are being ripped off when they send money back home. The only way to change the status quo was by disrupting the traditional mechanism of money transfers, whether through technology or pricing."

A customer can use Xendpay via mobile and online to send money to a bank account anywhere in the world and also mobile wallets in many countries. The company suggests a small fee on its website; while 90% of

people pay something, 70% of those pay the suggested fee. "This proves that a new model can work," says Mr Agrawal.

PROVIDING FUNDING FOR SMES

Alternative lending is mainly associated with consumer P2P platforms; however there has also been a sharp rise in fintech start-ups focused on the small and mid-sized enterprise (SME) segment. SMEs have long been poorly served by the banks, yet account for 99% of global businesses, contribute about 50% of GDP and play an important role in a dynamic economy.

UK-based Iwoca, for example, provides financing for the 'S' in SME. Its technology pulls data from different sources, including Alibaba, Amazon, eBay, cloud-based accountancy software and bank statements, and uses it to assess the lending risk for small businesses.

"Customers share information about their business to streamline the application process," says CEO Christoph Rieche. "It takes minutes to apply and funds are in their bank account within hours or days of an application, versus weeks or months for banks."

The banks historically ignored this segment because it proved too costly to do in-depth due diligence for each customer. "Technology can really make a difference," he says, "because it can help to understand every single customer in a better way. We have reduced the cost of underwriting by 90%." In the UK banks will soon be obliged to share rejected leads with alternative lending players through platforms designated by the British Business Bank.

US-based Kabbage also leverages data accessible online to provide SMEs with capital. Importantly, it is not just a one-time data pool but continuous access. "This means that it is possible to truly understand the small business's cash flow over a longer period of time and therefore to create products that fit that business," says Rob Frohwein, CEO and founder. Kabbage's offering is a "fully automated, living, breathing line of credit" that can move up or down depending on the business's performance.

While having banks refer rejections to alternative lenders is a good first step, Mr Frohwein argues that a deeper strategic relationship is needed. "To bring long-term benefits, both organisations need to partner in a technically integrated way," he says. For Kabbage, that means the customer experience lives on the partner bank's site. "We provide the underlying end-to-end technology. While the bank's look and feel guides the customer interface, we consult with the bank to ensure they engage in a way we know small businesses love. In addition, we assist in monitoring and servicing the customer," says Mr Frohwein.

PayPal – which successfully made the journey from fintech disruptor to financial services heavyweight – has also moved into the SME finance space, leveraging the deep relationships it holds with its customer base. PayPal Working Capital launched in the US in late 2013, and then expanded into the UK and Australia a year later.

"Many small businesses process the majority or potentially all of their sales through PayPal, which gives us access to an extremely rich data stream and a window into the health of their business," says Norah Coelho, director of PayPal Working Capital UK. "The principles behind PayPal's innovative platform are fast, flexible and fair funding."

The solution offers a single fixed fee, which is transparently displayed at the point of application; a short application and funding process, taking minutes instead of hours; 24/7 availability; and a 'repay when you get paid' mechanism. "The customer pays a fixed percentage of their daily sales and that allows the repayment to flex accordingly," says Ms Coelho.

> IT IS THE ABILITY TO INNOVATE, DEPLOY QUICKLY AND, IF NECESSARY, FAIL FAST THAT HAS ALLOWED THE ALTERNATE FINANCE OPERATIONS AND CHALLENGER BANKS TO EMERGE
> ***David Webber***

HARNESSING BIG DATA

Being able not only to capture but successfully apply 'big data' is another characteristic of many new start-ups and one that will produce significant advances in overall customer experience within the next five years, predicts Jan Bellens, global emerging markets leader and Asia leader, banking and capital markets, at EY. "This advance will be driven by fintech, not necessarily entrepreneurs but larger ecommerce players or other institutions with access to data lakes and data scientists," he adds.

The next frontier for Kabbage is to use big data to develop 'hyper-personalised' experiences and products. "We want to be »

> ALIBABA COULD CAPTURE MAYBE 80% OF A PERSON'S BEHAVIOUR, COMPARED WITH A CREDIT CARD RISK MODEL OF A BANK, WHICH MIGHT SEE 15% TO 20% OF A CUSTOMER'S ACTIVITY ***Jan Bellens***

> THERE IS COMPELLING CASE TO ENTER INTO PARTNERSHIPS BECAUSE OF THE SPEED BY WHICH THINGS ARE CHANGING
> *Colm Lyon*

able to dynamically generate a product for a small company that is based on its unique circumstances that we can assess very rapidly," says Mr Frohwein.

Mr Hatch suggests that even referring to a 'demographic' will be out-dated in the future when each consumer can be personalised based on their data.

Additionally, Mr Bellens sees fintech companies using big data for advanced risk modelling. He highlights Alibaba, which has built its own credit score based on customers' retail activity and payments via Alipay. "Alibaba could capture maybe 80% of a person's behaviour, compared with a credit card risk model of a bank, which might see 15% to 20% of a customer's activity," says Mr Bellens. "If Alibaba can leverage the data and perform the right analyses, it could have a much better view on the actual credit score and credit risk of a customer than a bank has."

Eugene Danilkis, CEO at Mambu, a software-as-a-service banking platform provider, sees innovation in automatically pulling data from different sources into specific business processes. "For example, if a company is evaluating agriculture loans, it could pull in or estimate weather and market forecasts over next 12 months into the financial assessment process," he says. "Today that process is done manually, which takes a lot of time and is prone to error."

Mr Hungerford, on the other hand, does not think that the wealth management industry has got to grips with big data, including Nutmeg. "However, I can imagine a future where we track what a customer is saying on Twitter about having a baby and then offer them the option of creating an investment fund for that child," he says.

COMPETE OR COLLABORATE?

There has been much debate over whether fintech companies are pure disruptors, able to change the world on their own, or whether they need to co-operate with banks in order to gain scale. "More often their business model is designed around collaboration with traditional banking and infrastructure players in the market," says Mr Hatch. Eighteen months ago he saw a fair amount of 'disruption denial' from banks, whereas today he sees greater collaboration and investment.

The challenge for banks, according to Mr Danilkis, is that they are trying to play both defence and offence at the same time. "They are trying to defend existing market share, while figuring out how to stay relevant in a digital future. Some of the organisations are approaching the market by either funding platforms, such as alternative lending, or putting money behind start-ups, which is a way for them to get into the game," he says.

Alternative SME finance is one area seeing a lot of interest from tradition banks. For example, Commerzbank invested in Iwoca in July 2015 through the bank's venture capital subsidiary, CommerzVentures. Kabbage signed a deal with ING in June, followed by Santander InnoVentures and Scotiabank.

Mr Lyon is of the opinion that banks are better off partnering than doing it themselves. "There is compelling case to enter into partnerships because of the speed by which things are changing," he says. "In the next five to 10 years banks will do a bit themselves; they will partner with third-party payment service providers, foreign exchange gateways and alternative lending platforms; and then over time they will look to acquire some of those players."

THE POWER OF BLOCKCHAIN

While new technology is erupting across financial services, none has received more attention this year than blockchain, or distributed ledger technology. Both Mr Bellens and Mr Hatch believe it has great potential for transforming financial infrastructure. "Many pilots and prototypes for blockchain technology are being deployed with good results," says Mr Bellens.

For example, London-based start-up Everledger has used the technology to protect insurers against diamond fraud. "Every diamond has a serial number and the policy against that number is accessible via the blockchain to all diamond insurers," says Mr Bellen. "That is an example of where blockchain can rapidly make a vast difference."

Thirty global banks have now joined R3's distributed ledger initiative. According to CEO David Rutter, the goal is to build a shared ledger approach that works for members, based on the premise that existing technologies are not fit for purpose. The consortium has received 40 suggestions from its members and is currently working on trade finance, issuance and derivatives smart contract use cases.

Mr Bellens believes that blockchain could play an important role in the regulatory and compliance arena, for example Know Your Customer, anti-money laundering and sanctions, where to date there has been less focus and investment. "This will be the new battleground for innovation, at least from the incumbents," he says. He hopes to see more initiatives that will help decrease the banks' burden, as well as ensure that fintech companies are up to scratch on regulatory issues. TB


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