

SECURITIES & INVESTMENT

# REVIEW

THE JOURNAL OF THE CHARTERED INSTITUTE FOR SECURITIES & INVESTMENT

CISI.ORG/SIREVIEW

SEPTEMBER 2015

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What will its legacy be?

## Targeting the top

A new regulatory regime has  
senior managers in its sights

## Know your enemy

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### Inside

Review of Financial  
Markets – see centre  
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INTEGRATED REPORTING,  
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# City view



## SOME OF THE MONEY RAISED BY UK FINANCIAL SERVICES FINES SHOULD BE USED TO HELP BLAMELESS FIRMS ABSORB THE RISING COST OF REGULATION

A recent study\* has revealed that the global cost to banks and the financial services industry of their misconduct since 2010 has passed £200bn, with UK-based financial institutions bearing a significant share of that amount. Considering that UK regulatory fines mushroomed from £16.9m in 2005 to £1.5bn in 2014, with 2015 looking on course to maintain that level, one might be forgiven for wondering where all this money might be going. The regulator? Schools and hospitals? You and me?

Gone are the days when fines were used to reduce the regulatory levy on regulated firms. Fines from the Financial Conduct Authority (FCA) now go to Treasury coffers as a result of rule changes imposed by the Chancellor of the Exchequer, George Osborne, in the wake of the LIBOR rigging crisis, to prevent the proceeds of misdeeds going to the City regulator as they had done in the past.

### FEE REDUCTIONS

In the first distribution from this quasi-hypothecation, in November 2013 the Government pledged £35m raised from Financial Services Authority (FSA) fines to support the armed services, veterans and their families, with Prime Minister David Cameron saying that it was not fair that fine money goes back to the banking industry in the form of fee reductions. In the preceding year, some £70m from FSA fines was used to reduce industry fees, which had a significant impact in lowering the fees levied on financial advisers.

More recently, in April 2015 the Chancellor of the Exchequer announced

that £200m of the fines imposed on Deutsche Bank for its part in the FX rigging scandal would be used to fund 50,000 new apprenticeships, and July's Summer Budget stated that "the Government has committed nearly £70m of banking fines over the next five years to support military charities and other good causes".

However, the Budget figures showed that the £70m also included an amount of £50m to fund an increase in the activities of the army cadet force in state schools, which one might reasonably argue is an activity that should be funded from the public purse, suggesting that the Treasury's view of 'good causes' is fairly elastic. No surprise there! But bearing in mind that the regulator has collected some £3bn since 2012, that still leaves an awful lot of cash in George Osborne's back pocket, for which one might reasonably expect to be accounted for.

That still leaves an awful lot of cash in George Osborne's back pocket

At the same time as the use to which these large sums are put remains unclear, the basis for calculation of the fines imposed also remains less than transparent.

While the rulebook indicates that fines are calculated using the 3D formula of Disgorgement – removal of any benefit; Discipline – to reflect the seriousness of the breach; and Deterrence – allowing upward

adjustment of the figure to ensure that the penalty has an appropriate deterrent effect, actually applying this seems more of an art than a science.

Although the UK does not have the overtly political nature of the various regulatory authorities in the US, so that the level of fines levied by the FCA may, in comparison, seem almost bearable, the absence of any accounting for the fines by the Treasury is unsatisfactory.

It is also unsatisfactory that the Treasury, and the regulatory authorities, in their enthusiasm to inflict punishment upon banks for their misdeeds, appear to have abandoned the 'regulatory dividend', whereby blameless firms which have not been subject to any form of censure should see their regulatory levies reducing. This is as a result of the fines imposed being used, at least in part, to fund the operating costs of the regulator.

### VALUABLE INCENTIVE

While we certainly do not argue that offenders should benefit in any way, it surely is only equitable that a portion of the monies raised from fines is retained by the FCA to enable this valuable incentive to be maintained, as was originally the case. Instead, we see the cost of regulation increasing relentlessly, with the increase being passed on to all firms both large and small, where this is becoming a significant part of their costs.

As Edward, Prince of Wales said: "Something must be done."

\*2015 CCP Research Foundation

# Proposed merger of the CISI and the IFP



Simon Culhane,  
CEO, the CISI

The Board of the Institute of Financial Planning (IFP) has agreed that, following discussions with the CISI, they are consulting with their members on a recommendation that the IFP merges with the CISI. Terms have been agreed and a consultation period is now starting with the IFP membership.



Becky Taylor,  
President, the IFP

News of the CISI's planned merger with the IFP came in the same week that the UK regulator announced a fresh review of how financial advice could work better for consumers.



Tracey McDermott,  
Acting CEO, the  
FCA

Tracey McDermott, Acting CEO of the Financial Conduct Authority (FCA), said: "Ensuring people have the

appropriate information and advice in order to make important financial decisions is a priority for the FCA."

CISI CEO Simon Culhane, Chartered FCSI, said: "We are excited that the Board of the IFP has decided to consult with members on this proposed merger. The main driver in the merger is to provide yet better service to both the Institutes' members and, through them, to their clients, but the new regulatory review of the advice market by the regulator makes this particularly timely. We have recognised for many years the leading position that the IFP holds in the Financial Planning and Paraplanning professions. We also recognise the increasing importance of Financial Planning to consumers and those dealing with them in the adviser and wealth management sectors."

## LANDMARK AGREEMENT

Both Simon and Becky (Rebecca) Taylor FIFP CFPCM, President of the IFP, expressed delight that the two organisations had been able to work together to come to this landmark agreement. Becky, who is Managing Director of award-winning Aurea

Financial Planning, based in Peterborough, echoed Simon's enthusiasm. "I am a strong believer in Lifetime Financial Planning and in the importance of taking a holistic view of the client's needs at any stage in life," she said. "The IFP is the leading standard bearer in the Financial Planning and Paraplanning professions, which is clearly demonstrated by our members and the breadth, rigour and reputation of our professional qualification, the level 6 Diploma in Financial Planning, which leads to the CERTIFIED FINANCIAL PLANNER<sup>CM</sup> designation. Together, the CISI and IFP will be yet stronger in helping clients achieve their objectives, particularly in the increasingly difficult area of pension provision."

## SAME RIGOROUS STANDARDS

The IFP has more than 2,000 individual members, including around 1,000 CFPCM Professionals and more than 30 Corporate Sponsors. Corporate Sponsors are product-and-services providers who are committed to the long-term development of the Financial Planning profession.

Simon added: "The IFP members uphold and abide by the same rigorous ethical standards as the CISI, entitling their members, like ours, to stand tall whenever integrity is measured. We value the IFP brand and its membership structure and events, which would be retained and enhanced as an integral part of the new combined entity. The IFP's members would feature prominently throughout CISI's ongoing Financial Planning activities, and its President would be invited to join the main CISI board of trustees.

"For CISI members, this merger would widen the choice of qualifications and pathways available, extending the opportunities for them to develop their careers in the field of wealth management. We very much hope that the IFP's members will agree with us that a combination of our two Institutes would provide additional strength and an even greater presence in the Financial Planning sector."

## ENHANCED MEMBERSHIP BENEFITS

Many of the CISI's traditional membership firms, Simon added, are "blurring the edges between where wealth stops and Financial

Planning begins, and the pension reforms have been instrumental in bringing this out". As part of the merger, the new body will be providing a level 4 Investment Advice Diploma module in Financial Planning, due towards the end of the year, thus providing a full pathway for Financial Planning qualifications. The combined body's Continuing Professional Development (CPD) offering will be enhanced to embrace subjects of specific interest to Financial Planners, members of the newly merged institute and also advisers on the outside, who may have been seeking an appropriate home for their qualifications and skills.

## FOCUS ON PENSIONS ADVICE

Tracey focused on pensions in announcing the FCA's new probe. "Changes in the rules around mortgages and the introduction of the new pension freedoms mean that more people than ever before are looking for or are in need of financial advice," she said. "The review is an opportunity to look at how the market is working right across the piece and has the potential to radically change the advice landscape to the benefit of both firms and consumers."

The pensions sector is particularly in need of a trusted source of deeper, wider and better-informed advice, of the sort a merged CISI-IFP can provide more keenly, with professionalism and integrity. A new report from the Centre for the Study of Financial Innovation underlines how the collapse of 'traditional' defined benefit pension schemes and a prolonged period of near-zero interest rates "has brought into sharp relief just how inadequate most people's provision for retirement has become".

"Pension provision brings together a number of the issues in whole-life Financial Planning that are core to our members' achievements," says Becky. "It ranges from how willing young adults, perhaps with heavy student and other debts, will be to lock their money away for decades, to how older people can best plan to deploy their assets and savings for a comfortable retirement."



# Ready to do good on City Giving Day

Britain's charities have had a rough year, and need our help more than ever. The Prime Minister himself has led criticism of overly aggressive fundraising. Last month, a high-profile charity, Kids Company, ran into financial trouble despite receiving £37m in taxpayer funding over the past decade. And a key survey published last month showed that the mood of the charity workforce is sinking – 12% of workers in the ninth Charity Pulse survey reported a decline in morale.

But a bright light will shine on the sector on 30 September when Alderman Alan Yarrow, Chartered FCSI (Hon), CISI Chairman and Lord Mayor, will use City Giving Day to get the financial community to shout about its charitable giving in all its forms: money, time and expertise. Our Chairman understands the cultural reticence we have in celebrating our charitable engagement, but wants this event to be a win-win. Shining a spotlight onto the charities that the City supports should, he strongly believes, bring those good causes more attention – and donations – and will also remind both City and charity workers about the unsung virtues of City firms.

“It’s not bragging, it’s marketing,” he proclaims. “As a dedicated ambassador for the City, my job is to support and promote the City as the world leader in international finance and business services. However, I also want to promote and celebrate

giving in all its forms and highlight the immense outreach and ways in which lives are transformed by the generosity of the City, especially through its charitable and community work.”

His home side at the Institute pulls its weight. For 2015, the CISI team’s main charitable activity, organised through the charities committee, is the giving of time and brainpower with its involvement in the BEE Programme. This is organised by Tower Hamlets Education Business Partnership, and entails our working with the Mayflower



Tower Hamlets schoolchildren visited the CISI's offices in London to learn about the world of work and finance

Primary School in Poplar. The programme is designed to introduce children to the world of work, money and enterprise. There are six activities planned throughout the year: three at the school; two at our offices and one at the Bank of England Museum. Other CISI teams have in the past couple of years raised significant charity funding with a range of activities, from planting poppies at the Tower last year to climbing the highest mountain in the Arab world, Toubkal in Morocco, for a major medical charity.

More formally, the CISI funds its separate education charity, the CISI Educational Trust, which shares the Institute’s charitable mission, but is able to use its funds solely to support educational initiatives in the public interest and for the common good. This includes sponsoring teaching posts in regional cities and providing scholarships and bursaries, as well as awards for high-performing students. The Trust continues to support a full-time teaching post at Archbishop Beck College in Liverpool, which helps make CISI qualifications accessible to pupils from a number of schools, and this initiative enjoys support from financial services firms in the city.

- Find out more about the Lord Mayor’s Appeal in a special ‘Ask the experts’ in the *S&IR* digital edition. You can register your firm’s interest in City Giving Day at [thelordmayorsappeal.org/cgd](http://thelordmayorsappeal.org/cgd)

## Art in the City

There are dazzling works of art in the City and in corporate collections across the world. In this issue, we look at sculptor Laura Ford’s feline creation

In July, two contemplative black cats appeared on Leadenhall Street in the City of London. The piece, called *Days of Judgement – Cats I & II*, depicts two thin, yet larger-than-life cats in sombre black clothing. They appear to be in distress, invoking the scene of the office workers in T.S. Eliot’s *The Waste Land* with their state of pacing and sense of angst.

The sculpture by Laura Ford was installed as part of the City of

London’s Sculpture in the City 2015 initiative, which places many contemporary works within the Square Mile.

With the cats seemingly in mid-motion, the sculpture gives an expectancy of movement that never comes. These feline beings appear lost in their thoughts – a state that stressed City workers can no doubt identify with – while the hustle and bustle of the City continues around them.



Laura Ford’s sculpture *Days of Judgement – Cats I & II* has become a familiar sight to City workers on their daily commute

## 60-SECOND INTERVIEW

*The CISI is encouraging financial services firms across the UK to offer work experience to young people. James Charlton, Chartered MCSI, Fund Manager at Tilney Bestinvest and our Liverpool & North Wales Education Secretary & Vice President, explains the value of offering placements*



James Charlton,  
Chartered MCSI,  
Fund Manager at  
Tilney Bestinvest

### **What work experience opportunities do you offer?**

The inaugural CISI Liverpool & North Wales Investment Insight Conference, part of the Institute's pilot work experience week, took place this year. The conference was designed

to complement the studies of those students who are enrolled on the region's education programme. We arranged three days of work experience placements for 25 students across various firms within Liverpool, giving them insight into a number of roles within financial services, including investment managers, compliance officers and operational support staff. In addition to this, the students participated in two days of workshops to provide them with the necessary skills to work within the industry. We intend to run the conference annually as we look to inspire those students who are considering a career in financial services.

As a firm very much in its infancy, the CISI's work experience programme was seen as somewhat of a pilot for Tilney Bestinvest. It has been such a resounding success that we are now planning to roll out similar programmes in our other regional offices across the UK.

### **How does work experience benefit young people?**

It gives them a unique opportunity to experience the financial services sector for themselves, allowing them to form their own opinions of the industry and the various careers they can pursue. The conference provided students with the opportunity to further develop core skills, which will prove invaluable regardless of the industry in which they build their careers.

### **What benefits does it bring for your firm and for firms in general?**

It allows firms to support the development of the region's next generation of investment professionals and creates opportunities that will allow us to attract and retain top local talent.

### **How does the CISI support firms that sponsor work experience?**

The CISI works with firms across the UK to provide worthwhile work experience for students studying professional qualifications in school and college. We have an advanced education programme in the Liverpool & North Wales region, which receives the full support of the regional committee, our members and the CISI's education development team. We worked together during the week to match students and firms depending on their area of interest/expertise. We were well aided by our CISI colleagues in London.

- The CISI is looking for practitioners and employers to work with to give young people across the UK access to the industry. If you are interested in getting involved, email [educationdevelopment@cisi.org](mailto:educationdevelopment@cisi.org) or call 020 7645 0714.
- Read more about the week at [cisi.org/workexperienceweek](http://cisi.org/workexperienceweek)

## Integrity at Work in Financial Services 5

Over the past six years, the CISI has published more than 80 'Grey matters' dilemmas, which have formed the basis for the series of *Integrity at Work in Financial Services* books, culminating in the compilation of the fifth volume, included in the distribution of this issue of the *S&IR*.

In addition to the dilemmas, this latest volume continues the biennial review of attitudes towards ethics in the financial services industry, with an article by Jane Fuller based upon interviews with a number of senior industry figures. The book also contains an article by Simon Webley of the Institute of Business Ethics, discussing how one can measure an organisation's success in embedding its commitment to achieving

high standards of integrity. But, as before, the centrepiece of the book is the 12 ethical dilemmas and consideration of how they might be addressed.

In keeping with members' desire to receive as much content as possible electronically, printed copies of the book are being sent only to those UK-based members who receive a hard copy of the *S&IR*, with copies of the complete book also being available on our website in both 'turning page' and PDF format.



## Review of Financial Markets

This edition of the *S&IR* contains in its centre pages the seventh issue of the CISI's academic journal, *Review of Financial Markets (RoFM)*.

The 12-page publication includes diverse papers from academics based around the world.

*RoFM* Editor is Moorad Choudhry FCSI, Professor at the Department of Mathematical Sciences, Brunel University.

- CISI members are invited to submit papers to *RoFM* for consideration.
- For submission guidelines, see page 1 of *RoFM* or visit [cisi.org/academic](http://cisi.org/academic)

## CISI Membership Privileges

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To benefit from this and other CISI Membership Privileges offers, visit

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\*Terms and conditions apply. See website for further details.



The S&R's quick quiz features questions from CISI Professional Refresher, an online learning tool. This popular product consists of more than 65 modules covering topics including anti-money laundering, the UK Bribery Act, information security and data protection. The answers are on page 11.

#### 1. How does the Financial Conduct Authority describe employees who will not be subject to the Conduct Rules?

- A Approved persons
- B Ancillary staff
- C Code staff
- D Controlled functions

#### 2. What is a central counterparty?

- A An organisation which tells market participants with whom they may trade
- B An organisation which intermediates between parties to every trade
- C An organisation which trades all products in all asset classes
- D An organisation which reports trades to the Bank of England

#### 3. What kind of assets does a client have to hold to make its accounts subject to the Foreign Account Tax Compliance Act (FATCA)?

- A Any US investments including deposits and surrender value of insurance policies
- B US securities and cash/currency account
- C A US dollars cash/currency account
- D Worldwide investments, including deposits and surrender value of insurance policies, investments or deposits

#### 4. How could you ring-fence safe custody assets?

- A By placing them in a nominee company
- B By placing them into a statutory trust
- C By reconciling them
- D By placing them into a client transaction account

## Combating economic crime

### Cambridge International Economic Crime Symposium: Restoring the reputation of the City of London

Members can earn over 17 hours of highly topical and tightly packed continuing professional development (CPD) in a day and a half.

#### Dates and times:

Friday 11 September, 2pm-7pm to  
Saturday 12 September, 8am-6pm

#### Venue:

Jesus College Cambridge, Jesus Lane, Cambridge CB5 8BL

Economic crime – both traditional and cyber – and its implications for compliance remain solidly at the top of firms' and regulators' agendas. For the first time, the CISI is sponsoring the leading gathering in this field: the Cambridge International Symposium on Economic Crime, which will bring together 48 top speakers from 19 countries in our biggest-ever event. The Symposium is also a unique opportunity to network with a large number of the leading global experts.



## Check out our digital edition



### Keep up to date through the digital edition of the *Securities & Investment Review*.

The tablet and smartphone-friendly online issue is updated each week with fresh content. CISI members worldwide can log in and read news and features on the issues that matter to them.

- View the digital edition at [cisi.org/sireview](http://cisi.org/sireview)

# BACK STORY

*Jake Moeller, Chartered MCSI, Head of UK and Ireland Research, Lipper*



Having cut his teeth in mutual fund selection as Investment Research Manager at the Commonwealth Bank in Sydney, British-born but Australian-bred Jake Moeller returned to his native home in 2004, to see what the UK had to offer.

It turned out the answer was plenty, and Jake was soon offered the position of Head of Investment Research at MetLife Alico. "It was my first real experience working with discretionary portfolios," he recalls. "It was a huge role, and very influential for me."

Following a subsequent stint as a senior manager at Lloyds Banking Group, in 2013 Jake joined Lipper, a Thomson Reuters company that supplies mutual fund information, analytical tools and commentary. As Head of UK and Ireland Research, he is currently responsible for increasing qualitative output on mutual fund investments within Europe. It is a different world to fund selection, and the first time that Jake has

“Becoming a CISI member was a big part of my integration”

been employed by a non-financial institution. But he has relished the opportunity to approach funds from a new angle. "The strength of the Thomson Reuters brand is

something that I've never really had the benefit of before," he says. "I can knock on someone's door and say that I work for Reuters and they'll invite me in. That's remarkable and very liberating."

It was Thomson Reuters' push to increase its qualitative mutual fund output that drew Jake to the job. "Mutual funds are becoming a much more important vehicle for all types of investors, not just your traditional fund of funds manager or ISA investor," he emphasises.

Jake delivers this message at regular conferences, such as the Fund Selectors and Fund-of-Funds Forum, which Thomson Reuters hosted in conjunction with the CISI in July. "Becoming a CISI member was a big part of my integration," he says. "That's why I try to give something back by co-hosting conferences with the Institute."

A Fellow of the Financial Services Institute of Australasia, Jake's external perspective has also helped him appreciate the way the Institute runs its courses. "The great thing about the CISI is that you've got industry practitioners and high-level executives preparing the curriculum, and that's why the courses are so relevant. You get that wonderful overlay of members giving back to the theoretical underpinning of the industry."

Outside the office, Jake is most content on a hockey pitch or sat at the piano. He says: "I mainly play classical – I'm a big Chopin fan – but have been known to unwind with the occasional sing-along!"

- If you would like to tell us your own back story, email [lawrence.cohen@wardour.co.uk](mailto:lawrence.cohen@wardour.co.uk)

## Events preview

It's never too early to start thinking about your CPD planning, and the CISI offers plenty of opportunities to help you meet your requirements for professional development. Below are just some of the highlights of the Institute's events programme. For further information take a look at the latest quarterly CPD brochure, which is included in UK copies of this issue of the *S&IR*.

### ANNUAL INTEGRITY DEBATE 23 SEPTEMBER 2015

Are bankers expected to have higher standards of integrity than the military, the church or the civil service?

The CISI invites members to the Annual Integrity Debate on 23 September 2015 at Mansion House. This event offers the opportunity to hear the views of four high-profile speakers as they debate the above question. It will be chaired by Richard Charnock, Chartered FCSI, CEO, Standard Life Wealth.

#### Speakers:

John Campbell, Senior Managing Director, State Street; The Right Reverend David Urquhart, Bishop of Birmingham and member of the Banking Standards Board; Clark McGinn, Senior Vice President, Sales & Relationship Management, Waypoint Leasing Limited, and former RBS banker; Huw Evans, Director General, Association of British Insurers (ABI).

The debate will also be webcast live for CISI members.

### CONFERENCES 12 OCTOBER 2015 CISI TRAINING & COMPETENCE CONFERENCE

Industry experts will come together in London to impart their knowledge and insight on T&C best practices and the latest regulatory requirements.

Want to reach out to CISI members? Sponsorship opportunities available. Contact [victoria.fitzell@cisi.org](mailto:victoria.fitzell@cisi.org)

### ANNUAL DINNERS 24 SEPTEMBER 2015: Bristol & Bath Annual Dinner 16 OCTOBER 2015: Isle of Man Annual Dinner 13 NOVEMBER 2015: South Coast Annual Dinner

### OTHER FORTHCOMING HIGHLIGHTS INCLUDE:

17 September 2015: Evolution of Passive Investing (Jersey)

22 September 2015: A Conversation with Bart Chilton, former CFTC Commissioner

29 September 2015: European Regulation Professional Forum on EU policy and regulation – what it is, who makes it, what you should do

- For details of conferences, training courses, CPD and social events available to members visit [cisi.org/events](http://cisi.org/events)

# Expect the unexpected

AS A WEAKENING EURO HAS SHOWN, MARKET PRACTITIONERS NEED TO REDISCOVER THE DIFFERENCE BETWEEN RISK AND UNCERTAINTY

✦ ANTHONY HILTON ✦ JOHANNA WARD

The Swiss franc was pegged to the euro in 2011. For three years this was uneventful, but in January this year the move came under attack. Waves of buyers seeking a safe haven from a weakening euro forced the Swiss authorities to abandon the peg and set the franc free to soar through its ceiling.

This led to eye-watering losses among foreign currency dealers and others who had failed to see the possibility of this happening and who were short of Swiss francs. Some spread-betting companies and forex trading firms that encouraged retail investors to borrow money to bet against currency movements were wiped out – as were their customers. The City is still trying to clear up the mess.

Interestingly, no one seems to think it is their fault. Even Goldman Sachs has a ready excuse. Its Chief Financial Officer, Harvey Schwartz, described the movement that followed the franc's unpegging as a 20-plus standard deviation occurrence. In effect, what he was saying was that it was the type of thing that its risk-control models predicted could happen only once every billion or so years, and that no reasonable person would factor this possibility into their calculations. No one was to blame.

Goldman has form in this area. Testifying before a Senate Committee in the aftermath of the 2008 financial crash, Schwartz's predecessor David Viniar similarly described the events of that time as "25 standard deviation events, several days in a row". He explained that not only did a once-in-a-billion-years event happen; it happened again the following day and indeed several other days thereafter. Again, his defence was that this kind of movement was so unusual it could not possibly be foreseen, and no one could possibly run a business on the basis that it was likely to happen.

Now, there are some out there who might indeed believe the unpegging of the Swiss franc is something that is likely to have happened only once since the dawn of creation. And there are others who might subscribe to an alternative explanation: perhaps the information in the model was incomplete and so it gave the wrong signal.

Most such models are rooted in financial markets theory that assumes that prices revert to the mean over time. This means that they assume a normal

or standard distribution – commonly known as a bell curve – in assessing the probability of an event happening. In a normal distribution, deviations of one or two from the mean do not count as extreme events, but when you get to five, let alone 20 standard deviations, you are way off the scale. However, as the Bank of England's Chief Economist Andrew Haldane has pointed out, there is precious little evidence that the financial markets theory is correct.

Market practitioners need to rediscover the difference between risk and uncertainty. Risk arises when price movements in the future can be calculated or are known. Uncertainty is when movements cannot be calculated or are unknown. Normal distribution models work on the basis that everything meaningful can be measured and the likely range of price movements can be predicted.

In this world, uncertainty does not exist, and that allows firms to adopt trading strategies that are the equivalent of running on to a motorway to pick up pennies. Such activity makes sense if your model tells you the chance of being hit by a car is one in a billion. Given what the world has experienced these last ten years, it is obvious extreme events happen a lot more often than normal distribution models assume. Economic and financial systems have behaved more like chaotic weather patterns than anything predictable. So it would make sense to develop financial models that recognise this fact.

That, however, is easier said than done. Models that reflect the world as it is, rather than as we would like it to be, would predict far more extreme events. This would pull the rug out from under a lot of trading strategies and, in turn, probably usher in demands from the authorities for much higher capital requirements for those who do trade.

So, the chances are we will continue as we are. That's why they say ignorance is bliss.

**Anthony Hilton is the award-winning former City Editor of *The Times* and the *London Evening Standard***



# Easing off?

ITS ADOPTION IN THE AFTERMATH OF THE 2008 FINANCIAL CRISIS HAS SEEN 'QUANTITATIVE EASING' BECOME A FAMILIAR TERM BOTH INSIDE AND OUTSIDE THE CITY, BUT HAS IT WORKED? AND WHAT WILL THE POLICY'S LEGACY BE?

HEATHER CONNON NEIL WEBB



Quantitative easing (QE) has been dubbed the greatest economic experiment in history and it is living up to its name. Firstly in its size: since the US Federal Reserve launched its first round of QE in 2008, more than \$6.7tn of bonds repurchases have been either made or are pending in programmes in the UK, Japan and the European Union (EU). To put this into context, that is more than the total GDP last year of Germany and the UK combined. Secondly in its ambition: the programmes were designed to save the global economy from tipping into a prolonged depression in the wake of the financial crisis. Thirdly in its long-term effects: while the policy was tried in Japan at the turn of the century, the effects are still a subject of hot debate – although that did not stop the country repeating the experiment last year. It is too early to judge whether it has truly succeeded in the countries which have tried it since. Finally, no one has yet worked out the implications of unwinding the programme when, or indeed if, it has achieved its objectives.

QE is effectively an economic policy of last resort. Interest rates are the conventional tool used by fiscal authorities to manage the economy: raising them when growth is accelerating and inflation is rising, and cutting them when things are not going so well. The shock to the financial system in 2008 was so severe that policymakers worldwide slashed short-term interest rates to unprecedented levels. In the UK, interest rates have been at 0.5% since 2009; the US rate stands at just 0.25% – although a rise this year is likely; the eurozone charges a negligible 0.05%; while some countries, such as Sweden and Switzerland, actually have negative interest rates.

#### TOXIC COMBINATION

These low rates alone have not, however, been enough to get the economy moving again, largely because of the precarious state of the global banking industry. A toxic combination of over-exuberant lending, lax capital regulation and a fatal misunderstanding of high-risk derivatives plunged many global banks into large losses. Meanwhile, the tightening of capital regulations means banks now have to hold far more assets against their activities, pushing riskier lending down the list of priorities.

QE is aimed at stimulating the economy through a large expansion of the central bank's balance sheet. This is effected by the

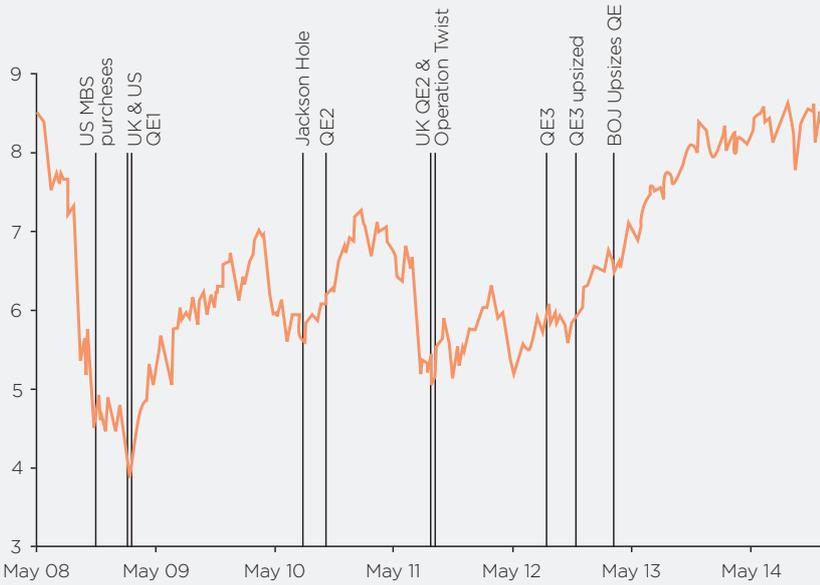
purchase of assets – in most cases, this has been government bonds – from financial institutions aimed at forcing down long-term interest rates, encouraging investors into higher risk investments and, crucially, stimulating bank lending by injecting liquidity into their balance sheets. The UK and US ended their QE programmes after three tranches, but central banks in Japan, the EU and Sweden are all still actively buying bonds and other assets, while China has recently announced its own version. Indeed, across the globe, 20 central banks have cut their interest rates this year, adding further liquidity to markets. But how successful have these initiatives been?

*“The wider economic benefits from higher equity prices appear to have been small”*

Mario Draghi, President of the European Central Bank, is bullish. “There’s clear evidence that the monetary policy measures we’ve put in place are effective,” he said earlier this year. “We expect the economic recovery to broaden and strengthen gradually.” Here, the Bank of England (BoE) produced a report on the outcome of its QE policy in July 2012, which concluded: “Without the Bank’s asset purchases, most people in the UK would have been worse off. Economic growth would have been lower. Unemployment would have been higher. Many more companies would have gone out of business. This would have had a significant detrimental impact on savers and pensioners along with every other group in our society.”

Independent commentators partly concur, albeit with qualifications and the caveat that there is still no clear path for unwinding QE. Andrew Kenningham, Senior Global Economist at Capital Economics, points out that no other really big policy was seriously considered, although the options are limited. The main alternative would have involved giving the money more directly to the financial markets rather than purchasing bonds – some even suggested giving every household £100 to spend – but the difference is mainly one of delivery rather than intent. He adds: “QE was very important as a response to the crisis. If there had been no QEIII [as the third tranches in the UK and US were dubbed], it may have made no difference, but the earlier ones have been more effective.”

MSCI WORLD PRICE INDEX VS 10Y UST PRICE INDEX



Source: Morgan Stanley Research

One area where QE does appear to have made a significant impact is on asset prices (see chart above): stock markets, particularly in the US, have risen sharply since 2008, and the S&P 500 is now well past its previous peak, while the UK's FTSE 100 has topped previous highs (although its progress has been volatile), and Japan's Nikkei has reacted well to QE. These increases sparked by QE have also had a knock-on effect, with the rises creating wealth, improving market sentiment and encouraging businesses to invest.

Bond prices, and particularly government bonds that have been the target of QE, have also risen: the German bund yield, which moves inversely to prices, has actually been negative for brief periods this year. In the UK, house prices have started rising again, while the US market is also showing tentative signs of recovery.

**WHO BENEFITS?**

QE critics say that this asset-price inflation means the programme has just benefited speculators and those wealthy enough to own these types of assets. Those who rely on cash savings, by contrast, have suffered a loss of income due to record low interest rates, while those preparing for retirement are faced with punitively low annuity rates, which reflect long-term interest rates. Lending rates have

also fallen, which has largely benefited older borrowers with plenty of assets to use as collateral. The reluctance of banks to lend to riskier borrowers means first-time house buyers, by contrast, have been forced to save far larger deposits to be granted a mortgage.

*“Non-financial corporations have also benefited as the cost of debt has fallen”*

The BoE acknowledges that QE has particularly benefited the top 5% of households, which hold 40% of financial wealth outside pension funds. But it adds that the adverse impact on savers has primarily been due to the fall in base rates rather than the QE programme, and says that those drawing down pensions have benefited from the increase in the value of the assets in the underlying funds, which has compensated for the decline in annuity rates.

Others are more equivocal. In an analysis of the effectiveness of QE policies when the EU launched its programme earlier this year, Kenningham concluded that there was no clear evidence that previous programmes elsewhere had done much to stimulate either bank lending or the money supply and that,

while it did appear to have been good for share prices, “the wider economic benefits from higher equity prices appear to have been small”.

Management consulting firm McKinsey also concludes that the impact has been mixed. Governments have benefited from ultra-low interest rates, which “have substantially lowered their borrowing costs, enabling them, in some cases, to finance higher public spending to support economic growth”. It continues: “Non-financial corporations have also benefited as the cost of debt has fallen, although this has not translated into increased investment, perhaps because the recession has lowered their expectations of future demand.” “Households, in contrast, have fared less well in terms of interest income and expense, although the negative impact on household income may be offset by wealth gains from increased asset prices.”

**FRAGILE RECOVERY**

It will be years, though, before a definitive judgement on the success of QE can be made. That is not just because the global recovery is still fragile and interest rates remain at record lows. Rather, it is because central banks still have to get rid of the bonds they have bought – and the size of the holdings means that achieving this could be a mammoth task. The US Federal Reserve has already announced its unwinding plans: it will not start selling until 2017 at the earliest, and will reduce its holdings partly by retaining them until they mature. The BoE has been less overt about how it will wind down its holdings, although it has made it clear that the process will be slow and carefully managed.

The stark truth, however, is that QE simply has to work: there are no other tools in policy makers’ armoury left to try. Interest rates are at rock bottom, while QE has left markets awash with liquidity, and asset prices are increasing briskly. The question is whether all these gains will turn into a sustained increase in consumer spending – something which is still tentative, at best, across developed markets.

Investors are, however, very nervous. Bond markets have already suffered a couple of periods of violent swings amid fears of rate rises – so-called ‘taper tantrums’ – and there are fears of further turmoil when interest rates start rising. QE, it seems, still has some major hurdles to clear before the so-called greatest economic experiment in history can be hailed a big success.



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“ I think an era of more rules and more regulation is here to stay at an increased level for as far as I can see into the future ”

# Global reach

FROM GRADUATE TRAINEE AT DELOITTE UK TO THE FIRM'S GLOBAL CHAIRMAN, DAVID CRUICKSHANK'S CAREER TRULY IS ONE OF 'RISING THROUGH THE RANKS'. HE SHARES HIS VIEWS ON CONSISTENCY OF DELIVERY, INTEGRATED REPORTING AND A SHRINKING BUSINESS WORLD

✦ DOMINIC MIDGLEY ✦ CHARLES SHEARN

A visiting executive recently counted the number of cranes visible from the top of Deloitte UK's HQ on the fringes of the City of London. The total came to 39.

You couldn't ask for much more concrete evidence of how the UK's financial services sector has bounced back since the 2008 global financial crisis, and – as a couple of those cranes were working on a nearby office building being constructed for Deloitte – the continuing success of the world's largest professional services group.

David Cruickshank, who was the firm's UK Chairman until being made Global Chairman of Deloitte Touche Tohmatsu Limited (Deloitte Global) in June this year, is clearly leaving his former fiefdom in rude health. Not that he is moving far: "I've persuaded everybody that London is in the middle of the world from a time zone point of view, so it's a good place to be," he tells the *S&IR*. "I have an office in New York, but if I look in my diary over the next two or three months, I have one trip to the US and three or four trips to Asia, so it makes a lot of sense to base myself here."

It is not hard to see why Deloitte's partners elected Cruickshank to the top job. Not only is he steeped in the firm's culture – he joined as a graduate trainee in the Edinburgh office where Touche Ross co-founder George Touche also started out – but in his role as a chartered accountant and tax expert he advised and still advises a number of FTSE 100 companies, as well as many of Deloitte's biggest public-sector clients.

Cruickshank is hugely respected within global finance, and is often called on to advise about

industry issues. Apart from being appointed to the International Integrated Reporting Council (IIRC) this summer, he is also a member of the World Economic Forum's Chairman's Group.

## SMALLER PLANET

He begins his four-year term as Deloitte Global's Chairman at a time when the world has never seemed smaller. "Gone are the days when clients used to buy from us in one jurisdiction but not others," he says. "Now they're looking for us to do things all over the world, to the same standard and with the same style of delivery."

*"People don't talk about this, but we are a huge net contributor to the EU's overall funds"*

Deloitte opened an office in Mongolia more than three years ago, but Cruickshank reckons the focus during his term will be on consistency of delivery rather than entering new markets.

"I think we now have offices just about everywhere clients want us to have them," he says. "Because the world's getting smaller, however, what happens in Mexico or Mongolia can influence views of quality globally, so the challenge in the years to come is the same as the opportunity, which is to try to make sure that we keep the quality bar as high as possible."

No firm that operates on a global basis can afford to ignore the threat to the UK's membership of the European Union (EU) posed by the Government's promise to stage a binding referendum on the issue by the

end of 2017. Many predict it will be held a year early. Cruickshank is well placed to discuss business sentiment on this topic, as Deloitte has conducted a quarterly survey of big-company chief financial officers (CFOs) since 2007. Its latest poll shows that 74% of CFOs are in favour of the UK staying in Europe, with just 2% arguing that the country would be better off out.

"UK businesses tend to see huge advantages from being in Europe, with open access to markets and the free movement of labour," says Cruickshank. "But there will always be some leading businesses that don't agree and I think there will be a big debate over the next year and a half.

"Others will say they want to see reform. There are some rules and regulations that certain industries would like to see changed and those will hopefully be part of the negotiations over the next 18 months or so."

## BREXIT STRATEGY

Of course, the fate of these negotiations will greatly depend on the extent to which the UK's European partners are keen to prevent a Brexit. "If I talk to our partners around Europe, particularly those in northern Europe – Germany, Scandinavia, the Netherlands, and so on – they are very worried about the prospect of the UK exiting the EU because, although we have our ups and downs as an economy, we are one of the largest economies in Europe.

"People don't talk about this, but we are a huge net contributor to the EU's overall funds," Cruickshank adds. "The European institutions still need to get to grips with how to handle the less wealthy parts of the EU because, if you go way back



to the late 70s, it was assumed that there would be big wealth transfers from the more prosperous parts of the Union to less prosperous parts, and to an extent that happened. But what the last few years have shown is that there is a limit to just how far the countries in northern Europe are prepared to allow those wealth transfers to increase.”

Over the next few years, Cruickshank will also have a ringside seat at the debate over integrated reporting as a member of the IIRC. Following the scandals that emerged from the credit crunch, there has never been a greater demand from shareholders and the general public alike for more rounded reporting of annual results.

*“Businesses that do good have more sustainable business models than those that don’t”*

“I think the big thing that’s changed since the global financial crisis is the desire by all stakeholders to understand how results are produced,” he says. “What goes on under the covers of an organisation, what its values are – they want to see organisations report on that in a way that’s transparent. They are no longer interested only in shareholder value creation, earnings-per-share growth and free-cash-flow generation; they want to know how it was achieved. Everybody now realises that businesses that do good have more sustainable business models than those that don’t.”

The increasing level of detail contained in these new-look reports will inevitably put a strain on the financial directors who have to produce them, and the non-executive directors – among others – who are expected to endorse them. In this regard, Deloitte UK, for instance, is ahead of the game. In order to help clients cope with the plethora of new rules introduced in the wake of the bursting of the dotcom bubble in the early 2000s, Deloitte UK set up the Deloitte Academy to offer workshops and seminars on regulatory changes, with access to a dedicated member’s website where they can find additional guidance and resources.

“It won’t be that popular with your readership,” he concedes, “but I think an era of more rules and more regulation is here to stay at an increased level for as far as I can see into the future.”



On the subject of businesses that do good, Deloitte UK is something of an exemplar. Under Cruickshank's chairmanship, the Education and Employers Taskforce has taken the number of executive volunteers signed up to give talks in schools to 30,000, and a 'matchmaking' software package – designed by Deloitte's technology team – sets up hundreds of thousands of school visits each year.

#### SUPPORTING DIVERSITY

He pays particular tribute to Bank of America Merrill Lynch, which has supported the marketing and development of an associated programme called Inspiring Women. The programme aims to broaden young girls' horizons and awareness of the many types of careers available to them in financial services. Meanwhile, the 30% Club, set up by Helena Morrissey, CEO of Newton Investment Management, with Cruickshank as a founder member of the Chairman Group, has made great strides in increasing the representation of women on the boards of FTSE 100 companies over the last five years. On the day of our interview, the constantly updated totaliser on the 30% Club's website showed the proportion of board-level women had reached 25.4%.

It is now 36 years since Cruickshank graduated from Edinburgh University

with a degree in business and economics, and joined Deloitte's office in the Scottish capital. Although he headed to London for good three years later – “the best decision I ever made” – he has also made some decisions he regrets, including turning down a number of opportunities. He is more than content with his home life, however. Cruickshank is married with two grown-up daughters, and is a lover of the arts, particularly theatre and music. Golf is his preferred sport, but pressure of work has taken its toll on his game. When he won a boys' golf tournament at the age of 15, his handicap was at a level that matched his age. But he points out mournfully that, while his handicap now is officially 17, he thinks it is effectively closer to 22 or 23.

And as Cruickshank embarks on his first year as Deloitte Global's jet-setting Chairman, we can assume that his handiness with a sand wedge from the bunker will get rustier still. But all the signs are that golf's loss will be the clients' gain.

#### Further information

To find out more about the Education and Employers Taskforce initiative, go to [www.educationandemployers.org/programmes/inspiring-the-future](http://www.educationandemployers.org/programmes/inspiring-the-future)

#### THE CV

**PRESENT** GLOBAL CHAIRMAN, DELOITTE TOUCHE TOHMATSU LIMITED; COUNCIL MEMBER OF THE INTERNATIONAL INTEGRATED REPORTING COUNCIL; MEMBER OF THE WORLD ECONOMIC FORUM'S CHAIRMAN'S GROUP; BOARD MEMBER OF THE SOCIAL PROGRESS IMPERATIVE; CHAIR OF TRUSTEES, EDUCATION AND EMPLOYERS' TASKFORCE; MEMBER OF CHAIRMAN GROUP, THE 30% CLUB

**2007-15** CHAIRMAN OF DELOITTE UK

**1988** BECAME A PARTNER AT DELOITTE UK. WENT ON TO LEAD THE UK FIRM'S TAX PRACTICE AND BECAME A MEMBER OF THE UK'S EXECUTIVE GROUP AND THE GLOBAL ORGANISATION'S TAX MANAGEMENT GROUP.

**1979-82** GRADUATE TRAINEE, DELOITTE (EDINBURGH OFFICE)



# Targeting the top

A NEW THREE-PART REGULATORY REGIME IS SET TO MAKE SENIOR MANAGERS MORE ACCOUNTABLE FOR CORPORATE GOVERNANCE. BUT HOW WILL THE NEW REGIME WORK AND WHO EXACTLY WILL IT AFFECT?

◆ JILL INSLEY

**O**f all the people associated with the 2008 banking crisis in the UK, two stand out from the crowd. One is Fred Goodwin, who brought one of the world's biggest banks, RBS, to its knees after engineering an ill-timed \$100bn takeover of the Dutch bank ABN Amro. This resulted in the Government being forced to pump \$71bn into the bank to ensure its survival. Goodwin lost his job, was stripped of his knighthood and has been referred to by commentators as "the world's worst banker". But seven years on, he has not faced prosecution.

The other is Peter Cummings, the HBOS banker whose division lent billions of pounds to property developers. Cummings was given a lifetime ban and fined £500,000 in 2012 by the regulator at that time, the Financial Services Authority (FSA), for his role in the

banking crisis. According to the FSA, he had failed to "exercise due skill, care and diligence" in running the corporate banking division, and failed to manage high-value transactions as they showed signs of stress when the crisis took hold. HBOS had to be rescued by Lloyds TSB in September 2008.

Goodwin and Cummings might be the highest-profile examples of bad banking, but they are by no means alone. Over the past few years, banks have been forced to own up to a wide range of financial scandals, including misselling of inappropriate financial products, manipulating LIBOR, money laundering, and fixing foreign exchange rates. Banks have paid billions in fines, yet very few individuals have been forced to accept responsibility for the actions leading to these fines. However, a new Senior Managers and Certification Regime

(SMCR), to be implemented early next year, aims to end this lack of accountability. The regime forms part of a new way of thinking towards corporate governance, which emphasises individual accountability.

## THE NEW REGIME

There are three parts to the new regime: the Senior Managers Regime (SMR), the Certification Regime, and Conduct Rules. The SMR, which replaces the Approved Persons Regime for relevant firms, focuses on 17 functions and 30 responsibilities defined by the regulator. Firms affected at present are banks, building societies, credit unions and insurance companies, as well as investment firms that are regulated by both the Financial Conduct Authority (FCA) and Prudential Regulation Authority (PRA). Although many of the firms that CISI members work for are

not currently affected by the SMR, the regulators eventually plan to extend elements of it to other firms beyond banking and insurance. Therefore it is worth all Institute members being aware of how the SMR will affect financial services.

It is up to the firm to identify the individuals who perform any of the defined senior management functions (SMFs). The firm will then be required to assign the defined senior management responsibilities to these individuals. An individual may fill one or more functions, and more than one person may carry certain responsibilities. Executive directors and heads of internal audit, key business areas, compliance and money laundering reporting will be included.

*“Attracting and retaining talent may become more difficult under the new regime”*

However, only certain types of non-executive director roles – chairmen, senior independent directors, and the chairs of risk, audit, remuneration and nominations committees – will fall within the scope of the SMR.

Individuals who are identified as filling these roles will be pre-approved by the FCA or PRA, but firms will also be required to ensure they have procedures in place to assess their fitness and propriety before applying for approval, and reassess fitness at least annually thereafter. People who already perform the key roles will be ‘grandfathered’ in.

Relevant documentation setting out this mapping of responsibility must be handed over to the regulators by 8 February 2016, ready for the start of the new regime just under a month later, on 7 March.

The regime is structured so more employees are subject to regulatory obligations, but fewer of them require individual approval by the regulators. The Certification Regime transfers responsibility from the FCA and PRA to the firms themselves for certifying staff other than senior managers who could pose a risk of significant harm to the firms or their customers. Finally, every employee of a bank (apart from ancillary employees such as cleaning and catering staff) will be subject to the baseline set of new conduct rules. As a result, relevant firms will need to enhance their procedures for assessing the competence of individual employees, as well as draw up a ‘management responsibilities’ map.

The third part of the regime, Conduct Rules, sets out a basic standard of behaviour that all firms covered by the regime must meet.

Paul Young, Director of Finance and Risk Management at professional services firm Grant Thornton, has been advising a number of banks (and the CISI – he presented a seminar on the SMR at a recent event) on the new regime. He says: “The number of processes and procedures that need amending across [functions such as] human resources, compliance, risk and IT is huge – from references, job descriptions and issuing certificates to new attestations, email-retention policies and the recording of minutes. The change is wholesale.”

#### DODGING THE BLAME

The SMCR came about following a report in 2013, *Changing banking for good*, by the Parliamentary Commission on Banking Standards. It said: “Too many bankers, especially at the most senior levels, have operated in an environment with insufficient personal responsibility. Senior executives were aware that they would not be punished for what they could not see and promptly donned the blindfolds. Where they could not claim ignorance, they fell back on the claim that everyone was party to a decision, so that no individual could be held squarely to blame – the *Murder on the Orient Express* defence.”

The report recommended that senior bankers showing reckless disregard for their responsibilities should face criminal prosecution and possible prison sentences. Its recommendations were welcomed by all political parties, and the FCA and PRA were tasked with fleshing out the new framework of rules for firms and individuals.

The regulators had to work out the details of the regulation based on the Financial Services (Banking Reform) Act 2013, which enacted the recommendations, rather than being allowed to work from a blank sheet of paper. However, the rules that have stemmed from the Act have received a less than enthusiastic welcome from bankers, who claim the tougher rules will scare off the industry’s best talent.

Young says: “Attracting and retaining talent may become more difficult under the new regime. But we strongly believe those firms which can demonstrate to existing and prospective senior managers that they have the right systems and governance in place to enable them to deliver on their responsibilities will be the firms that increasingly win the talent battle.”

## A SHIFT IN THE BURDEN OF PROOF

Key to the new regime is the ‘presumption of responsibility’, which will apply to senior managers. The burden of proof for regulatory breaches will shift from the FCA and PRA to the individual manager under scrutiny.

This shift means that individuals will be required to satisfy the regulator that they took ‘reasonable steps’ to prevent, stop or remedy regulatory breaches that took place in their areas of responsibility.

Those who fail to prove they have taken the correct steps will potentially face unlimited fines, remuneration clawback and lifetime bans.

However, despite media coverage suggesting the new regime could see lots of bankers end up behind bars, individuals only face the threat of criminal conviction and a prison sentence if they are found guilty of reckless misconduct in the management of a bank, and the institution ultimately fails.

In its *Strengthening accountability in banking* report, Grant Thornton estimates that the cost of implementation will total £140m for banks, plus a further £7.25m for building societies and £4.38m for credit unions. These figures do not take account of the estimated ongoing costs after implementation.

#### FINES PAID

These costs pale into insignificance compared with the £36.29bn paid in fines from 2009 to 2013 by just four of the UK’s biggest banking groups – Lloyds, RBS, Barclays and HSBC – according to the CCP Research Foundation. The cost of the damage to these banks’ reputations and the destruction of their customers’ trust sits on top of these fines.

Provided the new regimes succeed in their aim, they should benefit the banking industry by reducing their regulatory fines, restoring customer confidence and boosting business. But it might take bankers, who are being threatened with the loss of bonuses and even their freedom, some time to acknowledge this.

ONE OF THE FIRST WOMEN  
TO BE ADMITTED TO THE  
FLOOR OF THE LONDON  
STOCK EXCHANGE, IN 1973



Getty, Arthur Jones

# Dealing in diversity

A GROWING NUMBER OF WOMEN ARE BUILDING CAREERS IN FINANCIAL SERVICES, BUT THERE IS STILL WORK TO BE DONE TO OVERCOME GENDER BIAS

◆ DOMINIC MIDGLEY

When Amanda Lewis Ogden joined Harrogate-based Cawood Smithie as a stockbroker in 1990, she was the first woman the company had ever employed in such a role. In an article for this magazine, written five years later, she said the attitude of fellow professionals and clients to female stockbrokers at the time was summed up in a remark she had once overheard: “I didn’t know they allowed women to be stockbrokers.”

Twenty years on, in an era of inclusivity managers, diversity consultants and bodies such as the Interbank Diversity Forum, it’s tempting to think that such outdated attitudes are a thing of the past. And yet,

while there is no denying that considerable progress has been made, Gwen Rhys, CEO of Women in the City – an organisation that promotes female talent – says that she still hears tales of female executives being greeted with comments along the lines of: “I’m glad we have something pretty to look at today.”

The financial services area has traditionally been more male-dominated than sectors such as advertising and marketing, and just two years before the Sex Discrimination Act was introduced in 1975, there were no women at all among the 4,000 stockbrokers and traders on the London Stock Exchange. Following the Act, there were plenty of men who welcomed women into the industry and

were fully supportive of their efforts to establish themselves. However, one woman who joined the Exchange around that time told historian David Kynaston: “I was the Night Nurse. There was Sweaty Betty, Super Bum... They were very cruel... You had to have broad shoulders and a good sense of humour because you would be the [target] of a lot of jokes.”

## THE CITY: A WOMAN'S PLACE

By 1985, the Exchange had 52 female brokers and traders. One of them was Elizabeth Sullivan. In a BBC documentary made that year, *The City: A Woman's Place*, she said of her male colleagues: “We used to walk on to the floor and go up and ask for a

price and they'd congregate behind you as though you were from Mars, and they'd stand there watching you and crowd round just looking at you and wait for you to make a mistake and they'd jeer and laugh."

Over the past decade, however, great strides have been made, not least because stockbrokers have grasped that as the client base grows more diverse, it is the firms that mirror that development that will prosper. Dr Sarah Rutherford, a diversity consultant at Rutherford Associates, estimates that City firms employed no 'diversity professionals' at all at the turn of the millennium, but within five years or so there were at least 100. And that figure will have grown considerably since then.

"Increasingly diversity, and not just gender diversity, is the norm not the exception," says Women in the City's Rhys. "More people recognise that diversity brings a breadth and depth to decision-making and, as more women reach senior positions, they expect to see other women at the table."

*"I have had many female clients say they were looking for a female investment manager"*

Michelle Parkin, Investment Manager at stockbroker Redmayne-Bentley, has certainly noticed this trend. When she joined the firm in 1996, she would sometimes find herself the only woman in the room at industry events and dinners, but these days that almost never happens. Part of this change, she says, is down to client demand. "There are certainly more female clients out there looking for a woman to manage their affairs," she says. "Many of these clients may have lost their husbands and have had little involvement in their financial affairs."

"I have had many female clients say they were looking for a female investment manager, because previous advisers had been patronising or condescending of their lack of understanding. I am not by any means putting all males in that category as I work with some of the kindest and most empathetic of men. However, I have heard this complaint on numerous occasions – so they must be out there."

Parkin also highlights some of the qualities she thinks women can bring to a financial services role. "There are the relationship-

building and soft skills, where women can be more empathetic and compassionate towards a person or their circumstances, which can build strong relationships. I read a Liontrust blog this week written by John Husselbee [Liontrust's Head of Multi-Asset] who talks about women in investment. An observation he took from a woman giving a presentation about women managing money is that 'female managers tend to be less prone to overconfidence or overtrading'."

### EXPLORING POSSIBILITIES

While pointing out that she has met "extremely empathetic men and non-empathetic women", Rhys says: "Men have a tendency to be more focused on a particular outcome and pursue that in the most effective way, often employing single-mindedness. Women will explore different routes, often ones they're interested in, sometimes getting seemingly side-tracked, in order to achieve their goal. They're exploring possibilities."

She adds: "In investment terms, therefore, women may wish to invest in companies that they understand and empathise with; ones that share their values. Men may select only on the basis of the likely financial return. You could say that men focus on the end game, women on the journey."

One of the most successful female stockbrokers of recent years in the UK has been Barbara-Ann King, who became the only woman to have a seat on the Barclays Stockbrokers Executive Committee as its Chief Investment Officer. King, who left Barclays in 2013, told one interviewer: "I got that through sheer performance and hard work, but I am very appreciative that I have a supportive group of peers and a boss who believes that having a woman on board balances the dynamic. Our overall management ethos values differences and balance as a critical part of our success."

Despite the benefits a diverse boardroom can bring, gender parity in financial services is still some way off – as is the case in most industries worldwide. In its *Global gender gap report 2014*, The World Economic Forum estimates it will take until 2095 to achieve global gender parity in the workplace.

A look around the offices of financial services firms nationwide would show, however, that women have made great strides towards achieving parity with men

## EQUALITY IN NUMBERS

### The positive

↑ The 30% Club, launched in 2010 with a goal of achieving 30% women on FTSE 100 boards by end 2015, has achieved 25.4% to date – up from 12.5%.

↑ For the first time ever, there are more women applying for professional and financial services jobs than men, according to a recent report by Randstad Financial & Professional.

↑ Family businesses worldwide are setting the pace for gender parity, with 70% considering a woman for their next CEO, according to a joint study by EY and Kennesaw State University.

### The negative

↓ Just over a third of female millennials in financial services surveyed by PwC recently feel they can rise to senior levels within their current organisation – less than half the proportion of men working within financial services.

↓ A fifth of female fund staff said they had suffered sexual harassment at work, while a third had experienced sexist behaviour on a weekly or monthly basis, found FTfm's 2014 *Women in asset management* survey.

↓ Just over a tenth of women in financial services said they had suffered sexual harassment at work in the past three years, according to a report last year from diversity campaign, Opportunity Now.

in the sector over the past 30 years. The type of response that Amanda Lewis Ogden encountered as a female stockbroker 20 years ago will soon be a thing of the past.

### Further information

Women in the City is seeking nominations for the 2015 Financial Services Category Award in its Woman of Achievement Award scheme. To find out more, go to [citywomen.co.uk](http://citywomen.co.uk)

A RECENT WAVE OF CYBERATTACKS HAS LEFT FINANCIAL INSTITUTIONS WITH SOME DIFFICULT QUESTIONS TO ANSWER

◆ SOPHIE MACKENZIE

# Virtual victims

On 31 July this year, RBS customers wanting to access their online banking found themselves struggling to log on. It was payday for many of the bank's 6.5 million customers, who soon took to social media in droves to vent their frustration.

RBS is no stranger to technical problems. Earlier this year, it misplaced some 600,000 direct debits, wages and benefit payments, leaving customers without funds overnight. And in 2012, the bank was hit with a £56m fine after customers were locked out of their accounts, some for a matter of weeks.

But this latest problem was something different. The bank soon admitted that it had been the victim of cybercrime, specifically a distributed denial of service (DDoS) attack, in which the target servers are flooded with traffic, often from hundreds of unique IP addresses, in order to block legitimate users from accessing the service.

The attack on RBS was the latest example of a growing and worrying trend. Until recently, the victims of DDoS attacks have tended to

operate in unregulated, even illicit sectors such as online gaming, and are therefore unlikely to contact the authorities for help.

Now, however, cybercriminals are regularly contacting legitimate businesses operating in the private sector and extorting ransom payments in return for refraining from or stopping DDoS attacks – with payment typically made in the anonymous online currency, Bitcoin.

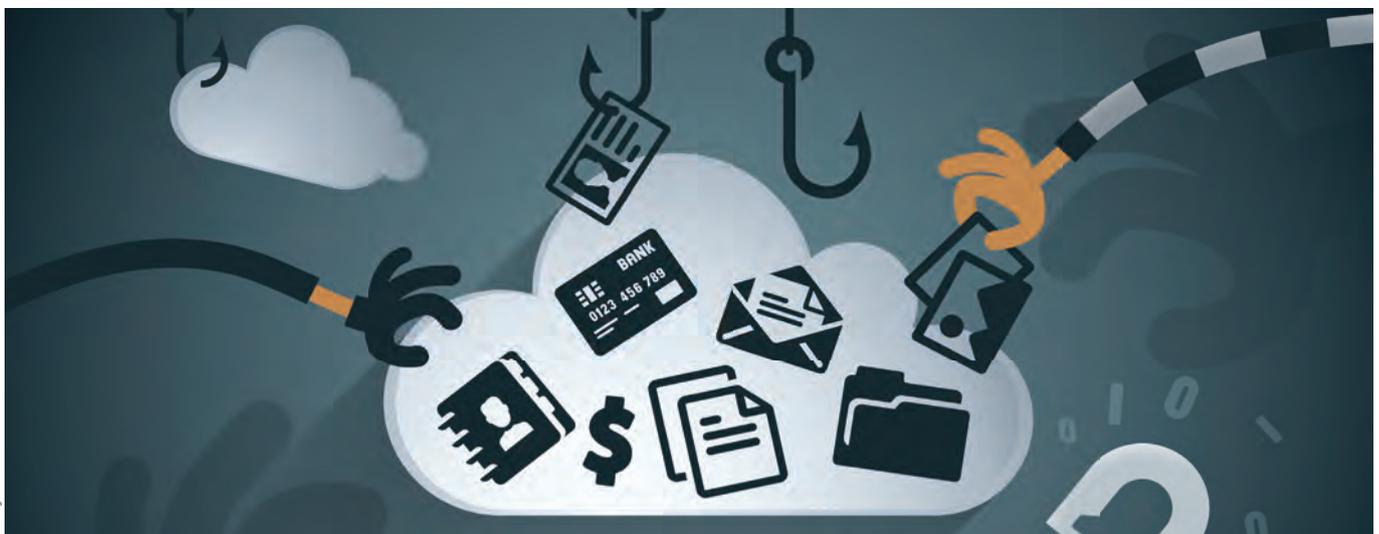
## RANSOM DEMANDS

Bitcoin extortion attacks are increasingly becoming associated with one name: a cybercriminal group called DD4BC. Little is known about its location, or even whether it is a single group or several in different parts of the world, but its victims report a similar method of attack: a ransom demand followed by a short DDoS attack to demonstrate the potential impact. If the victim refuses to pay, more money is demanded and a full-scale attack is launched.

In May this year, the group targeted a number of high-profile organisations in

Switzerland, prompting the Swiss Governmental Computer Emergency Response Team to warn companies about the threats other firms were facing from DD4BC. It also advised victims on how best to respond, telling them: "Rather than give in and pay DD4BC a certain amount of Bitcoins, we recommend that victims talk to their internet services provider (ISP) to discuss mitigation techniques, such as IP-based rate limiting or a [temporary] Geo IP address filter." Affected firms were also urged to file a criminal complaint at their local police station.

The cyberthreat facing UK firms is growing too, as criminals exploit the increasing use of digital technology by businesses and their customers. In its *National strategic assessment of serious and organised crime 2015*, the UK's National Crime Agency (NCA) noted: "Use of internet technology in the UK continues to grow, with use of e-commerce and m-commerce increasing at a high rate. As of 2013, the UK's estimated online spend was £91bn, with 74% of the adult population



Getty

using the internet to buy goods and services. The G20 has stated that the UK is the most cyber-dependent economy of its member nations. This growth has led to a rise in the threat to the UK from cybercrime.”

#### PAYING THE PRICE

In the US, where more than 100 companies, including banks and brokerages, received DDoS threats between April and August 2015, the FBI has warned of the dangers that such attacks pose to businesses. Research by information services and analytics firm Neustar has found that DDoS attacks can cost the victim in excess of \$100,000 per hour – not to mention the loss of trust its customers will experience. Ransom requests are typically five-figure sums, and with the demand comes a dilemma: to pay up or not?

*Some organisations may choose to weather the attack rather than pay a ransom*

When companies have a reasonable idea of the identity of their would-be attacker, the decision is relatively simple: some are known not to follow up on their demands, and can be ignored. Others will take the payment and then attack over and over again with renewed and increasing ransom demands. Some use DDoS attacks as a smokescreen to hide other activities, such as the theft of data or money.

As the NCA's report states: “There is a growing threat from multi-step, blended attacks. Examples include the use of DDoS attacks as a deliberate tactic to divert a victim organisation's system defences. Under the cover of the diversionary DDoS, a more damaging network intrusion or exfiltration attack is then launched.”

#### EFFECTIVE DEFENCES

But what, exactly, can financial institutions do to protect their customers' data, their reputation and their profits? Effective defences typically combine attack detection, traffic classification and response tools, so that the system is able to block illegitimate traffic, while allowing legitimate users to access the site.

However, some organisations may simply choose to weather the attack rather than pay either a ransom or the cost of increasing their systems' security, but with cyberattacks on the rise, adopting such a strategy represents a huge gamble for financial services firms.

## NEW DOGS, OLD TRICKS

### Cybercriminals are learning lessons from old-fashioned financial chicanery, writes George Littlejohn MCSI

In mid-August, US investigators unveiled what the Securities and Exchange Commission Chair Mary Jo White called a “brazen” insider-trading scheme, “unprecedented in terms of the scope of the hacking, the number of traders involved, the number of securities unlawfully traded and the amount of profits generated”.

For more than five years, hackers and traders across the US, Ukraine, Russia and other countries worked together to intercept more than 150,000 press releases from newswires to investors, using the advance notice of results and mergers to pocket \$100m or more from illicit trades. White, speaking alongside Secretary of Homeland Security Jeh Johnson, added: “The traders were market-savvy, using equities and options. . .to maximise their profits.”

This sophistication is the worrying new face of the cyber underworld. One gang of crooks lifted millions online from British banks, using an alarming new type of Trojan, a common piece of malware designed with theft in mind. This variety was different in one key respect – it could hide or appear to have died, giving the impression it had been deleted, only to reinstall itself later.

The bright sparks who created the nasty beast littered the code with fragments of Shakespeare's *Merchant of Venice*, for no apparent reason. This new malware was first identified by Gal Frishman, Malware Research Group Leader at Trusteer, a computer security division of IBM. Frishman, who is based in

Tel Aviv, dubbed the malware ‘Shylock’ and galvanised the global efforts to bring it down, involving enforcement agencies in the UK, the US and elsewhere. The literate crooks were based in Russia, where cybercrime can be as glamorous and highly paid a career option as working for Goldman Sachs or Google is in the west. Surprisingly to some, the Russian authorities co-operated. Europol persuaded Eugene Kaspersky, eponymous founder of one of the world's leading security-software makers, to get the Soviet registry – through which much of the scam was run – to suspend 75 Shylock domains, allowing the scheme to be attacked and destroyed.

Sir David Omand, former Director of GCHQ and UK Intelligence Co-ordinator and now Visiting Professor at King's College London, told the *S&I/R* that these two cases are just the latest examples that illustrate the growing threat from cyber-generated and cyber-enabled crime.

Sir David says: “The global reach of the internet brings endless opportunities for criminals to rake in multiple gains from a single type of attack and to exploit traditional insider dealing, thanks to the way that information becomes vulnerable through being communicated on the internet. Such is the power of the internet as a medium for spreading disinformation that, as a recent hack demonstrated, it is not hard for criminals to short stocks before spooking a market.”

He warns: “Expect more upsets.”



New pension freedom rules mean many retirees have access for the first time to the capital they need for a property deposit. Media speculation has run high that there could be a surge in older buy-to-let investors wanting bricks and mortar to provide them with an ongoing retirement income.

Mortgage lenders have prepared for an influx of new landlords, increasing the number of competitive mortgage deals on offer. Prospective buy-to-let landlords had a choice of 890 mortgages on 6 April 2015, when the new rules were implemented, compared with just 608 a year before, according to the financial product comparison site Moneyfacts.

*“Growing wage packets mean a greater number of tenants can afford higher rents”*

Charlotte Nelson, a spokesperson for the site, says: “The past few months have seen the number of buy-to-let deals soar. Not only this, they are cheaper too. With low returns on savings accounts, it’s no surprise that buy-to-let has definitely seen a boost. Newly emancipated pensioners are genuinely considering buy-to-let as a retirement option.”

However, Nelson, like many others, warns that potential investors need to do their homework thoroughly to assess the risks involved before committing their retirement savings to such a large and illiquid investment.

So what do investors need to know about, and factor in to their calculations, before becoming buy-to-let landlords?

#### TAX AND PENSION LUMP SUMS

Pension investors are accustomed to the idea that they can withdraw 25% of their funds as tax-free cash. So it may come as quite a shock that they could end up paying the 40% or 45% rate of income tax on part of their withdrawal if they decide to take out significantly more than the 25%.

Any withdrawals an investor makes after taking the 25% tax-free lump sum will be included in his or her annual earnings for income tax purposes. Anyone withdrawing enough to put down a deposit could be pushed into the 40% tax bracket, at the very least. And people could be drawing a pension to live on as well as buy a property, which could easily push them up a tax band, even if

they are investing in a small ‘two-up, two-down’ house in an area where property prices are relatively low.

Those whose pension withdrawals take their total annual earnings over £100,000 will also start to lose their tax-free personal allowance. If their earnings plus pension withdrawals exceed £150,000, they will pay 45% on the top slice.

In addition, because a one-off cash withdrawal will initially be treated by HM Revenue & Customs (HMRC) as though it is a monthly event, an investor could face paying an emergency tax rate that is far higher than the amount they should be paying. Investors must fill in a form (available online at [gov.uk/claim-tax-refund](http://gov.uk/claim-tax-refund)) to reclaim the overpayment within a few weeks, or wait until the end of the tax year when HMRC will adjust the tax due to correct the situation.

#### POTENTIAL RETURNS

Rents rose by 5.6% during the year to the end of June 2015, according to research by estate agents Reed Rains and Your Move. However, these rises were accompanied by a 4.5% increase in property prices (the research uses data relating to typical buy-to-let properties).

This means gross rental yields (annual rent divided by the purchase price of property, multiplied by 100) on a typical property in England and Wales remained steady in June 2015 at 5.1%, the same as it was in June 2014.

The average landlord in England and Wales has seen a return of £16,216 in absolute terms, before deductions such as mortgage payments and maintenance. Of this, the average capital gain has contributed £7,946 – but landlords should regard this as a bonus rather than a guaranteed part of the total return. Property prices are linked to the economy and are sensitive to tax policies, and therefore can go down as well as up.

Adrian Gill, Director of Reeds Rains and Your Move, said resilient yields backed up by rapid rent rises are a boon for landlords: “Growing wage packets and a strengthening economy mean that a greater number of tenants are able to afford higher rents. With such an overall shortage of housing in the UK, rental costs are primarily driven by the amount tenants are capable of paying.”

However, the rise in rents has been accompanied by an increase in rent arrears – 8.7% of all rent payable in June 2015, ➔



#### ONGOING BUY-TO-LET COSTS

To get the true, or net, rental yield, you need to deduct the following costs from the rental income. Divide the resulting figure by the property cost to get the net rental yield.

##### Insurance premiums

Premiums for building insurance vary by area, type and size of property, but allow for between 2% and 3% of the rent. For furnished property, allow between another 1% and 4% of the rent, depending on the level of furnishing.

##### Replacing fixtures and fittings

Allow for 10% of the rent each year to replace worn-out fixtures, fittings and furnishings. Also, be prepared to redecorate every few years.

##### Maintenance

Electrical items, heating systems and plumbing break down and need to be maintained over time. You will need to allow a percentage of the rent to cover this.

##### Ground rent and service charges

If the property is leasehold, you'll have to pay these charges.

##### Allow for void periods

Do not assume that the property will always be occupied with a rent-paying tenant. Budget for one month each year when the property is empty.

##### Letting agency fee

Fees vary, typically starting from 10% of the rental price achieved.

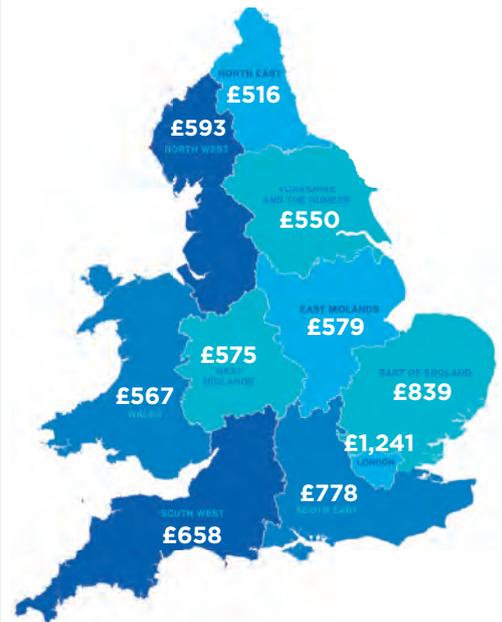
Source: Right Move

**NORTH-SOUTH DIVIDE? REGIONAL BREAKDOWN OF UK RENTS**

	<b>Rents June 2015</b>	<b>1 month change</b>	<b>Annual change</b>	<b>Yields June 2015</b>	<b>Yields June 2014</b>
London	£1,241	2.8%	9.6%	4.4%	4.3%
East of England	£839	2.4%	13.8%	4.6%	4.4%
South West	£658	-1.3%	1.7%	3.6%	3.8%
Yorkshire & The Humber	£550	0.7%	2.1%	6.5%	6.5%
North West	£593	0.6%	1.5%	6.9%	7.1%
Wales	£567	1.9%	1.1%	4.5%	4.4%
South East	£778	-0.2%	2.2%	4.3%	4.6%
North East	£516	1.0%	1.8%	5.0%	4.9%
West Midlands	£575	0.8%	1.7%	5.7%	5.7%
East Midlands	£579	1.5%	1.6%	5.8%	6.0%
<b>England &amp; Wales</b>	<b>£789</b>	<b>1.4%</b>	<b>5.6%</b>	<b>5.1%</b>	<b>5.1%</b>

Source: Your Move/Reeds Rains

**MAPPING AVERAGE UK MONTHLY RENTS BY REGION IN JUNE 2015**



compared with 7.8% in June 2014. Evicting a non-paying tenant can be a lengthy and expensive business. While there are different routes that can be taken to evict a tenant, courts expect landlords to follow procedures precisely. Members of the National Landlords Association reported that it takes an average of four months and £900 to bring a tenancy to an end – this is just court and legal fees and does not include the loss of rental income.

Landlords also need to budget for ‘voids’ – periods when their property is unoccupied and not earning. However, a quarterly survey produced by the lender Paragon Mortgages showed that the average void period experienced by UK landlords fell to 2.6 weeks in the last quarter of 2014, and has not risen beyond 3.5 weeks during the past 13 years.

**MORTGAGES**

Competition in the buy-to-let mortgage market has never been stronger in terms of price and choice. But there is still a number of things that prospective investors should consider carefully.

The Bank of England base rate has been at a record low of 0.5% for more than six years. But Mark Carney, Governor of the Bank of England, indicated that UK interest rates could start rising “at the turn of the year”, with the base rate gradually increasing over the following three years to about 2%. Banks

and building societies will normally lend 80% of a buy-to-let property’s price, and mortgages are usually arranged so that the rent covers the monthly payment with a margin to spare. But an investor thinking of buying now or remortgaging might want to take out a fixed-rate loan to ensure the payments remain affordable.

Nelson adds: “Borrowers will have a large choice of mortgage deals, with many of the options being the lowest we have ever seen. However, these deals are often accompanied by hefty fees, which can add significantly to the overall cost of the mortgage.” He adds that potential investors should try not to be fooled by the low headline rate and “assess the true cost of the mortgage instead”.

Those who intend to use buy-to-let as a source of income throughout their retirement should also be aware of maximum age limits on mortgages. Most lenders write into the terms and conditions of a buy-to-let mortgage that borrowers must repay their loans in full by the age of 70 or 75. Nationwide Building Society is unusual in allowing buy-to-let landlords to keep their mortgages until a maximum age of 105.

Chancellor George Osborne announced in the 2015 Summer Budget that tax relief for buy-to-let mortgage payments would be limited to the basic income tax rate of 20%.

Higher earners who pay 40% or more will pay more tax on their rental income as a result.

**MORE CAUTIOUS**

Despite early speculation, it seems investors are being more cautious than expected about spending their hard-earned savings on buy-to-let property.

Richard Parkin, Head of Retirement at Fidelity Worldwide Investment, says: “Retirement monies flowing into buy-to-let has received a lot of traction in the press. But, while our experience is very anecdotal, we would say that the aspirations of retirees are actually a little more modest.

“Of those who want to put money into property, a number are keen to purchase holiday homes for their own use or want to help their children buy a property. Only two or three callers have declared that they are seriously looking into buy-to-let, which does not suggest a boom from our point of view.”

Buy-to-let can be a highly profitable venture, but like all investments, both income earned and capital returns can fluctuate. Unlike most other investments, owning and running a buy-to-let property can be very hard work, even if the property is managed by an agent.

For the time being, at least, it seems that many of those entering retirement are mindful of the potential problems as well as the profits.

# STAND TALL

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Over these pages, we are delighted to first celebrate and name the individuals who have attained our globally recognised operations qualification, the Investment Operations Certificate (IOC), this year.

We hope you will join us in applauding their achievement and encouraging them to stand tall, proud of what they have accomplished so far and looking forward, to the opportunities to come.

Simon Culhane, Chartered FCSI  
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*Listing covers achievers of the Level 3 Investment Operations Certificate between 1 January 2015 – 31 July 2015*

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## EDITORIAL

This was a good week for the finance media, with two high-profile headlines for a certain class of journalist to tuck into as they continue to highlight the still-diminishing public reputation of the City of London.

The first was the sentence handed down to Tom Hayes for his part in the LIBOR rigging scandal. While everyone I spoke to within the industry thought it was unduly (and pointlessly) harsh, everyone I spoke to outside the City didn't seem to think it was a problem, even when I observed that rapists, drug dealers and people smugglers receive shorter sentences. It seems that sympathy is thin on the ground for City people in general, as it has been since the bank crash and the subsequent revelations, not only of LIBOR rigging, but also other instances of poor conduct by banks, such as the derivatives misselling and FX market rigging scandals.

The second news item that stood out was the announcement by the Treasury that Gertjan Vlieghe had been appointed as the newest external member of the Bank of England's Monetary Policy Committee (MPC). Mr Vlieghe will be allowed to remain a partner, and draw down a salary, at the hedge fund Brevan Howard, where he was its economist. Reuters reported that Vlieghe would retain a financial interest in a Brevan Howard vehicle, allowing him to receive long-term incentive payments based on the hedge fund's size.

Let's remind ourselves that the MPC sets monetary policy for the UK economy. And Brevan Howard is a hedge fund. A hedge fund! To quote Reuters again, the Treasury stated that Mr Vlieghe had "withdrawn from any active interest in the firm". It added: "All MPC members are bound by the MPC's code of conduct. As is usual practice when making external appointments of this nature, potential conflicts of interest are considered by the Treasury and the Bank of England, and the MPC code of conduct is applied rigorously at all times." It makes one wonder how the Treasury defines the expression 'conflict of interest'. Reuters went on to quote a Treasury source: "He ceases to be an active partner, but he continues to have a residual interest. He is not an active partner, so the idea of a conflict does not come into it."

I am sure the Treasury is right. But it left me wondering why, at this time, given all the other issues about the reputation and good-standing of the City of London, one would want to consider such a situation at all, when every single one of us with a connection or interest in the UK financial services industry should be trying our utmost, at all times, to try to enhance the image of the City. I don't know Mr Vlieghe, and I am sure that he possesses top-notch credentials to be an MPC member, but it isn't exactly a unique or very rare skill-set that we are talking about here is it? I mean, it's not as if to be on the committee one has to be Jessica Ennis-Hill or Roger Federer or Sir Paul McCartney. The candidate pool is not a limited one. So the choice was curious, to say the least.

I mentioned the first news item because it seems to me to reflect just how poor the reputation of the City remains with the public at large, seven years after the bank bailout. And the second item stood out if only to remind oneself that if there is any way at all one can avoid even the merest

whiff of a potential negative news story about our industry, ideally one should always try to do so.

This quarter, we present our usual set of practitioner-orientated papers, but this time there is a common theme to them. Stress-testing has become a bit of an industry since the crash, with regulators and consultants spending a lot of time reviewing the work undertaken, over another lot of time, by banks to check that their capital and liquidity levels are resilient. For many practitioners the issues remain arcane, which is why we welcome Quintin Rayer's paper on dissecting the stress-testing process. Enrique Benito remains on the 'crash' theme with an insightful paper on the impact of Basel III liquidity requirements on asset encumbrance issues. This is an important balance sheet management topic and I've been surprised at how little attention it has received in the financial literature up to now, given the regulators' scrutiny of the matter. So Mr Benito's paper is welcome.

Our third paper, from Mohamoud Dualeh, looks again at Basel III liquidity, and, indeed, at the wider risk management implications of the crash, but this time from a culture and teamwork perspective. If the team works properly, risk management takes care of itself, I concluded from his paper.

Finally, just a quick note to mention that the next issue of *RoFM* will be the last one I work on, as I will be stepping down as Editor in December. It's been good fun and for me very worthwhile setting up *RoFM* with the CISI. I've always been keen on knowledge dissemination at all levels in the City, and I hope that *RoFM* helped in some small part towards this. As always I'd like to thank our authors and our readers for their support from the start.

Enjoy the issue.

**Professor Moorad Choudhry FCSI, Editor**

## ABOUT THE EDITOR

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## HAVE YOUR SAY

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**DISSECTING PORTFOLIO STRESS-TESTING**

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**ABSTRACT**

Attempting to put meaningful numbers to portfolio risks is always challenging. Conventional risk measures are often considered not to fully capture all risks inherent in a portfolio, particularly under difficult market conditions. Under such conditions, stress-testing against significant historical market events, or using invented scenarios may help identify and quantify risks within a portfolio. Stress tests also help reassure a portfolio or risk manager as to how a portfolio might respond to specific market outcomes or other concerns.

This paper introduces stress-testing a portfolio of conventional assets against market risks using historical and artificial scenarios. It includes a definition of stress-testing and a classification to aid ongoing discussions, as well as thoughts on practical implementation. Four stress-testing methodologies are explored: two ‘historical’ stress tests and two ‘hypothetical’ stress tests. Examples illustrate key concepts, drawing out strengths and weaknesses of the stress tests, which are then discussed with recommendations.

**INTRODUCTION**

Portfolio stress-testing may be used when attempting to identify and quantify risks that are not particularly well captured by more conventional measures, particularly relating to the impact on a portfolio of difficult market conditions. This paper discusses portfolio stress-testing using historical and artificial scenarios, after commencing with a definition and classification of stress-testing methods. Four approaches are explored, two historical and two hypothetical stress tests. Examples are included and the advantages and disadvantages discussed.

**DEFINITION OF PORTFOLIO STRESS-TESTING**

Portfolio managers associate a number of activities with stress-testing, including looking at the potential downside risk of portfolios, or methods to see what response might be expected under difficult (‘stressed’) conditions. Although stress-testing cannot be guaranteed to identify actual impacts on a portfolio of future events, it is another tool in the portfolio or risk manager’s armoury. Stress tests are designed to determine how a portfolio might respond to adverse developments, so that weak spots can be detected early and preventative action taken, typically focusing on key risks such as market risk, credit risk and liquidity risk<sup>1</sup>.

Consider the following definition of portfolio stress-testing [1]:

- A method of the *quantification of potential future extreme, adverse outcomes* in a portfolio of financial instruments.
- A *palliative* for the anxiety that is experienced by managers with significant risk exposures.

1. For definitions of types of risk see [7], [3].

2. Should a proposed scenario that is expected to have an adverse outcome turn out actually to have a benign outcome, this would demonstrate that the scenario is of little concern.

3. Since many stressed scenarios will be motivated by consideration of past events, those interested in stress-testing might be well advised to take a keen interest in historical market crashes, ranging from the classics ([8], [13], [10], [9]) to more contemporary events [11], [12].

This definition highlights some key points. Quantitative estimates of stress test outcomes are required, in monetary terms, but stress tests do not necessarily provide statistical estimates of outcome likelihoods. The scenarios indicate potential future outcomes under extreme conditions; a scenario is not a stress test unless the outcome is *adverse*<sup>2</sup>. Portfolio investment scenarios that do not anticipate adverse outcomes are not stress tests. For an example see [2].

Stress-testing only identifies potential problems, without resolving them. Thus stress-testing may be palliative (reducing pain but not offering a cure) by reassuring a practitioner if no outstanding issues are detected, but leaving unresolved questions as to what to do about problems that have been identified, or even whether the selected stressed scenarios are sufficient to identify all key portfolio weaknesses.

**CLASSIFICATION OF PORTFOLIO STRESS-TESTING**

Stress-testing covers a wide range of methodologies, and various terms are used in the literature rather loosely [3], thus a full classification may be difficult. The classification below frames the current discussion and may help other practitioners. Often historical events provide a source of stressed conditions; however, practitioners are free to imagine any damaging situation and attempt to quantify its portfolio impact<sup>3</sup>. A key distinction is between historical scenarios (re-enactments of particular market events with a defined start and end date) and artificial scenarios (invented to capture a particular concern and often involving assumptions), see Figure 1. Thereafter, classification divisions may become more judgmental. This classification follows aspects of [1] by splitting artificial scenarios into hypothetical and algorithmic scenarios. The main types of stress tests are described in Table 1, together with advantages and disadvantages.

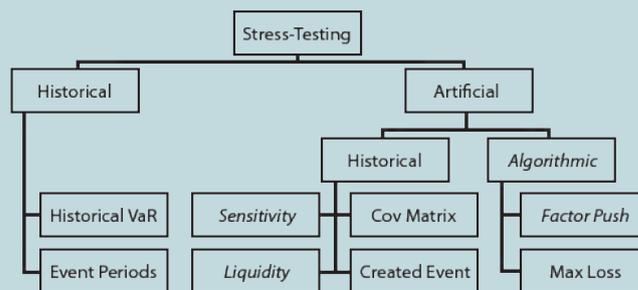


Figure 1: Stress-testing classification. The stress test examples in this paper do not include the italicised types

Historical stress-testing’s strength is that assets actually behaved in the way captured by the scenario, adding credibility. Although, if markets have changed since the historical scenario period, perhaps due to regulation changes, or other reasons, such response may no longer be possible. Also, historical events can be ‘messy’; numerous knock-on effects and proxy shocks can make it hard to isolate individual aspects for application to a particular portfolio.

Artificial stress tests raise the question as to whether the proposed scenario is even possible; it can be difficult to make artificial stress tests realistic. How can the designer possibly include all responses, direct and indirect, to portfolio assets? However, artificial stress tests

Approach	Summary	Description	Advantages	Disadvantages
Historical	Replay crisis event	Re-enactment of a particular historical market event of significance. Scenario shocks. It must be reasonable since it actually occurred	<ul style="list-style-type: none"> <li>• It actually happened that way</li> </ul>	<ul style="list-style-type: none"> <li>• Proxy shocks may be numerous</li> <li>• No probabilistic interpretation</li> <li>• No guarantee of 'worst case'</li> </ul>
Hypothetical	<ul style="list-style-type: none"> <li>• Covariance matrix</li> <li>• Create event</li> <li>• Sensitivity analysis</li> </ul>	Modify covariance matrix to reflect higher asset correlations. Specify hypothetical shocks to market factors (often historical events can be a guide). Definition of a systemic liquidity event. Shock specific identified risk factors while neglecting correlation. Explore a mixture	<ul style="list-style-type: none"> <li>• Relatively easy</li> <li>• Very flexible</li> <li>• Can be detailed</li> </ul>	<ul style="list-style-type: none"> <li>• Empirical support mixed</li> <li>• No guarantee of 'worst case'</li> <li>• Limited risk information</li> </ul>
Algorithmic	<ul style="list-style-type: none"> <li>• Factor push</li> <li>• Maximum loss</li> </ul>	Attempt to systematically identify the worst outcome within a defined feasible envelope. Push each risk factor a number of standard deviations in a direction that results in losses. Identify the set of changes in market risk factors that results in the greatest loss	<ul style="list-style-type: none"> <li>• Minimal qualitative elements</li> <li>• Attempts to identify 'worst case' in feasible set</li> </ul>	<ul style="list-style-type: none"> <li>• No guarantee of 'worst case'</li> <li>• Ignores correlations</li> <li>• Assumes data from normal periods are relevant</li> <li>• Computationally intensive</li> </ul>

Table 1: Stress test types with advantages and disadvantages.

can attempt to include the impact of changes (or anticipated changes) on markets, perhaps due to regulatory developments, new currencies and so on. An artificial test can also isolate specific concerns in a portfolio.

## IMPLEMENTING PORTFOLIO STRESS-TESTING

Stress-testing tends to be an ad hoc practical activity rather than theoretically based [3]. A balance between art and science is required, with the identification and imagining of dangerous scenarios followed by efforts to examine their impacts on a portfolio. The definition of stress test scenarios requires judgment, even if implementation of the selected scenarios can become more scientific. Selection of scenarios will depend on various assumptions, which should be broadly regarded as 'unlikely but plausible' [3].

The judgmental aspects of defining stressed scenarios means involvement of stakeholders (including portfolio managers) is essential, with unequivocal support by senior management. This will likely be better achieved if stress-testing is an integral part of portfolio management rather than an add-on. Indeed, a portfolio manager's input is likely to be critical in identifying issues of concern, as well as determining the appropriate severity of a stressed scenario, which requires a balance between being challenging but possible. Stress-testing should not be seen as an inconvenience, but as a reassurance to managers of the quality of their investment decisions.

Robust stress-testing may also be seen from a corporate social responsibility perspective. By making investment outcomes more robust, clients should benefit and management reputation should be enhanced.

Implementing stress-testing can be seen as a four-step process [4]:

1. **Risk identification:** historical events or anticipated concerns
2. **Definition of stressed scenarios:** involvement of stakeholders, support of senior management, integration within investment decision-making
3. **Execution of stress-test scenarios:** derivation of portfolio value
4. **Analysis of results:** commentary in periodic reporting.

The definition of stress test scenarios cannot be regarded as a 'once and forever' activity. Existing scenarios should be constantly reviewed, re-evaluated and possibly adjusted to maintain their usefulness, with a policy established to review stressed scenarios periodically to assist in establishing good discipline and to learn from experience<sup>4</sup>.

## HISTORICAL STRESS-TESTING USING VAR

Historical scenarios comprise a period with defined start and end dates that span an interval when the asset or portfolio of interest performed poorly. The asset price behaviours over the period are applied to the current portfolio to see how it would respond.

Under stressed conditions, parametric Value-at-Risk (VaR) might be inadequate due to the assumption of normally (or log-normally) distributed returns, making historical VaR more appropriate. Historical VaR takes actual period returns over some interval, assigning an equal probability to each [1], so can be seen as a scenario analysis. Further, one could add selected 'stressed period' returns, equally-weighted with the non-stressed returns and recalculate the VaR, thereby creating a stress test with a stressed historical VaR.

4. Indeed, approaches for defining and maintaining a library of stressed scenarios could be seen as a large topic in its own right, which is beyond the scope of the current article.

An example illustrates the process. Suppose for some asset, the 95% historical weekly VaR is calculated over two years to current date (104 weekly returns). The historical VaR calculation comprises sorting returns into ascending order and identifying the 5% lower quantile return. With 104 returns, the 5% limit would be the rank 5.2 lowest return<sup>5</sup>. Suppose a four-week period in 1987 has been identified with a severe impact on the returns of our asset. The four additional weekly returns for the stressed period can be added to the current returns already collected<sup>6</sup>. The new total of 108 weekly returns is re-sorted with the 5% lower quantile being the rank 5.4 lowest return<sup>7</sup>. The resulting value would be the 95% weekly historical stressed VaR under the scenario.

The addition of a small number of stressed-period returns has only slightly altered the 5% lower quantile rank (5.2 to 5.4), but since the stressed period, returns might reasonably be expected to comprise returns lower (or amongst the lowest), compared with the 104 weekly returns to current date. The resulting stressed VaR can be considerably worse.

This identifies some strengths and weaknesses of the historical VaR stress test. Recent returns were blended with a small sample of historical returns from some stressed period that otherwise would have been excluded. Instead of using a distribution of weekly returns over the period two years to current date, we have arbitrarily added a further four weekly returns from some period when the asset performed poorly. In the example, the stressed period was much shorter than the usual period analysed, and thus had little effect on the rank used in the ordered returns to calculate historical VaR. Broadly, if the stressed-period returns are all higher than the non-stressed historical VaR, the stressed VaR will be little different from the non-stressed VaR. Equally, if the stressed-period returns are all rather lower than the non-stressed VaR, then the value of the stressed historical VaR will be largely determined by the stressed-period returns. Naturally, for a longer stressed-period merged with a shorter non-stressed current historical VaR, the result will not be so clear-cut.

Historical VaR uses a fixed period to date. One criticism is that any market event prior to the start of that period will be completely excluded. The above adjusts the historical VaR to include the impact of a selected crisis period that would otherwise lie outside the VaR window, addressing this criticism. Additionally, the historical VaR uses actual returns, and therefore has a return distribution of arbitrary shape<sup>8</sup>. By adding crisis period returns, which would likely lie deep in the negative tail of the distribution, it is probable that the resulting distribution would be more negatively skewed than otherwise, which would seem desirable for a stressed VaR analysis. However, this analysis has not replicated the entire returns distribution for the stressed period. Also, by using the distribution quantile, no path-dependency has been included and no underlying economic analysis has been conducted.

### HISTORICAL STRESS-TESTING USING EVENT PERIODS

Here, a different process is used to apply the asset price behaviours from a historical period of poor performance to the current portfolio. For an individual market index, a crisis period might seem well-defined, however, in reality, historical scenarios may play out over extended periods due to market linkages and feedback. For a portfolio of varied instruments, defining a start and end date may be harder. This is illustrated in Figure 2, with two approaches identified.

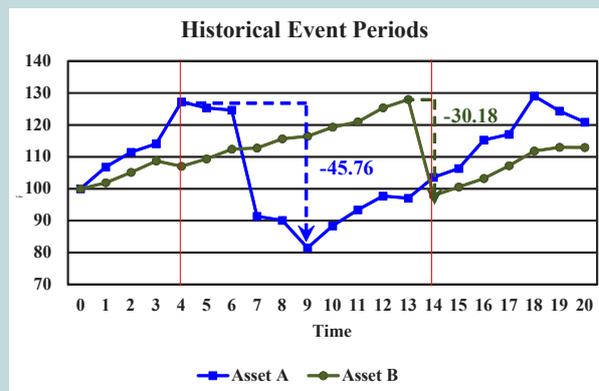


Figure 2(a): The price histories of two assets are shown, Asset A and Asset B. The historical scenario lies between the two vertical lines from time periods 4–14. Asset A has a maximum value of 127.21 and a minimum of 81.45, resulting in a peak-to-trough fall of -45.76. Asset B has a maximum of 127.99 and a minimum of 97.81 with a peak-to-trough fall of -30.18.

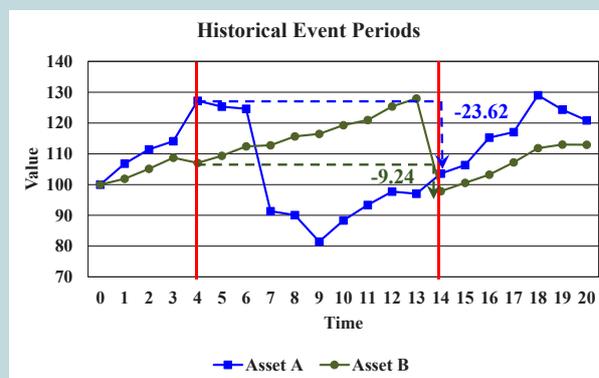


Figure 2(b): Price histories of Assets A and B. At the start of the scenario period, Asset A has a value of 127.21, with a value of 103.59 at the end. Over the period, Asset A declines by -23.62. Asset B starts at 107.05 and ends at 97.81, so declines by -9.24 over the period.

The two key approaches [1] are either to apply maximum peak-to-trough movements in asset prices simultaneously (Figure 2a), in which case falls of 45.75 in Asset A and 30.18 in Asset B are used as occurring at the same time, or else to use actual movements over the full period (Figure 2b), resulting in falls of 23.62 in Asset A and 9.24 in Asset B. In the case of Figure 2(b), the recovery in A reduces the impact, as does the initial increase in B.

The simultaneous use of peak-to-trough movements captures the largest moves in each asset, but ignores any delay between them. Putting these shocks together may not make economic sense. Alternatively, using the movements over the entire period may be weaker if we have difficulty defining the event window. The positive price movements in both A and B during part of the event window have decreased the magnitudes, making the resulting stress test less demanding. However, retaining the relative time behaviours of the assets makes the shocks economically meaningful. On balance, the approach using the actual movements over

5. The fractional rank being obtained, by linear interpolation, say, as a weighted sum of 0.8 of the 5th worst weekly return and 0.2 of the 6th worst weekly return.  
 6. The stressed period returns would be expected to lie in a time period not included in the usual non-stressed historical VaR calculation.  
 7. Again, linear interpolation could be used to obtain the fractional rank return as a weighted sum of 0.6 of the 5th worst weekly return and 0.4 of the 6th worst weekly return.  
 8. No assumption of normally or log-normally distributed returns.

the entire period is probably preferred, since it results in a more plausible scenario, although it may remain more vulnerable to correct identification of suitable start and end dates and neglect impacts within the window.

### HYPOTHETICAL STRESS-TESTING USING THE VARIANCE-COVARIANCE MATRIX

Volatility and VaR are often used to quantify risk, with de-correlated assets to achieve diversification, thus reducing a portfolio's volatility and parametric VaR. Accepting the intuition that correlations often increase during market crashes<sup>9</sup>, to stress-test diversification we may increase correlations to quantify the impact this would have on portfolio volatility and VaR.

For a multi-asset portfolio, we construct  $n \times n$  volatility matrix  $\mathbf{v}$  with the volatilities of the  $n$  assets down the leading diagonal. Using correlation matrix  $\mathbf{R}$ , we obtain the variance-covariance matrix  $\mathbf{S}=\mathbf{vRv}$ . The asset weight vector  $\vec{w}$  gives the portfolio variance  $\vec{w}^T \mathbf{S} \vec{w}=\sigma^2$ , and portfolio parametric  $VaR_{\%} = \lfloor -N\sigma\delta t^{1/2} \rfloor$ , where  $N$  is the number of standard deviations for the confidence level we require. We can increase both individual asset volatilities and correlations to reflect some stressed scenario.

Consider a four-asset portfolio, with assets A–D, weights  $w_A=0.25$ ,  $w_B=0.40$ ,  $w_C=0.30$ ,  $w_D=0.05$  and annual volatilities  $\sigma_A=9.78\%$ ,  $\sigma_B=3.76\%$ ,  $\sigma_C=11.17\%$ ,  $\sigma_D=14.84\%$ . Now suppose a non-stressed correlation matrix:

$$\mathbf{R} = \begin{bmatrix} 1 & -0.21 & 0.87 & 0.59 \\ -0.21 & 1 & -0.16 & 0.05 \\ 0.87 & -0.16 & 1 & 0.73 \\ 0.59 & 0.05 & 0.73 & 1 \end{bmatrix}$$

This leads to a portfolio volatility of 6.08%pa, and a 95% monthly parametric VaR of 2.89%<sup>10</sup>.

Now stress-test by increasing the volatilities to  $\sigma'_A=14\%$ ,  $\sigma'_B=5\%$ ,  $\sigma'_C=16\%$ ,  $\sigma'_D=23\%$  and correlations to:

$$\mathbf{R}' = \begin{bmatrix} 1 & 0 & 0.91 & 0.79 \\ 0 & 1 & 0.17 & 0.16 \\ 0.91 & 0.17 & 1 & 0.87 \\ 0.79 & 0.16 & 0.87 & 1 \end{bmatrix}$$

We obtain a stressed portfolio volatility of 9.55%pa and stressed 95% monthly parametric VaR of 4.54%. In fact, common practice would suggest applying a multiplier of 4 to the portfolio volatility [1], increasing the VaR to 18.14%<sup>11</sup>.

However, we are not at liberty to modify the correlation matrix arbitrarily. Some combinations of correlations can result in implausible stressed returns and variance-covariance matrices that are not positive semi-definite, meaning that negative variances can arise. This can be circumvented by taking a correlation matrix from a stressed historical period, but it makes the stress test more like a historical scenario, and may not explore the asset correlations of primary concern. Alternatively, mathematical techniques can be used to construct the correlation matrix appropriately. Two such approaches are discussed here.

If return histories on portfolio assets are available, the correlation matrix can be revised following Finger [1], [5]. Correlations are adjusted by modifying selected return vectors period-by-period, and must be rescaled if the original asset variances are to be unchanged. Consequently, not

only are targeted correlations changed, but also other correlations in the same matrix rows and columns. Numpacharoen and Bunwong (N&B) [6] propose an alternative, whereby the correlation matrix is adjusted directly. Cholesky decomposition ensures that a positive semi-definite correlation matrix is obtained, correlations are represented using trigonometrical functions and changes made in correlative angles. This ensures correlations lie within  $-1 \leq \rho_{ij} \leq +1$  and the resulting adjusted correlation matrix has the necessary mathematical properties.

These two approaches are not expected to give the same adjusted correlation matrix, for example [6], with initial and target correlation matrices of:

$$\mathbf{R}_{Initial} = \begin{bmatrix} 1 & -0.3 & 0.3 \\ -0.3 & 1 & 0.3 \\ 0.3 & 0.3 & 1 \end{bmatrix}; \hat{\mathbf{R}}_{Target} = \begin{bmatrix} 1 & -0.3 & \mathbf{0.85} \\ -0.3 & 1 & 0.3 \\ \mathbf{0.85} & 0.3 & 1 \end{bmatrix}$$

Adjusted correlation matrices are generated:

$$\hat{\mathbf{R}}_{Finger} = \begin{bmatrix} 1 & -0.14 & 0.85 \\ -0.14 & 1 & 0.14 \\ 0.85 & 0.14 & 1 \end{bmatrix} \text{ and } \hat{\mathbf{R}}_{N\&B} = \begin{bmatrix} 1 & -0.3 & 0.85 \\ -0.3 & 1 & -0.04 \\ 0.85 & -0.04 & 1 \end{bmatrix}$$

It is not entirely clear which method should be preferred. Finger's approach has intuitive appeal, since returns are adjusted towards an average to increase correlation. However, a goal-seek algorithm is required and, for a large multi-asset portfolio, a long history of returns has to be adjusted (potentially including rescaling for volatilities), which might become cumbersome. In some cases, a suitable asset return history may not be available. In this case, N&B's approach seems practical, since only the correlation matrix is required, although the mathematical sophistication may discourage some practitioners. Although N&B's method ensures the resulting correlation matrix has the correct properties, there is no guarantee of economic validity. In practical terms, choice between the two methods may be dictated by availability of asset returns for Finger [5], and access to a Cholesky decomposition algorithm (and level of intellectual comfort) for N&B [6].

### HYPOTHETICAL STRESS-TESTING USING CREATED EVENTS

A hypothetical created event stress test is an invented scenario which attempts to capture a particular concern. One, several or many factors that may impact the portfolio are selected and deliberately tweaked to assess portfolio response. The practitioner has almost complete freedom in identifying relevant factors to shock, revealing a weakness of the approach, since it can be difficult to create economically meaningful stressed scenarios. An envelope approach can be used [3], which helps ensure a degree of consistency and makes it easier to include important factors, although may not guarantee economic consistency<sup>12</sup>.

Figure 3 illustrates the stress-envelope approach. Stress factors are identified and, for each, the worst possible shock determined. Individual scenarios are based on envelope values. Generally, not all of the factors will be used, and the stressed scenario levels chosen will be somewhat lower than the envelope maximums. Multiple stressed scenarios will reflect differing concerns. Nothing in this process ensures the economic consistency of individual scenarios thus created, so there is no guarantee that the scenarios created are realistic, possible or extreme enough.

9. A number of academic studies debate this point, a discussion can be found in [1].

10.  $N=1.645$ ,  $\delta t=1/12$ , so  $VaR_{\%} = \lfloor -1.645 \times 6.08 \times \sqrt{(1/12)} \rfloor = 2.89\%$ .

11. Calculated as  $VaR_{\%} = \lfloor -1.645 \times 4 \times 9.55 \times \sqrt{(1/12)} \rfloor = 18.14\%$ .

12. In an ideal world, one would have a complete global market model to which shocks could be applied and from which the responses of all portfolio assets could be obtained. Since such a model does not exist, practitioners constructing a hypothetical scenario should try to make it as realistic as they reasonably can.

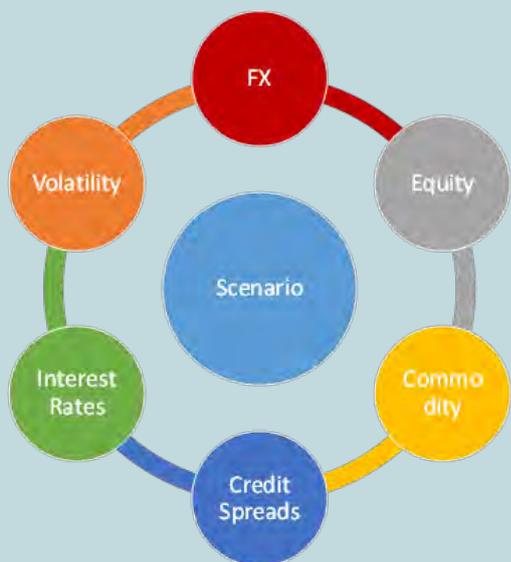


Figure 3: Illustration of stress-envelope

Following [3], an example illustrates the process. Consider an envelope of four factors as follows<sup>13</sup>:

1. European equities fall by 25%
2. World ex-Europe equities fall by 20%
3. A parallel downward shift in the yield curve of 200bp
4. Foreign exchange rates: EUR weakens relative to USD by 10%.

Based on this envelope, one scenario is created as:

- European equities fall by 20%
- World ex-Europe equities fall by 15%
- A parallel downward shift in the yield curve of 50bp.

Only a subset of factors has been selected and, in each case, the size of the factor shock is not greater than that of the envelope. A judgment must be made whether the shocks selected are economically feasible.

Implementing the stress test involves determining the impact on the portfolio of the maximum shock for each factor individually, and then pro-rating these for the overall impact, as shown in Table 2. While the linear interpolation used to evaluate the impact of factors may appear simplistic, [3] argues that it is actually conservative.

An advantage is flexibility to assess the impact of any imagined scenario. However, its weakness is that there is no guarantee that the events created are realistic, possible or extreme enough. Elements such as portfolio diversification and correlation are ignored. Historical events may be used as a guide in creating such scenarios, which would support credibility. However, the advantage of the created event is that an historical event can be modified to incorporate new aspects, such as changes to regulations, developments in markets, geopolitics and so forth, giving an opportunity to add real value.

### SUMMARY AND DISCUSSION

Following a definition of portfolio stress-testing and a classification of stress-testing types, examples of four kinds of stress tests have been

presented: two historical and two artificial. Table 1 lists advantages and disadvantages of the main types, while Table 3 captures key differences between the approaches.

The selection of a stress-testing methodology will depend on the requirements of the practitioner (consider Table 3). With concern to how an historical event might impact the current portfolio, a historical stress test would be required, although history may be used as a guide in generating hypothetical correlation matrices or created events. But if the objective is to address concerns over new market developments, regulations and so forth, hypothetical stress tests may be more appropriate.

There are other considerations. If a stressed-VaR measure is desired, then a choice between parametric or historical returns distributions may lead to either historical VaR or hypothetical variance-covariance matrix approaches. When testing the diversification benefits of a portfolio, then historical event-periods could be used, although hypothetical variance-covariance matrix testing comes into its own when explicitly exploring correlations and volatilities.

Should economically meaningful scenarios be the primary consideration, then the historical methods are likely to be preferred (although note 'new market developments' in Table 3). However, historical event-period scenarios may not be appropriate if maximum-peak-to-trough price movements are used, and the variance-covariance matrix scenarios could be based on historical correlations and volatilities, making them economically realistic.

Regarding flexibility in scenario creation, historical stress tests are limited to historical events, while hypothetical methods allow more freedom. For the ability to isolate specific concerns, historical events tend to be 'messy' with many knock-on effects, while the hypothetical methods permit a focus on individual portfolio aspects. Similarly, to explore extreme events, the historical methods only permit this if suitable events lie within the historical record, while the hypothetical methods permit the option of pushing factors further.

Factor	Maximum stress envelope shocks	Maximum stress envelope values	Scenario shocks	Scenario shock weights	Scenario values
Europe equities	-25%	-€1000	-20%	20/25 = 0.8	-€800
World ex-Europe equities	-20%	-€800	-15%	15/20 = 0.75	-€600
A parallel downward shift in the yield curve	-200bp	+€200	-50bp	50/200 = 0.25	+€50
Foreign exchange rates	-10%	+€150	Not used	Not used	€0
				Total	-€1350

Table 2: Illustration of hypothetical created-event stress test

13. In reality, one would expect the envelope to contain many more than four factors, however this is sufficient to illustrate the example.

Aspect	Historical VaR	Historical event-period	Hypothetical variance-covariance	Hypothetical created event
Historical basis	Yes	Yes	Maybe as a guide	Maybe as a guide
New market developments	No	No	Maybe	Yes
Returns distribution	Historical returns	-	Parametric	-
Diversification	-	Actual period movements: Yes Max-peak-to-trough: No	Yes	-
Economically meaningful	Yes	Actual period movements: Yes Max-peak-to-trough: No	Can be if correlation realistic	No
Flexibility in scenario creation	Any historical event	Any historical event	Yes, in terms of correlation and volatility	Yes
Ability to isolate specific concerns	No	No	Yes	Yes
Possibility to explore 'extreme' cases	Only if historical events	Only if historical events, although max-peak-to trough a possibility	Yes, in terms of correlation and volatility	Yes
Data availability	Historical data required	Historical data required	Full asset returns or just correlation matrix	No

Table 3: Key aspects of stress tests.

A practical consideration may be data availability. The historical scenarios that can be replicated will be limited by data availability on each asset, so for less recent events this could be a significant issue. Potentially, the hypothetical variance-covariance matrix test can get away with only the current portfolio correlation matrix, while hypothetical created events probably have the least demanding data requirements of all, being essentially limited to the current portfolio.

Thus, in practice, the choice of stress-testing method used for a portfolio would depend on the objectives and requirements of those setting the stress-testing programme, as well as the resources and data available.

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### THE IMPACT OF FUNDING ALTERNATIVES ON LIQUIDITY (LCR AND NSFR) AND ASSET ENCUMBRANCE CONSTRAINTS

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#### ABSTRACT

Bank executives responsible for asset-liability management (ALM) often need to evaluate and compare alternative funding arrangements and their impact on the institution's regulatory constraints. In this article, we present a simple framework to evaluate the impact of funding arrangements on a set of constraints, including the Basel III liquidity ratios and the bank's asset encumbrance level. The framework can be used under several settings, including normal and stress conditions and business models.

#### BACKGROUND

Bank executives responsible for ALM often need to evaluate and compare financing alternatives and their impact on the institution's regulatory constraints. Examples can include the following:

- Evaluating the optimal funding strategy for a new project or investment
- Assessing the regulatory impact of particular funding options
- Articulating and ranking a set of management actions that can be invoked under stress in order to obtain additional funding, as articulated in the Contingency Funding Plan (CFP)
- Evaluating the costs and benefits of marginal funding, as required in the Funds Transfer Pricing (FTP) framework<sup>1</sup>.

The regulatory constraints in play generally include liquidity requirements, such as minimum holdings of liquid assets, or structural funding and balance sheet constraints.

The Basel III framework has introduced two new liquidity standards: the Liquidity Coverage Ratio (LCR) and the Net Stable Funding Ratio (NSFR). The LCR requires minimum holdings of high-quality liquid assets (HQLA) to withstand net cash outflows (gross outflows minus gross inflows capped at 75%) during a stress scenario that lasts 30 days. The minimum requirement is stated as follows:

$$\frac{\text{Stock of HQLA}}{\text{Net cash outflows over the next 30 days}} \geq 100\%$$

The measure aims to make banks less prone to acute adverse liquidity shocks. Although the minimum ratio is already applicable in several jurisdictions, it is expected that the LCR will be fully in force in most jurisdictions adopting Basel III by the end of 2015.

The NSFR requires banks to hold a minimum amount of Available Stable Funding (ASF) to cover a certain amount of Required Stable Funding (RSF). The ASF and RSF are calculated by applying certain percentage factors to the bank's liabilities and assets respectively, calibrated using a stress period of up to one year. The minimum requirement is stated as follows:

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

The NSFR is designed to promote the structural funding position of banks in order to reduce maturity mismatches and over-reliance on short-term wholesale funding, and is expected to enter into force in 2018.

An important concept embedded within both the LCR and the NSFR is the encumbrance of bank assets. Asset encumbrance occurs when certain assets are securing liabilities in the event that an institution fails to meet its financial obligations, and originates from transactions that are typically collateralised or asset-backed, such as repurchase agreements, securitisations, covered bonds, or derivatives. Asset encumbrance not only poses risks to unsecured creditors that are unable to benefit from the liquidation of encumbered assets in case of insolvency, but also has important liquidity implications, since encumbered assets are generally not available to obtain emergency liquidity in case of an unforeseen stress event.

As a result, the LCR imposes the requirement that the stock of HQLA is unencumbered, and the NSFR imposes the highest possible RSF factor (ie 100%) to assets that are encumbered for longer than six months. In addition, additional constraints may limit the amount and quality of assets that a bank can encumber, such as limits to covered bond issuances, capital requirements under Pillar 2 or credit rating objectives<sup>2</sup>.

Two metrics are frequently used to measure asset encumbrance. The 'encumbrance ratio' is stated as follows:

$$\frac{\text{Encumbered assets}}{\text{Total assets}}$$

The higher the ratio, the higher the encumbrance level. In Europe, there are specific regulatory reporting requirements in place that toughen if an institution's encumbrance level exceeds 15% (measured as the ratio of encumbered assets over total assets).

An alternative is to use the 'ratio of unsecured liabilities to unencumbered assets':

$$\frac{\text{Unsecured liabilities}}{\text{Unencumbered assets}}$$

Similarly to the encumbrance ratio, the higher the ratio, the higher the encumbrance level. This metric has several advantages. Firstly, it depicts the actual impact of encumbrance on unsecured creditors. Secondly, variations of the ratio can be computed by selecting only unencumbered assets of particular quality (eg, HQLA), allowing analysis of the actual quality of assets available for encumbrance. The measurement of unsecured liabilities, however, presents difficulties, particularly with relation to the treatment of deposits. Although deposits do not generally generate encumbrance (unless collateralised), depositor preference rules can change the priority of claims under insolvency<sup>3</sup>. The influence of depositor preference on asset encumbrance levels can be evaluated by including or excluding retail deposits to the liabilities when computing the ratio<sup>4</sup>.

1. Funds Transfer Pricing or FTP refers to the mechanism by which costs, benefits and risks relating to liquidity and funding are allocated to the bank's business units (see Choudhry, 2012, *The Principles of Banking*, Chapter 15).

2. See Benito (2015) for a discussion of potential constraints to asset encumbrance.

3. Depositor preference rules that if a bank enters insolvency, the priority of claims may be altered by providing preferential treatment to retail deposits and subordinating other unsecured creditors.

4. See CGFS (2013).

Funding type	Residual maturity	Counterparty	Asset encumbrance ratio	NSFR	LCR
Retail and small businesses	>1y	Retail and small businesses	-	-	-
	>1m <1y		-	90%-95% ASF	-
	<1m		-	90%-95% ASF	3%-10% outflow
Wholesale unsecured	>1y	Any	-	-	-
	>1m <1y	NFC, Sovereigns, MDBs, PSEs	-	50% ASF	-
	<1m		-	50% ASF	20%-40% outflow
	>1m <1y	CBs, FIs	-	0%-50% ASF	-
	<1m	CBs	-	0% ASF	20%-40% outflow
	<1m	FIs	-	0% ASF	100% outflow

Table 1 – NFC: non-financial corporations; MDBs: multilateral development banks, PSEs: public sector entities; CBs: central banks; FIs: Financial institutions

Funding type	Residual maturity	Counterparty	Asset encumbrance ratio	NSFR	LCR
Secured (HQLA collateral)	>1y	Any	Increase encumbrance (lower O/C %) Reduction of stock of unencumbered HQLA	Increased RSF (see table 4)	Reduction of stock of HQLA
	>1m <1y	NFC, Sovereigns, MDBs, PSEs	Increase encumbrance (lower O/C %) Reduction in the stock of unencumbered HQLA	50% ASF Increased RSF (see table 5)	Reduction of stock of HQLA
	<1m		Increase encumbrance (lower O/C %) Reduction in the stock of unencumbered HQLA	50% ASF Increased RSF (see table 5)	0%-25% outflow Reduction of stock of HQLA
	>1m <1y	CBs, FIs	Increase encumbrance (lower O/C %) Reduction in the stock of unencumbered HQLA	0%-50% ASF Increased RSF (see table 5)	Reduction of stock of HQLA
	<1m	CBs	Increase encumbrance (lower O/C %) Reduction in the stock of unencumbered HQLA	0% ASF	Reduction of stock of HQLA
		FIs	Increase encumbrance (lower O/C %) Reduction in the stock of unencumbered HQLA	0% ASF	0%-50% outflow Reduction of stock of HQLA

Table 2 – NFC: non-financial corporations; MDBs: multilateral development banks, PSEs: public sector entities; CBs: central banks; FIs: financial institutions.

Funding type	Residual maturity	Counterparty	Asset encumbrance ratio	NSFR	LCR
Secured (non-HQLA collateral)	>1y	Any	Increase encumbrance (higher O/C %)	Increased RSF (see table 4)	-
	>1m <1y	Domestic sovereigns, MDBs, domestic PSEs	Increase encumbrance (higher O/C %)	50% ASF Increased RSF (see table 5)	-
	<1m		Increase encumbrance (higher O/C %)	50% ASF Increased RSF (see table 5)	25% outflow
	>1m <1y	CBs, FIs	Increase encumbrance (higher O/C %)	0%-50% ASF Increased RSF (see table 5)	-
	<1m	CBs	Increase encumbrance (higher O/C %)	0% ASF	-
		FIs	Increase encumbrance (higher O/C %)	0% ASF	100% outflow

Table 3 – NFC: non-financial corporations; MDBs: multilateral development banks, PSEs: public sector entities; CBs: central banks; FIs: financial institutions; O/C %: Over-collateralisation percentage.

## EVALUATING THE IMPACT OF FUNDING ALTERNATIVES

In this section, we present a framework to evaluate the impact of funding arrangements on the constraints outlined above. We consider and evaluate the net impact of four different funding options on the LCR, NSFR and asset encumbrance ratios, using the latest policy releases by the Basel Committee (see BCBS 2013; 2014):

- deposits to retail and small business customers
- unsecured wholesale funding<sup>5</sup>
- secured wholesale funding backed by eligible HQLA; and
- secured wholesale funding backed by non-HQLA.

Since our aim is to compare funding alternatives, the asset side can be safely ignored<sup>6</sup>. As illustrated in Tables 1–3, the net impact will depend on

the contractual maturity of the transaction and counterparty type.

In Table 1, deposits to retail and small business customers provide a favourable treatment across all metrics, with high ASF factors, high roll-over rates and no associated encumbrance. Unsecured wholesale funding does not generate encumbrance, but the impact on the LCR and NSFR in terms of outflow rates and ASF respectively, can vary considerably depending on the residual maturity and counterparty.

Tables 2 and 3 illustrate the impact of secured funding when HQLA or non-HQLA are provided as collateral respectively. Changes to encumbrance metrics depend on the magnitude of over-collateralisation, which tends to be lower when using HQLA compared to non-HQLAs collateral<sup>7</sup>. As opposed to the other options, using HQLA as collateral would also generally result in a lower proportion of high-quality collateral being available for encumbrance.

5. We exclude operational deposits.

6. This implicitly assumes that the proceeds obtained from any of the arrangements subject to evaluation would be invested on identical assets.

7. Over-collateralisation refers to the requirement that the collateral provided is of higher value than the underlying exposure that the collateral is securing, acting as a form of protection to the secured party against potential decreases in the actual market value of the collateral. This is usually undertaken by means of a 'haircut' or 'margin ratio'.

The impact of secured funding on the NSFR depends on (i) the ASF factor assigned to the particular option considered and (ii) a potential increase of the RSF due to the encumbrance of collateral.

If the transaction has a residual maturity of less than one year, then it will carry an ASF factor between 0% and 50%, depending on the quality of the collateral, the counterparty and residual maturity. There is no ASF requirement for transactions with residual maturity longer than one year.

In addition, if the transaction has a residual maturity longer than six months, then the RSF assigned to the assets used as collateral may marginally increase. This is because assets on the balance sheet that are encumbered receive a higher RSF factor than if they were unencumbered. This is illustrated in the tables below. If the collateral becomes encumbered for one year or more, it would receive a 100% RSF factor. If the collateral is encumbered for a period between six months and one year, it would receive an RSF factor of 50% or higher<sup>8</sup>. It is easy to note that using collateral of lower quality may result in a reduced net impact on the NSFR, compared to using collateral of higher quality, such as level 1 or level 2A assets.

Residual maturity >1y	Before encumbrance	After encumbrance	Net impact on RSF
Backed by HQLA (Level 1)	0%-5%	100%	95%-100%
Backed by HQLA (Level 2A)	15%	100%	85%
Backed by HQLA (Level 2B)	50%	100%	50%
Backed by non-HQLA	10%-85%	100%	15%-90%

Residual maturity >6m and <1y	Before encumbrance	After encumbrance	Net impact on RSF
Backed by HQLA (Level 1)	0%-5%	50%	45%-50%
Backed by HQLA (Level 2A)	15%	50%	35%
Backed by HQLA (Level 2B)	50%	50%	0%
Backed by non-HQLA	10%-85%	50%-85%	0%-40%

In terms of the LCR, if HQLA are used as collateral, then a decrease of the numerator would follow, regardless of the residual maturity of the transaction<sup>9</sup>. In addition, if the residual maturity is lower than one month, there would be an increase of the denominator (net outflow) as a result of a higher outflow rate being applied, depending on the counterparty and quality of the collateral.

**CONCLUSION**

We have presented a novel framework facilitating the assessment of how different funding alternatives would impact liquidity and asset encumbrance ratios, and illustrated how it can be used in practice by comparing four high-level categories of funding arrangements.

The framework can be easily expanded. Firstly, additional constraints or metrics can be considered (eg, funding concentration limits, currency mismatches, pricing), and granularity can be enhanced. Secondly, the framework can be used to evaluate the impact of raising funding under normal or stressed conditions (eg, when over-collateralisation increases and only the most liquid and high-quality assets are accepted as collateral).

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**BASEL III AND THE CRITICAL CHALLENGE FOR BANK RISK MANAGEMENT**

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**ABSTRACT**

The art of banking is that of managing liquidity. While capital is correctly viewed as being of utmost importance to a bank's viability and public perception, the practitioners' common saying that 'capital kills you slowly, while liquidity kills you quickly' is an accurate one. Genuine pure liquidity-scarcity events are rare, however, the experience of the UK bank Northern Rock in 2007 illustrates the key risk for banks and regulators: that of the risk of complacency.

This article suggests that the critical challenge concerns that of banks' culture, and ensuring that control and governance infrastructure put in place today is maintained over the long term. A change in the Treasury and risk management operating model is a necessary step towards ensuring this longevity in liquidity risk management principles.

**ART OF LIQUIDITY RISK MANAGEMENT**

Liquidity in banking is commonly defined as having the ability to meet obligations when they become due.

The important part to understand is exactly what is meant by 'when they become due'. From the risk management perspective, this means in perpetuity, or at least as long as we wish the bank to remain a going concern. In other words, maintenance of liquidity at all times is the paramount order of banking.

Bank risk management is the practice of balance sheet management. The risks in question are those affecting the balance sheet, which are capital, liquidity and funding (generally grouped together under 'asset-liability management' or ALM). We categorise balance sheet risk as the process of:

- managing the bank's capital
- managing the liquidity mismatch, arising from the fundamental ingredient of banking termed 'maturity transformation'
- recognition that loans (assets) generally have a longer tenor than deposits (liabilities).

This is also the paradox of banking, which creates maturity mismatches between assets and liabilities, because assets are invariably long-dated and liabilities are short-dated, and this creates liquidity risk. To undertake banking is to assume a continuous ability to roll over funding, otherwise banks would never originate long-dated illiquid assets, such as residential mortgages or project finance loans. As it is not good business practice to rely on assumptions, prudent liquidity risk management dictates that all leveraged financial institutions need to set in place an infrastructure and governance ability to ensure that liquidity is always available, to cover for when market conditions deteriorate. The fundamental challenge for all

8. Note that if the original RSF factor before encumbrance was higher than 50%, then this factor would be retained after encumbrance.  
 9. Note that this is based on the assumption that the HQLA assets considered qualify as liquidity buffer, which may not always be the case if additional operational requirements are not met.

banks is to maintain this robust control infrastructure and governance over the long term.

## THE SCOPE OF LIQUIDITY RISK

Basel I and II were not concerned with liquidity, only capital. The Basel III regime, which will be fully implemented by 2019, makes material demands on banks with respect to the way they manage liquidity.

However, liquidity risk management is not simply a matter of liquidity metrics and ratios. There are important governance and policy issues that also need to be built into the infrastructure and workings of a bank's treasury and risk departments. Liquidity risk management needs to be addressed at the highest level of a bank's management: the board of directors. The board will delegate this responsibility to a management operating committee such as ALCO, but it is the board that owns liquidity policy. If it does not own it, then it is not following business best practice. Given this, it is important that the board understands every aspect of liquidity risk management.

Basel III enshrines the new risk approach in formal regulatory law with two new structural risk metrics, one for short-term and one for long-term funding. On the face of it, these represent a step-change in liquidity management culture, but that is only because principles accepted as commonplace in the 1860s or 1960s had been discarded by 2008. Nevertheless, they will prove to be a challenge to work towards for many banks.

The stated objective of the Basel III liquidity coverage ratio (LCR) is to promote short-term resilience of banks to liquidity shocks. Setting a limit for it, and requiring banks to hold a stock of sufficient high-quality genuinely liquid assets, is designed to ensure a more stable funding regime that will be less susceptible to a freeze in interbank markets, of the kind observed in October 2008.

The LCR requirement results in banks having to maintain a liquidity buffer that matches expected cash outflows in a stressed environment. The amount of funds that might be observed in a market stress situation is given by the stress tests that banks run every month, under specified assumptions. The time period covered in the stress test is 30 days. This implies that a stressed environment would last for only a month, which is unrealistically short. For this reason some regulators, including the UK's Prudential Regulation Authority, impose a 90-day time period over which the stress would be assumed to take place.

The relevance of each bank's stress tests are themselves only as great as the assumptions behind them. Any analysis undertaken under assumed conditions is always at risk of inaccuracy, which is why continuous review and back-testing is also part of a bank's risk management regime. The implication of the LCR for the world's banks is that in theory they will be holding, in differing amounts, a stock of theoretically genuine liquid assets. The challenge comes from the impact this will have on the bottom line, as a risk-free portfolio generates less income (if it is run at a profit at all), and so, all else being equal, a bank's profits will reduce.

The foundation LCR calculation relates to the short-term (30-day) stressed outflow amount of a bank's liabilities. The critical long-term metric is the net stable funding ratio (NSFR). The NSFR is designed to promote resilience over the longer-term. Setting a limit for it in theory ensures that sufficient long-term funding is in place to support a bank's balance sheet. In other words, maintaining an adequate NSFR should help considerably in ensuring a stable funding structure, because more of a bank's liabilities will be comprised of longer-dated funding.

Setting a minimum level for term funding would reduce dependency on short-term funding, while increasing cost of business, as more liabilities are moved into longer-term funding. Again, the issue for banks is one of cost, and impact on profits. Longer-dated liabilities cost more than short-dated liabilities, and in a stressed environment are difficult to raise. The challenge for risk managers and regulators is ensuring that the spirit of NSFR, which has not yet been enshrined in formal legislation, is maintained throughout the business cycle.

## ESTABLISHING A GENUINE RISK GOVERNANCE CULTURE

This article's premise is that the cultural challenge, and its wider impact on stakeholders, especially shareholders, is a more difficult one to address than the regulation-related requirements banks have faced up to now. Nevertheless, it is imperative that this challenge be met at all levels, to ensure a greater ability to mitigate the impact of the next crash. What the current debate in banks needs to focus on is the need for a genuine, firm-wide approach to balance sheet risk. To effect this, it becomes necessary to establish the ALM committee or ALCO as the premier risk management forum in the bank, with board-delegated authority.

As we all recognise, culture is set from the top down. To remove their dependence on individuals, banks need to consider their operating model and risk infrastructure, and how exactly capital, balance sheet and liquidity are to be managed. The issues are:

- operating model and internal organisation
- risk governance infrastructure, and the risk management 'triumvirate' of the CRO, CFO and treasury. This must be organised so that the three constituents of the triumvirate are able to work together effectively.

The challenge is for banks to establish a cultural mindset and operating framework that embeds balance sheet risk in everyone's thinking. In other words, something beyond the regulatory requirements set out under Basel III.

Exhibit 1 overleaf appears to state the obvious, but in fact is making a much more subtle, and potentially controversial, point. The three departments are peers, therefore the reporting line could not logically subordinate one to the other. Crucially, ALCO would have the oversight for all balance sheet risk, including credit risk policy at the high level. Any credit risk committee or CRO forum would be subordinated to it.

The logic for this is clear. As the membership of ALCO covers both front-office business line heads with profit and loss responsibilities, as well as risk management persons, it has the primary balance sheet view that an 'Enterprise Risk Management' (ERM) forum may not. It makes sense to make ALCO the premier risk management body.

For treasury, the reporting line is a key influencer of the extent of the risk culture. From its position in the triumvirate, treasury will need to report to the same level as the CFO and CRO. This would logically be the CEO, and such an arrangement is common.

In some cases, the reporting line is higher. One large western European bank organises the treasury function as a direct report of the board, with the group treasurer reporting in to a named non-executive director. This removes any conflict of interest issues, while ensuring that balance sheet risk management is undertaken at the appropriate level of seniority. It also clears the way for the treasurer to chair the ALCO, something that is usually undertaken by the CEO or the CFO. When one remembers that treasury is the only department in a bank that looks at the entire balance sheet, assets and liabilities, *and* is both inward and outward looking, this arrangement carries logic.

ALCO		
Chief Risk Officer	Treasury	Chief Financial Officer
<b>Risk management</b>	<b>Asset-liability management</b>	<b>Finance</b>
Market risk	Strategy and planning	Accounting
Credit risk	Liquidity risk management	Budget setting
Operational risk	Interest rate risk management	Forecasting
Monitoring and control	Hedging policy	Strategy and planning
Management information reporting	Balance sheet management	Product control
Compliance monitoring	Internal funds pricing policy	Valuation and MtM
Stress testing policy	Liquidity stress testing	Financial reporting
ERM	Capital management	
	ALCO reporting	

Exhibit 1 Bank balance sheet risk management triumvirate

**ENSURING EFFECTIVE TEAMWORK**

Changes in culture and operating methods are perhaps the hardest to make in any firm, including a bank. The larger the bank, the more bureaucratic the process of risk management is. In large firms, there is a danger that risk management becomes more of a forms-based box-ticking process than a genuine exercise in managing risk exposure. However, effective teamwork is essential if these teams are to work together efficiently.

One way to try to address the issues raised by a growing bureaucracy and process is to drive a culture of genuine teamwork. Exhibit 2 (top right) shows that the treasury function is a multidisciplinary one, with a diverse set of objectives and deliverables, and Exhibit 3 (centre right) illustrates the recommended team building doctrine. These are better served if members of the team are able to support each other. This is not something that can be implemented overnight. It requires experience and learned judgment, together with a genuinely open and transparent culture, to work properly. But if it can be operated successfully, it makes balance sheet risk management much easier to be implemented firm-wide, because the triumvirate of CRO, CFO and treasurer, and their teams, will be able to work much more effectively.

Eight years after the first signs of the crash, the discipline of risk management and the need to have a rigorous risk framework in place at all banks with respect to capital, liquidity and funding, is accepted universally. There is no disagreement with what Basel III, and national regulators, wish to implement with respect to levels of capital and liquidity.

The real challenge comes with the need to embed a genuine risk management culture in the bank. If this is successful, it will ensure that principles of balance sheet risk are adhered to throughout the cycle, particularly when bull market conditions return. A change in operating model style and firm culture, to one of genuine openness and understanding, will help to ensure that this becomes the case.

**CONCLUSION**

Liquidity management is a discipline that is as old as banking, but from historical observation we conclude that its principles need to be refreshed and maintained throughout the business cycle. Under Basel III,

the need to adhere to old-fashioned beliefs on sound liquidity practice is something that will be enshrined in law. However, the two new funding metrics reflect banking logic, and the principles behind them should be followed regardless, simply because bank management should be aware of their importance.

**Treasury will be tasked with multiple workstreams as part of its objectives**

**Governance – ALCO**

- MI deck
- Policies: liquid asset buffer; liquidity & funding policy; interest rate risk management and hedging policy; internal funds pricing policy
- Market access function

**Optimum funding structure and strategy**

**Systems**

- Evaluating treasury management system

**Liquidity risk regime review process with regulator**

**Credit ratings**

**Investor due diligence**

**Planning**

- Plan for the next 12 quarters formed with risks, issues, assumptions and dependencies defined.

**Recruitment**

**Cross-functional knowledge-sharing** sessions held for retail & corporate business lines, finance and risk teams

**BAU tasks (eg, money markets)** capital management, term issuance, securitisation.

Exhibit 2: Diversity of treasury deliverables

**Team building doctrine**

Everyone is involved in all tasks

Each person is able to cover for at least two other persons across different teams

No single-person dependencies

Genuinely open, collaborative and challenging environment

Effective upward and downward delegation

Exhibit 3: 'Total treasury' team building doctrine

ACADEMIC JOURNAL PANEL MEMBERS	
Prof Moorad Choudhry FCSI	Brunel University
Prof Carol Alexander	University of Sussex
Dr Paul Cox	University of Birmingham
Scott Dobbie FCSI(Hon)	Deutsche Bank
Peter Land, Chartered FCSI	Brewin Dolphin
Gino Landuyt	Trium Capital
Prof Donald Lawrence MCSI	University College London
Sian Lloyd, Chartered FCSI	CISI
Gregor Logan MCSI	Family Investment, Nutmeg
David Moskovic	Royal Bank of Scotland
Prof Jim Steeley	Aston Business School
Nigel Sydenham, Chartered FCSI	CCL Academy



# Painting the perfect balance

WHEN SHE'S NOT WORKING, LAURA RUIZ BUSSIÓN, A CISI AFFILIATE MEMBER, SWAPS ONE TYPE OF PORTFOLIO FOR ANOTHER

✦ LORA BENSON

Art and financial services are proving to be the perfect combination for Laura Ruiz Bussión to achieve a good work-life balance.

Laura, Portfolio Risk Adviser at the Royal Bank of Canada, enjoys painting as a way of relaxing and de-stressing. "If I have a heavy day at work and I want to clear my head, I do some watercolour sketches after dinner. I don't always need a motive to paint, and occasionally I just create different patterns and try to draw what is in front of me or a picture from a magazine."

Laura, who was born in Madrid, fell in love with painting when she was at school, and it is a hobby she has pursued since arriving in London in 2003 to improve her English. She studied Advanced Marketing and Risk Management in Banking at City University, following on from her studies in Business Management at the Universidad Complutense de Madrid.

## LIFE IN LONDON

A year down the line, Laura met her future husband and decided to make her life in the City of London: "I sent an email to all business people listed with the Spanish Chamber of Commerce, asking if there was a career opportunity available. A banker with Morgan Stanley Wealth Management responded, inviting me for an interview."

After Morgan Stanley, Laura moved to J.P. Morgan, where she worked in risk management and became professionally

qualified with the Investment Management Certificate and Private Client Investment Advice & Management qualification. She then moved to her current role at the Royal Bank of Canada.

In search of a distraction from her day job, she joined the Rosetta Arts Centre in West Ham, East London, in 2012. She took classes there for two years and obtained a National Vocational Qualification in Art: "I didn't do the classes to become qualified, but to take my mind away from the world of finance. This was a great way of disconnecting and making sure that I was leaving the office at 5pm sharp to start my class at 6pm."

*"If I have a heavy day at work and want to clear my head, I do some watercolour sketches"*

The 2012 Olympics offered a great opportunity to Laura – she exhibited some of her paintings in Stratford Park, near her art class, and sold one for £20: "I was probably paid something like £1 an hour or less after considering the cost of the materials, but I was so proud of the painting and it was such a thrill to sell it."

An amusing memory from the art studio was when each of the students were required to produce floor-to-ceiling canvases and to work on more than one painting at a time while the oil paint dried: "I was working on a series of landscapes, the same picture

painted twice, one using cold colours and the other using warm colours. I asked my teacher to help me to move the canvas of the finished painting, still wet, of the cold colours to a position above the warm-coloured painting. He used a chair to step up and when stapling the canvas on top of the board he fell off the chair, making very precise marks on my lovely blue sky. It was an embarrassing, but funny, moment. I don't think the best painting knife could have made a better mark!"

## SISTERS IN OILS

The painting of which Laura is most fond is a portrait of her and her sister. It captures them during a family reunion in Alhóndiga, a tiny village near Madrid, where Laura's father was born and where she spent many of her childhood summers.

"I painted the portrait during the summer while I was at university, and it was the first time I used oil as a medium. People recognise us straight away in the picture and my mother still has it in her living room," she says.

At the height of her classes, Laura was painting for at least four out of seven days: "However, I've been rather busy having a baby lately so my priorities have shifted."

➤ Contact [lora.benson@cisi.org](mailto:lora.benson@cisi.org) if you have a hobby you think will interest other CISI members. You will receive a £25 shopping voucher as a 'thank you' if we publish your story.

# Conflict of interest

AN OVERSEAS BANK HAS DECIDED TO SELL ITS UK SUBSIDIARY. THE LONDON-BASED MANAGEMENT TEAM HAS PROPOSED A MANAGEMENT BUYOUT, BUT IT IS MET WITH AN UNENTHUSIASTIC RESPONSE. WHAT DO YOU THINK IS THE BEST WAY FORWARD?



iStock

Matthew is a director of JBC Investment Management, a wholly owned UK subsidiary of Bravura, an overseas bank that bought the business five years previously. JBC has a close-knit management team that, including Matthew, consists of four directors and the CEO, Carla. The management team has very close ties with all the incumbent staff of JBC, as it recruited most of them.

In one of the quarterly meetings with Bravura, Matthew and Carla are advised by its CEO that he has been looking at Bravura's portfolio of overseas companies with a view to selling those that do not really fit with his new vision, and JBC is one of them. However, no immediate decision has been made, and he gives the JBC team two years to try to generate the level of returns that Bravura is seeking.

After one year, there has been an all-round improvement in business, with increased turnover and profitability, accompanied by significantly improved risk management and control processes. Matthew and Carla are confident that with a continuation of this trend, Bravura will be convinced that it should keep JBC. They are surprised, therefore, when they are called to a meeting at Bravura's head office in Lichtenstein to be told that, notwithstanding the original timetable, Bravura now feels that an early sale is desirable. Matthew and Carla are told that the London management team will be expected to lead the process of disposal in order to obtain the best possible price for Bravura.

Matthew, Carla and the other directors meet to discuss this new development, and they are disappointed about the decision to sell, as

they are concerned that a new owner might want to make changes they are not happy with and may even split up the team. During discussion with their fellow directors, Julie and Rob talk about how best to go about marketing JBC, and the idea is raised that they might attempt a management buyout (MBO). After all, they know more about the company than anyone else, and this is the type of opportunity that does not come along very often.

They consider that, between them, they might be able to raise sufficient finance, which, together with some private equity funding, should enable them to make a realistic bid for JBC themselves, and they get excited about the prospect of owning their own business. The directors arrange a meeting with the other senior executives of JBC to raise the prospect with them in order

to make them aware of what is happening, and to seek their interest in taking part in an MBO. Yet, while they are supportive of the principle, if for no other reason than protecting their jobs, they do not feel able to join the directors in the financial commitment. Nevertheless, they agree to stay on until the sale goes through and not stand in the way.

### SERIOUS INTENT

Matthew and Carla approach Bravura to raise with it the proposal for an MBO, justifying it on the basis that they are the people best able to deliver a fairly priced sale in the shortest possible time, because of their intimate knowledge of the JBC business. As an indication of their serious intent, they tell Bravura that they already have funding in place.

However, they are disappointed that Bravura's response is unenthusiastic, carrying an implication that it does not trust the management not to manipulate the sale process to favour itself against an open market sale.

Matthew's initial thought is to tell Bravura that if it doesn't trust him then it can find someone else to sell the business but,

seeing Carla's anxious look, he holds his tongue. The two of them return to London and meet with Julie and Rob to tell them how the trip went and what, if anything, they achieved.

Although their disappointment is palpable, the group agrees that they must rethink their initial plans and formulate alternatives based on their professional responsibilities.

### *The group agrees that they must rethink their initial plans and formulate alternatives*

They talk for some time, and after several hours agree that they have a number of possible ways forward, and that they should put these to Bravura and ask them to make the decision on how they wish to proceed. These options are:

- The owners of the business should hire an independent third party to conduct the sales negotiations. The existing management can then decide whether and to what extent they are prepared to be involved in the sales process.

- The directors have a legal responsibility to the shareholders and a fiduciary responsibility to the firm's clients. They cannot pick and choose the extent to which they will be involved in the sales process. Accordingly, they must support Bravura.
- The directors should seek to persuade Bravura that they will be constructive and fair in marketing JBC, and will be happy for any final sale decision to be made, following a recommendation to Bravura by an independent third party.
- The behaviour of Bravura is unreasonable in expecting current management to conduct a sale of JBC while refusing to listen to an offer from the current management. Accordingly, they must be prepared for the management to be less than helpful, unless they offer them a significant financial incentive.

### ➤ What do you think is the best option to take?

Visit [cisi.org/conflictinterest](http://cisi.org/conflictinterest) and let us know your favoured opinion. The results of the survey and the opinion of the CISI will be published in the December 2015 print edition of the *S&I/R*.

## UNEXPECTED REWARDS: THE VERDICT

**Readers may recall that this dilemma, published in the June 2015 edition of the *S&I/R*, involved the erroneous credit of a large number of rewards under a loyalty programme operated jointly by a bank and an airline. The dilemma revolved around what might be an appropriate response for the bank to take towards those of its staff who had taken advantage of the error and used the unearned rewards.**

The main events of the dilemma were based upon an actual event that took place in a foreign country, and so the responses of readers were more than usually interesting. This was particularly the case in as much as three quarters of those who responded did so in equal measure, but were divided into entirely different camps:

**Answer A**, which might be thought of as the 'emollient response', saw the bank offer staff the chance to reimburse it for the value of the travel booked. This attracted 37% of respondents.

**Answer B** was diametrically opposite, taking the hard line, saying that staff had breached their responsibilities to the bank and would be subject to disciplinary action. This also attracted 37% of the vote.

**Answer C**, which supported dismissal for all of those involved, garnered only 4% of the vote.

**Answer D**, where the bank accepted a share of the blame and offered to split the cost of the rewards used with the staff members concerned, attracted 22% of respondents.

In reality, a number of the options posed might be viewed as appropriate,

depending upon the actions of the staff involved and their apparent motivation. Since the error was not of the customers' making, Answer D does seem appropriate. Answer A also has merit, although it does leave open the question of the integrity of staff who took advantage of what was, fairly obviously, an error. This then leads to Answer B. If you believe that staff knowingly took advantage of an obvious error, then why would disciplinary action not be obvious, unless it would undermine the operational effectiveness of the bank?

The significant issue in this, as with other decisions of this nature, is that what is deemed to be the 'right' answer in the circumstances will depend upon both the culture of your firm and the message that you are sending.

# ETFs 101: Back to basics

THE CURRENT LOW COST OF BUYING EXCHANGE-TRADED FUNDS HAS SEEN THEIR POPULARITY GROW ACROSS EUROPE. WE LOOK AT HOW THE FUNDS WORK, AND EXPLAIN WHAT BENEFITS AND RISKS THEY BRING TO INVESTORS

✦ RACHAEL REVESZ, SENIOR STAFF WRITER, ETF.COM

With over 1,400 exchange-traded funds (ETFs) listed across Europe today, and most of them trading actively on the London Stock Exchange, these passive and rules-based vehicles can make up a valid part of any investor's portfolio. Whether you are looking for sterling-denominated gilts, European ex-UK banks, high-yield euro-denominated bonds, Chinese money market instruments or even robot-makers, ETFs can offer investors a transparent and low-cost way to get that exposure. A total of 246 ETFs launched in Europe last year alone, ensuring a steady flow of new products to choose from.

All ETFs – minus a handful of so-called 'active ETFs' – function in the same way. They replicate a rules-based index and the ETF aims to return the same performance of the index to the investor, minus fees. The ETF manager's job is to ensure there is as little tracking deviation as possible, which either comes in the form of tracking difference (difference in returns from an ETF and its index) or tracking error (the volatility of the ETF's deviation from the index).

## OTHER FUNDS FACE CHALLENGE

Recent data from Lipper at Thomson Reuters shows that the average annual fee for an ETF registered for sale in the UK is just 0.38%, as opposed to 1.22% for the average actively managed fund. ETFs are democratising investment: everyone from a pension fund to a man on the street can buy an ETF for the price of just one share (see the boxout as to how you could put together a multi-asset portfolio of ETFs for just 0.10% per year).

As a result of these low costs, popularity is growing: ETF assets listed in Europe have

risen exponentially from just €5.8bn in 2001 to close to €450bn as of July this year, according to Deutsche Bank.

## HOW TO TRADE ETFs

When it comes to taking that first step, investing in an ETF is slightly different to a traditional active mutual fund. Say you and three others have £10,000 and you invest it into an ETF. You receive 100 shares, worth £100 each. The ETF manager then goes into the market and buys £40,000 worth of stocks. If he doubles the money to £80,000, then your shares are now worth £200. But it also works in reverse – if the manager loses half your money, your shares will plummet to £50. And every time a new investor buys shares in the ETF, the manager uses their money to buy more stock.

In the background are the authorised participants, or market makers, whose job it is to swap securities for ETF units. If your ETF

## OPENING UP THOUSANDS OF POSSIBILITIES

Who knew an investor could create an ETF-only, multi-asset portfolio for just 0.10% per year? Matt Hougan, CEO of ETF.com, discovered this annual fee could buy you exposure to thousands of stocks, 40 different countries, more than a dozen currencies, a full slate of government bonds, more than a dozen different commodity futures, and an anchor in physical gold.

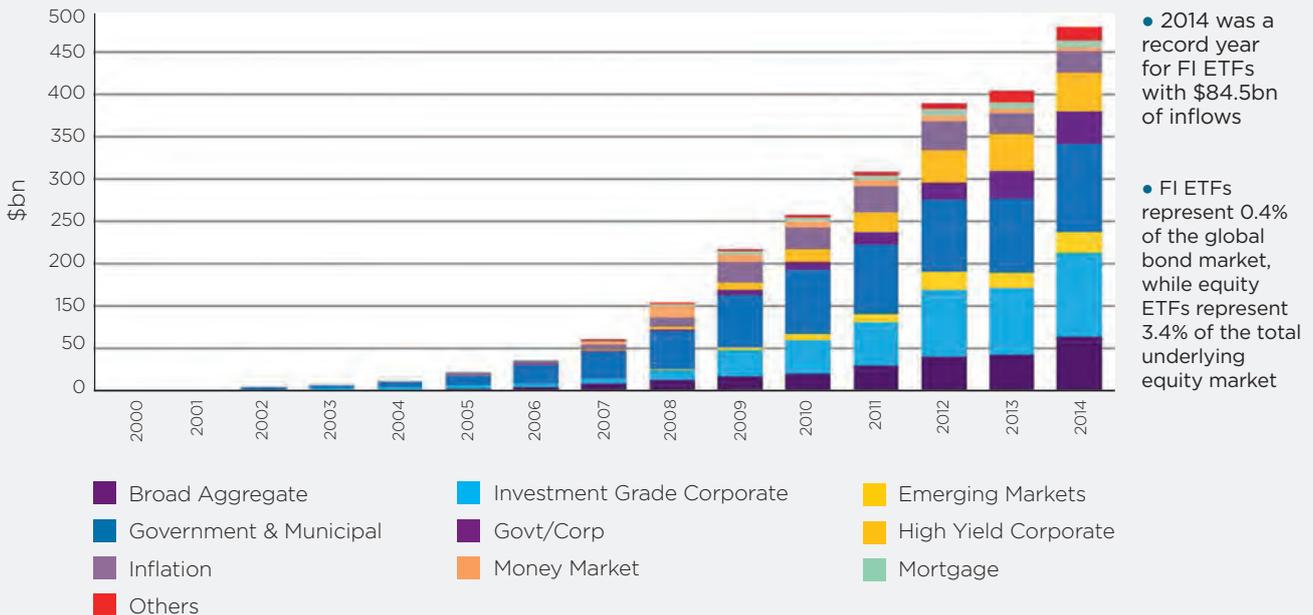
According to Hougan, it is the kind of portfolio a mid-size institutional investor would dream of, at a cost they would love, and it could be purchased by any individual investor or adviser on the London Stock Exchange.

## LONDON'S LOWEST-COST ETF PORTFOLIO - CIRCA JUNE 2015

Asset class	Weight	ETF	Ticker	TER
Eurozone Equity	30%	Source Euro Stoxx 50	SX5S	0.05%
US Equity	25%	Source S&P 500	SXSP	0.05%
Emerging Markets Equity	5%	Amundi MSCI Emerging Market	AEEM	0.20%
Fixed Income	30%	Vanguard UK Government Bond	VGOV	0.12%
Commodities	5%	Lyxor Commodities Thomson/Reuters Jefferies CRB TR	CRBL	0.35%
Gold	5%	iShares Physical Gold	SGLN	0.25%
<b>All-in costs</b>				<b>0.10%</b>

## GLOBAL GROWTH IN FIXED-INCOME (FI) ETFs

Globally, from 17 FI ETFs with \$6bn assets AUM in 2003, to more than 850 FI ETFs with over \$430bn AUM in 2014



Sources: BlackRock and ETP Landscape as of end of December 2014

price rises to a premium or falls to a discount to fair value of the ETF's holdings, authorised participants can arbitrage away the difference, meaning your ETF is unlikely to move significantly away from fair value for any extended period.

In this regard, although they trade on exchange, investment trusts are different to ETFs in that they often rocket to wild discounts and premiums, based solely on supply and demand.

ETFs, however, can also simply rely on supply and demand at their most basic level. When Athens shut down its stock exchange in June, the Greek equity ETF from Lyxor, listed in Stuttgart, continued to trade. Investors were therefore speculating on the equities' value while the underlying market was closed, and that can lead to significant premiums and discounts in the ETF, without the neutralising force of market makers quoting real prices.

ETFs trading while the market is closed also took place in Egypt in 2011, during the 1997 Asian crisis and, more recently, in China, with many underlying companies closed for trading. ETFs therefore can be used as useful tools for price discovery, as long as the stock exchange where the fund is listed

allows it to continue to trade. Another point on premiums and discounts is, say, a Europe-based investor buys an ETF tracking Chinese equities, the ETF can move away from fair value if it trades while the domestic market is closed – on a different time zone – or during a public holiday.

*It is time for investors to understand the benefits of ETFs, as well as their risks*

### NO FREE LUNCH

While there might be many benefits to considering an ETF, there is no such thing as a free lunch and investors should be aware of the risks. For example, mutual fund holders would not have experienced a fluctuation during a flash crash, yet ETFs on an exchange would have seen their value plummet in the blink of an eye.

And that is not the only risk out there: there are also trading costs. These can be expensive and eat into your profits, and they tend to be hidden in the small print. The average cost to trade an ETF on an advisory fund platform is around £12, from brokers like Winterflood Securities. But there are ways to lower costs if

you can shop around. If you are buying a small number of ETF shares and selling them shortly thereafter, the commissions can eat up any savings from the expense ratio versus a mutual fund – not a good tactic for pound-cost averaging.

### UNDERSTANDING THE SPREAD

The third risk you cannot avoid is the bid/ask spread. If you are saving 20 basis points on an expense ratio but paying 30 basis points in spreads on a round-trip trade, your total cost for a one-year holding period is higher in the ETF than it is in a competing mutual fund. ETFs are ultimately cheap, transparent and democratic investment tools that access almost any market an investor could wish for. It is time for investors to understand their benefits, as well as their risks, and to consider ETFs as an increasingly important part of the investment universe.

### Further information

ETF.com will be running a CPD-accredited ten-part webinar series on ETFs this autumn, as well as hosting five days of local events across Europe in early 2016. To sign up, visit [ETF.com/CertificationProgrammeEurope](http://ETF.com/CertificationProgrammeEurope)

# Mind the gap

THE FINANCIAL LITERACY GAP IS AS WIDE AS EVER, DESPITE THE BEST EFFORTS OF BIG FIRMS AND SCHOOLS. BUT CAN FINANCIAL COMPETENCY BE TAUGHT?

✦ ANDREW DAVIS ✦ JOHANNA WARD



**F**inancial education has emerged over the past decade or so as part of that small collection of universally acknowledged ‘good things’, which also includes motherhood and apple pie. This is hardly surprising: there is justifiable alarm at the British public’s generally low levels of financial literacy, ranging from a lack of mathematical skill that leaves most unable to grasp concepts such as compound interest, through to poor understanding and even less trust and confidence when selecting financial products.

Since the Financial Services Authority (FSA) conducted the first national measure of ‘financial capability’ in the UK in 2005, lots of organisations have projects in progress to address the financial literacy gap, including the FSA’s successor, the Financial Conduct Authority, and the Money Advice Service, which is responsible for drawing up the UK’s Financial Capability Strategy. Financial education is now part of the secondary school curriculum, and a number of big financial services companies have programmes intended to increase public awareness and understanding. But will any of this activity amount to anything substantial? Or, to put it another way, how realistic is it to assume that we can teach people to run their finances competently?

The findings, which are part of the Government’s ongoing Wealth and Assets Survey,

were published this summer in a paper called *Financial capability in Great Britain, 2010 to 2012*. The authors of the paper, Andrea Finney and David Hayes of the University of Bristol’s Personal Finance Research Centre, questioned respondents about six aspects of their financial capability under the headings: making ends meet; planning ahead; organised money management; controlled spending; staying informed; and choosing products.

## SHORT-TERM THINKING

The results were striking. Categories such as making ends meet, organised money management (knowing how much you are able to spend) and to some extent controlled spending (a preference for saving up rather than buying on credit) relate most closely to what you could call ‘housekeeping’ – the

*Will any of this activity amount to anything substantial? How realistic is it to assume that we can teach people to run their finances competently?*

approach that people take to managing their money over the relatively short term in order to stay on an even keel. In these areas, people generally obtained their strongest scores.

The authors produce a mean score out of ten for each of the six categories and give the mean score for each quartile of respondents in each category. In

making ends meet, the average score was 7.0; the average for the lowest-scoring 25% of respondents was 4.2; and for the top 25% was 9.6. Similarly, in organised money management, the overall average was 6.7; the lowest 25% averaged 3.9; and the top 25% 9.3.

But when you turn to the other three categories (planning ahead, staying informed and choosing products) the financial literacy gap becomes all too obvious. The mean overall score for planning ahead – “the extent to which someone makes provisions for future expenditure from current income”, according to the rubric – was 2.3 out of 10. The bottom 25% averaged just 0.5 and even the top 25% managed just 5.1 on average. It gets worse. The bottom 25% of respondents managed an average score of <0.1 for staying informed. According

to areas of financial capability that relate most closely to longer-term decisions about investment, as opposed to day-to-day money management, produce generally lower scores across the board, even for the most competent respondents. This seems to me to have important implications for the financial education agenda.

## SCORE POORLY

Arguably, people score poorly in areas relating to investment not because they lack the knowledge, but because thinking about these things does not come naturally to them – perhaps because they tend to focus on the immediate future rather than the long term, or are not interested in these areas and so are less inclined to make the effort to learn about them. This is not a problem that is going to be answered quickly or easily by arming them with a little more understanding of financial matters than they currently possess, even if that were generally achievable.

The clear conclusion I would draw from this is that, in areas that require long-term thinking, we would do much better to develop a well thought-out framework of non-binding default options to ‘nudge’ decision-making in a sensible direction – such as we can see in the workplace pensions system – than by spending a month of well-intentioned Sundays imparting financial literacy to a silent majority that simply isn’t listening.



to the footnotes, this “indicates a score of greater than zero but less than 0.05”. In this category, the overall average came out at 3.2, the second lowest of the six. The choosing products category produced the greatest range of scores, the bottom 25% averaging 1 and the top 25% 10 out of 10.

My point in setting out these findings is simply to suggest that



What's  
your story?

No matter how big or small the impact, we all help shape the financial services industry and the world in which we live

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What opportunities does the industry offer?

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