GLOBAL riskupdate

10 Years and Growing

The quarterly independent risk review for banks and financial institutions worldwide

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Keynes' 'Animal Spirits' in the financial markets

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Dear Subscriber

2012 will be remembered as a year of challenge for the banking industry. The financial crisis has continued to rumble on impacting the profitability of banks. Regulations designed subsequent to the initial financial crisis are now being implemented and the negative social impacts of these regulations are now becoming clear. Those sovereign nations continuing to borrow significantly to meet their current needs remains one of the key issues facing the industry since at present there has not really been any austerity. We enter 2013 with a global economy which is at best, fragile, and with a landscape of uncertainty.

In this, our final issue of 2012 we look at a wide range of risk issues which are all clearly important and informative. Once again our authors have addressed key issues and provide in depth, original analysis.

The first article from Steven Goldstein, an Executive Coach who works with traders and portfolio managers, reviews financial markets and considers the impact of human and behavioural risks on risk management. The changing markets have clearly started to diverge from historic norms and this article provides an insight into some of the key developments. In the first of two articles by Atula Abeysekera, Deputy Treasurer of thinktank, Bow Group, he considers the impact of uncertain events and the impact that Black Swans have on business.

The journal concludes with three other important articles. In the first of two articles Mark Dougherty, a senior corporate governance and risk management professional, considers why it is that the Canadian banks have managed to survive the financial crisis so effectively. Additionally Michel Dorval, risk management and compliance specialist at Misys, provides an important review of some of the changes that are likely to impact OTC clearing. These come from a range of spaces including EMIR and Dodd-Frank.

Lastly, my article features a discussion on cross-border financial supervision, and its impact on the financial markets.In it, I concentrate on an assessment of the changing regulatory scene, the way in which it should be developing and how it is, in fact, moving forward.

There is much going on and 2013 will be another year of challenge for risk management. Regretfully we are not yet at the end of the financial crisis and many important decisions will need to be made next year. These also include the liquidity papers that have now been delayed by the BIS. The *Global Risk Update* will continue to provide you with in depth analysis of such key issues in the coming year; and the Risk Reward Global Risk Update on LinkedIn will also continue to support your on-going technical risk needs. I hope you enjoy this issue and look forward to hearing your comments.

With warm Seasons Greetings
and a prosperous New Year

Dennis Cox BSc, CFSI, FCA
Chief Executive Officer

10 Years and Growing

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TO THE EDITOR

Do you have risk issues in your organisation or region you would like to share? Email your thoughts to the Editor at DWC@riskrewardlimited.com

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Keynes' 'Animal Spirits' in the financial markets: Is it time that 'Risk Management' should place greater focus on human emotions and their effect on financial decision-making?

Steven Goldstein is a qualified executive coach working with traders and portfolio managers to help them improve and enhance their personal trading performance in order to achieve greater success and improved profitability. Prior to working as a coach, Steven spent twenty-five years as a trader in the financial markets for a number of major banks and financial institutions. During this time Steven developed an in-depth understanding of financial markets, and the psychology and behavioural aspects associated with being a risk professional at the cutting edge of trading and investing.

This article introduces some new concepts and ideas about human decision-making, and considers some implications for the financial-market risk industry. It also looks at whether it needs to put into place changes in the way the financial risk management industry works and functions, in order to take greater account of aspects of human behaviour. Finally it looks at whether businesses can introduce improvements and enhancements to the way they work in order to prevent and mitigate risk, and to improve the quality of decision-making in the financial markets.

In John Maynard Keynes's celebrated 1936 book, 'The General Theory of Employment, Interest and Money', he used the term "Animal spirits" to describe emotions which influence human behaviour. Now, almost eight decades later, new research is shedding further light on these 'animal spirits', and in particular, how they affect people's decisions in the financial markets. Some of these findings are leading to questions about some of the basic assumptions of how people think and act, and are also challenging long-held beliefs and tenets central to economic theory. Whilst this has some direct consequences for the field of financial risk-management, it also provides new thinking and offers potential solutions, some of which may help to improve risk-management practices and techniques moving forward.

The traditional view from classical economics sees people as rational, utility-maximizing actors; individuals who know what they want and are consistent, methodical, and emotionless in pursuing it. Consistent with this is the view of the human mind as a machine; working like a computer and rationalizing all options through the use of people's cognitive powers, and the supremacy of intellect. These beliefs are cornerstones of modern economics, however, they are increasingly being challenged by the emerging fields of 'Behavioural Economics' and 'Neuroeconomics'. Backed by a growing body of research, they argue that

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humans have many limitations to behaving rationally, as well as using feelings and emotions extensively when making decisions. One study which highlights this, looked into the decision-making performance of a group of highly qualified and experienced judges. The study involved 1,112 cases of parole board hearings over a 10 month period. One would expect that judge's rulings are based solely on rational decisions and written laws; however the research revealed that the biggest influence in the outcomes was actually the time of day of the hearings. Prisoners who appeared before the judges early in the morning session, straight after the mid-morning break, or immediately after the lunch break, received parole in about 60-70 percent of the cases. But, as each time period progressed, the percentage of successful appeals for parole decreased, with those appearing late in each session receiving parole no more than 10-15 percent of the time. The research found nothing malicious or unusual about the judges' behaviour; rather it was due to something known as 'Decision-fatigue'. 'Decision-fatigue' occurs as more choices are made throughout the day; each subsequent decision becomes harder for people's brains as it draws-down on energy in the form of glucose. In this case, no matter how rational and high-minded the judges tried to be, they were fighting their own human biology: The depletion of glucose to the judge's brains changed the way their thinking processes worked. This led them to non-consciously seek shortcuts which expended less energy; in most cases the shortcut involved 'decision-avoidance', which usually meant taking the default choice; to deny parole.

Further support arguing against the 'rational man' theory comes from neuroscience; increasing evidence is arguing for the primacy of emotions as a key part of decision-making. A study by neuroscientist Antonio Damasio, revealed how people who had received brain injuries which had resulted in a loss of ability to feel emotions, were incapable of making even the most basic of decisions; often spending hours deliberating over irrelevant details, such as where to eat lunch. The common belief is that the human mind uses purely cognitive process to reach logical conclusions, however as research into this field continues, these beliefs and existing theories of rational decision-making are being seen as increasingly implausible. Damasio has labelled the popular belief of the mind acting independent of the body, as 'Descartes' Error'.

Coming back to financial markets, I want to look at what some implications from these alternative beliefs may be for financial risk-management, and to see whether these insights may offer steps towards improvements in the way financial risk management works. Much of the focus of risk management in the financial markets is on quantifying and measuring financial risk. A whole architecture of financial models, process and practices has arisen around this. However, what if the basic underlying assumptions that underpin some of these models are incorrect? The concept of 'rational man', largely underscores the long-standing assumption that markets are random, and that deviation from true value in liquid markets will be arbitraged away by 'rational- man'. As a participant in the financial markets for many years I have always disputed this assertion. Markets are human constructs, driven by human perceptions, reactions and decisions, which are largely triggered by people's emotions. Keynes understood the way markets worked from a behavioural perspective. In what was called

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the 'Keynesian beauty contest', he said, 'you win not by picking the soundest investment, but by picking the investment that others, who are playing the same game, will soon bid up higher'. It may be a stretch to say that because people act emotionally rather than rationally, that therefore markets are not random. However, it is this emotional human behaviour which leads to trends, manias, panics and long-term distortion from value, which are NOT quickly arbitraged away by the mythical 'rational man'.

If markets are not-random, then this calls into question many of the risk-management models which themselves are based off this assumption, this is however further compounded by over-reliance on these models. The financial markets are obsessed with quantifying risk, yet even if these models are correct, they are merely tools which do not have predictive capabilities. Decisions around risk, should also involve subjective feeling and judgment based on expertise. Anurag Vaish of the 'Final Mile' consultancy, which specialises in finding risk solutions through neuroscience and behavioural economics, sums it up well: 'Risk is a feeling not a number; financial Institutions are highly number driven and continue to represent risk more as numbers'.

A further aspect of research into human behaviour is the realisation that we are not as in charge of the choices we make as we like to think we are. Our emotions affect our non-conscious thinking, which has a far greater pull over our behaviour than we realise. It is this non-conscious thinking, in collaboration with other inherent and learned human biases, which lead seemingly rational and intelligent people to make poor choices. This could help explain the prevalence of major human financial errors within financial businesses, e.g. JP Morgan, UBS, SocGen, Amaranth, etc. - Working on improving the monitoring of and quality of decision-making, is not merely a matter of risk-control and risk-mitigation, it is also a pro-active endeavour which can yield businesses a greater return on investment. Financial market businesses, via risk-management, could more closely monitor individual risk practices and behaviours. Steps could also be taken to deliver improved robustness and quality in individual, managerial and group decision-making. Input from risk practices in other industries may also provide potential solutions. For example, simple checklist practices have been put into place in industries as diverse as medicine and aviation, with profound effects on safety and quality. Also application of 'what-if-scenario' exercises in co-ordination with stress-testing (this is practiced in the disaster-recovery industry). Furthermore, businesses could look to redefine 'fit and proper' to move beyond meaning possessing 'honesty, integrity and reputation', to also include sufficiently qualified and educated in 'risk, products and markets'. A further step could be increased monitoring of individual behaviour using risk management systems together with subjective judgment; this could be done through highlighting specific individuals and particular risks for increased monitoring, possibly using a system of 'raised flags' for special attention.

Moving forward, it may take a break from past thinking to find solutions to some of the problems the industry faces. One interesting business which practices this is the 'Final-Mile' consultancy; they call their work 'Behavioural Architecture' and they look for and design alternative solutions to existing risk-orientated problems. A good example of their work, which received widespread global coverage, involved an experiment on a stretch of the Mumbai Rail system, notorious for deaths from people crossing rail tracks. As a result of some innovative recommendations they made which accounted for human decision-making and behaviour, deaths from rail-tracks crossings on a 1-mile stretch of line, dropped from 23 in the previous six months, to just one in the next eight months.

the financial risk management industry is facing many challenges

In the wake of the 'Global Financial Crisis', and subsequent strong political, regulatory and economic forces re-shaping the financial markets, the financial risk management industry is facing many challenges. Whilst it is unfair to apportion blame to the risk-management industry for the financial disasters of recent years, it is right to question some of its assumptions and practices, and to find out whether things could have been done better, and how things can be improved going forward. As part of this process, it may help to step away from some of the beliefs of the past, and to see if new innovative solutions could be found and applied to take the industry forward.

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Black Swans Mean Business (Part I)

Atula Abeysekera is a Chartered Accountant with 25 years corporate governance and risk management experience. His has held senior positions in internal audit and risk management at KPMG, Morgan Stanley, Fidelity Investments and Lazard. Atula is currently the Deputy Chairman of the Risk Forum Committee of the Chartered Institute of Securities and Investments and a member their disciplinary panel. He is a member of the thinktank Bow Group Council and, in 2011, was awarded the Freedom of City of London. In this article he describes how government can better predict and manage national crises. Drawing on reforms to the way that businesses and, in particular, banks have reformed their risk management processes, the paper challenges the ways that the UK Government copes with so-called 'Black Swan' events.

I Introduction

"This man, on one hand, believes that he knows something, while not knowing (anything). On the other hand, I – equally ignorant – do not believe (that I know anything)."
– Socrates in Plato's The Apologies

The notion of Socratic ignorance has been a ideological theme for centuries. As the notion goes, the wise man is not he who thinks he knows everything, rather he who knows that he does not know everything.

Since ancient times, this idea has formed a common thread in philosophy. Its application to the fields of economics and politics has, however, been a more recent phenomenon. As recently as 2004, in his book *Fooled by Randomness*, Nassim Nicholas Taleb applied the idea to financial markets. He proposed that the notion that financial institutions can both fully know and fully quantify the risks associated with their businesses is a false wisdom, an arrogant oversight that has a value destructive effect on their business models.

When, in 2007, Taleb published his now famous book, *The Black Swan*, the notion was expanded beyond financial markets into the seemingly

unpredictable and devastating events, which impact not only economics but the security of the nation. These occurrences he called 'Black Swans'. Black Swans have now entered into the common parlance of big business, with risk managers busily deploying strategies to better predict and deal with the fall-out of Black Swans. The Boards of Directors of large enterprises are gradually realising not only that the risks to their business will never be fully quantified but also that, in this knowledge, they gain a competitive advantage by being better prepared than their competitors to deal with crises.

Institutions outside of the financial sphere are only just beginning to take note of Taleb's important theory. So as Business (and especially financial institutions) begins to acknowledge the necessity of understanding Black Swan events and incorporating them (as best they can) into their business models, the UK Government has started to lag in its thinking around Black Swan risk.

Given the obvious importance to the nation of preventing national disasters, or at least mitigating their impact, what lessons can the Government take from the world of Business to address these risks and to add value to the national security strategy?

This Bow Briefing describes the ways in which Business analyses and protects itself from Black Swan events. By looking in detail at recent examples of national and international crises and getting visibility on both their effect on the nation and how better risk strategies could have helped to mitigate their effects, we argue that the Government has much to learn. In doing so, we make several specific and achievable policy proposals, which we have set out on page 6. The Government should embrace modern qualitative and quantitative methods of risk management, as it is only with robust governance structures and cutting-edge risk management solutions created by modern enterprise that the Government can begin to effectively cope with that elusive beast, the Black Swan.

II Black Swans

Sometimes, from seemingly harmless causes come harmful effects. When those effects make themselves known, it seems obvious what the cause of the effect was; that the effect was always going to happen.

According to Taleb, a Black Swan Event has three key characteristics:

(i) it occurs outside projected expectations (a fat tail to a distribution curve);
(ii) it carries extreme impact; and
(iii) it seems explainable after the fact.

Consider the following recent examples of Black Swan events with respect to these underlying characteristics.

Urban unrest (2011)

An Outlier

The independent Riots Communities and Victims Panel (UK) estimated that around 15,000 people were actively involved in the riots, which spread through England in the Summer of 2011 at alarming speed. The Government showed no sign of having predicted the riots and, as expected, the panel concluded that the causes of the riots were complex and were not about, or caused by, any single issue.

Extreme impact

Resources from several police forces were mobilised to deal with the crisis. Five people lost their lives and several businesses and homes were destroyed. The Riots Communities and Victims Panel estimated that the costs to the country was in the region of half a billion pounds. Given the major impact on police resources and the wider economic ramifications, few would argue that the impact of the riots was not extreme.

Explainable after the fact

The Riots Communities and Victims Panel's interim report looked at the August 2011 riots in the context of the English riots of 1981. The Panel noted that "it is thirty years since the publication of the Scarman report. The Panel is clear that the riots in August 2011 were very different disturbances to those in 1981. However, it is a sad fact that in some respects, the underlying challenges are strikingly similar".

Volcanic Ash Cloud (2010)

An Outlier

When a relatively small volcano, Eyjafjallajokull (let's call it 'E'), erupted in Iceland in April 2010, it ejected material as high as 20,000 feet. This event demonstrated the inherent uncertainties of volcano science. Although volcanoes are far more predictable than earthquakes, each volcano is unique, with each one having its own personality, and, as such, predicting the timing and scope of their eruptions is notoriously tricky.

Volcano scientists are empiricists, who rely primarily on past performance to predict future activity. However, when

it came to it, their methods, which included measuring the regularity with which E had previously erupted proved futile. Whereas the Iceland volcano produced only a small eruption at first, it seems now that the cause of the second, more serious eruption was that a vent, previously unknown to the scientists had opened beneath a glacier on the volcano and the resulting 'soda pop' effect proved devastating. This phenomenon had previously not been observed.

Extreme impact

The eruption of E had a significant impact on the civil aviation industry, causing thousands of flights to be cancelled and the economic destruction that limited transport entails. The eruption also had an impact on the RAF, which had to temporarily suspend flight training after ash deposits were found in jet engines. Indeed, the gridlock produced by the cancellation of air travel was deemed sufficiently serious by the previous Government to require a meeting of COBR to be convened to discuss remedial measures.

Explainable after the fact

With hindsight, the scientific community felt that the impact of the eruption on airspace could have been predicted and better prepared for. Following the event, the UN, through the International Strategy for Disaster Reduction (UNISDR), urged European Governments to integrate volcano risk as part of their air travel policies and legislation. It is interesting that now UNISDR is now working on greater coordination and interaction between decision makers and the scientific community to achieve meaningful results in this field.

Fukushima power plant disaster, Japan (2011)

An Outlier

When the Tsunami hit in March 2011, among several devastating effects, was the damage caused to a nuclear reactor in northern Japan. Being an area prone to earthquakes, the Tokyo Electric Power Co., owner and operator of the Fukushima Dai-Ichi plant, had erected sea barriers at the site to protect the nuclear reactors. The waves produced by that particular earthquake were so large that the sea barriers proved 8 metres too short to stop the resulting tsunami.

Extreme impact

The damage caused to the reactor in Japan resulted in the worst nuclear disaster since Chernobyl, 25 years previously. The Japan Center for Economic Research, a private think tank, has estimated the remediation costs to be in the region of $250 billion over the next 10 years. Of course, this does not take into the loss of life and injury that will ensue following the exposure of local inhabitants to massive amounts of radiation.

Explainable after the fact

Since Japan's Fukushima disaster, Électricité de France (EDF), has allocated about £200million to protect UK reactors from Black Swan events, such as a giant wave created by a collapse of an island as far away as North Africa. This is emblematic of a number of reactive measures taken by nations, including the United Kingdom, to protect themselves, post 2011 Tsunami from the human and economic cost of poor preparation.

III The Current UK Government Approach

The UK Government's civil and national security risk is currently managed by the following organs of government:

(i) In the case of managing domestic emergencies, The Civil Contingencies Secretariat ('CCS'), established in 2004 under the Civil Contingencies Act (its executive committee, the Civil Contingencies Committee ('CCC');

(ii) In the case of protecting the country's national security and other interests, the National Security Council ('NSC'), established in 2010; and

(iii) To manage emergencies, both domestic and international, 'COBR (A)', or 'Cabinet Office Briefing Room (A)', which provides a forum for the CCC to meet and a focal point for the Government's response.

For a full description of these bodies, please take a look at our recent paper, Intelligence Design: UK National Security in a Changing World. We provide below, however, a brief summary of the roles of these bodies, with particular regard to their risk management capabilities.

Domestic Emergencies

In recent years, the UK Government has made a good start on firming up its risk management architecture. The Government was one of the first governments in the world to create a national risk register ('NRR') for domestic civil emergencies under the CCS. The NRR documents civil emergency risks over a 5-year time horizon including malicious risks (e.g., terrorism) and non-malicious risks (i.e., naturally occurring events and accidents). The National Risk Assessment ('NRA') for civil contingencies is assessed annually to ensure it reflects the latest evidence and draws upon the best available evidence and advice from subject-matter experts.

Black Swans Mean Business (Part 1)

The CCS Preparedness and Response Team systematically and routinely scans the short-range horizon (generally up to six months ahead) for potential or emerging civil domestic risks within this timeframe. CCS has links to departments, their agencies and other public bodies which are responsible for monitoring and managing civil emergency-related information. These channels have ensured that CCS receives timely notification of impending events, such events to include wide-area flooding, suspected animal disease outbreaks such as Foot and Mouth Disease, and human health threats such as the swine flu pandemic.

International Emergencies

The NSC has adopted the methodology used in the development of the National Risk Register. The methodology used involves thinking around the impact of an event (based on economic consequences, casualties and social or structural factors) and the likelihood of such an event occurring over a determined timeframe.

The National Security Risk Assessment ('NSRA') is reviewed every two years and uses similar concepts to the NRA process described above. It involves making judgements about the relative impact of each risk, alongside an estimation of the likelihood of each risk. The NSRA process assesses all major disruptive risks to the UK's national interest, which are of sufficient scale or impact so as to require action from the Government.

Using 5 to 20 year horizon scanning, the NSRA identifies and analyses a full range of real and potential risks, giving the greatest weight to those with the ability to cause immediate and direct harm to the UK's territories. In general, a risk assessed as high-likelihood and high-impact would also be considered as a high priority for action. Similarly, those risks judged to be low-impact and low-likelihood would be considered lower priorities.

The management of domestic risks is overseen by the Joint Committee of National Security Strategy ('JCNSS'), which is made up of 22 members (12 from the Commons and 10 from the Lords). This provides a forum to challenge conventional wisdom and to hold the organs of Government to account.

COBR(A)

The primary function of COBR is to coordinate the national response to both domestic and international emergencies. In addition, the Cabinet Office engages proactively with central and local Government and other partners in preparing for such events by developing and testing response plans. The COBR mechanism is triggered by emergencies which require sustained central Government coordination and support from a number of Departments and where appropriate, the devolved administrations.

Recent Performance

Complex interdependencies in modern societies make it more likely that emergencies will require a large degree of co-ordination across Government.

"... there are also unknown unknowns – the ones we don't know we don't know. And if one looks throughout the history of our country and other free countries, it is [in this] category that tend to be the difficult ones."

(Donald Rumsfeld, 2002)

The Government has made a reasonable start on this. A good example of developments to civil contingencies planning is the

extensive contingency measures drawn up by the Government to prepare for extreme flooding in England: 'Project Excessive Watermark'. This was undertaken following the Pitt review of the 2007 summer floods, a Black Swan event. The tests concluded that England and Wales has the capability to respond to severe, widespread flood emergencies.

On the other hand, the Government has not always been so proactive. Looking at the fuel protests of 2000 and 2012, the Government was completely underprepared for the former, and by the time the latter came along, only reactive measures had been taken by the Government, such as calling in the military, should the drivers of petrol tankers decide to stage a national strike. Ultimately the military was not required, and these preparations were time and resource consuming for COBR(A) and for Government Departments.

The lack of strategic focus resulted from a failure to be proactive and more robust architecture is needed to mitigate the effects of such occurrences. There is much to do, and the world of Business and, in

particular, the experiences of the financial sector, offers some useful ideas, which could lead to meaningful progress in this area.

IV Business Approaches

Recent Black Swan events such as the Financial Crisis, the BP oil spill in the Gulf of Mexico and the above-mentioned Tsunami in Japan have prompted businesses to plan for extreme events and look again at their risk architecture.
Complex businesses have often developed their own enterprise risk management frameworks to capture these emerging unknown risks. These frameworks employ forward-looking governance structures and quantitative techniques to assist in the decision-making process.

These organisations generally have good risk management practices for specific risks at 'business unit' level, but also have the ability to aggregate these risks across the entire organisation, sometimes applying correlation factors between risks.

There are formal and informal processes for escalating risks through the hierarchy of a business but they generally follow a "three lines of defence" approach, as described below:

- The 1st level of defence is the person who identifies the risk (whoever identifies the risk, is responsible for managing the risk);
- The 2nd level of defence is a separate risk management department, headed by a senior risk officer; and
- The 3rd level of defence is the Board of Directors (or appropriate governing body), supported by an independent audit function.

A risk crystallises if all three levels are breached.

The success of the three level defence system depends upon good management information systems, change management control procedures, strategic planning processes, and financial reporting conventions. In addition to this, most business organisations have an annual risk assessment review and material and emerging risks are subjected to extensive stress testing. Should a risk not be accounted for, a remediation plan will then be implemented to reduce the risk to the organisation.

The day-to-day analysis of risk varies in its nature across industries and jurisdictions. Some industries use probabilistic approaches such as planning for 1 in 200 year single or multiple events, while the others take a more qualitative approach. Some take a combination of both. The objective is to have the appropriate governance structure to identify these events, so that contingency plans can be initiated, if necessary, to mitigate the risk.

Most business organisations are aware of the dangers of 'group think' and they will actively seek expertise from outside the industry to formulate, or at least inform, their risk strategy. To promote this enterprise-wide risk management, most Boards are also aware of the importance of risk culture and the role it plays in identifying and escalating risks promptly through the chain of command.

These organisations generally have an experienced Chief Risk Officer who reports to a Board-level Risk Committee. The Risk Committee is generally made up of executive and non-executive directors, with an independent director as its Chairman. The external members, who come from various business disciplines, provide both independent external oversight and bring their own experience and expertise to bear.

Part 2: White Swans, March 2013

The author, Atula Abeysekera, invites feedback and comments and can be contacted via JK@riskrewardlimited.com

How Canadian Banks have managed the Economic Crisis so well

Mark Dougherty is an international Senior Corporate Governance and Risk Management professional and CMA - Certified Management Accountant (Canada). For over 25 years, he has had a successful track record in implementing regulatory initiatives to establish industry-leading standards in Basel II, preparation for Solvency II, Sarbanes-Oxley (SOX) in Banking and Insurance in Risk Management. Since 2007, Mark has worked in the UK/Europe as an independent consultant for Virgin Money, Aviva Insurance, Chartis/AIG Insurance, RSA Insurance and Legal & General Insurance.

Yan Fishman is a senior Business Analysis and Software Development Professional specializing in the computer assisted solutions for the financial institutions. He has had a leading position in the development of a mortgage control system for a major Savings and Loan Corporation, as well as designing, developing and implementing computer based Credit risk models for the variety of the major bank business lines. Mr. Fishman is an I.S.P (The Information Systems Professional of Canada) and ITCP/ IP3P (Information Technology Certified Professional aligned with the International Professional Practice Partnership).

In this article, the authors explains how and why the banks in Canada faired extremely well during the financial and liquidity crisis of 2007-2008-2009 and lessons to be learned from same.

Introduction

Canadian banks faired extremely well during the financial and liquidity crisis of 2007-2008-2009. In fact, no Canadian banks went bankrupt, incurred catastrophic losses, or asked the Government for taxpayer-financed assistance. On the whole, Canadian banks remained stable and well-capitalized. They even made a decent profit, all things considered.

All of this was in stark contrast to the experience of banks in the United States and Europe. In fiscal 2008, Citygroup (which includes Citibank and related entities), wrote-off more than USD 39 billion in subprime loan losses. Similarly, UBS lost USD 30 billion and Wachovia lost USD 24 billion, respectively, before being absorbed by Wells Fargo. Since 2008, the World Economic Forum has ranked the Canadian banking system as the healthiest in the world. The U.S. banking system is ranked 40th, and the UK 44th. This resulted in Canadian banks moving up in the ratings table of the biggest banks in the world. For example, The Toronto Dominion Bank is now the 5th largest in North America, while in 2008 it occupied only 15th place. The truth is that TD Bank has not really grown in size; the other banks have, in fact, shrunk. So, what did the Canadian banking system do right? How did they manage to do this? Which economic, cultural and political factors helped Canadian banks to stay afloat in this perfect (economic) storm? Could the Canadian banking system be a model for the rest of the world? Is it crisis-proof?

The Canadian Banking Environment

To understand the resilience of Canadian banking institutions in the 2007-2008-2009 crisis it is very important to familiarize yourself with the structure of Canadian banking.

How Canadian Banks have managed the Economic Crisis so well

Canadian banking is highly centralized. The founders of the earliest Canadian banks were Scots who established in Canada a prudent Scottish-type banking system, which was the successful eighteenth century system they themselves were accustomed to. In fact, the Canadian banking system precedes the formation of the Canadian nation. When the Dominion of Canada was created in 1867 the Scottish banking system was based on a few large banks which had a significant number of geographically spread branches already in place. In 1874 Canada had 51 banks. By 1928, through mergers, acquisitions and few failures, the number of banks was reduced to 10. But even before the 1920s the five largest banks owned 80% of all assets. Today, five major banks control 96% of all national deposits and their portion of all Canadian banking assets exceeds 90%.

Since 1867 (the year Canada became a nation), the federal government of Canada has had exclusive authority over banking. The federal government favours big national banks: the Canadian Bank Act has protected Canadian banks from foreign takeovers since the 1960's. (The federal government prevents further concentration of banking power by not allowing mergers of the existing institutions. This law prevents the accumulation of a large number of banking shares in small number of hands. Banks with assets over CAD 8 billion (the value of the Canadian Dollar (CAD) is within approximately 5% of the USD) must be widely held, and no single party can own more than 10% of a bank's shares. The government supervision of banking activity is performed by The Office of the Superintendent of Financial Institutions (OSFI). Historically, Canadian banks are very cautious, conservative institutions - until recently, the bank branch managers were discouraged from owning their own homes; instead the bank would issue them a free apartment in the bank building. This allowed the banks to move their staff to different locations wherever they were required and to help build seasoned teams of banking professionals.

Historically, bank failures are extremely rare in Canada. Even during the Great Depression of the 1930's not a single Canadian bank failed. The federal government issues banking licenses according to strict rules established by the Canadian Bank Act which, by law, is reviewed by Parliament every 5 years to bring the Act in line with current economic and financial conditions. All bank licenses are also reviewed and renewed for the same period. Historically, the Canadian federal government opted for a de-facto banking cartel of a few big, well-capitalized banks, a position which was well supported politically by federal and provincial politicians. The Canadian public does not bear populist hostility towards large banks and generally supports the existing banking system politically, and although limited competition between banks increased the cost of financing for Canadian businesses, it also established a stable financial environment. Canadian banks managed to stay solvent through various monetary crises of 1893, 1907, 1930 and 2008.

The Canadian Banking System vs. the U.S. Banking System

It very important to compare at this stage the Canadian banking system and the banking system of Canada's southern neighbour and biggest trading partner: the United States of America. The economies of both countries have been highly integrated for decades, much more so then the economies of the E.U. countries, but the U.S. and Canada use their own currency and have very different banking systems.

In the U.S. there is a deep-seated populist distrust of big banks. The mistrust of a farmer towards the reach of bankers is in the American political blood and popular culture. Over the centuries there were numerous attempts to bring the American banking system under federal control and make the American system closer to the Canadian model - however, all attempts failed for political reasons. Most states eagerly protected their rights to regulate banking in their own territory, as the American political system makes the congressmen and senators servants of their electorate, not their political party. Thus, it is very difficult for an elected American politician to ignore the wishes of his constituents and vote for federal issues that could harm the economic position of people in his home base.

Historically the American states chartered their banks; they also prohibited banks and bank branches from other states from being opened in their territory. Some states even enacted legislation preventing banks from opening any branches (over the "home/head office"), even within the state. This created the system populated by small and very small (in some cases single branch) banks. Small as they were, they nevertheless exercised big influence locally, preventing federal politicians from voting for federal banking control. The presence of a large number of banks created competition amongst them and created the culture of risk-taking, and being locally based made American banks more attuned to the financial requirements of their communities. These local banks were always ready to advance credits to more risky customers than Canadian banks, which did help many small start up business ventures States-side. On the other hand, small American banks could not support big industrial projects, thus industries had to look for financing on the equity market. As a consequence of this, traditionally, the U.S. has much more developed equity markets than Canada.

State regulators in the U.S. try not to antagonize local banks with heavy regulations; they know that bank can always move to another state where regulations are lighter. The regulatory and political environment of the U.S. allowed

creation of much greater variety of financial institutions: investment banks, hedge funds, mutual investment funds of different types, etc. All those institutions collectively are known in the U.S. as the "shadow" banking system. The "shadow" banking system came to control a substantial amount of assets. In addition, different types of institutions are under regulatory control of a variety of federal and state regulators. Therefore, the innovative character of institutions in the US sometimes overtakes the ability of regulators to control them. By comparing the Canadian and U.S. banking systems, it is clear that the perfect banking system has to strike the right balance between the ability to take risk to stimulate economic growth and financial stability to prevent catastrophic losses. The American system errs on a side of risk, the Canadian on a side of stability - there are pros and cons to both.

The Canadian Banks in the Crisis of 2007-2008-2009

It is important to understand that Canadian banks, despite their solid grounding, did incur substantial losses during the crisis. The crisis put pressure on the banks in terms of liquidity, funding for financial institutions as well as capital adequacy. Furthermore, Canadian banks incurred losses due to the exposure to U.S. (and some Canadian) real estate; for example, they had several billion dollar write-downs at several large lenders. Canadian banks were affected by the lack of liquidity in global markets, and many businesses in Canada were unable to access the capital markets. However, regardless of a huge reliance in Canada on the U.S. for trade and investment, there were no bailouts or rescue plans and no risk of systemic collapse.

There are many opinions about the factors that influenced the resistance of the Canadian banking system to the worst parts of the crisis. Below is a listing of the major factors that most economists consider important.

The Structure of the Banking System, Banking Regulations and Banking Culture

- The Canadian banking system is an oligopoly. Five universal banks (plus a couple of others) dominate the market and entry into the banking business is prohibitively expensive for any newcomers. The banks are federally controlled and the laws governing the banking business are much tougher on their activities than in the U.S. in most respects. The OSFI demands higher capital requirements, lower leverage and less securitisation as well as restricts the type of assets banks can purchase. Over the years, Canadian commercial banks built up and/or purchased mortgage lending portfolios and now have majority ownership of this key line of business. Since 1987, when universal banking was allowed to operate in Canada, the major commercial (deposit taking institutions) banks purchased the investment banks providing for some stability in the capital markets businesses.

- **Toxic Assets, the Securitisation of Mortgages and Innovative Financial Instruments**
  Unlike the U.S., Canada never had a significant sub-prime mortgages market. Requirements for mortgage are strict, generally requiring a permanent job and good credit history. In fact, rates of mortgage defaults in Canada are much lower than in the U.S. Also, Canadian mortgage interest is not tax deductible as in the U.S. The majority of all mortgages In Canada have interest rate fixed for only 5 years and amortization period of 25 years. U.S. mortgages are normally amortized over 30 years with the fixed interest rate over the same period. When inflation rose, American mortgage lenders were forced into the securitisation of their mortgages. In 2007, 60% of American mortgages were securitised, while in Canada it was only 25%. The Canadian mortgage-based securities had been based on mortgages of much higher quality and were therefore less risky. The last three decades witnessed the emergence of new financial instruments: collateralized debt obligations (CDO), interest rate swaps, credit default swaps, derivatives and mathematically-complicated securitisation techniques. The complexities of these instruments hide from the users their extremely risky nature, stemming from the possibility of the rapid loss of value in adverse economic conditions - many financial institutions in the U.S. and in Europe accumulated a substantial amount of the mortgage-backed securities and the innovative financial instruments. In contrast, the Canadian banks had the tightest regulatory capital standards in the years before the financial crisis. The Canadian bankers viewed new financial instruments with suspicion and caution. In Canadian banks, the innovative financial instruments cannot exceed 15% of capital, while no less than 75% must be invested in common equity. Banking regulations in Canada also impose capital requirements that are exceeding the Basel II requirements: tier 1 assets amounting to 7% versus 4% in Basel II, and total capital amounting to 10% versus 8% at Basel II.

- **Bank Funding: Wholesale vs. Retail Funding**
  The funding structure of Canadian banks is based on depository funding, which was more resilient during the crisis than wholesale funding. The majority of "shadow"

OTC Clearing Evaluation of the EMIR and Dodd-Frank Regulations and their Impact on IT

Michel Dorval is a global market specialist at Misys. In this first article concerning OTC Clearing, he goes more in detail about the differences between bilateral and central clearing, the different stakeholders and associated workflow.

The financial crisis of 2008 occurred in part due to the lack of transparency in the trading and processing of OTC derivatives. It highlighted a number of weaknesses within the over-the-counter (OTC) derivative markets; most notably shortcomings in the management of counterparty credit risk.

In the ensuing G-20 summit, world leaders reacted with an agreement that all standard OTC derivative contracts should be traded on exchanges or electronic trading platforms, where appropriate, and cleared through central clearing counterparties (CCPs).

Before delving into the details of the new proposals for OTC Clearing, this white paper introduces the different stakeholders involved (the affirmation platform and trade repository, for example) and the workflow required, before comparing CCP with the more commonly used bilateral clearing.

Bilateral clearing, which occurs where the trade is negotiated directly between the buyer and the seller, will be replaced by a CCP that benefits both parties in the transaction. This CCP will intervene between the two counterparties to manage the risk that could arise if one counterparty is unable to make a payment when it is due.

While the purpose of implementing OTC clearing is to reduce systemic risk, various misguided clearing regulations can also potentially have the opposite effect by creating a single point of failure and a concentration of risk.

Currently, implementations of the new regulation are moving slowly, with progress at various stages in different countries.

This article gives a general overview of the OTC rules by comparing the European rules (EMIR) with the US regulatory changes (Dodd-Frank Act) on the basis of scope, time-line, exception and reporting requirements.

It excludes the Asian regulators because they have been slower to rule on implementing OTC Clearing.

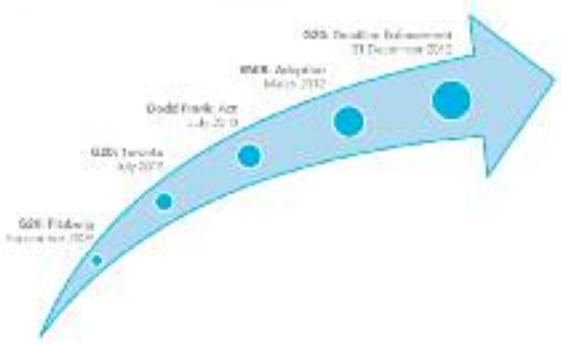
The final part of this article looks in more detail at the analysis that must be done by the different players (banks, clearing members, trade repositories and so on) when choosing a business system to meet their requirements. Connectivity, a flexible calculation engine, configurable rule-based workflows and specialized reporting are crucial prerequisites for compliance with the OTC clearing framework.

From Bilateral to Central Clearing

The credit crunch in 2008 revealed the impact that OTC derivatives could have on global financial stability: ineffective counterparty risk management; a lack of transparency; and the systemic risk incurred when one counterparty default cascaded into defaults for other parties, so transforming the US Sub-prime problems into a global financial crisis.

In September 2009, at the G-20 Pittsburgh Summit, the leaders of the world's 19 biggest economies reacted by agreeing that "all standard OTC derivative contracts should be traded on exchanges or electronic trading platforms, where appropriate, and cleared through central counterparties by end- 2012 at the latest." This agreement has been filtered into the Dodd-Frank Act in the US (July 2010) and the European Market Infrastructure Regulation (EMIR), which was accepted at the end of March 2012. The following chart (figure 1) sets out the time-line.

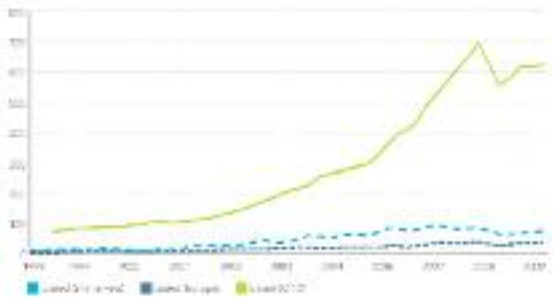
Figure 1: OTC reform timeline



Before we go into more detail about these two legislative milestones, we should provide some information on derivatives and the way they are cleared. OTC derivative contracts are not traded on an exchange such as the CME, but are instead privately negotiated between two counterparties (for example a bank and a manufacturer).

OTC derivatives account for almost 95% of the derivatives markets, as shown in the following chart (figure 2).

Figure 2: OTC derivatives volumes



Source: Bank for International Settlements (BIS)

The OTC derivatives market comprises a wide variety of product types across several asset classes (interest rates, credit, equity, foreign exchange and commodities) with widely differing characteristics and levels of standardization. OTC derivatives are used in a variety of ways, including hedging, investing and for speculative purposes.

The derivatives contract between two counterparties is a contractual relationship which may last from a few days to several decades, and may involve counterparty credit risk as each builds up claims against the other.

The counterparty risk can be managed over time through clearing. This may be performed bilaterally, in which case it is usually governed by an ISDA master agreement, or via central clearing where a Central Clearing Counterparty (CCP) stands between the two sides. This will be described in more detail in the next paragraph.

Bilateral Clearing

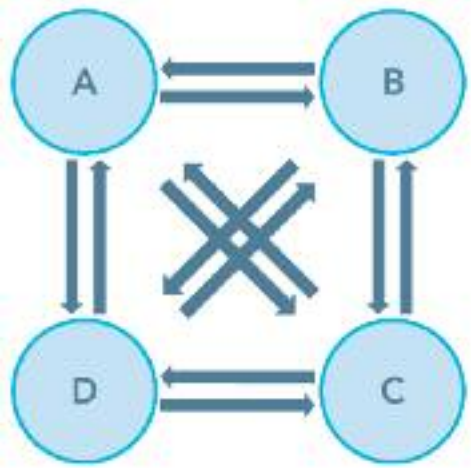
Bilateral clearing is commonly used for OTC derivatives; it involves collateral being used as insurance against excessive credit exposure. As shown in the diagram below, this means that the trade is negotiated privately between the dealer and the client (e.g. A and B), with all life-cycle event-processing the responsibility of these two parties.

This clearly results in a web of counterparty exposures between the different participants (A, B, C and D) with complex collateral movements and the risk of a potential domino effect if one dealer (e.g. C) defaults.

Collateral is managed through use of an ISDA Credit Support Annex (CSA) which has been mutually agreed. The majority of bilateral collateral agreements only provide for the exchange of variation margin, not an initial margin that covers the potential cost of replacing the contract in case of default by the original counterparty.

OTC derivatives still require a considerable amount of manual intervention during the process, from initial agreement through to confirmation of the transaction. This leads to high levels of operational risk. The lack of transparency with bilateral clearing also brings risk; OTC derivatives are privately negotiated so information concerning the contract is usually only available to the contracting parties.

Figure 3: Bilateral clearing

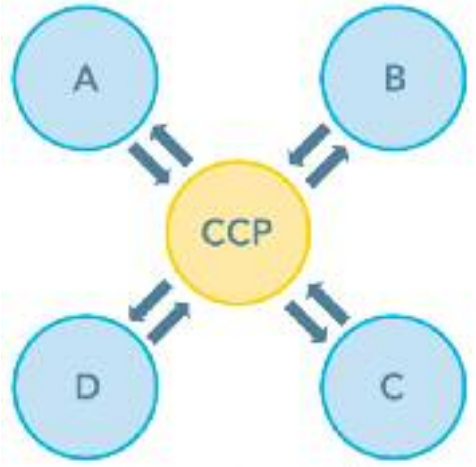


Central Clearing

To mitigate the disadvantages of bilateral clearing described above, the concept of the central counterparty has emerged to facilitate the clearing of OTC derivative trades, where the trade is negotiated between dealer and client, then handed over to the CCP for clearing.

As shown in the diagram (figure 4), a CCP is an entity that sits between two counterparties to a transaction (A and B, for example), becoming the buyer to every seller and the seller to every buyer. A CCP's main purpose is to manage the risk that could arise if one counterparty is unable to make the required payments when they are due; in other words, they default on the deal.

Figure 4: Central clearing model



To overcome the weaknesses of bilateral clearing the following three pillars have been proposed by the regulator:

- **Straight-through processing (STP):** use of electronic means to ensure the timely confirmation of the OTC derivative terms
- **Clearing via CCPs to mitigate counterparty risk:** stringent rules for CCPs, mandatory CCP clearing for standardized contracts and risk mitigation standards for 'not cleared' contracts, like collateral
- **Execution and reporting to the trade repository to increase transparency:** detailed information on OTC derivative contracts, accessible to supervisory authorities. These trade repositories publish aggregate positions by class of derivatives to all market participants.

These components will be examined in greater detail in the following chapters.

"Standardised " OTC Derivatives

Stakeholders

In the case of standardized OTC derivatives, various stakeholders have a role to play:

- Central Counterparty (CCP)
- Affirmation Platform (AP)
- Trade Repository (TR)
- Clearing Members (CM)
- Swap Execution Facility (SEF)

Central Counterparty (CCP)

As stated earlier, the CCP is involved in every trade between two participants that is being 'intermediated' by the clearing house; in effect the clearing house becomes the counterparty for both the original trade participants.

There are currently about a dozen CCPs, clearing OTC derivatives based on interest rates, credit, equity and commodities. The CCP can be owned by participants or monitored by the regulator, and may differ on factors like margin requirements, infrastructure or the type of products cleared. In the US , major players like CME Clearing and Clearinghouse have emerged; while important European CCPs include LCH. Clearnet and Eurex clearing.

Affirmation Platform (AP)

An Affirmation Platform in the OTC clearing model provides post-trade execution functionality such as trade matching, affirmation, confirmation and trade reconciliation. In addition, these platforms enable trades to be sent to other stakeholders such as CMs, the CCP and to Trade Repositories, as necessary.

MarkitServ is a company that supports all major OTC derivatives products and trade life-cycle events, although there are also niche players like Icelink that focus on a specific asset class – CDS , in Icelink's case.

Trade Repository (TR)

As the financial crisis highlighted the problems caused by insufficient transparency in the trading and processing of OTC derivatives, regulators initiated the trade repository, with a two-fold objective:

- Enhance market transparency for regulators and the investing public;
- Reduce systemic risk by ensuring regulators can see a firm's underlying position and exposure from a central vantage point.

The role of a trade repository is to provide a centralized, record-keeping facility to collect OTC derivatives' transactional data. Both cleared and non-cleared trades must be reported to the TR no later than the working day following the execution, clearing or modification of contracts. TriOptima is an example of a TR.

Clearing Members (CM)
CCPs have strict membership rules, which include setting initial capital requirements to become part of a clearing house. As not all clients can be members of a CCP, CMs act as an intermediary between buyers and the CCP for all post-trade functions, including daily margin management.

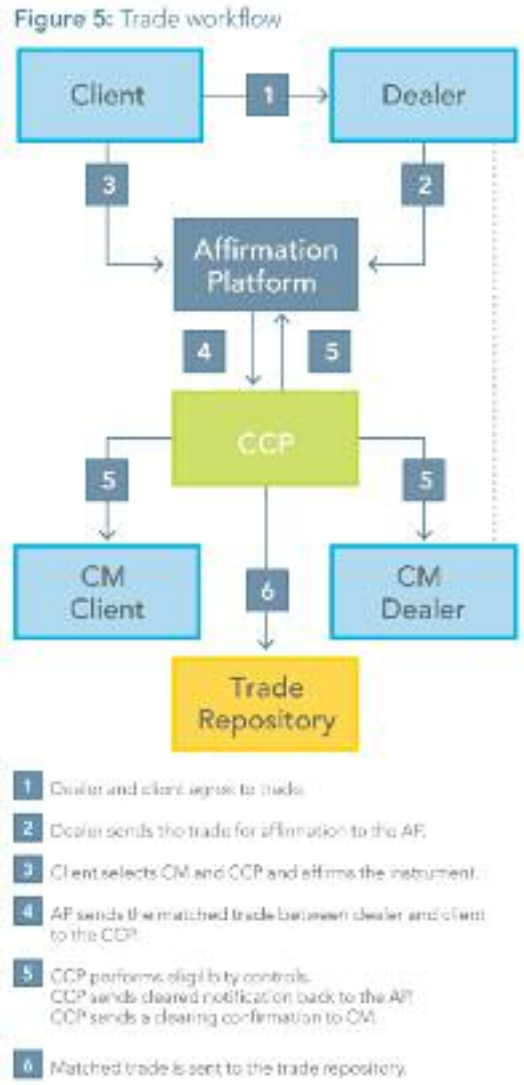
Most of the largest swap dealers in the market today are clearing members of the major swap clearing houses mentioned in the CCP section above. Goldman Sachs, JP Morgan and Deutsche Bank are examples of CMs.

Trading venue
In accordance with the regulations, all standardized instruments must be traded electronically. In Europe a trading venue can be a regulated market (the London Stock Exchange, for example); a multilateral trading facility (MTF), such as BATS/Chi-X); or an organized trading facility (OTF) – a new kind of trading venue that was introduced in MiFID II).

In the US , the swap execution facility (SEF) provides the required platform for buyers and dealers to trade OTC cleared swaps electronically. At present there are no approved SEF s in the OTC space; however US regulators are reviewing proposals from various SEF candidates, while finalizing the standards and rules of acceptance to be used in the OTC Clearing model.

Workflow
The following diagram displays (figure 5) the trade workflow mechanics operating between client, dealer, affirmation platform, CCP, clearing members and trade repository.

Figure 5: Trade workflow



What about "non-standardized" OTC derivatives?
Non-standardized OTC derivatives will also have to be reported to trade repositories. They will additionally be subject to sound risk management procedures and frameworks to measure, monitor and mitigate operational risk and counterparty credit risk.

This means that participants need to guarantee portfolio reconciliation and the daily mark-to-market (MtM) value of outstanding contracts, daily valuations of margins and have the appropriate level of capital to cover any risk not covered by the exchange of collateral, to be able to absorb any unexpected losses.

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International Financial Supervisory Convergence: How much should there be?

Global Risk Update Editor in-Chief Dennis Cox in this article features a discussion on cross-border financial supervision and its impact on the financial market. The article concentrates on an assessment of the changing regulatory scene, the way in which it should be developing and how it is, in fact, moving forward.

The demand for international compliance and cross border supervision has been a long and complex debate driven mostly by responses to short term problems which in themselves develop into longer term difficulties. As we have developed through Basel 1 to Basel 3 or Solvency 1 to Solvency 2 one is left with the concerns as to what this all really means and is it good for society as a whole.

The key concern currently is to ensure that tax payers no longer pick up a liability for a failure of an institution. This essentially spells the end of the lender of last resort principle; which has underpinned the development of modern finance. The lender of last resort being the central bank of the country was able to provide finance to meet the demands of local difficulties. Essentially it provided a guarantee for the banks within country that enabled funding to be provided locally at a cost the borrower could afford. All of this has come to an end. The mantra of the central banker now appears to be that no bank liability should fall on the central bank and therefore to taxpayers. To achieve this we require increased capital standards and also higher levels of regulation leading to intervention.

The Role of Basel 2 and 3

The Basel 2 Accord sought to make the capital calculation underpinning bank regulation more risk sensitive. It did not seek to increase the level of capital in the system since it essentially left the capital ratios unchanged. Instead it tried to align the risk capital calculation with the management's internal modelling approach. Of course there is little academic support for the original metric of 8% of risk weighted assets, so the revision essentially found a better way to calculate a number which really had limited intrinsic basis.

Basel 2 was of course not fully implemented when the next crisis hit, so we are unable to really assess whether it would have been effective in preventing such a crisis. What it did attempt to do was set a series of minimum standards for the

management of internationally active banks through the implementation of a series of "sound practice" papers; although these with regret are inconsistent in both depth and form.

Basel 2.5 sought to deal with an error in Basel 2 in terms of the way that market risk was calculated by including a new capital calculation which applied to a tail of an uncertain distribution. The illogicality of adding a tail distribution calculation to what is an inappropriate original capital calculation, providing a mathematically invalid yet globally used calculation, did not appear to provide anyone with any level of concern.

Basel 3 compounds these issues with a requirement for the banks that have survived the crisis to increase both the level and the quality of capital that they maintain. This might best be described as bayoneting the survivors since the banks that failed clearly will not need additional capital! This paper seeks to consider whether this does make sense and the drives to international regulation.

The Move to International Regulation

The basic principle adopted is that all banks need to be regulated identically to prevent regulatory arbitrage. The regulators who are set with drafting international rules at the Bank for International Settlements have taken this as an obvious truth. However the question is whether this is actually true and if so is it true throughout the industry?

We do have international banks that are often larger than the economies where they have their primary listing. This then potentially places on the home regulator a level of risk which is greater than that which might be considered as acceptable for the taxpayers of the individual country. What is therefore needed is a system which provides necessary protections to the local taxpayer of the home country whilst at the same time preventing contagion risks for systemic institutions. That this needs to be achieved without causing the local and international economies to fall into unnecessary recession is clearly one of the conundrums facing the international regulator?

While we do have regulatory colleges, there is always a lead regulator and this is generally the home regulator of the institution.

So the first real question to answer is to what extent will banking move to another jurisdiction to take advantage of so-called regulatory arbitrage, moving to the area where there is the lowest level of capital and regulation? I would argue that this has been overstated and that only limited areas of banking can move in such a way.

The Ability to Relocate Banking Activity

If you consider the activity of a local institution which does not have international presence then its ability to transfer assets or liabilities overseas is clearly limited. It takes deposits and accesses funding locally to support the activity it undertakes within its local area of influence. Such activity essentially local-to-local is unlikely to migrate to another jurisdiction. Local depositors would be concerned were their local funds to be routed out of the country to an area that they do not understand. They invest in the local institution specifically because it is both local and supporting local development. Such institutions do not require any form of international regulation and therefore the application of new and onerous rules which identify risks of limited relevance to such institutions resulting in enhanced capital levels will only serve to impact their ability to provide support to their local communities.

For the international bank where they are taking deposits from one jurisdiction, the question is to what extent is this used to fund business in another jurisdiction. From my experience this again is far more limited than you might be given to expect. Most institutions task the management of the individual unit to obtain their own funding to support their own activity. The international treasury banking centre provides additional access to the international funding markets, but generally does not recycle locally obtained retain deposits. This would suggest that there is limited evidence to support an assertion that either loans or deposits would be booked differently to take advantage of any form of regulatory arbitrage.

Of course it is made even worse by the Basel rules themselves in that whilst it is deposit taking that makes a bank a bank, it is loans, operations and trading book risk which leads to the capital calculation with credit risk dominating this calculation. Since for most banks 85% of their capital calculation under Pillar 1 is essentially based upon credit risk, that this is unlikely to move starts to make one consider the impact of these rules on the real economy.

So What Can Move?

The business that can easily relocate to another jurisdiction related to the treasury, trading and derivative activities of a bank. These, whether over the counter (OTC) based upon the International Swap Dealers Association (ISDA) master agreement of exchange traded (ETD) based upon a specific exchange, can be booked in any jurisdiction. If you consider the OTC market where transactions are currently negotiated between two discrete parties, they can be based in any jurisdiction. The transaction could be negotiated in the UK between a

Japanese and a US bank. They could choose their subsidiaries to book the transaction based on the capital impact of the individual transaction and its impact on their capital calculation. Of course this will be just one of a series of issues that will need to be considered which include the availability of credit lines, collateral requirements and the risks associated with the individual firm.

But such transactions can be booked wherever the firm considers appropriate. Is it then right that these jurisdictions should have differing capital regimes? If one in jurisdiction the central bank still operates as a lender of last resort and provides support to the local banking community then the level of capital that a bank requires in such a community is reduced. There is nothing to be achieved by forcing such firms to hold a level of capital that is inappropriate given the level of risk that they place upon the global community. Just as we have discussed for the local deposit taking and lending institution so this is also the case for the international bank when the capital distortion is due to real business reasons relating to the structure of the local market.

However if the transactions are purely being transferred to take advantage of benign regulation where this is not based upon a true assessment of the intrinsic risk that the firm poses to the local or international community then this could be a cause for concern.

The Other Roles of International Regulation

As I have suggested international capital regulatory arbitrage is in my opinion massively overstated. There is clearly a requirement for international cooperation in terms of banking regulation if the assessment of the single unit impacts a specific regulator's judgement on another unit or the institution as a whole. However again let us investigate this assertion more clearly. If there is a fraud in a single unit of an international bank will this impact the regulatory judgement of a regulator of another business unit? This is unlikely to be the case if the fraud related to the actions of either an individual or a collection of individuals acting together. Such a case would be considered as isolated and so long as the capital requirements of the individual unit are still being achieved will have limited impact on the regulatory assessment.

However if there is a case where the central control units are implicated in the inappropriate conduct then this is likely to influence the regulatory judgement of both the local and home regulators. Of course most cases that have been found to date are essentially local problems rather than global problems for the firm. The failures of the local unit if they become critical to the capital requirement to the whole business clearly do still matter, but this is still a relatively small subset of the fraud industry. The cases are so few they are well known. Barings clearly was a fraud that resulted in failure. However none of Lehman Brothers, Northern Rock, Royal Bank of Scotland and Bear Stearns were fraud related failures. Other fraud failures such as Credit Suisse or Allfirst did not result in the failure of their institutions. So it is a subset of fraud related cases which result in failure and in most cases neither depositors nor tax payers were seriously impacted.

Strategic risk does lead to capital failure and that is a common message from the listed cases. Of course strategic risk is not a Basel based Pillar 1 capital charge although it is included within what is terms the Pillar 2 charge and is referred to within the ICAAP documentation provided to the regulators to enable them to consider all the risks in a firm. Strategy can be the failure of the business model of a bank and the term "early intervention" is now prevalent indicating that regulators will increasingly seek to take action to prevent failure of a firm. Whether the regulators possess the skills necessary to either identify such cases or act appropriately may be open to concern. However I have no doubt that these new powers will be used to the detriment probably of both the banking industry and society.

The Needs of the Local Market

International regulation by its nature sets minimum standards. Even now we see a range of differing regulatory approaches operating in individual jurisdictions to meet specific local requirements. The impact of these can be severe. If you require a bank to hold a level of capital that is actually above that which society requires on a regular basis then this will result in sub-optimal economic performance. There is no free lunch here. The result on increasing capital requirements is to increases the funding costs of facilities. This will essentially reduce funds available for investment and increase unemployment globally. This self evident truth is obvious from any review of the current global economic malaise.

In a country with high unemployment and low growth there is a need to create energy within the local economy. Bank capital is the oil which enables the motor of growth to function effectively. In such times ideally you would want a bank to reduce its capital charge for new lending to encourage activity. However the regulations are essentially perverse in their application. At the times of difficulty the arrears within a banking book will increase requiring additional capital to be put aside. Such capital is required to support existing failing lending and is therefore not available to support growth or drive the economy forward. Essentially the rules as drafted will ensure that a reduction in local activity becomes a fully fledged slump. Given the inability of most firms to transfer to other markets to take advantage of benign regulatory environments the consequence is higher than necessary unemployment and a general absence of hope.

What under such circumstances is actually required is for flexibility to enable a market to have one set of capital rules for new lending and new business whilst protecting the bank from the vagaries of the past. This is the so-called good bank – bad bank conundrum where the central banker takes ownership of bad facilities to enable the bank to focus on good facilities. In such a growth environment maintaining capital at enhanced levels is neither desirable nor in the interest of taxpayers. The increased capital levels increase unemployment and loan arrears perversely increasing the risk to taxpayers.

Accordingly slavishly following international capital rules cannot be in the interests of the global economy.

The Need for Legitimacy and Accountability

Boards of banks are required under corporate governance principles to be responsible for their activities. Such a self evident truth applies to all businesses not only banks and appears in every corporate governance statement. In the banking industry this has been extended within Basel 3 to include subsidiaries of banks. Accordingly all such subsidiaries (and indeed increasingly branches) must have a governing committee that is responsible for managing the risk of the firm and reporting to the relevant local regulator.

This accountability of the senior management deals with the majority of the risks since if each subsidiary is properly capitalised and managed then the group as a whole will also be adequately capitalised and managed. Indeed it will be over capitalised since the advantages of portfolio diversity will have been subsumed under the greater banner of international regulation. So accountability is achieved. Likewise legitimacy is about the nature of the activity conducted and this will be reported to the local regulator through the ICAAP process and reported to the wider world through the Pillar 3 disclosure document.

So do we need International Convergence?

Too many arguments have been put out to suggest that we need such convergence to stop the process yet any analysis will lead to questions including those posed in this article. There is a need for transparency in international organisations to enable depositors, investors and competitors to better appreciate the risks that underpin any firm. The greatest risk to many firms is essentially the risk of a failure of another firm – yet this is a risk that is actually not easy to appreciate. This data is held by the regulators but is neither shared with the banks not the general market, to the detriment of both.

In terms of derivative activity we are moving towards a market where there will be central clearing of many transactions in the interests of transparency. That post trade notification would have achieved the same benefits for a fraction of the wasted costs of the current development is also clear. Yes there is a need for more information to be available and sometimes for regulators to work effectively together. It is clearly also right that we should have a general set of best practice standards to drive the industry so that all banks achieve at least a minimum series of requirements. What is not required is a set of global standards which have the unfortunate consequence of significantly increasing unemployment.

Conclusion

I conclude that the arguments placed in favour of standardisation of international regulation have been overstated. The consequence of this will be higher than necessary unemployment and lower than necessary global activity. The approach of ensuring that each individual unit of a bank is properly managed and capitalised fails to take account of the diversification benefits that clearly exist and again result in charges for finance be unnecessarily increased. Whilst transparency is a good thing it can be achieved more effectively through post trade notification of those risks that are the greatest, with the greatest of all being interbank connectivity. The failure of the regulators to provide the industry with the data which they have calculated internally to monitor this issue is to the detriment of the industry as a whole. So we have misdirected regulation impacting growth whereas properly thought through international regulation could stimulate the global economy a reduce pain and hunger. There are solutions to the problems that we face and these include the following:

1. Banks that are larger than their home market should be regulated at a global level through a global regulatory body. In each case the home regulator should make the decision that such a change is required.

2. Capital rules should be reduced at times of global financial stress and all regulators should have an unemployment and social impact objective within their requirements.

3. The liquidity rules proposed should be amended such that liquidity is maintained for reasonable expected shortfall and that plans exist for stress based shortfall.

4. All rules should be drafted for the banking industry including individuals responsible for ensuring that all regulations consider social and global economic and environmental impacts.

Dennis Cox invites feedback and comments at DWC@riskrewardlimited.com

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