Picking up the Pieces:

Risk Management in a Post Crisis World

Recommendations for Financial Institutions and their Regulators

Financial Services Research Forum

Knowledge Transfer Network

Financial Services

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Risk Management in a Post Crisis World

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About the FS-KTN and the Technology Strategy Board

The Financial Services Knowledge Transfer Network is sponsored by the Technology Strategy Board and by the Economic and Social Research Council. The Technology Strategy Board is a business-led executive non-departmental public body, established by the government. Its mission is to promote and support research into, and development and exploitation of, technology and innovation for the benefit of UK business.
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Financial Services Research Forum

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The Forum commissions and publishes research into areas of behaviour in the financial services sector. This report is an excellent addition to that catalogue of reports. I trust you will find it informative and useful, with some practical guidance for use in your own organisation. Should you wish to learn more about the work of the Forum I'd be delighted to hear from you. Please contact me at joanne.hindle@nottingham.ac.uk.

Joanne Hindle, Director, FSRF

www.nottingham.ac.uk/business/forum/

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Executive summary

The global financial crisis has highlighted a wide range of potential weaknesses in the operation and management of financial institutions, financial markets and financial regulation. The overwhelming number of such factors makes it very difficult for financial institutions and their regulators to prioritise their limited resources and focus them on the most beneficial areas for reform.

This challenge is made harder by the fact that each new report on the crisis seems to emphasise different priorities, some suggesting that structural reform is needed (e.g. the separation of retail and investment banking or the break-up of larger banks), and others suggesting changes such as enhanced capital and liquidity requirements, more intrusive regulatory supervision, reforms to bank bonuses, enhanced governance rules, and fundamental cultural change.

One problem with many of these reports is that they have been produced by outsiders, looking into the financial services sector (regulators, politicians, academics, etc.), rather than insiders looking out. Of course it could be argued that the sector's insiders have made such a mess of the financial system that they should not have a strong voice in the debate. Yet, such an argument excludes a valuable perspective on the crisis: it fails to account for the fact that many financial institutions chose not to participate in the excessive risk taking and alleged profiteering that preceded the crisis – and hence have as much right to comment on the crisis as anyone else.

A recent (February 2010) research project by the Financial Services Research Forum into the crisis sought to help redress this balance by drawing on the experience of industry insiders. The research focused on 20 risk management professionals from across the financial services sector and asked them about the causes of the crisis and the lessons that they believed needed to be learned. Interestingly these interviewees offered a rather different perspective to many of the more mainstream reports. Risk managers appear to place much less emphasis on economic and market-wide factors such as low interest rates or the growth in securitisation and much more on the micro-level human/social aspects on the crisis. Specifically they attributed the crisis to weaknesses in the management of certain financial institutions and regulatory agencies, weaknesses that were driven by factors such as inappropriate risk cultures, poor risk communication and an over-reliance on mechanistic (model driven) approaches to risk assessment and control.

Subsequently, and with the support of the Technology Strategy Board and the Financial Services Knowledge Transfer Network, the findings of this research project were disseminated to a panel of financial services industry experts (19 in total, spanning regulatory and government agencies and a cross section of UK financial institutions) who were invited to comment on the research and discuss the practical implications of its findings. This resulted in the creation of a one day roundtable discussion, which aimed to identify practical solutions that will have a lasting effect on the prevention and mitigation of future financial crises.

The purpose of this report is to build on the findings of the initial research and subsequent roundtable discussion in order to highlight the key priorities that financial institutions and their regulators should consider when implementing changes to their risk management frameworks. The emphasis of this report is practical: it gets to the heart of the crisis, and makes recommendations that will ensure lasting change, while at the same time giving financial institutions the necessary freedom for innovation and growth. The core recommendations of this report are as follows:

FOR FINANCIAL INSTITUTIONS

- Improve risk cultures to ensure that they promote risk awareness and open communication without unnecessary conflict.
- Rethink the design of compensation arrangements, to ensure that these promote long run goals rather than short term profit and growth.
- Place more emphasis on management judgement and rely less on potentially unrealistic and inflexible risk models.
- Enhance risk appetite frameworks, to ensure that appetite for risk is set correctly and communicated effectively.
- Change from a compliance orientated approach to risk management to a more strategic focus. Risk management should be viewed as a mechanism for supporting business decisions rather than as costly red-tape imposed by regulators. This means that company risk managers must receive training in business and management as well as risk assessment and modelling.

FOR REGULATORS

- Work to raise the quality of company management and the appropriateness of financial institutions' risk cultures. This will require a change of policy emphasis, but not necessarily more prescriptive regulation.
- Promote risk awareness and preparedness over mechanistic approaches to modelling risk. Risk based capital reforms have lead to a focus on objective measurement over effective management: there needs to be more of a balance between modelling and judgment.
- Improve the skills and experience of supervisors, ensuring that they focus more on the human/social aspects of financial institutions rather than just their financial health.
- Enhance transparency via improved disclosure rules in order to support the effective operation of the free market, rather than work against it.
- Promote the principles of so-called High Reliability Organisations (HROs) in those financial institutions whose failure would cause excessive market turbulence or economy-wide disruption.

This report begins with an overview of the initial research and subsequent roundtable discussion. To help set the scene, a brief summary of the findings from the initial research and roundtable discussion is provided. Then the report turns to the more important issue of identifying the implications of the crisis for risk management, in terms of both industry practice and regulation. From this the above recommendations are drawn and a practical five-point implementation plan is provided.

1. Introduction

The global financial crisis has sparked considerable debate and analysis of its causes and of the lessons that need to be learned. A confusing array of reports, papers, books and articles have been published; making it hard to come to a consensus on what should be done.

This report seeks to make sense of the crisis in terms of its implications for the management of risk. It reflects on the future for the practice of risk management, and provides some recommendations for financial institutions, and their regulators.

The implications and recommendations provided follow on from previous research published by the Financial Services Research Forum (FSRF) which used data from interviews with 20 industry professionals to investigate the causes of the crisis and the lessons that need to be learned from it (Ashby, 2010). The report also draws on the findings from a roundtable discussion involving senior financial services practitioners and policymakers, who were invited to share their reactions to the original research and discuss priorities for the prevention and mitigation of future financial crises.

The report starts with a brief summary of the original research and subsequent roundtable discussion and then moves onto consider the implications of this research for financial institutions and their regulators. From this recommendations and a suggested action plan for their implementation are provided.

2. The Research Method and Subsequent Roundtable

To explore the reasons behind the financial crisis and the necessary risk management lessons, a series of semi-structured interviews were conducted during the summer of 2009 (June-August). The interviews focused on the opinions of the respondents in relation to: the cause(s) of the current financial crisis, the role of risk management and its implementation, how organisational factors (i.e. culture and governance) may have contributed to events, and participants' comments on the future in relation to sector regulation and the understanding and management of risk. Appendix 1 lists all of the questions that were asked.

In total 20 interviews were conducted across a range of retail banks, building societies, investment firms and insurers. All interviewees were selected on the basis that they had considerable experience in the financial services sector – having worked for a range of institutions over their careers (their ages ranged from 35–65), including in a number of cases the UK Financial Services Authority. In addition many of them had experience of not just the current financial crisis, but also previous crises and recessions. Hence they were well placed to comment on the banking crisis, its causes, and the lessons that need to be learned for the future.

To help confirm the validity of the FSRF's research its findings and recommendations were presented in the form of a summary report to a one day Roundtable of UK financial services experts including chief risk officers, consultants and representatives from government departments and financial regulators. The roundtable took place during October 2010 and was sponsored by the FSRF in conjunction with the Technology Strategies Board (TSB) and the Financial Services Knowledge Transfer Network (FSKTN)[1].

The Roundtable participants confirmed the validity of the FSRF's findings and recommendations, however in the course of their discussions a number of additional insights on the crisis and the lessons that need to be learned were identified. These insights are incorporated into the current report.

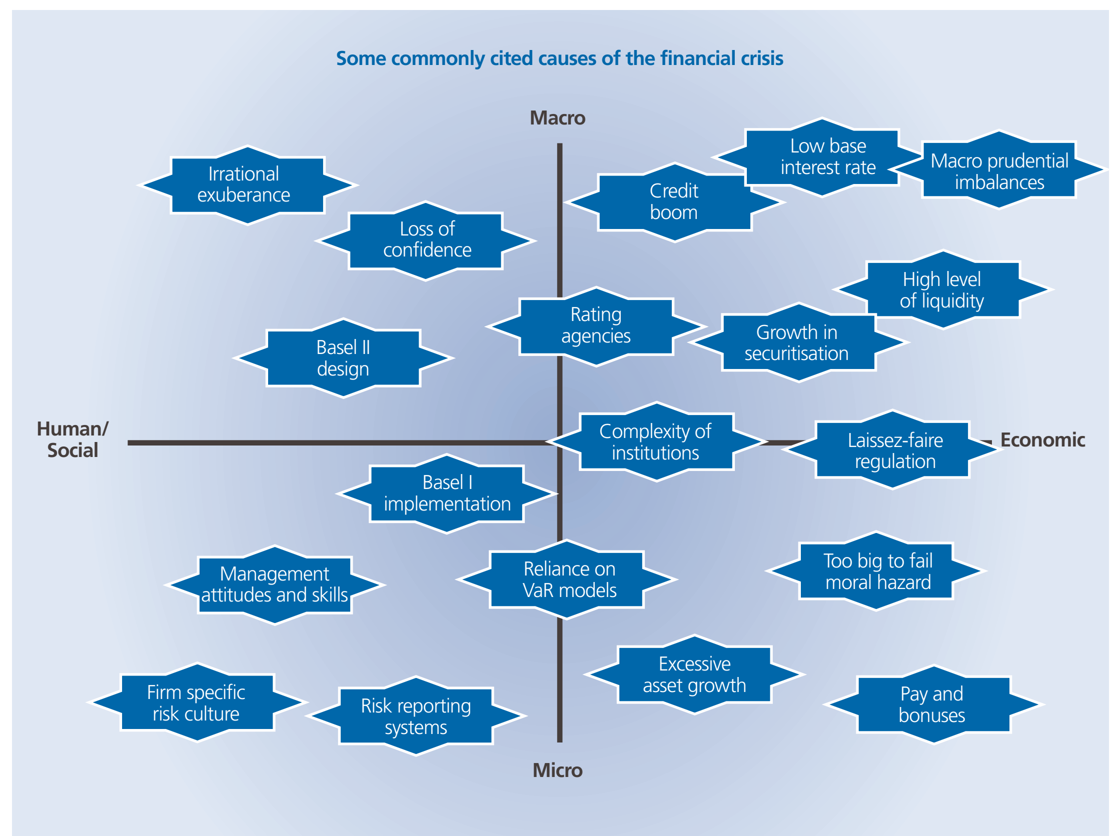
1 For more on the role of the Technology Strategy Board and Financial Services Knowledge Transfer Network, see: http://www.innovateuk.org/deliveringinnovation/knowledgetransfernetworks.ashx

3. The Causes of the Financial Crisis: Key Findings

In order to learn the lessons from the global financial crisis it is important to first understand its causes. Much work has already been done on this area, with a wide array of causes being proposed. Broadly speaking these causes can be categorised in one of two ways:

- Micro (institution specific) versus Macro (market level factors and or factors at the level of national/cross-national economies)
- Economic versus Human/Social

Figure 1 illustrates this using the main causes that have been attributed to the financial crisis[2].

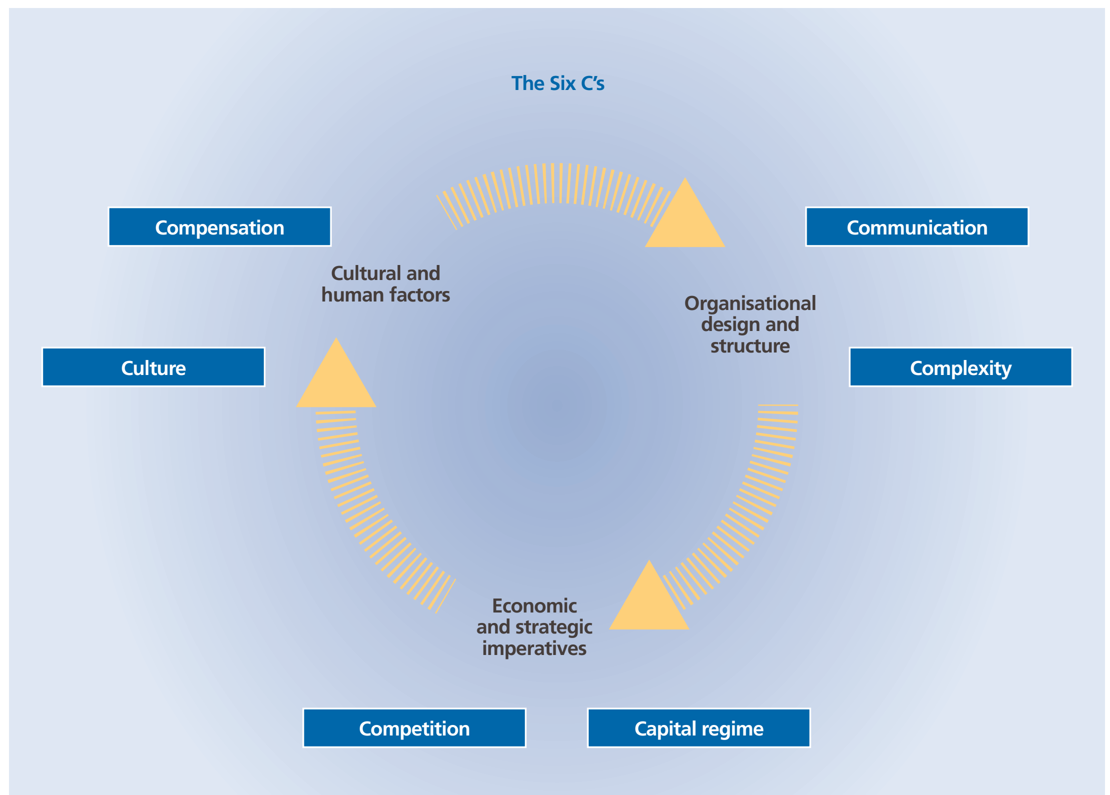


2 For a fuller discussion of the crisis and its causes see Appendix 1 of Ashby (2010).

In terms of the FSRF's research into the crisis and the subsequent Roundtable discussion, it was generally agreed that the discussion around the micro level human/social factors was the most pertinent. In particular the primary cause of the crisis was identified as weak risk management, both on the part of certain financial institutions and their regulators. This weakness stemmed from human and or organisational deficiencies in: risk perception, risk communication and comprehension, and risk culture. As two of the risk management professionals interviewed for the original report stated:

> *"I'm a great believer that when you do look at underlying causes you use root cause analysis and try to go back to basics. I'm going to say this because of my bent towards people, but when I look at risk there are two underlying causes – one is god and one is people." (Finance Director, UK Insurer)*
>
> *"For me it's human behaviour. Everything else comes off the back of that whether its governance, culture, capacity, capability or implementation of framework – it all comes back to the person." (Independent Risk Consultant)*

More specifically weaknesses were found in the areas as summarised in Figure 2:



Each of these Cs is summarised below, structured according to the importance given to them by the interviewees. The discussion starts with the more minor of these Cs (these being the boxed text in Figure 2) and then move onto the major ones.

Compensation

Blaming the crisis on 'greedy' bankers has been a popular thread in many of the publically available commentaries on the crisis. However, the issue of pay and bonuses is more complicated than that.

What the interviewees and roundtable participants revealed was that it was not the size of pay/bonus arrangements that mattered, but rather their design. The key weaknesses that they identified were as follows:

- Incentive arrangements that encouraged short-term, sales driven, behaviour.
- Arrangements that did not claw back salary/bonuses when losses were incurred, meaning that managers and some directors did not have a financial stake in the decisions that they were making.
- Arrangements that did not reinforce or even contradicted the governance frameworks of some financial institutions (e.g. arrangements that did not incentivise managers to: assess, monitor or control risk).

As one of the roundtable participants explained the 'rules of the game' were at fault. This meant that the existing incentive systems encouraged senior management to take excessive risk, without sufficient regard for the longer term or for external stakeholders. It was also noted during the roundtable that such an approach to compensation arrangements helped to reinforce the risk taking cultures that developed in certain banks.

Complexity

Financial services is a complex business. There are a wide range of difficult and sometimes volatile risk factors to consider. Moreover the interrelatedness of many activities, risks and institutions creates the perfect environment for unforeseen correlations and extreme events.

Under such conditions it is unsurprising that major financial crises emerge from time to time, since crises are much more likely in complex and/or tightly coupled (interdependent) systems[3]. However, while accepting that the financial services sector is highly complex, none of the interviewees or roundtable discussants saw the crisis as an inevitable result of this. Instead they highlighted the failure on the part of some, but by no means all, institutions to manage the complexities of their risk exposures in an effective manner. The following quote illustrates this:

> *"The big boys, Barclays, HSBC etc., were leading the charge but the smaller banks were following the herd... The big boys knew what they were doing but when you get to the second or third tier that is where too many players were chasing too few and the dross got picked up without them knowing what they were doing." (Independent Risk Consultant)*

In short complexity was not the real problem – rather it came down to the attitudes and abilities of management in relation to dealing with the risks associated with complexity.

3 See Müßig (2009) for an interesting discussion of the complexity and interdependence of financial services in the context of the current crisis.

Competition

While this was not a major theme for all, several of the original interviewees explained that some very real and rational economic pressures drove institutions to make the risk management decisions that they did. One of the interviewees put this as follows:

> *"Some people say a bonus culture – I don't think it is a bonus culture, I think it's a real desire for shareholders and stakeholders and the analyst community to get returns and their consistent profits. You get very little credit for having a steady ship and being consistent: it's much more about differentiating from the rest of the market and getting the best margin." (Programme Director, Retail Bank)*

However, the interviewees also pointed out that not every financial institution followed the trend for increased risk taking in the pursuit of higher rewards. In particular they suggested that institutions were better able to manage these economic pressures where they exhibited the following qualities:

- Effective risk appetite frameworks and associated risk reporting structures. Some institutions were not only able to anticipate the coming crisis, but took decisive action to reduce their exposure to it.
- An organisational culture that embodied the traditional financial services virtues of prudence and conservatism.

During the roundtable the role of competition was discussed further. In particular it was noted that while competition was an important cause of the crisis it is also a key element for healthy financial markets. In terms of the crisis the problem was that high levels of competition combined with a lack of risk awareness within some institutions. This results from weaknesses in these institutions' risk appetite frameworks coupled with cultures that emphasised high returns over risk and so resulted in an imbalance between risk and return.

Culture

The role that cultural weaknesses can play in causing crises is a major theme in the relevant academic research, where it has been known for some time that 'crisis prone' organisations have cultures which are very different to 'crisis avoiding' ones[4]. Therefore it came as no surprise that, when asked about the underlying causes of the crisis, all but one of the original interviewees and most of the roundtable discussants referred to weaknesses in the cultures of certain institutions. One of the original interviewees expressed a crisis prone culture as follows:

> *"The culture of the whole organization was sales driven. The rewards and promotion were all internal and rapid. People were hugely rewarded with lots of share options and bonuses. The risk people were disaggregated, not rewarded, so didn't have an integrated risk function.... There was no incentive for any of the risk people to stand up and challenge and there are stories of those who did challenge the groupthink that were heavily penalized as a result." (Chief Risk Officer, UK Retail Bank)*

Overall three core cultural drivers were identified. Firstly, the attitudes and risk perceptions of directors (notably the CEO and Chairman), where the *tone from the top*, of certain institutions meant that insufficient attention was paid to risk management considerations (this was the key issue for the roundtable participants). Secondly cultures where staff (including risk managers) were unlikely to challenge accepted cultural norms surrounding excessive risk taking because they did not feel able to *"bring out their dead"*

4 See Pauchant and Mitroff (1988).

(Chief Risk Officer, International Insurer). Thirdly, the effectiveness of HR practices where, for example, a failure to retain experienced staff (or a deliberate policy of rotation) meant that some institutions lost those individuals who had witnessed previous crises and hence were most likely to make sense of future ones.

Communication

Most of the interviewees and the subsequent roundtable participants emphasised the issue of risk reporting, commenting on:

- Whether the right data was communicated to the right people (e.g. whether key decision makers such as boards/senior managers were receiving the information that they needed to make effective strategic decisions and avert the impending crisis).
- Whether those receiving this data were able to understand it.

In terms of the reasons behind these communication weaknesses it was suspected that boards did not always receive sufficient support from management. This may have been because management lacked the necessary expertise (e.g. the ability to report management information in a clear and meaningful way), or because they were withholding information (for internal political reasons for example), or because of a corporate culture which discourages contrarian views. One of the original interviewees summed this up as follows:

> *"....maybe we are not always best at putting that message across. As risk managers we're all very good at saying how good we are but are we good at saying 'actually there is some fault within us'?"*
> *(Chief Risk Officer, Investment Bank)*

A further interesting theme that many of the interviewees and roundtable participants referred to was the communication between risk managers and senior management. So, while boards/senior managers may not always have paid sufficient attention to risk management considerations or been reluctant to challenge high levels of risk taking while the profits were rolling in, many risk functions were their own worst enemies when trying to get their voices heard. It was commented that risk functions often adopted 'ivory tower' and/or an officious 'compliance orientated' culture, instead of a business focused one devoted to supporting both strategic and operational decision making[5]. In so doing, they could become marginalised and ignored, meaning that valuable messages about key risk exposures may not have been given adequate attention.

Finally during the roundtable the issue of cognitive biases was raised, where decision makers can make seemingly illogical decisions where they lack the necessary time, information or skills to weigh up their options in an objective manner. Here the suggestion was that certain financial institutions failed to respond appropriately to the available warning signals that were present just before the crisis (such as increasing mortgage interest rates and credit default swap rates) because they could not make sense of this data. This observation has interesting parallels with the work of writers such as the psychologist Karl Weick and his work on the relationship between sensemaking and organisational reliability[6].

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5 See also Power (2009) who is critical of risk management practices, claiming that they are overly process based and subject to the "logic of the audit trail" (p849).

6 See Coutu (2003).

Capital Regime

While all of the interviewees and roundtable discussants accepted that financial institutions have to shoulder much of the responsibility for the current crisis, they also had a lot to say about regulatory failures. In so doing they were critical of financial services regulation and the UK's Basel II based capital regime for banks in particular.

The role of the Basel II regime in causing the crisis was a significant topic of discussion during the roundtable. It was suggested that the regime had failed because regulators had not properly understood how it would affect the behaviour of banks. Two main behavioural issues were discussed during the roundtable: (1) the propensity for regulatory arbitrage and (2) that the Basel regime had generated a bias towards quantitative risk assessment.

In terms of regulatory arbitrage it was noted that the Basel I and II regimes focus on asset based capital requirements allowed banks to build up large liabilities without holding appropriate levels of capital. Differences in the treatment of asset types also allowed banks to build up concentrations of risk in relatively unregulated areas (such as collateralised debt obligations). Some of the original interviewees also made this point, one explaining it as follows:

> *"There were a lot of people making a lot of money out of what was effectively … the rules allow me to do this, I am working within the guidelines that have been set by the regulator, I perform all those things and tick all the boxes." (Head of Control, European Bank)*

In terms of the Basel II regime's bias towards models many of the roundtable participants, along with several of the original interviewees argued that the regime had encouraged banks to become overly reliant on over-precise mathematical models at the expense of management judgement. They also indicated that this reliance had taken hold several years before the regime was fully implemented in 2008. The following quote illustrates the core problem that may be associated with an over-reliance on risk models:

> *"I'm a bit of a Luddite when it comes to risk frameworks. Because the way the regulations work now, it tends to lead you into defined categories and you imagine a room with green, red and amber lights and you spend all your time watching them and reacting to how they go off... The point of risk management is to think about where the emerging risks are and what the regulators do is focus on what can be measured and they're not the same thing." (Chief Risk Officer, International Insurer)*

A second topic of interest for both the original interviewees and roundtable discussants related to the ability of regulators like the FSA to implement regulations such as the Basel II regime effectively. In particular, many of the original interviewees suggested that supervisors did not have the necessary skills and industry/management experience to supervise financial institutions effectively. As one put it:

> *"Of course the regulators were appalling either at understanding what they were regulating or actually regulating, probably the latter because of the former." (Director of Regulation, Clearing House)*

During the roundtable discussion it was acknowledged that it is very difficult for supervisors to challenge the management of a financial institution (such as Northern Rock) in advance of it experiencing a major loss event, especially during an economic boom. However it was still accepted that supervisors could have performed much better and seem to lack an ability to understand the psychology of senior management and the risk cultures of firms.

4. The Research Findings: Questions and Implications for Risk Management and its Regulation

THE FINANCIAL CRISIS WAS LARGELY SELF INFLICTED

The findings summarised in Figure 2 indicate that the crisis was not the result of bad luck in terms of unexpected shocks to financial markets or the macro-economy. Rather it was primarily the result of weak risk management, both on the part of financial institutions and their regulators. These weaknesses stemmed from the following:

- Inappropriate attitudes towards risk taking and risk management. Boards and senior managers appeared to under-estimate the risks that their institutions were taking and failed to give risk management considerations sufficient priority. Equally there were risk managers who adopted a compliance orientation and in so doing alienated themselves from front line business operations.
- A lack of knowledge and experience in managing risk. Senior managers and in some cases risk managers lacked the necessary skills and experience to make sense of their institutions' risk exposures.
- Poorly designed risk management systems, including reporting systems and risk appetite frameworks. Such design failures meant that boards and senior management either did not have the information they needed to make effective risk management decisions or became overloaded with facts and figures of unnecessary complexity (e.g. the outputs of risk models).

Thus, while economic and structural factors (such as the growth of shadow banking and credit securitisation) may have played a part in the crisis, they are not sufficient explanations in their own right. Instead such factors only became a problem when combined with weaknesses in management. Indicating that it is these management related weaknesses that lie at the heart of the crisis.

STRUCTURE VERSUS AGENT: THE POWER OF HIGH RELIABILITY ORGANISATIONS

Structural reforms such as the enforced separation of retail and investment banking activities, or the breaking up of large institutions, have been a key area of debate in the light of the global financial crisis. However, one of the interesting features of the crisis is that institutions of all shapes and sizes got into difficulty. In the UK, most of those that required state intervention were predominantly retail banks and got into trouble as much for their retail activities as for their investment banking. Northern Rock and Bradford and Bingley, for example, were heavily into the origination of sub-prime and buy to let mortgages, while in the case of 'failed' building societies like the Cheshire, Derbyshire and Dunfermline, investment banking activities such as CDO trading played no part in their forced takeovers.

Equally, certain large, conglomerate banks all but avoided any difficulties, HSBC being a case in point. In fact it was arguably the early warning provided by its retail banking activities (where arrears levels within its US sub-prime subsidiary were identified and quickly escalated) that prompted HSBC to reduce its CDO exposures just before the crisis broke.

The implications of this are that discussions about the structure of financial institutions cannot be divorced from those about the behaviours and competencies of their decision making agents (i.e. their management), an observation that is backed up by the opinions of the interviewees and roundtable discussants that participated in the current research. They pointed out that risk can be controlled by effective management (who are competent and professional, and are prepared to communicate with each other and work together) operating within an appropriate risk culture that promotes risk awareness, values management judgement as much as models, and links risk and strategic management.

This observation has interesting parallels with research into so called 'High Reliability Organisations' (HROs)

– such organisations possessing very similar characteristics to those highlighted by the interviewees and roundtable discussants. Many leading writers on organisational risk, including Karl Weick and Karlene Roberts[7], suggest that complex high-risk businesses need to operate as HROs if their chances of failure are to be reduced significantly. HROs are organisations in which errors can have catastrophic outcomes, but which conduct relatively error free operations over a long period of time, making consistently good decisions, resulting in high quality and high reliability operations. Though not all organisation theorists share this belief in the power of HROs[8], the evidence from the financial crisis is sufficiently compelling to prompt further research and debate into this overlooked aspect of the crisis and the management of financial institutions.

THE EFFECTIVE MANAGEMENT AND REGULATION OF RISK IS BOTH AN ART AND A SCIENCE

One of the consequences of the Basel II Accord has been an increase in the use of quantitative risk modelling for all areas of risk – this trend beginning even before the Accord was finalised in 2006. The implication being that the more sophisticated an institution's risk models the better its risk management practices will be.

None of the interviewees or roundtable discussants accepted this view, however. Indeed for some the financial services sector's increasing reliance on risk models was seen as a key cause of the crisis.

That is not to say that risk models do not have their uses, just that they must not be over-relied upon. The deficiencies of risk models are well-known[9]: they are rather better at explaining the past than predicting the future, and can induce an artificial confidence and complacency in our understanding of the variability of possible outcomes. Most importantly, there are many aspects of risk and risk management that do not lend themselves to formal mathematical modelling – including all of the main causes of the crisis outlined in the previous section!

PUTTING RISK INTO PERSPECTIVE: THE ROLE OF RISK APPETITE

The term risk appetite relates to the amount of risk an organisation is prepared to take to achieve its objectives (or alternatively the level of performance needed to compensate for the risk incurred).

Effective decision making in a world of risk requires context. In particular decision makers need to understand where risk exposures could be profitably increased and where they should be decreased (because they exceed the associated appetite for risk). Many factors will influence this decision from the returns that could be generated from particular levels of risk exposure to the risk preferences of key stakeholder groups such as consumers, shareholders and regulators.

It is apparent from the interviews and subsequent roundtable discussion that insufficient context (in terms of effective risk appetite frameworks) was provided to the decision makers of certain financial institutions, meaning that they took excessive amounts of risk – whether accidentally because of a lack of information or deliberately because of weak controls. Hence finding ways to support improvements in the use of the concept of risk appetite by financial institutions should be a key element in developing lasting solutions to the prevention/mitigation of future crises.

7 See Weick and Sutcliffe (2007), Roberts (1990), Bourrier (2005).
8 See Leveson et al (2009).
9 For example, see Jorion (2009), Power (2009) and Slovic (1999).

POORLY DESIGNED REGULATION DOES MORE HARM THAN GOOD

As indicated above many of the interviewees and roundtable discussants attributed, in part, the crisis to weaknesses in regulation and supervision. These observations illustrate that regulation and supervision can have serious and unexpected consequences. Moreover, such consequences can create the preconditions for major system wide events, because of the large number of institutions that they can effect.

This means that regulators must take much more care when implementing new regulations. While they might assume that imperfect regulation is better than nothing, the evidence suggests that it can actually do more harm than good.

5. Recommendations

RECOMMENDATIONS FOR FINANCIAL INSTITUTIONS

Recommendation 1: Develop Your Risk Culture

To effect lasting improvements in the management of risk, financial institutions must not ignore the role of risk culture. Technical improvements to risk management and internal control frameworks cannot work in isolation and will do little to change the fundamental priorities, attitudes and competencies of key decision makers.

The characteristics of appropriate risk cultures were a key area of discussion during the roundtable. It was concluded that there was no optimum culture, this depending on the type of organisation, its location, the attitudes of its stakeholders, etc. However it was agreed that there are certain characteristics which are shared by many 'good' risk cultures (as already embodied in many HROs) and which should be promoted more explicitly:

- A focus on risk awareness and long term sustainability.
- An ethical attitude to management, which values professionalism and gives due consideration to the needs of all stakeholders groups (i.e. profit is not sought at all costs).
- No blame environments where employees are encouraged to report issues/concerns.
- A willingness to take action to reduce risk when necessary, even where this might reduce short-run profitability.

Achieving cultural change can seem daunting however there are some relatively simple strategies which can be adopted. For example:

- Setting an appropriate 'tone from the top' where board members and senior management emphasise the importance of risk awareness, professionalism, no blame culture, etc.
- Providing basic risk awareness training to all staff on induction, plus more advanced risk management training for new senior managers and board members.
- Promoting core values such as professionalism, no blame culture, taking a long term view within all relevant staff training initiatives (including sales training).
- Incorporating risk management considerations into performance management criteria (see below for more on this topic).
- Retaining a critical mass of experienced decision makers who have witnessed a range of risk events in the past.
- Promoting cross-functional and multi-perspective team work, and breaking down artificial barriers between front line business functions and so called 'control' functions like risk management.

Recommendation 2: Rethink the Design of Compensation Arrangements

Financial institutions should evaluate the design of their compensation arrangements. Despite the media and political hype, high levels of compensation are not necessarily a bad thing, but poorly designed compensation arrangements are.

Specifically pay and bonus arrangements should be:

- Awarded over longer term performance horizons - thus helping to prevent short-termist sales driven behaviours.
- Aligned with risk management and governance policies. In so doing managers should be incentivised to not only consider their institution's risk appetite when making business decisions, but also assess and report on risk issues in a timely and efficient way. Such arrangements should be enforced using clear rules that highlight the kinds of risk taking/reducing behaviours that will be rewarded as well as those that will not.
- Reinforced by a strong risk culture that promotes risk awareness and sustainable attitudes to risk taking.

As a Non-Executive of a UK Building Society stated:

> *"There is a need to align long term value creation with the longevity of a financial institution's 'reward culture'."*

Recommendation 3: Don't Just Measure, Manage

> *"At the Operational Risk Reality Check Conference there was a young guy there who... came from the oil and gas industry and he was looking at us as if we had two heads. He was saying 'why don't you just manage it? Why are you bothering to count it? You've lost it, now fix it'. Just a very practical hardnosed approach, there's a huge amount we can learn." (Department Director, Hedge Fund Service Provider)*

The findings from section 3 on the causes of the crisis suggest that financial institutions which implement effective risk management frameworks will be better able to resist competitive pressures for excessive risk taking, detect/address potential increases in risk in a prompt and damage limiting manner, and address any inherent risks that may be associated with the complexity of either their own structure or the structures of financial markets.

In terms of the elements of an effective framework the interviewees and roundtable discussants suggested that financial institutions should focus on the following factors:

- Making increased use of alternative risk assessment tools such as scenario analysis, which can be particularly effective in assessing low probability, high impact events such as the recent financial crisis as well for as 'softer' risks where information is harder to obtain (e.g. operational risk and reputation risk).
- Improving the timeliness and quality of risk reports, providing forward looking information in a format that can support business decision making as well as satisfy regulatory compliance.
- Recognising that an institution's risk culture is a key control that underlines all risk management activity.
- Learning lessons from outside the financial services sector, where it was suggested that loss control (as opposed to loss mitigation via the use of provisions and capital buffers for example) is given a much higher priority in non-financial firms.

Also important is being prepared to take precautionary action when the level of risk appears to be increasing, even though the signals for this might seem weak. Karl Weick[10] says that a key difference between a high

10 Coutu (2003).

reliability organisation and other organisations is the sensitivity or mindfulness with which people in most HROs react to even weak signs that some kind of change or danger is approaching. He goes onto say that: "in contrast to HROs, most companies today are hugely unprepared for the unpredictable".

Recommendation 4: Give Risk Appetite a Central Role and Improve Your Understanding of the Concept

Though only a few of the original interviewees talked about risk appetite this was given much more attention in the subsequent roundtable. In particular it was suggested that financial institutions need to improve their understanding of the concept and enhance their risk appetite frameworks accordingly.

Some key issues to consider are:

- Involving board members and senior managers in setting their institution's risk appetite. This helps to increase buy-in and their understanding of the concept.
- Using qualitative and quantitative approaches to expressing risk appetite (value statements risk limits, etc.).
- Communicating the institution's risk appetite to all key decision makers.
- Using scenario analysis and stress testing to help refine risk appetite over time.
- Making sure that company strategy is consistent with risk appetite.

An increasing number of reports and good practice guides are now available which address the elements of an effective risk appetite framework. Two recommended documents are AIRMIC (2009) and Institute of Operational Risk (2010).

Recommendation 5: Rethink the Role of your Risk Management Function

Risk managers should be viewed as business enablers not an in-house arm of the local regulator. This will require a change of mindset as much amongst some risk management departments as the other parts of their institutions. As one of the original interviewees said:

> *"There's a cultural change required. I'm getting back again to the need to push risk management into the strategic decision making process not to leave it as an afterthought to work out how much capital you should be holding. It's got to be key to the whole debate and it's not a question of 'the man from risk he says no' it's a question of the man from risk highlighting circumstances where your prediction proposals don't work and therefore you have an opportunity now to make them work better. To enhance, to refine the proposals and not just to push ahead with something that actually exposes the organisation to sometimes fatal risks." (Independent Risk Consultant)*

To help precipitate such change financial institutions should consider the following:

- Give chief risk officers the power to raise concerns about risk issues at board level and ensure that these concerns are given proper consideration.
- Improve the front-line business experience of chief risk officers and their risk management staff, in order to help them appreciate the challenges faced by the business.
- Involve risk management specialists in strategic decisions – using them to provide relevant information and decision support. These specialists may well raise issues that have not been considered elsewhere.

- Implement a risk management business partner scheme to assign risk management staff to support specific business functions - thus allowing them to get a better understanding of these areas and increase familiarity between staff.
- Help to develop the people skills of risk management staff (many of whom have been recruited because of their technical skills rather than their ability to work with other business areas) in order to promulgate the benefits of effective risk management.
- Promote closer relations between their risk management and human resource functions, not only to exploit the people skills of the HR function, but also to help them assess/manage the risk culture of their institution.

RECOMMENDATIONS FOR REGULATORS

Recommendation 1: Regulators should work to improve the quality of risk management and the appropriateness of financial institutions' risk cultures.

All of the interviewees and roundtable discussants accepted that risk management, governance and internal control practices needed to improve. As such regulators should be commended for already producing some useful guidance in this area[11]. However, more is required. Some key areas that require further guidance are as follows:

- Develop appropriate risk cultures.
- Enhance the role of the risk management function to ensure that it is not overly compliance orientated and mechanistic.
- Design appropriate compensation arrangements to strengthen governance and risk management objectives.
- Improve training in risk and risk management at board level and within the risk management function.
- Improve the business administration and management training of risk managers, so that they understand the practicalities of running a business and how to communicate effectively.

Most of the above recommendations are precisely those which characterise the behaviour of HROs, and regulators should perhaps encourage some companies to strive to operate more along HRO principles – particularly those companies whose continuity is crucial to the stability of the financial system.

However this does not mean that more prescriptive rules are needed. Rather regulators/supervisors need to work with the industry to identify and promote examples of good management practice. One of the original interviewees explained this as follows:

> *"What you want is not to tell people what they can and can't do, which is where the regulator is going, but to have some flexibility and some guidelines that people work to.... Actually shouldn't they be taking some of the companies that have been run well and saying 'that's a good business model, what were they doing that hasn't lead them down the path of failure?'.... They know what's caused the problem so surely they should be speaking to the companies who haven't got into a mess to find out what they did and how they controlled the desire to go for profit."* (Chief Risk Officer, UK Building Society).

11 See, for example: Basel (2009); NAIC (2009) and CEIOPS (2009).

Recommendation 2: Regulators should promote risk awareness and preparedness over mechanistic approaches to modelling risk.

In a recent paper on the risk management lessons from the financial crisis Philippe Jorion stated:

> *"....risk management should be driven by people, not machines."*[12]

As illustrated in section 3 this view was endorsed by the interviewees and roundtable participants, many of whom criticised the model/metric driven focus on the Basel II based UK regulatory regime for banks. In addition they talked about the merits of more judgemental tools such as scenario analysis and the role that they can play in preparing financial institutions for low probability, high impact loss events. As one of these interviewees said:

> *"We have to break out of the traditional modelling approaches that are effectively based on recent experience and become a lot more creative and subjective which per se weakens the model. I think we almost have to convince ourselves subconsciously that we're not trying to predict, not trying to forecast we're trying to come up with a series of situations that might vary from the radically positive to the radically negative and consider how we work in those scenarios." (Business Unit Director, Retail Bank)*

Leading regulatory initiatives such as Basel III and the Solvency II project for EU insurers already include reference to alternative risk assessment techniques like scenario analysis, stress testing and expert judgement and accept that they have their uses. However, as pointed out by some of the roundtable participants, the focus still very much remains on the use of probabilistic models. Regulators and supervisors must be open to and promote alternative risk assessment techniques. Risk is a complex phenomenon that cannot be reliably reduced to simple function of probability and impact[13], hence alternative assessment techniques must be given, at the very least, equal status to probabilistic approaches.

Recommendation 3: Improve the skills and experience of supervisors, ensuring that they focus more on the people aspects.

As highlighted above, many of the interviewees and roundtable discussants criticised the ability of supervisors to properly monitor and control financial institutions across the UK banking and insurance sectors. In particular if regulators are to reduce the risk of future crises they must recruit supervisors, who can make judgements about the quality of an institution's management and their associated risk management decisions. This will probably mean recruiting, at additional cost, staff with appropriate industry experience and or professional qualifications in areas such as banking, insurance and risk management. As two of the original interviewees said:

> *"It comes back to having the right individuals at the regulator who come into an organisation and sniff around and use that insight when they come and have a chat with us and 'talk prudential' down the road." (Chief Risk Officer, International Insurer)*

> *"The FSA needs a better understanding of what companies are doing and be able to ask the right questions." (Finance Director, Insurance Mutual)*

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12 Jorion (2009), p930.

13 Haimes (2009).

Supervisors also need to develop qualitative risk assessment tools that allow them to 'ask the right questions'. However they do not need to start from scratch as tools already exist to support such assessments in other sectors of the economy (oil and gas, manufacturing health and safety, security forces, etc.). For example, Cox and Cheyne[14] provide a 'Safety Climate Assessment Toolkit' for the offshore oil and gas industry that could be adapted to other sectors. Plus there are a variety of qualitative risk assessment techniques that could be applied by supervisors, including 'Hazard and Operability Studies', 'Action Error Analysis', 'Task Analysis', etc.[15].

Recommendation 4: Enhance transparency via improved disclosure rules

One final way to better control the behaviour and resultant risk management decisions of financial institutions is to promote enhanced disclosure rules. Greater transparency should increase the discipline that is imposed on financial institutions thus ensuring that they are properly managed and do not take excessive risks. Of course not all stakeholders may wish to impose such discipline (e.g. well diversified shareholders); however there are many that will (notably regulators, consumers, creditors and smaller private shareholders).

Regulations already exist on both supervisory reporting and market disclosure and in some cases are in the process of being reformed (e.g. Basel III and Solvency II). However, what is questionable is the amount of attention devoted to this important but often underestimated third regulatory pillar.

Though only four of the original interviewees addressed the issue of disclosure it was a more prominent theme in the subsequent roundtable discussion. Here the participants called for the disclosure of risk management information that is less quantitative and accounting based and more relevant to a wider range of stakeholders (e.g. small shareholders/consumers). As one of the original interviewees said:

> *"Bland statements about numbers that don't mean a great deal." (Non Executive, Retail Bank)*

It was also argued that disclosure documents should contain more qualitative information about the future prospects of an institution and the effectiveness of its risk management and governance frameworks, rather than simply their design:

> *"I don't think increased disclosure is working – as an accountant, the stuff that we publish hasn't really moved us forward... In the years we've been reacting to this, the accountants don't move things forward – disclosed reports are not any more user friendly in fact they're less user friendly, potentially scary if you read them in any detail and don't allow the audience to better understand the risk an organisation is carrying." (Non Executive, UK Building Society)*

Reassuringly new regulations such as the Solvency II Directive do acknowledge the importance of qualitative disclosures, however they have done little to provide guidance on this issue, arguing that they want to encourage "a degree of flexibility" regarding how their requirements are met[16]. While such an aim appears commendable, it will do little to clarify requirements in this area and could lead to important qualitative disclosures being overlooked.

14 Cox and Cheyne (2000).
15 See: Glossop *et al.* (2000).
16 See CEIOPS (2009b), where the statement about flexibility in terms of qualitative requirements is made repeatedly.

6. Implementing the Recommendations for Financial Institutions: A 5-Point Plan

Regulatory reform is a matter for the relevant authorities and will in the case of international initiatives, like the Basel Accord or EU solvency directives, take time to change. However that does not mean that financial institutions should sit back and wait. All financial institutions have a duty to ensure that the frequency and severity of future crises are reduced.

As indicated in the above recommendations implementing the necessary changes need not be daunting, there are many relatively quick wins that can be implemented to help improve the practice of risk management. However to get the most from these changes it is recommended that financial institutions use the following 5-point plan:

Culture	Review your risk culture and make changes as necessary. Are your staff and directors risk aware? Are they prepared to report potential risks and concerns and act on them in a timely fashion? Do they take a long term view of profit and growth? Do your risk managers focus on business needs or enforcing compliance?
Appetite	Have a clear understanding of your appetite for risk, ensuring that this is communicated to all key decision makers and that risk exposures are compared against the stated appetite on a regular basis.
Management	Effective management is about balancing 'hard' (objective) and 'soft' (subjective) factors such as risk/financial models and human behaviour. Ensure that your managers have the skills and experiences to understand both – training them or recruiting new managers as necessary. Pre-existing management standards such as 'Six Sigma' could provide the foundations for this re-education exercise. Also learn the lessons from High Reliability Organisations whose managers combine attention to frontline performance with a flexible mindset (thinking 'outside the box' when appropriate), open communication and a preparedness to take prompt action to reduce risk where necessary (e.g. where exposure exceeds the stated appetite for risk)[1].
Performance	Incorporate risk management considerations into your performance management framework. Ensure that staff are rewarded for performance over the long term and for maintaining a balance between risk and return (in accordance with the stated appetite for risk).
Stakeholder	Engage with stakeholders on risk management considerations – providing greater transparency on factors such as employee remuneration, risk appetite, key risk exposures and emerging risks.

Conclusions

"In four years when hopefully everything is sorted, lethargy will set in and then something else will happen... Inevitably it comes back to human fallibility. ***I just wish people realised that.****"*
(Finance Director, Mutual Insurer)

History has shown that financial crises are all but inevitable. However that does not mean that with good risk management their frequency can't be reduced or the severity of their impact lessened. The purpose of this report has been to provide some practical recommendation on how this could be achieved via enhancements in the management of risk and reliability by both financial institutions and their regulators.

The global financial crisis was ultimately caused by management weaknesses within both financial institutions and their regulators. As such it could have been prevented and if the right changes are not made now to management practices to make financial institutions more reliable then a similar crisis could well happen again.

From this conclusion a variety of lessons were drawn, based on the feedback from the interviewees and roundtable participants. In particular the findings from this research challenge the notion that greater regulatory prescription and capital requirements are required or that simple solutions such as caps on bonus payments will prove effective. Rather a more permanent solution to the prevention of future financial crises is likely to combine enhancements in the risk management and governance practices that are implemented by financial institutions and their regulators with mechanisms that support cultural change. Moreover this cultural change needs to be both organisation wide (in terms of the overall safety culture) and function specific, particularly in relation to moving the attitudes of risk functions away from compliance and towards a more business-like orientation (for example, by using risk management staff and risk reports to support strategic decision making).

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Appendix 1

INTERVIEW AGENDA[17]

1. In your opinion what was the major underlying cause of the current banking crisis?
2. Are traditional corporate risk management practices effective at assessing/controlling systemic risk?
3. To what extent did boards/management have accurate and reliable information to allow them to monitor their firm's risk exposures and did they understand this information? Notably how reliant were they on mathematical models and did they understand the inputs/outputs to these models? What was the situation in your firm?
4. To what extent did weaknesses in corporate governance contribute to the current crisis? For example, were warnings from chief risk officers/risk managers heard prior to the crisis and if not why not? In addition, were managers at all levels properly incentivised to manage risk effectively? Can you explain the situation in your own firm?
5. Going forward how should financial services firms be incentivised to implement effective risk management frameworks? Is more prescriptive regulation the solution, or is an alternative available (e.g. improved disclosure, enhanced rating methodologies, changes to corporate governance rules)?
6. In the light of the current banking crisis, what changes have you/are you making to your company's risk management framework(s)?
7. Do you have any other comments that you would like to make?

17 For an overview of the qualities of the management of HROs see Coutu (2003) and Bourrier (2005).

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