The RiskMinds 2009 Risk Managers' Survey:

The causes and implications of the 2008 banking crisis

Designed and conducted by Moore, Carter & Associates

with Professor Andrew Kakabadse, Cranfield School of Management

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Executive summary

It is hard to read the results of this survey without concluding that the 2008 banking crisis – estimated by the IMF to have cost $10 trillion – was entirely avoidable. Only three respondents out of 563 agreed with Gordon Brown that the most important cause of the crisis was "global economic circumstances beyond anyone's control."

The most remarkable finding of the survey is that most risk professionals – on the whole a highly analytical, data rational group – believe the banking crisis was caused not so much by technical failures as by failures in organisational culture and ethics.

The picture that emerges from the survey is clear. Most risk professionals saw the technical factors which might cause a crisis well in advance. These included easy availability of global capital, excessive leverage and accounting standards which permitted over-valuation of assets. The risks were reported but senior executives chose to prioritise sales. That they did so is put down to individual or collective greed, fuelled by remuneration practices that encouraged excessive risk taking. That they were allowed to do so is explained by inadequate oversight by non-executives and regulators and organisational cultures which inhibited effective challenge to risk taking.

Equally clear views are found on what needs to change, both inside firms and in regulation. Internally, the most important area for improvement is the culture in which risk management takes place (including vision, values, management style and operating principles), starting with the adoption of remuneration policies which discourage short-term risk taking and underpinned by the development of risk management capability among line managers and board members. Whatever regulatory changes are introduced, international agreement to harmonise requirements is considered essential. There needs to be more rigorous supervision of the effectiveness of internal risk management, including supervision of the risk management culture and ethics within firms. And to fulfil these and other responsibilities, regulators need to recruit and retain higher calibre personnel.

The survey has very significant implications for improving the effectiveness of risk management and governance in financial services and for the restructuring of the regulatory landscape that is under way. It proves that we cannot trust banking executives to govern themselves and that drastic action is still needed. While major regulatory renewal is taking place in the US, the EU and elsewhere, so far we have seen little change. We still have governing systems and political processes which are unlikely to bring about change to global financial structures. For example, the Walker Review on governance in financial institutions in the UK makes interesting reading but it does not outline how the strengthening of governance processes will be achieved. This survey should inform policy makers, regulators, boards, executives and risk professionals alike of the practical steps required if similar crises are to be avoided in the future.

Those responsible for overseeing and restraining the actions of the executive were not competent enough, not rigorous enough or not powerful enough to do so. The results of this survey identify where some of those weaknesses lie and it is clear that better and more rigorous oversight by non-executives and regulators is an urgent need. It is essential to ensure an adequate separation and balance of powers between the executive and the internal control functions (finance, risk, compliance, internal audit and non-executive directors) and the authors recommend how this can be achieved. Regulators, for their part, need to focus much more of their attention on the effectiveness of internal risk management, governance and controls of the firms they supervise.

Specifying and developing risk management competence is crucial. There is strong support among the survey's respondents for setting up a formal professional body which would set standards and regulate the accreditation and conduct of the risk management profession. But the greater and more urgent need is to develop risk management capability among line managers, non-executive directors and regulators. All three are found lacking. As far as regulators are concerned, recruitment of higher calibre personnel is considered to be the single most important change required in the way they operate.

But nothing will really change without cultural change, because the effectiveness of risk management, governance and internal controls depends heavily on the climate in which they take place. Risk culture and ethics need to be at the top of the agenda, both of boards and regulators. Contrary to the belief of some, it is perfectly possible to assess and develop culture and ethics, and the tools and methodologies for doing so should be developed urgently, where they do not exist already.

There should have been a detailed investigation into the crisis: 58% of respondents agreed that there should be an investigation to establish wrong-doing; 68% agreed that there should be an investigation "on a truth and reconciliation basis" to inform future practice and policy development. This survey has succeeded in giving voice to the risk management profession on the causes and implications of the banking crisis. A group of Chief Risk Officers and other key risk management professionals, representing all key financial centres, should now be convened to develop and present coherent input from the profession into ongoing policy development.

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Moore, Carter & Associates advise on risk, governance, regulation and ethics, integrating expertise in strategy and process with the human element of people and culture.

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1. Introduction

1.1 Background

Early assessments of the part played in the banking crisis by failures of risk management, governance and regulation made dramatic reading. By autumn 2009, the Turner Review and the Walker Review Consultation Paper (in the UK) had addressed specific areas of concern and begun to propose, at a high level, measures designed to prevent the recurrence of such a crisis. But neither had addressed the complete picture of risk management, and the governance of risk and regulation in the banking sector, nor had they undertaken a detailed examination of the actions and omissions that played a part in the run-up to the crisis.

Crucially, no input was gathered widely or systematically from risk management professionals, although they were among the best placed to see and understand the causes of the crisis. It seemed at the time that the public policy debate might conclude without taking into account the views of this key group – key not only for their unique insight into events, but also because they, more than anyone, would be responsible for implementing the agreed policy changes. The 2009 RiskMinds Risk Managers' Survey set out to fill that gap.

1.2 Acknowledgements

The authors would like to acknowledge the invaluable contribution of the following experts for their advice on the scope of the survey and questionnaire design:

- Professor Amin Rajan, CEO of CREATE-Research;
- Christopher Finger, Head of Global Research, RiskMetrics Group;
- Richard Anderson, former partner at PWC and an independent governance, risk and assurance advisor;
- Stuart Reynolds, former Governance Director, Zurich International Solutions and independent risk consultant.

We would also like to thank all those who took the time to complete the survey.

The survey was sponsored by Curzon & Company, the strategy and implementation specialists.

1.3 Scope and method

The survey was designed and conducted by Paul Moore and Dominic Carter, partners at Moore, Carter & Associates, with Andrew Kakabadse, Professor of International Management Development at Cranfield School of Management.

A questionnaire was designed on three primary themes to elicit the views of those involved in risk management in financial services:

1. The causes of the banking crisis;
2. The extent to which failures of risk management, and the governance of risk and regulation contributed to the crisis, and the nature of those failures;
3. The need for internal and regulatory change.

The standard question format measured the perceived importance of items, using a four-point rating scale (not important, somewhat important, important, very important). Respondents were, then, also invited to state which item they considered the MOST important. The survey was piloted amongst a representative group of people, and amendments made accordingly before the survey went 'live'.

Invitations to complete the survey anonymously (using the online Survey Monkey tool) were distributed by email through:

- The marketing database of the RiskMinds 2009 conference;
- The membership directory of the Institute of Risk Management;
- Viral approaches.

563 responses were collected between 17 October and 30 November 2009. Although it is difficult to determine an exact response rate, the number of responses for a topic of this nature is a good one considering the time and effort needed to complete the questionnaire. During the process, responses received in the first 3 weeks were compared to those in the latter 3 weeks to see if there was any difference in response patterns. There was no significant difference in the responses, and we can conclude that we have a suitable sample to use for analysis purposes.

To control for demographic differences and to identify any disparities in perspective, information was also collected on gender, age, degree of professional experience in risk management, academic attainment, professional qualifications, role, industry sector, geographical location, size of organisation, level of seniority, job title, and area of risk management involvement. Key demographic breakdown of the respondents was as follows (note: where responses were given):

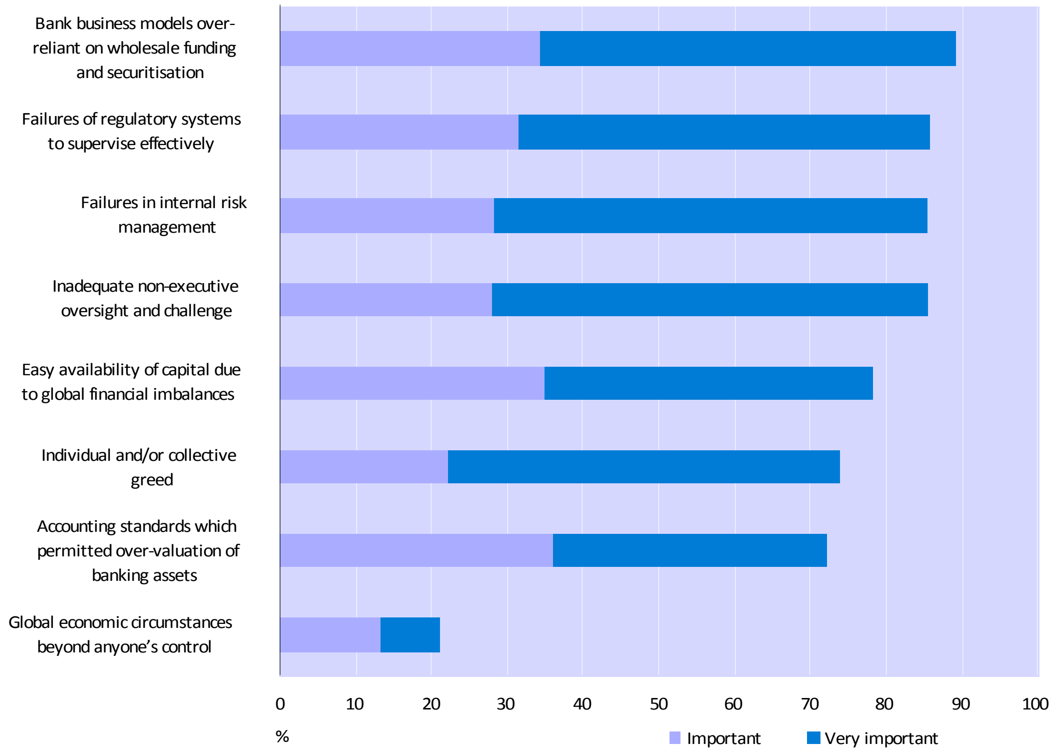
- 47.1% had over ten years experience in risk management;
- 40% worked in banking; 22.4% in insurance; 18.3% in asset management; 30.2% in other sectors (percentages add up to >100 because respondents were asked to select all sectors that applied);
- 43.3% UK; 14.2% mainland EU; 10% Rest of the World; 9.9% US and Canada; 5.5% Far East; 2% Australia and New Zealand;
- 50.5% worked for organisations with over 1000 employees;
- 29.7% were senior managers (defined as executive or non-executive director, CRO or Partner in professional services firms) and 44.2% were middle management (one or two levels below senior management).

Statistical analysis of the data was conducted by Dr Andrew Myers of AJM Associates. With a total of 563 responses, he believes that the size of this sample gives us a high degree of confidence that we can make adequate statistical generalisations about the risk management population as a whole.

2. Detailed results

2.1 The causes of the banking crisis

2.1.1 *At a macro level, how would you assess the following factors as causes of the banking crisis?*



The highest rated factors using the four-point scale were:

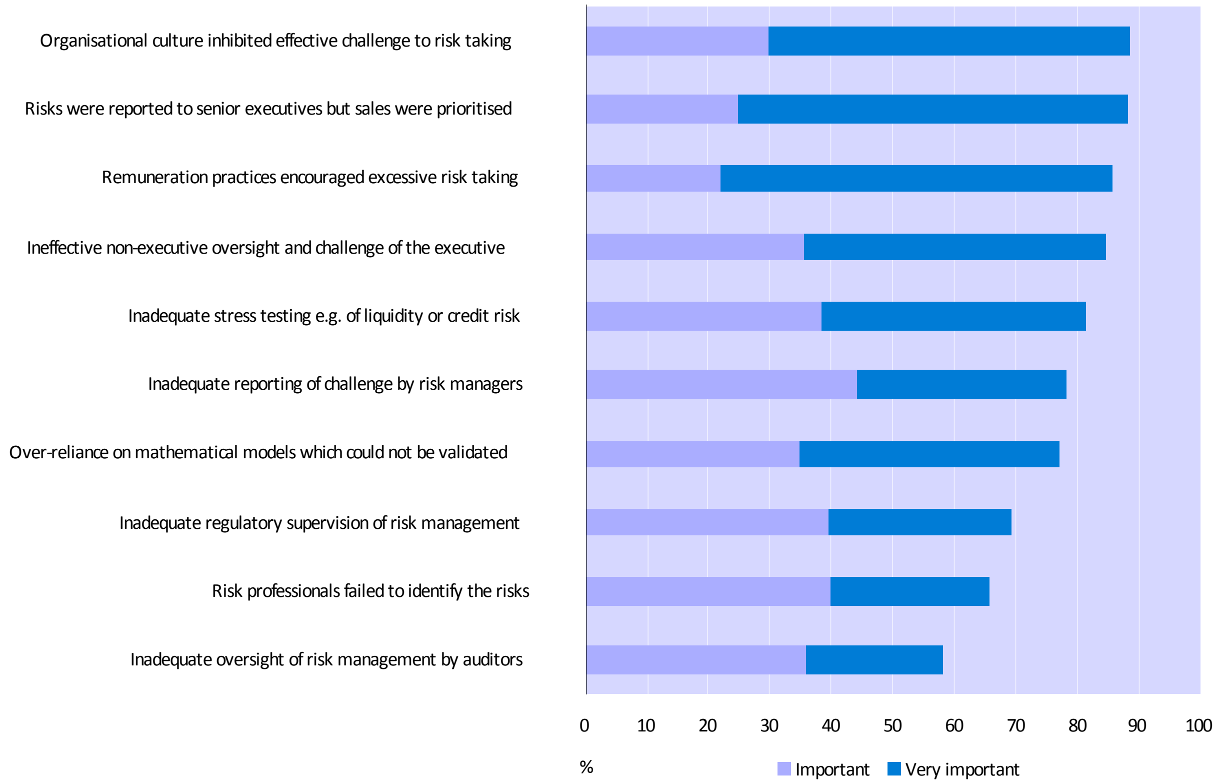
- Bank business models over-reliant on wholesale funding and securitisation;
- Failures in internal risk management;
- Inadequate non-executive oversight and challenge;
- Failures of regulatory systems to supervise effectively.

The factors most frequently identified as MOST important were:

- Individual and/or collective greed (23.1% of respondents);
- Failures of internal risk management (16.4%);
- Business models over-reliant on wholesale funding and securitisation (15.9%);
- Failures of regulatory systems to supervise effectively (14.5%).

Only three respondents cited global economic circumstances beyond anyone's control as the most important factor.

2.1.2 *Of the failures in risk management and governance of risk how important were the following in contributing to the banking crisis?*



The highest rated contributors were:

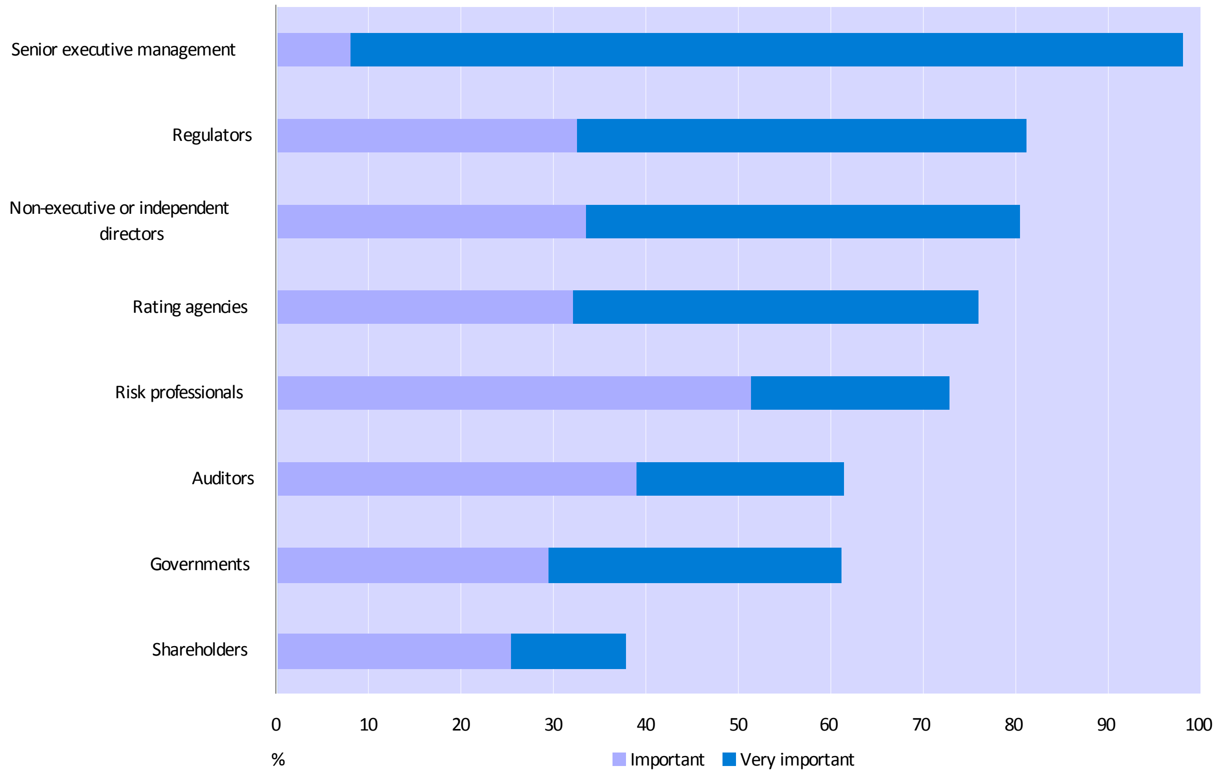
- Risks were reported to senior executives but sales were prioritised;
- Organisational culture inhibited effective challenge to risk taking;
- Remuneration practices encouraged excessive risk taking;
- Ineffective non-executive oversight and challenge of the executive.

The contributors most frequently identified as MOST important were:

- Risks were reported to senior executives but sales were prioritised (21.8%);
- Remuneration practices which encouraged excessive risk taking (20.7%);
- Organisational culture inhibited effective challenge to risk taking (15.8%).

Inadequate oversight of risk management by auditors was seen as the least important.

2.1.3 *Overall, how accountable were the following groups for the failures of risk management and governance of risk?*



The highest rated groups were:

- Senior executive management;
- Regulators;
- Non-executive or independent directors.

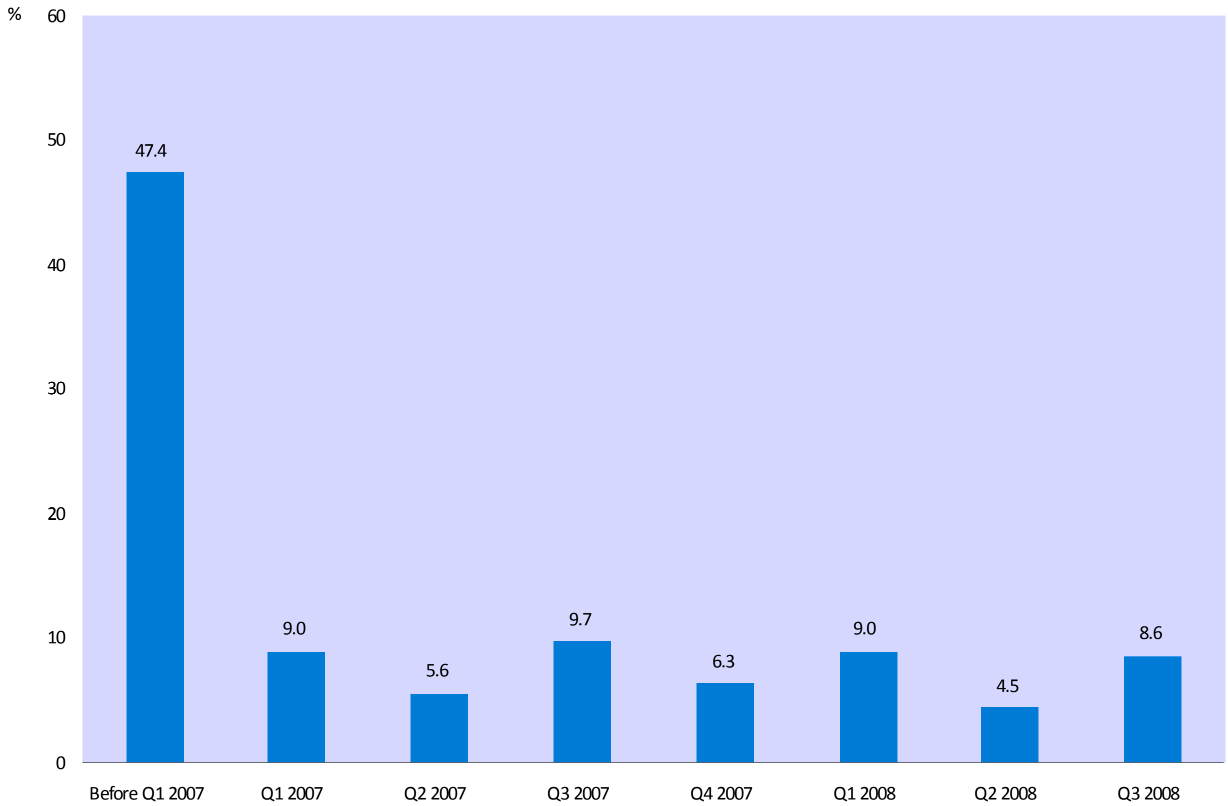
The overwhelming majority identified senior executive management as MOST accountable (65.3%).

2.2 Raising concerns

2.2.1 *Did you have any major concerns about the financial or market risks to your organisation or the organisation with which you worked in the run-up to the banking crisis?*

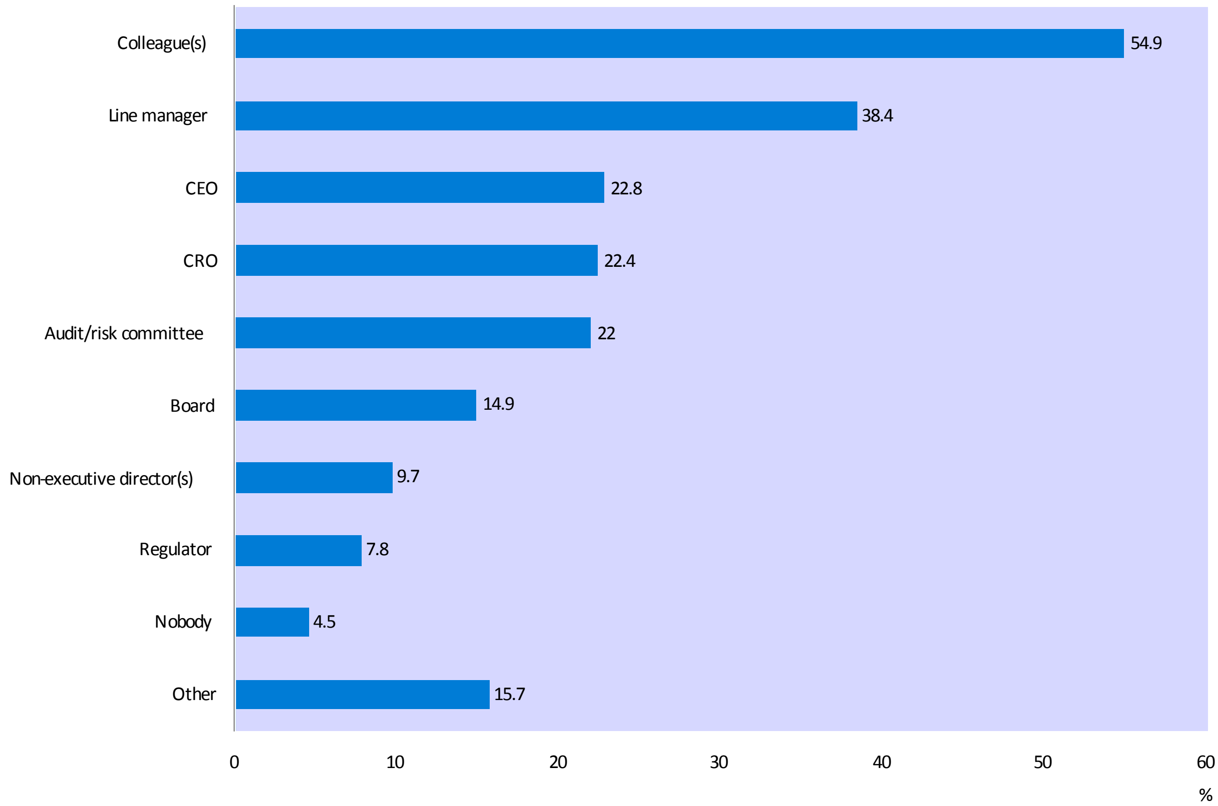
Just over half of respondents (51.8%) indicated that they had major concerns. [Only these people answered the remaining sub-questions in this section. Those with no concerns proceeded to question 2.3]

2.2.2 *When did the concerns arise?*



In most cases where there had been concerns about major risks in the run-up to the banking crisis those concerns had arisen by Q1 2007.

2.2.3 *With whom did you raise these concerns? (tick all that apply)*



The majority raised their concerns with colleagues, just over one in three with their line manager and one in five with each of CEO, Chief Risk Officer and Audit/risk committee.

2.2.4 *Did you ever feel inhibited in raising these concerns to the extent that you did not raise them when, or with someone, you should have? If so, please state why.*

One in four (or one in eight of the total sample) failed to raise concerns because they felt inhibited from doing so. The most common reason for this inhibition was apprehension about the possible effect on their future in the organisation:

"Fear of being sidelined in the business."

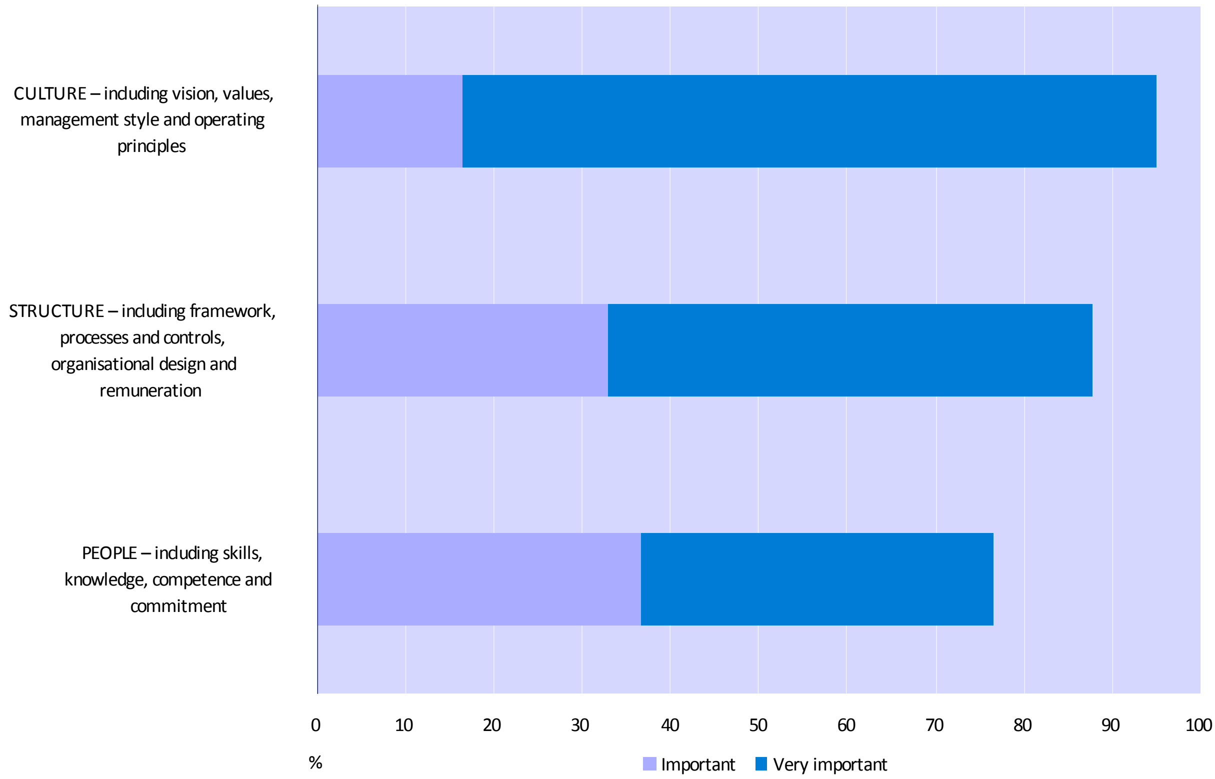
"First time I raised concerns I was denied a promotion and was moved to another department."

"There was limited tolerance for bad news in a sales driven optimistic organisation."

"The culture of all organisations prioritised sales and profits, and any attempt to raise matters relating to risk or regulation were considered 'spoil sport'."

2.3 Internal changes

2.3.1 *In the wake of the banking crisis, how would you assess the need for change in the following areas of internal risk management and governance of risk?*



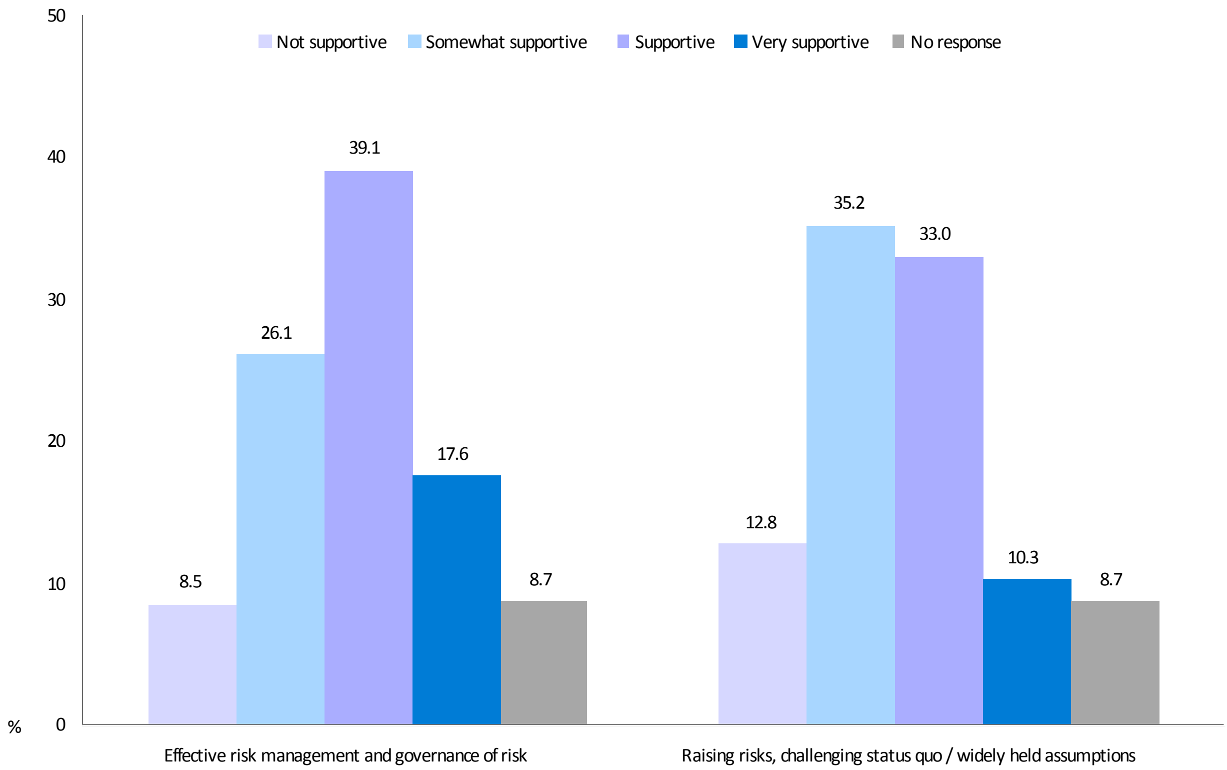
The area in which the need for internal change was rated most highly was Culture (defined as including vision, values, management style and operating principles). 78% of respondents believed it was very important that change should be made in this area.

The proportions in which change in each area was identified as MOST important were:

- Culture: 56.2% of respondents
- Structure: 26.4%
- People: 17.5%

2.3.2 *How supportive of effective risk management and governance of risk is the culture of your organisation or the organisations with which you work?*

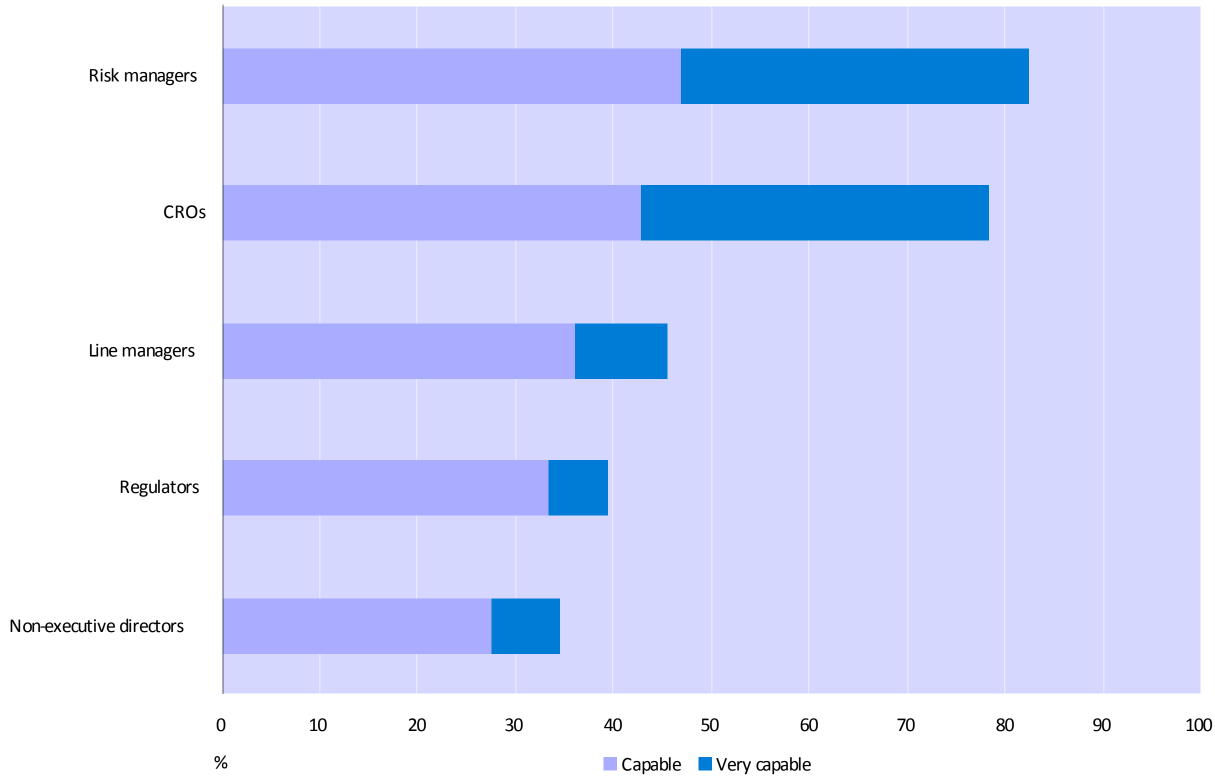
2.3.3 *Specifically, how would you describe the culture in your organisation or the organisations with which you work around raising risks about, or challenges to, the status quo or widely held assumptions?*



In the majority of cases the culture was described as being only somewhat supportive or supportive of:

- Effective risk management and governance of risk (65.2%);
- Raising risks, challenging the status quo or widely held assumptions (68.2%).

2.3.4 *How would you assess the risk management capability of the following groups in your organisation or in the organisations with which you work?*

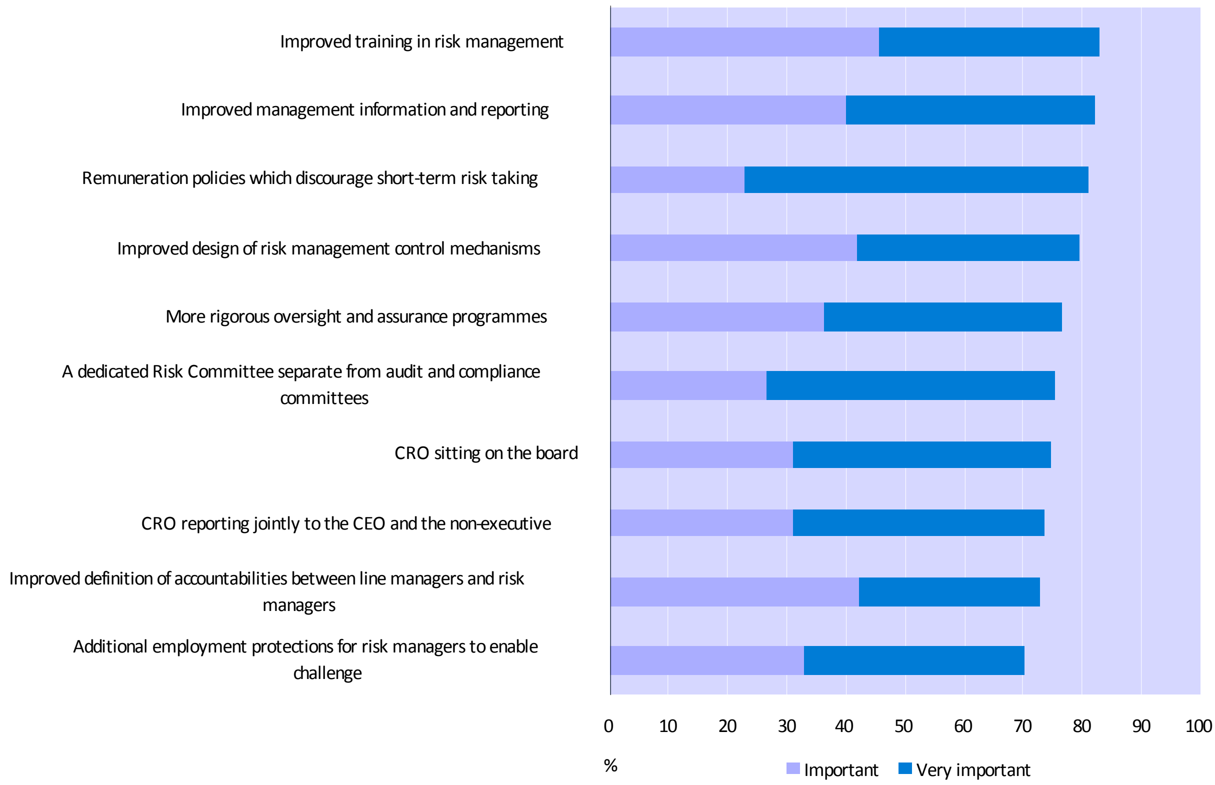


Risk management capability was rated fairly high for risk managers and chief risk officers, but less than half of respondents assessed line managers as capable or very capable in this area; and regulators and non-executive directors fewer still.

2.3.5 *How important is it that risk professionals belong to a professional institute of similar standing to those for accountants and lawyers which sets standards for competence and conduct of the profession?*

Just over half (61.4%) thought it important or very important that risk professionals belong to a professional institute of similar standing to those for accountants and lawyers which sets standards for competence and conduct of the profession.

2.3.6 *How would you assess the importance of the following proposed 'structural' changes in internal risk management and governance of risk?*



It is difficult to differentiate which is the most important from the chart as a number of changes are rated as being important or very important, although remuneration policies which discourage short-term risk taking were identified as being very important for 57.9% of those responding.

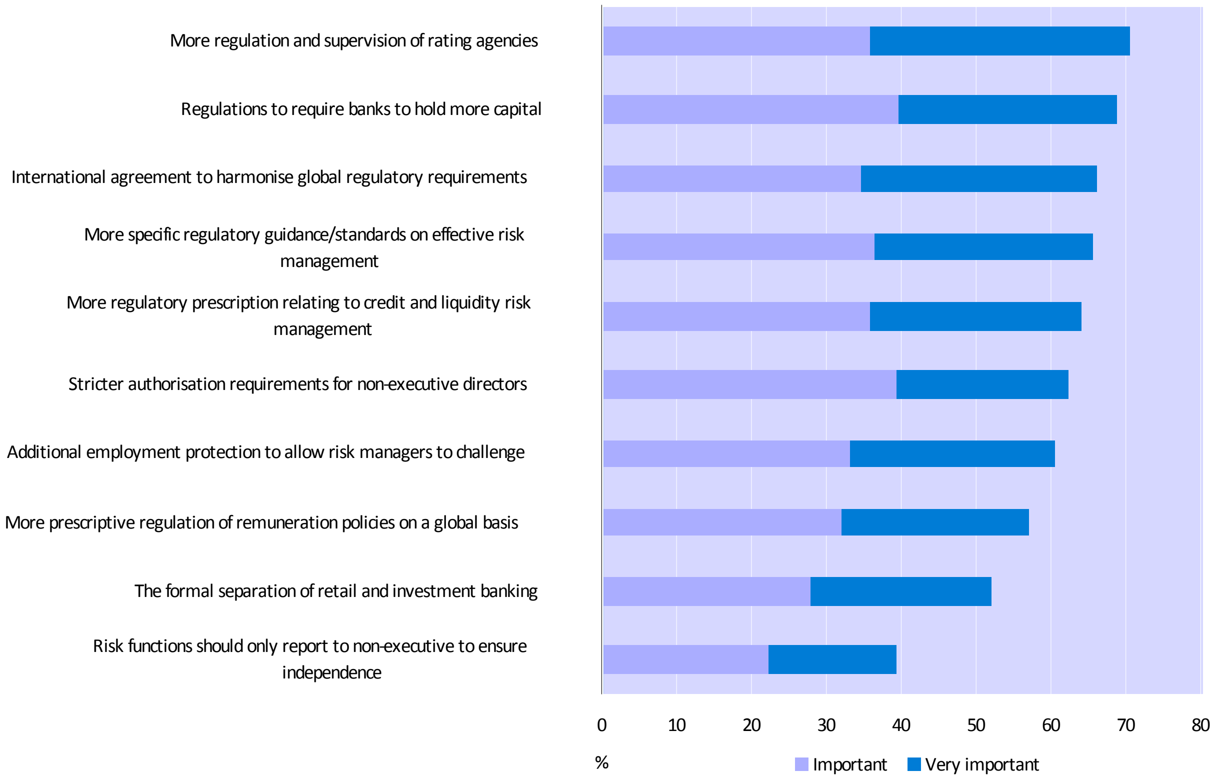
Other measures such as the CRO reporting only to the non-executive and reduced reliance on mathematical risk management models were not viewed as being that important.

Looking at the internal structural changes identified as being MOST important, the rank order becomes somewhat clearer:

- Remuneration policies which discourage short-term risk taking (20.7% of respondents);
- More rigorous oversight and assurance programmes (12.6%);
- A dedicated Risk Committee separate from audit and compliance committees (9.3%).

2.4 Regulatory changes

2.4.1 *How would you assess the importance of the following proposed changes to regulations/regulatory practice?*



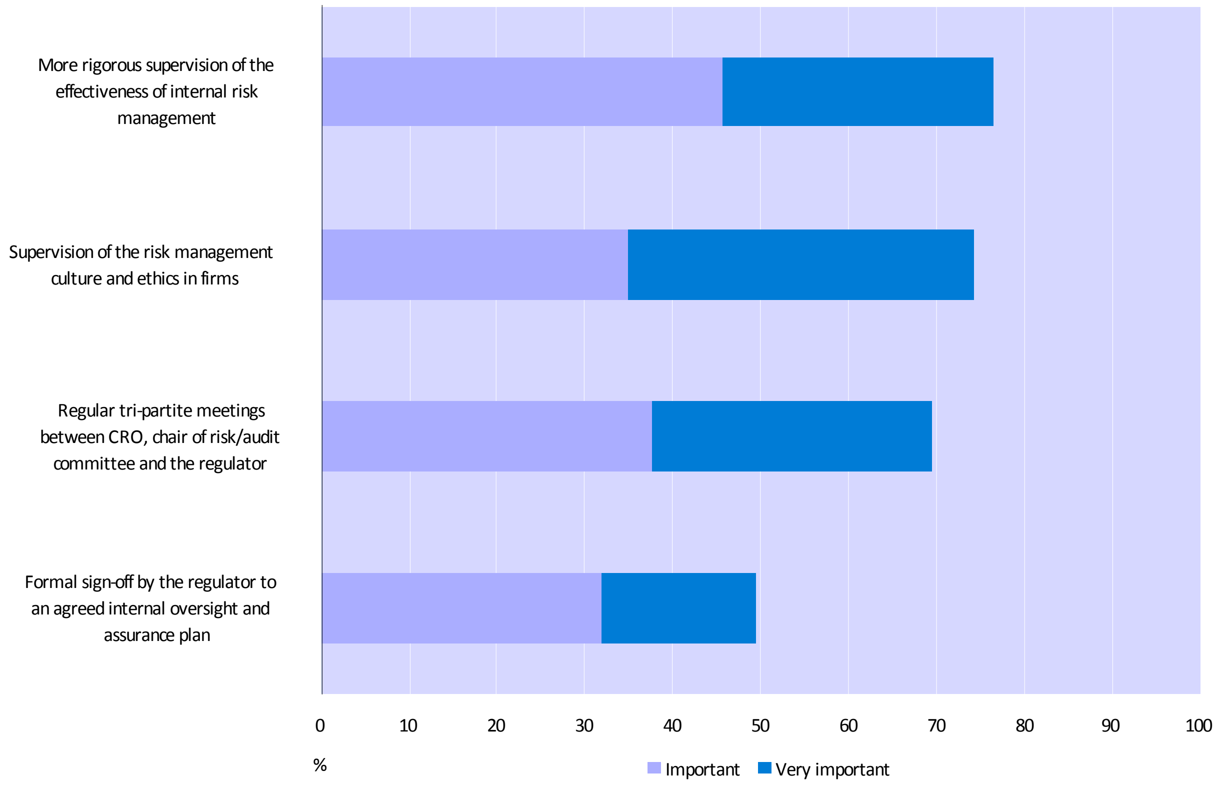
The highest rated changes were:

- More regulation and supervision of rating agencies;
- Regulations to require banks to hold more capital.

The changes identified as being MOST important were:

- International agreement to harmonise global regulatory requirements (16.4% of respondents);
- More regulatory prescription relating to credit and liquidity risk management (11.1%);
- More specific regulatory guidance/standards on effective risk management (10.9%).

2.4.2 *How would you assess the importance of the following proposed changes to the supervisory practice of regulators?*



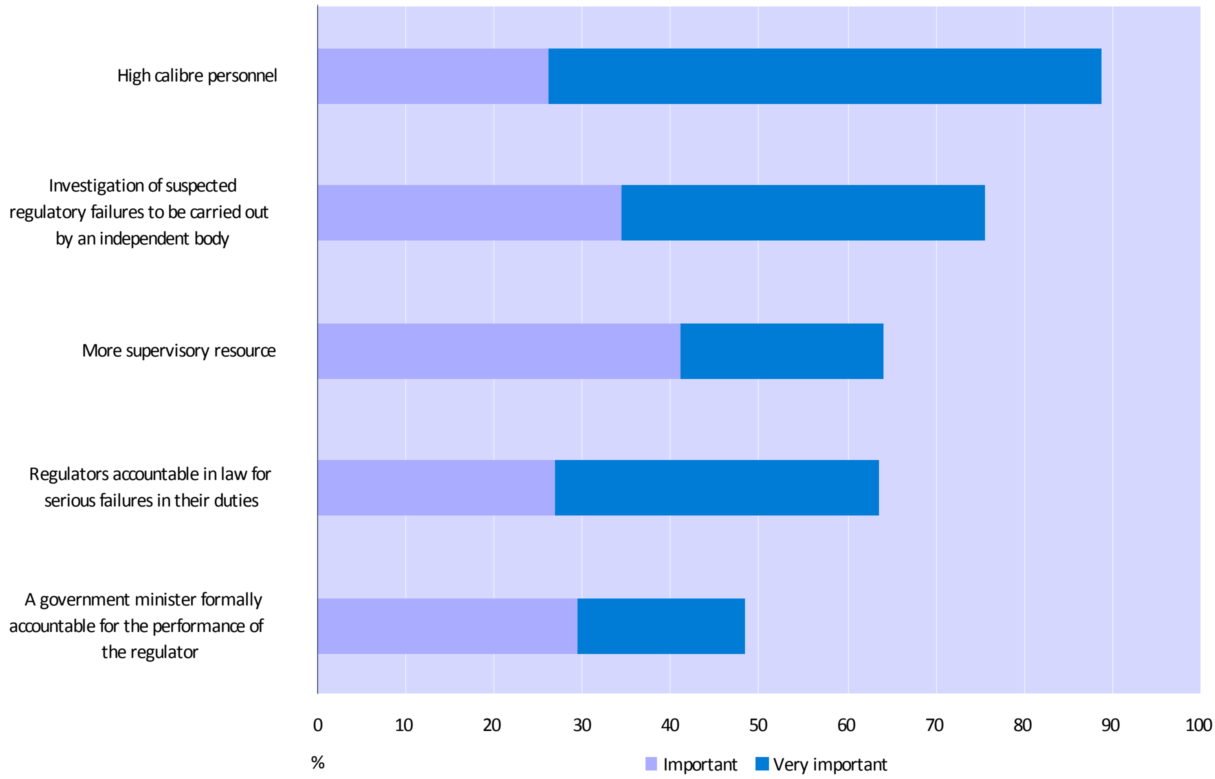
A high proportion of respondents rated three of the proposed changes important or very important:

- More rigorous supervision of the effectiveness of internal risk management;
- Supervision of the risk management culture and ethics in firms;
- Regular tri-partite meetings between CRO, chair of the risk/audit committee and the regulator.

The changes identified as MOST important were:

- Supervision of the risk management culture and ethics in firms (33.3% of respondents);
- More rigorous supervision of the effectiveness of internal risk management (26.9%);
- Regular tri-partite meetings between CRO, chair of the risk/audit committee and the regulator (26.3%).

2.4.3 *How would you assess the importance of the following proposed changes to the operation of regulators?*



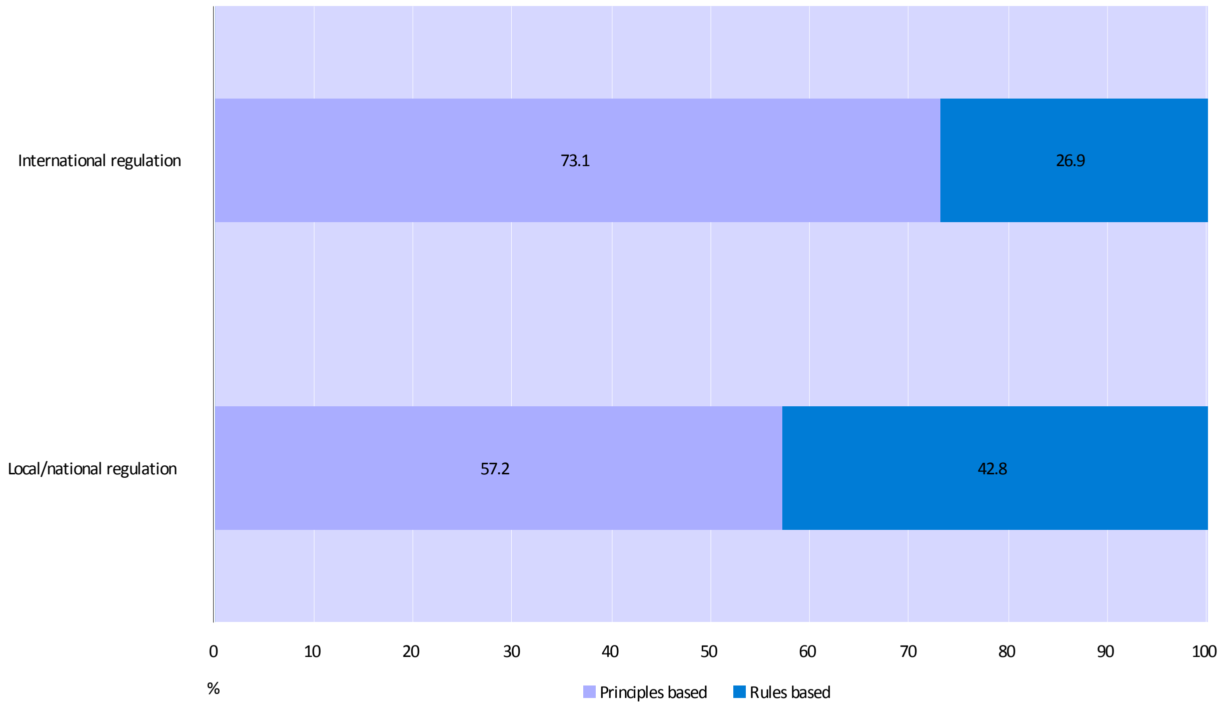
The highest rated changes were:

- High calibre personnel;
- Investigation of suspected regulatory failures to be carried out by an independent body.

The changes identified as MOST important were:

- High calibre personnel (47.3% of respondents);
- Regulators accountable in law for serious failures in their duties (21.9%);
- Investigation of suspected regulatory failures to be carried out by an independent body (14.9%).

2.4.4 *Which of the following regulatory philosophies do you believe to be more effective in the context of (a) local/national financial regulation and (b) international financial regulation?*



Overall respondents tended to favour principles-based regulation, especially with respect to international financial regulation.

2.5 Further investigation

2.5.1 As the dust settles on the banking crisis, do you believe that either or both of the following should take place?

57% of respondents supported *"A detailed investigation by regulators and other law enforcement authorities into the actions and omissions of executives, risk managers, non-executives, shareholders and regulators to uncover any civil or criminal wrong-doing*."

68.2% of respondents supported "*A detailed investigation by a public commission (such as a truth and reconciliation commission) into the actions and omissions of executives, risk managers, non-executives, shareholders and regulators solely to inform future practice and policy development."*

3. Commentary and recommendations

3.1 Risk management culture and ethics need to be at the top of the agenda both for boards and regulators

The risks were reported but senior executives chose to prioritise sales. That they did so is put down to individual or collective greed, fuelled by remuneration practices that encouraged excessive risk taking. That they were allowed to do so is explained by inadequate oversight by non-executives and regulators and organisational cultures, which inhibited effective challenge to risk taking.

Many experienced finance technicians appear from the survey to agree with the instinctive response of the general public that cultural and ethical failures were root causes of the 2008 banking crisis. The fact that such a "qualitative" finding comes from a survey of technical risk managers who we would normally expect to base their views on "hard quantitative data" and analysis makes the finding even more powerful.

Substantial internal and regulatory attention needs to be paid to the cultural and ethical dimensions of risk management and corporate governance if similar crises are to be avoided in future. Now, and on an ongoing basis, these issues need to be close to the top of the boardroom agenda for firms and the regulators' agendas for supervision.

Some practitioners and commentators have been calling for greater focus on risk culture and ethical decision making for years, but directors and regulators have generally been reluctant to address them, perhaps wary of involving themselves with what they consider to be qualitative intangibles, and uncertain of the means of measurement. But it is perfectly possible to assess and develop both culture and ethics, and the tools and methodologies for doing so can be put in place, where they do not exist already.

We note that nearly 75% of the respondents to the survey considered that regulatory supervision of the risk management culture and ethics in firms was either important or very important. It is no longer appropriate for regulators to bypass the mitigation of extremely important regulatory risk as if it was simply not possible. We recommend that regulators design a detailed supervisory programme to understand and assess the risk management and ethical culture in operation at their member firms.

However, in so doing, it is vital that any culture review and assessment is carried out in the most rigorously independent way – experience has shown that in cultures where there is an indisposition to challenge, staff can be very wary of raising issues about that culture if there is any risk that their anonymity may be prejudiced.

3.2 Non-executive oversight and creating an adequate separation and balance of powers in the boardroom

It is clear that those responsible for overseeing and restraining the actions of the executive were not competent enough, not rigorous enough or not powerful enough to do so. This survey suggests where some of those weaknesses lie.

The majority of risk managers say they expected a major crisis, and reported their concerns, but the executive simply prioritised sales. It is thus clear that in large part the banking crisis was caused by an inadequate separation and balance of powers between the executive and those accountable for overseeing their actions and "reining them in": internal control functions such as finance, risk, compliance and internal audit; non-executive chairmen and directors; shareholders; external auditors; regulators and politicians.

Inadequate non-executive oversight and challenge was assessed by 82% of respondents to the survey as an important or very important cause of the crisis. They echo the verdict of two public reviews relating to the crisis conducted in the UK:

"[Banks'] *corporate governance was often totally ineffective. The evidence shows that many non-executive directors failed to act as an effective check on, and challenge to, executive managers.*" "…*non-executive directors have operated as members of a 'cosy club'*" (UK Treasury Select Committee).

"…*the necessary challenge was missing from governance structures, in particular boards.... Evidence from the current crisis indicates that some NEDs have struggled to fulfil their role of providing strong independent oversight of the executive management.*" (Turner Review, Financial Services Authority).

However, the more recent Walker Review of corporate governance in UK banks and other financial sector entities issued on 26 November 2009 has not gone nearly far enough to achieve the appropriate balance of power in the boardroom.

Our first proposal is the creation of a new formal non-executive director post (perhaps known as the Director of Oversight & Assurance) dedicated to and accountable for risk management, compliance and internal audit. This new non-executive would be accountable for and highly experienced in setting the framework and internal standards/policies/guidance relating to risk management, compliance and internal audit and, crucially, providing independent evidence-based assurance of effective performance to all key stakeholders. This director would certify the adequacy and effectiveness of risk management, compliance and internal audit once a year and report on the same periodically to internal committees and the relevant regulator. Along with the Chief Risk Officer, the Director of

Oversight & Assurance would also be required to document a formal opinion on the risks associated with major strategic decisions and transactions. To fulfil these accountabilities, this non-executive needs to be highly experienced in risk management, regulatory compliance and audit/assurance techniques and practices. The role might be appropriate for a retiring Chief Risk/Compliance Officer or audit professional. The time commitment for this role required in large financial entities will be significantly greater than for standard non-executive directors.

The new non-executives would need resources to fulfil their accountabilities and could not simply rely on functions which report into the executive. This would create an obvious conflict of interest and could not be fully independent. So our second proposal is that that all the key operational control functions (risk, compliance and internal audit) should no longer report to the executive, but should report into the new non-executive Director of Oversight & Assurance. As the survey and the crisis itself demonstrate so clearly, when these functions report to the executive, it is very difficult, if not impossible, for them to raise effective challenge to the actions of the executive without putting themselves at personal risk. If they report to a new non-executive they will be free to raise whatever challenges they consider appropriate without fear for their own positions. We note that this change is not one that the survey respondents considered important. However, we also understand that at Banco Santander – one of the global banks least affected by the crisis – the Chief Risk Officer reports to the non-executive Vice Chairman. That 'the risk management function [within banks] should report directly to the non-executive members of the board' was also a specific recommendation of the UK Treasury Select Committee.

There are great benefits to this proposed new structure: the Director of Oversight & Assurance will be more focused on and experienced in his or her crucial accountabilities than other non-executives, and thus it is likely that the approach to reporting and oversight by the governance committee structure can be dealt with in shorter meetings without the need for less experienced committee members to review and arrive at judgements on information that they may not fully understand. Much greater reliance could be placed on the expertise and independent resources available in such a new organisational structure.

3.3 Focus on the effectiveness of internal risk management and governance

It is a truism to say that the better the internal checks and balances in risk management, compliance, internal audit and non-executive oversight (what might be called "the internal regulatory system"), the less additional supervision and enforcement is required by the regulators themselves to ensure the stability of firms.

The problem has been that regulators' supervision of these crucial internal control functions has not been intensive enough or consistent enough. If internal risk managers saw the crisis coming, then regulators should also have become aware of this in the course of their supervisory activities.

To support and ensure the significant strengthening of the internal checks and balances, regulators should focus a substantial amount of their supervisory attention on the effectiveness of the internal oversight and assurance functions (i.e. the internal control functions of risk, compliance and internal audit.)

However, to achieve this, policymakers and regulators must also now develop a more detailed approach to assessing and supervising risk management, compliance and internal audit, and work closely with such functions to radically increase their effectiveness.

In conjunction with the industry, regulators need to develop clearer standards of what truly excellent and effective risk management and governance 'look like'. What is required is a much clearer benchmark of best practice: a platform on which firms can base their own policy setting, oversight and assurance programmes, and regulators their supervisory activity.

3.4 Statutory auditors

As the recent report into the collapse of Lehman Brothers shows yet again, the independence of the statutory auditors is questionable when they are paid substantial non-audit fees.

We recommend either that firms which carry out statutory audits should not be permitted to provide any other type of professional advice or that, at the minimum, they should not be permitted to provide non-audit services to firms which they audit.

In addition, we recommend that the relevant regulator should also be involved in supervising the level and depth of statutory audit carried out in regulated firms to ensure that it is commensurate with the level of risk the firm is considered to pose to financial stability.

3.5 Risk management capability

The risk management capability of line managers, non-executive directors and regulators has been called into question by this survey, and by the self-evident facts of the crisis itself. More effective assessment and development of competence in risk management is essential for these groups.

To develop the calibre of personnel at the regulators, we propose an urgent review of the capability gap, followed by recruitment and competitive compensation of the additional resources required. We also recommend the development of a "secondment programme" between regulated firms and regulators with the objective of developing both capability and relationships.

There is clear support from the survey for the creation of a stronger, more formal professional body to regulate the risk management profession. As is the case for lawyers, accountants and actuaries, such a body would set the qualification requirements and a Code of Conduct for financial sector risk managers (including those who work for regulators). Risk management and the role of Chief Risk Officer are now arguably equally as important functions as finance and the CFO. This should be investigated thoroughly and could potentially be based on one of the existing 'voluntary' risk management institutes or bodies.

3.6 Development of public policy

We cannot avoid the conclusion that there should have been and still could be a detailed and rigorous enquiry into exactly who did and did not do what, in key order, so that the regulatory and internal governance systems and controls can be rebuilt. Without such an enquiry, any review of policy will be incomplete.

The fact that risk managers from around the world support such a thorough enquiry suggests that they would be willing to say even more than they have in this survey. Such additional intelligence would be invaluable in the final stages of policy review.

Finally, we recommend that an international group of Chief Risk Officers and other risk management professionals, representing all key financial centres, needs to meet regularly for discussion and to feed their thought leadership into the policy debate.

Moore, Carter & Associates in conjunction with Professor Kakabadse of Cranfield School of Management are prepared to facilitate such a group and will be contacting relevant CROs and other potentially interested parties accordingly.

4. Profile of respondents

- The majority of respondents are male.

Gender	%
Male	68.7
Female	16.7
No response	14.6

- The majority are aged between 35 to 54 (59.0%).

Age	%
24 or under	0.7
25–34	10.5
35–44	28.4
45–54	30.6
55–64	12.4
65 and over	2.8
No response	14.6

- Professional experience within the sample varies.

Professional experience	%
0–5 years	21.3
6–10 years	17.1
11–20 years	28.6
More than 20 years	18.5
No response	14.6

- The majority have at least an undergraduate degree.

Highest level of education	%
No formal qualification	1.2
School/college certificate	7.8
Undergraduate	24.0
Postgraduate - masters	39.4
Postgraduate - doctorate	13.0
No response	14.6

- Almost half have a professional qualification in risk management.

Professional qualification	%
Banking	16.2
Insurance	13.9
Asset management	7.6
Risk management	36.6
Regulation compliance	7.3
No response / none	18.4

- There is a mix of large and small to medium-sized organisations.

Size of organisation	%
0–500	26.3
501–1000	8.2
1001–10000	20.8
More than 10000	29.7
No response	15.1

- A large proportion of senior and middle management (73.9%) responded to the survey.

Level of seniority	%
Senior management	29.7
Middle management	44.2
Other	11.0
No response	15.1

- Almost a third (31.4%) are internal risk managers.

Role	%
Senior manager/executive	9.4
Internal risk manager	31.4
Internal compliance / control / auditor	9.6
Professional services provider	19.9
Other/external	14.6
No response	15.1

- The majority (40%) work in banking.

Sector	%
Banking	40.0
Insurance	22.4
Asset management	18.3
Other sectors	30.2
No response	15.1

(Respondents selected all sectors that applied; this accounts for the percentage adding up to over 100.)

- The majority of responses are from the UK.

Country	%
United Kingdom	43.3
United States/Canada	9.9
European Union	14.2
Other Europe	4.1
Africa	3.0
Middle East	1.8
Far East	5.5
Central/South America	1.1
Australia/New Zealand	2.0
No response	15.1

5. Differences in perspective

Statistical comparison was made of the impact of demographic variables on the key survey questions:

- Role
- Seniority
- Length of professional experience in risk management
- Professional qualification in risk management
- Industry sector
- Geography

No significant differences in perspective were revealed in relation to either seniority or length of professional experience in risk management. Average ratings (e.g 1.73 compared to 2.01) were calculated by attributing a value to each response of 0 (not important), 1 (somewhat important), 2 (important), or 3 (very important). Percentage figures refer to the proportion of respondents identifying a factor as most important. There were significant differences found in relation to the other groups when the average of their responses was compared to the average of all respondents.

On the macro-level causes of the banking crisis:

- Those working exclusively in the banking sector rated *accounting standards which permitted over-valuation of banking assets* less important than the average (1.73 compared to 2.01).

On the contribution to the banking crisis of failures in risk management:

- EU-based respondents outside the UK were less likely to identify *organisational culture inhibiting effective challenge to risk taking* as most important (6.3% compared to the average of 15.3%);

- North America-based respondents rated *remuneration practices* as less important than the average (2.14 compared to 2.44);

- North America-based respondents were less likely to identify *organisational culture inhibiting effective challenge to risk taking* as the most important contributor (7.1% compared to the average of 15.3%);

- Respondents based outside the EU and N America were less likely to identify *remuneration practices which encouraged excessive risk taking* as the most important contributor (13.3% compared to the average of 21.9%).

On the accountability of certain groups for failures in risk management:

- UK-based respondents were more likely to identify *senior executive management* as most accountable (73.3% compared to the average of 65.6%);

- EU-based respondents outside the UK were less likely to identify *senior executive management* as most accountable (53.8% compared to the average of 65.6%);

- EU-based respondents outside the UK rated *non-executive or independent directors* as less accountable than the average (1.77 compared to 2.23);
- North America-based respondents were less likely to identify *senior executive management* as most accountable (48.2% compared to the average of 65.6%).

On internal changes required in the wake of the banking crisis:

- EU-based respondents outside the UK were less likely to identify *culture* as the area in which change was most important (46.3% compared to the average of 55.4%);
- North America-based respondents were less likely to identify *culture* as the area in which change was most important (42.9% compared to the average of 55.4%);
- North America-based respondents were more likely to identify *people* as the area in which change was most important (26.8% compared to the average of 17.4%).

On internal structural changes required:

- Those working exclusively in the banking sector rated *reduced reliance on mathematical risk management models* less important than the average (1.45 compared to 1.70);
- EU-based respondents outside the UK rated *reduced reliance on mathematical risk management models* less important than the average (1.36 compared to 1.70);
- EU-based respondents outside the UK were less likely to identify *more rigorous oversight and assurance programmes* as most important (3.8% compared to the average of 12.6%);
- North America-based respondents rated *reduced reliance on mathematical risk management models* less important than the average (1.35 compared to 1.70);
- North America-based respondents rated *remuneration policies* less important than the average (2.05 compared to 2.32);
- North America-based respondents were less likely to identify *more rigorous oversight and assurance programmes* as most important (3.6% compared to the average of 12.6%).

On changes required to regulations/regulatory guidance;

- Professional services providers were less likely to identify *international harmonisation of regulatory requirements* as most important (6.3% compared to the average of 16.4%);
- Those working exclusively in the banking sector rated *international harmonisation of regulatory requirements* more important than the average (2.52 compared to 2.20);
- Those working exclusively in the banking sector were more likely to identify *international harmonisation of regulatory requirements* as most important (25.5% compared to the average of 16.4%);

- Those working exclusively in the banking sector rated *formal separation of retail and investment banking* less important than the average (1.34 compared to 1.77);
- Those working in non-banking sectors rated *formal separation of retail and investment banking* more important than the average (2.05 compared to 1.77);
- EU-based respondents outside the UK rated *international harmonisation of regulatory requirements* more important than the average (2.68 compared to 2.20);
- EU-based respondents outside the UK were more likely to identify *international harmonisation* as the most important change (32.5% compared to the average of 16.4%);
- EU-based respondents outside the UK rated *formal separation of retail and investment banking* less important than the average (1.47 compared to 1.77);
- North America-based respondents rated *international harmonisation of regulatory requirements* less important than the average (1.82 compared to 2.20).

On changes to the supervisory practice of regulators:

- Professional services providers were less likely to identify *supervision of the risk management culture and ethics in firms* as most important (25.0% compared to the average of 33.3%);
- EU-based respondents outside the UK were more likely to identify *more rigorous supervision of the effectiveness of internal risk management* as most important (36.3% compared to the average of 27.5%);
- North America-based respondents rated *supervision of the risk management culture and ethics in firms* less important than the average (1.75 compared to 2.08);
- North America-based respondents were less likely to identify *supervision of the risk management culture and ethics in firms* as most important (23.2% compared to the average of 33.3%);
- North America-based respondents rated *regular tri-partite meetings* less important than the average (1.64 compared to 1.92).

On changes required to the operation of regulators:

- Senior managers / executives were more likely to identify *independent investigation into regulatory failures* as most important (22.6% compared to the average of 14.9%);
- Professional services providers rated *independent investigation into regulatory failures* less important than the average (1.79 compared to 2.08);
- Those with a professional qualification in risk management were less likely to identify *higher calibre personnel* as most important (37.9% compared to the average of 47.3%);

- Those working exclusively in the banking sector rated *independent investigation into regulatory failures* less important than the average (1.73 compared to 2.08);
- Those working exclusively in the banking sector were more likely to identify *higher calibre personnel* as most important (56.7% compared to the average of 47.3%);
- Those working in non-banking sectors rated *making regulators accountable in law for serious failures in their duties* more important than the average (2.29 compared to 1.87);
- Those working in non-banking sectors were less likely to identify *higher calibre personnel* as most important (39.0% compared to the average of 47.3%);
- UK-based respondents rated *making regulators accountable in law for serious failures in their duties* more important than the average (2.13 compared to 1.87);
- EU-based respondents outside the UK rated *independent investigation into regulatory failures* less important than the average (1.71 compared to 2.08);
- North America-based respondents rated *independent investigation into regulatory failures* less important than the average (1.64 compared to 2.08);
- Respondents based outside the EU and N America rated *making regulators accountable in law for serious failures in their duties* more important than the average (2.18 compared to 1.87).