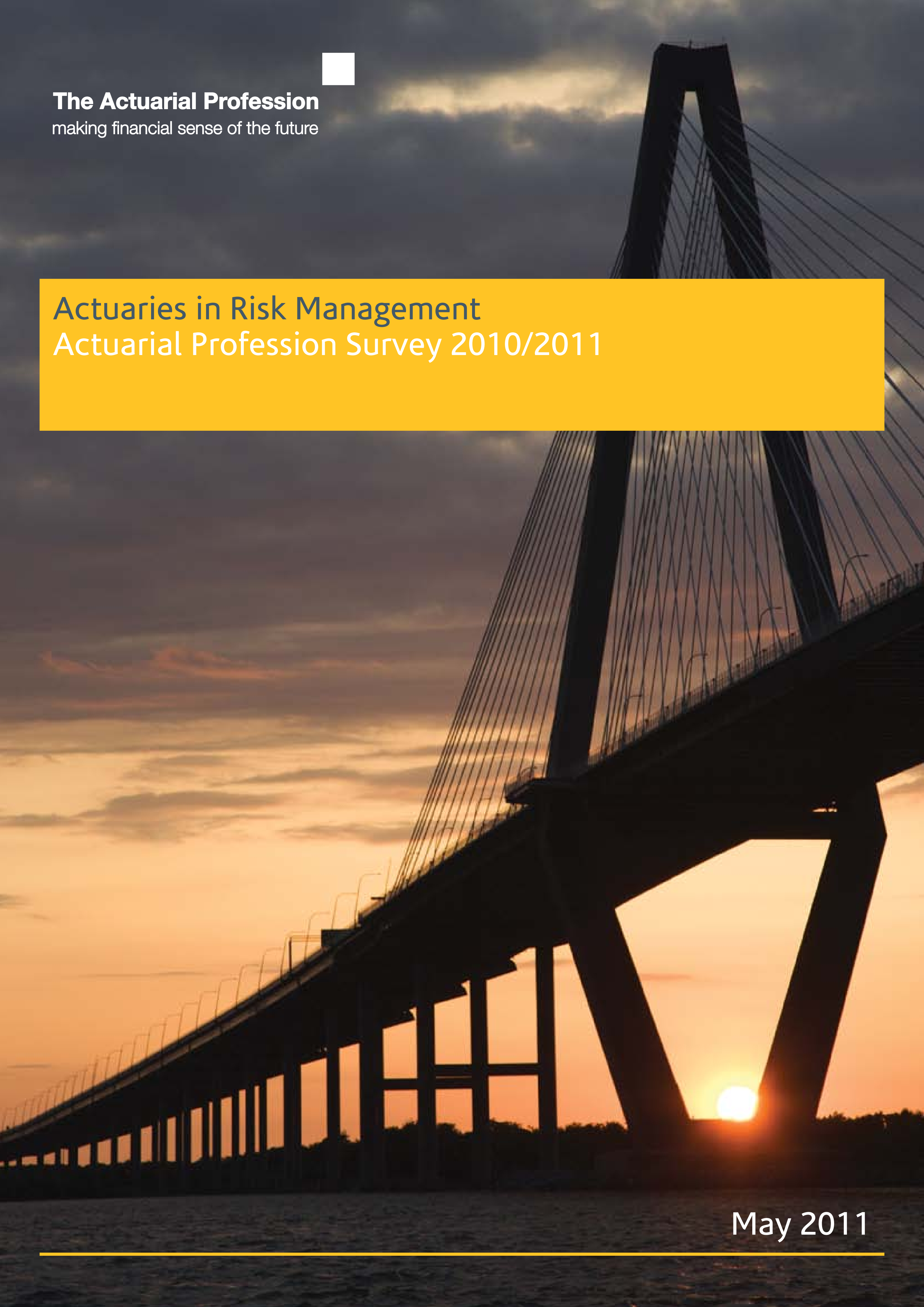
The Actuarial Profession
making financial sense of the future

Actuaries in Risk Management
Actuarial Profession Survey 2010/2011



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Introduction

With their deep expertise in risk, actuaries are widening their influence with careers moving beyond financial services into newer areas such as healthcare and energy. The actuarial qualification provides a foundation that is both broad and technically detailed, helping to equip actuaries to play to their personal strengths to expand their universe of opportunities. It is, therefore, no surprise to find actuaries aiming to be to the fore in the emerging fields of risk management, including the development of risk-based approach to managing an enterprise.

Enterprise risk management (ERM) is a growing and exciting field that demands both technical and strategic expertise. James Lam, appointed by GE Capital in 1993 as the world's first Chief Risk Officer (CRO), defines enterprise risk management as "the integrated management of business risk, financial risk, and operational risk and risk transfer to maximise a firm's shareholder value." The opportunity to fundamentally impact the way business is conducted in the future is drawing individuals from a wide range of backgrounds and disciplines keen to shape the approaches which will transform business management in the 21st century.

Actuaries have moved early into risk management roles, particularly within the traditional employment areas of insurance, reinsurance and pensions and among their ranks are many who believe this new discipline offers good opportunities for future actuarial development. The Actuarial Profession has acted to support such development by its direct involvement at an international level in the development of the global risk management qualification, the Chartered Enterprise Risk Actuary (CERA).

To gain a greater depth of understanding of the needs and opportunities in this quickly changing field, the Actuarial Profession has undertaken a detailed study of developments in risk management in financial services. This report provides an overview of the findings from a survey conducted in Q4 2010/Q1 2011 which forms a part of that larger study.

37 qualitative interviews were conducted with senior professionals including 19 CROs, from insurance, reinsurance, universal/retail banking, investment banking and asset management. The interviews included qualitative opinion gathering with respondents free to air their opinions under conditions of anonymity, as well as quantitative elements, providing a deep insight into the opportunities and challenges for actuaries within risk management.

We would like to thank all who generously gave their time during a period of intense activity and tight deadlines.

Executive summary

Trends in risk management

- most organisations in the financial services sector have significantly enhanced their risk management in recent years with a clearly defined governance structure, often established in the last year or two, and direct links from risk management to the highest levels of senior management - Solvency II has been a major driver for insurers;

- the key risks, and how they manage them, naturally vary among the insurance, reinsurance and banking/asset management sectors; but product risk, eg insurance risk, was the most significant risk to be managed, followed by market risk

- most organisations feel they are at least reasonably well prepared for their immediate risk management needs but almost all expect to raise the levels of risk management to manage capital and profit better over the next few years – many in insurance expect there will be a significant learning curve in Solvency II over the next few years

- over half the insurers expect to see some change in their risk priorities, with growing emphasis on strategic risk; reinsurers and banks/asset managers did not anticipate very much change - the main drivers for the future development of risk management are in order, regulation, top-down culture and business strategy.

Skills required for leading roles in risk managers

- risk management is a strategic issue for the most senior management, or board of directors – in order to make informed decisions they need qualitative and quantitative inputs, communicated to them effectively in their business context

- the common characteristics and requirements of senior risk managers and CROs include:

  - managerial thinking, including leadership, the ability to see the bigger picture, thinking outside the box, pragmatic judgment

  - strong technical and quantitative skills and investment market knowledge, and the ability to appreciate the inputs and outputs, and limitations, of risk models and scenario testing

  - a strategic understanding of risk, along with a deep understanding of the area of business and the competitive market in which the business operates

  - the ability to work with a multidisciplinary team to synthesise multiple complex issues into a coherent whole

  - highly effective communication and relationship management skills, from influencing and challenging at the front line level to focused board level presentation.

Actuaries in risk management

- actuaries are critical to many risk related roles in insurance and reinsurance but, for many actuaries, access to senior risk management roles in these organisations is limited through a lack of experience in broader business areas

- actuaries are recognised for very strong quantitative skills, generally good modelling skills and a good ability to handle uncertainty

- capabilities of actuaries differ according to experience, but generally they need to become stronger in effective communication and influencing at both front-line and senior levels with an appreciation of the overall context of their organisation's business

- actuaries have opportunities to access market risk roles in banking and asset management.

The Actuarial Profession has been developing risk management as a core competency for actuaries over the years as its members have extended their activity from traditional areas of insurance and pensions to investments and wider areas such as enterprise risk management. We are confident that actuaries can add value and compete in the expanding field of risk management. We will build on this research to help actuaries to acquire new and enhanced skills to contribute more to the development and leadership of risk management in relevant areas and to be proactive in taking those skills to market.

What does the role of risk manager involve?

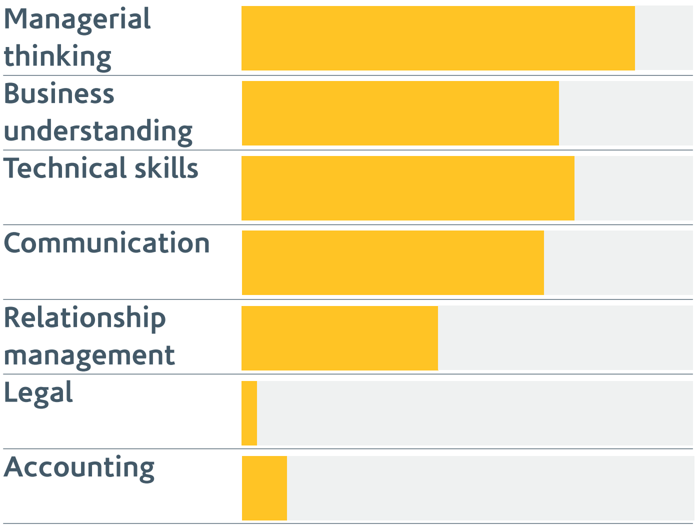
Inspiring the staff across a large business to understand, care about and implement risk management is a major undertaking, particularly since it often requires people to change the way they think and do their jobs, and today this is a very large part of the role of senior risk managers.

When you combine that communication and leadership challenge with the need to not only understand risk at the technical level, but also to see the big picture and be influential in strategic decision making, then the breadth of knowledge and experience required for risk management at senior levels highlights why this is not a career option open to everyone.

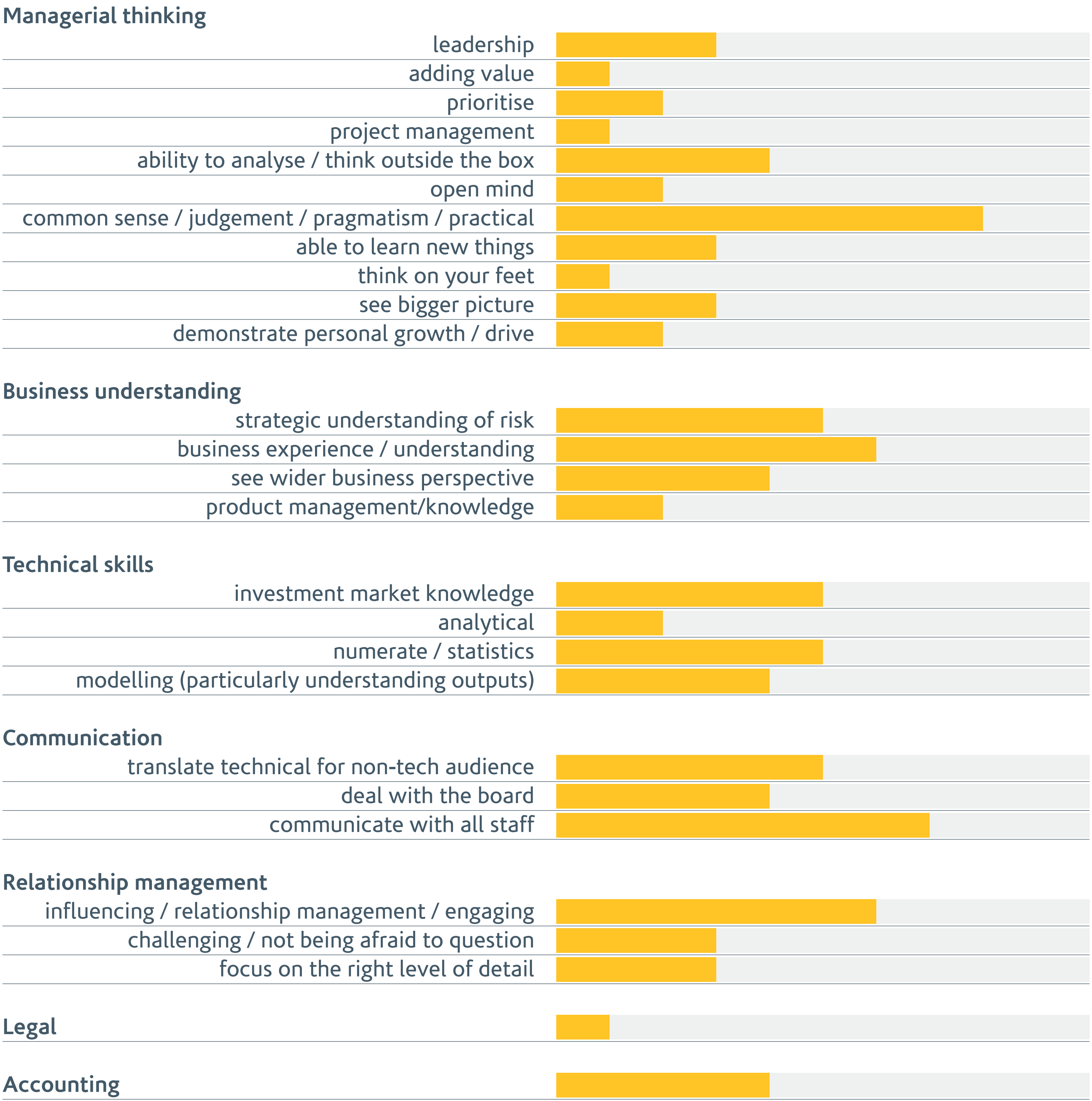
It is not only at senior levels that communication and management skills, along with a deep understanding of the business are required, as these skills are equally important in specialist roles such as market risk management, where risks must be considered in the business context with a strong appreciation of business strategy.

Risk management skills requirements

The risk management skills requirements listed by interviewees add up to a well-balanced individual who can combine technical skills with the strengths that you would seek in a broader business management high flier.



Breakdown of skills required to be a risk manager



Communication is a very important part of the risk manager's job, not only to explain technical information to non-technical board level individuals, but also to switch perspectives to persuade and influence staff across the business. Our interviewees stressed the need for strong interpersonal or relationship management skills in order to influence and to gain buy-in, while also being able to challenge and question. The ability to build relationships goes beyond communication as one interviewee explains,

"Good risk managers understand how to work with people, for example if there's a form to fill in they'll come along and fill it out in front of you. They're easy to do business with rather than having a 'them and us' mentality."

To reflect these two aspects of *"getting the message across"*, in the graph on the previous page we have split what might otherwise have been a single communication category into two separate areas of communication and relationship management, however these combined skills requirements were mentioned more by our interviewees than any other category.

The need for a strong understanding of the business and industry was viewed as important by 88% of interviewees from insurance and reinsurance companies as one interviewee from the reinsurance industry explains,

"If it's risk management in an insurance company that does non-life or savings products or a reinsurer, you have to have the relevant experience to appreciate the full implications of what you're trying to assess."

This business knowledge does not only apply to the CRO who is working at a strategic level, but, as one insurance interviewee explained, also at the technical level,

"You need the experience of what's coming out of these models to understand and say 'does that actually make sense?' It can't be stressed enough that you need the business knowledge to apply and appreciate the results that come out of the models. Also, you need some business knowledge to construct the models in a sensible way."

The industry understanding described by interviewees relates to a knowledge built over time from experience and is distinct from business acumen or general management skills, which we have grouped in our chart as ‘managerial thinking’. Highest among these management skills is the ability to apply common sense, as well as to consider the bigger commercial picture and to be pragmatic. These qualities are again required in different forms at all levels of risk management, as the UK CRO of one international insurance company explains,

“There’s an element of pragmatism needed to make it work, pragmatism as opposed to theoretical perfection. There’s an element of compromise needed as well. You can kill the business if you try to be too particular around the risks that you should take. The business is really one of taking risks. You get paid for managing that appropriately but accepting that there will be risks.”

Technical expertise is considered to be equally important by the majority of interviewees, with maths, statistics, modelling and programming skills specifically mentioned, but investment knowledge, including strength in derivatives, was seen as particularly important. A number of interviewees believe this requirement will increase in the future, potentially offering opportunities for those with strong market knowledge and modelling skills.

Skills requirements were relatively consistent across the sectors of our interviewees’ businesses apart from a greater stress on technical requirements within asset management and investment banking where the roles more specifically related to market risk. Business skills were less highlighted in these areas, but ‘managerial thinking’ and communication skills were also important.

Before we consider how well actuarial expertise fits the requirements of the roles developing within risk management, we take a look in more depth at how risk management is being implemented across financial services as well as the drivers, challenges and priorities now and in the future.

Drivers of risk management activity

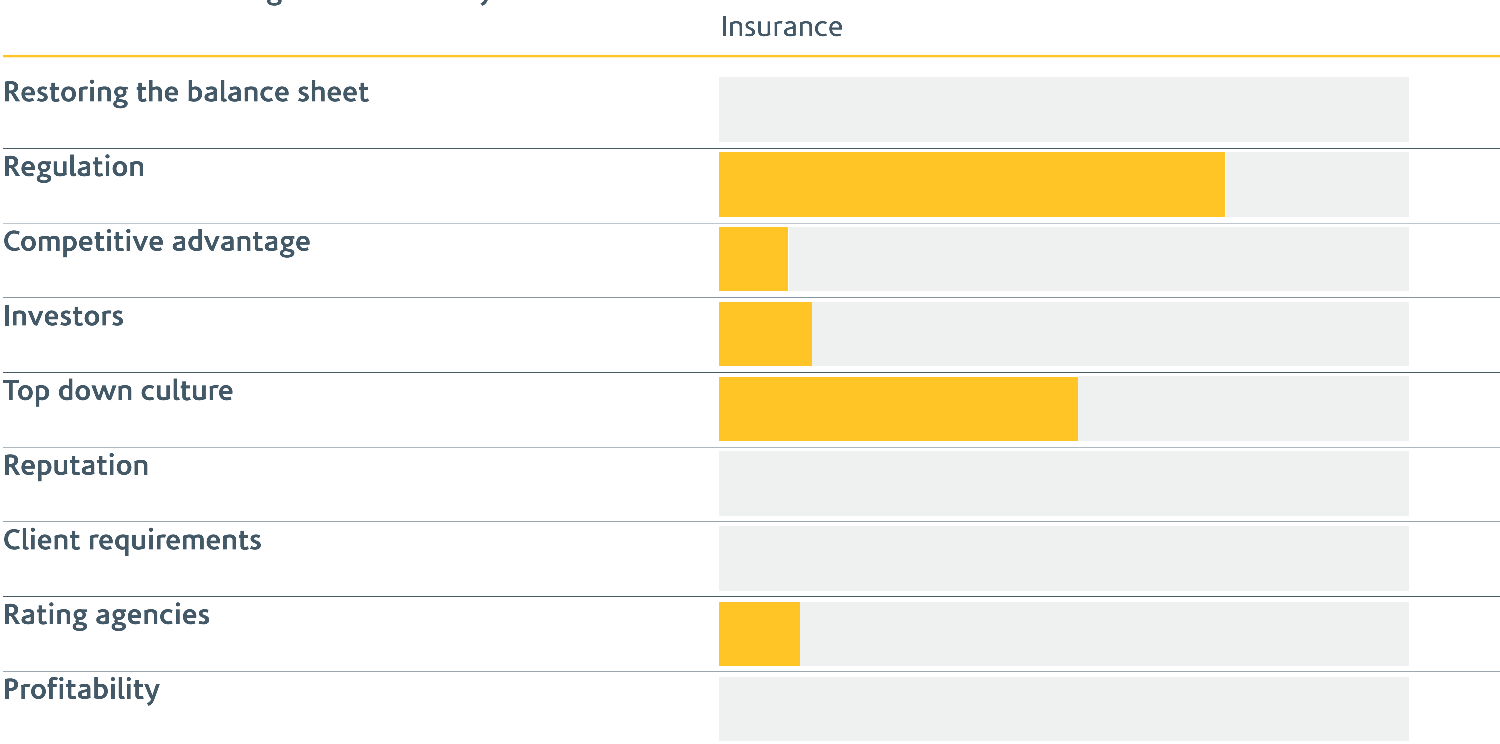
With ever-increasing regulation impacting the financial services sector, it is no surprise that regulation is the primary driver of risk management activity across the companies we surveyed. 58% of interviewees from retail banking, investment banking and investment management companies said regulation was currently the main influence on risk management activity.

For CROs in the leading banks who suffered significantly in the recent financial crisis, capital and restoring balance sheets is still a priority as well as meeting regulatory requirements. Investor and public scrutiny is an additional influence bringing risk management to the fore and in turn driving the change that will ultimately help to improve reputation. In the investment management sector, while regulation is the number one driver, institutional clients are also influential in calling for improved risk management.

For insurance companies, while regulation is the key driver of risk management activity for the majority of respondents, top-down culture and internal business drivers also play an important part in the way risk management is being implemented within businesses. Smaller insurance companies need to ensure they maximise the benefits of the work they are required to do by regulation. As the CRO of one small insurance business describes it,

"The way we have approached it is to work out how we think it is right to manage risks within our business, and then make sure that will meet the requirements of Solvency II, rather than the other way round."

Drivers of risk management currently



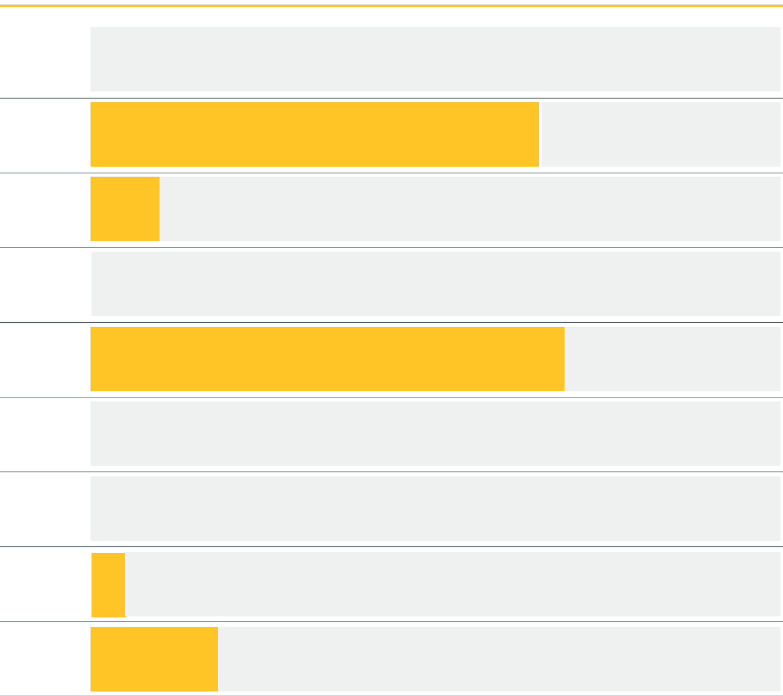
In the reinsurance industry, interviewees believe regulation is outweighed by top-down culture as a driver of risk management activity. One interviewee explained that one of the major reinsurers was at the centre of an early drive towards improved risk management, pre-empting regulatory change. This early adoption is reflected in the responses on risk structures from another international reinsurance group,

“There have been no major changes to the risk management approach in the last five to ten years – the approach is well established in what we do and how we do it. The only change has been better documentation, part of an industry wide improvement.”

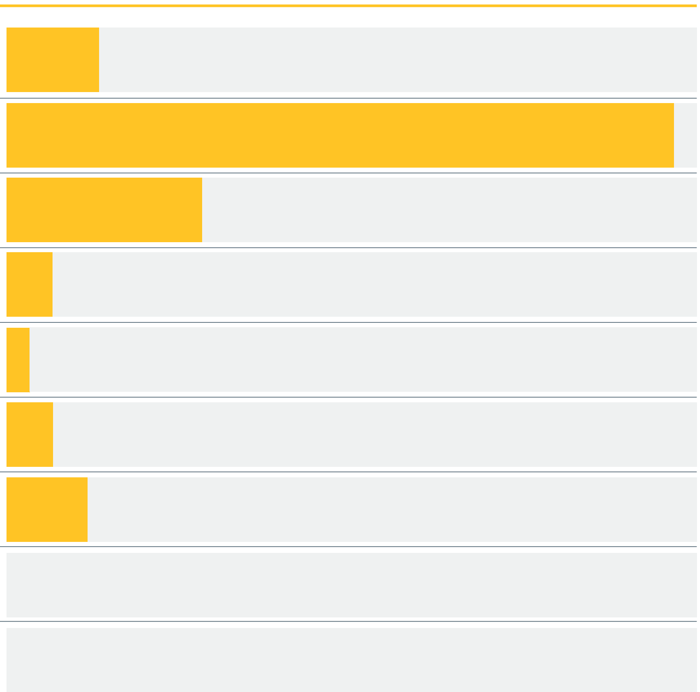
Although not a leading driver for most of the companies surveyed, rating agencies and investors are becoming more influential, as the CRO of a leading life insurer describes,

“Shareholders are important. They can see that the problems of the past, and that the lack of returns they’ve had have in part been driven out of a lack of effective risk management, so they are keen to see it.”

Reinsurance



Banking
(Retail, investment banking and asset management)



Drivers of risk management in the next three to five years

The majority of respondents believe regulation will continue to be the main influence on risk management activity in the future, but it will be balanced by stronger internal influences.

In the insurance sector it is believed it will take some years for Solvency II to bed down so that its effects can be properly judged. Over a quarter of insurance interviewees believe that risk managers will be able to focus more on the strategic aspects of their role once the processes they are currently implementing are completed. One CRO explains,

"We plan to make risk a more strategic function adding more executive level positions to make risk more fundamental to the strategic decision making in the business. We want to make it more metric-led and scientific while at the same time commercially significant."

While huge effort is currently going into embedding a risk culture in organisations, there is a fear highlighted by several interviewees in the insurance sector, that the outcome of Solvency II may be more box-ticking for the regulator rather than a deep change in culture, as one experienced CRO describes,

"I think they'll put in place pretty decent risk teams and there will be more clarity of what they're doing. It'll be more of the same, but more quantitative and more heavily documented, but I don't think behaviourally it will necessarily make much change."

Top-down implementation of regulations such as Solvency II in insurance requires that ultimate responsibility for risk lies with the board, not only for the strategic aspects of risk but also for ensuring there is a strong risk culture within the business. This is recognised across the companies surveyed with all of the insurance, retail and investment banking interviewees reporting they have a board level risk committee, or equivalent, in place with non-executive director involvement in these committees.

Overall, rating agencies were not seen as a key driver currently, but one CRO believes they will become an increasingly significant driver in the future,

"Standard & Poor's in particular pay a lot of attention to ERM frameworks and risk processes as a key contributor to their rating work."

Risk management structures - the three lines of defence

Apart from asset management companies who have different requirements, the three lines of defence model applies generally across the organisations interviewed, and may be characterised as:

Level 1 – board (or equivalent) for oversight and effective linkage to business strategy - in a few cases the CRO is a board member

Level 2 – board risk committee (or equivalent), to which CRO often reports, for monitoring all key risk areas and reporting to board and senior management

Level 3 – risk management function for measurement and analysis of risk, deep understanding of all key risks, their linkages and impacts on financial performance and other critical business objectives – may include specific groups focused on financial, compliance or operational risks; and within these possibly subdivisions into areas such as credit, market, liquidity, insurance and reinsurance.

In the insurance and reinsurance sectors, particularly within smaller organisations, the actuarial team rather than a separate financial risk function may undertake the financial risk management duties.

The structure of risk management differs from company to company, particularly in respect to approaches to achieving a firm wide view of risk across geographies and business units. The degree of centralisation of risk management responsibility also varied, with one insurance company pursuing a devolved geographic framework, while one of its peers is seeking to manage all market and credit risk centrally with regional teams having a narrow focus on insurance risk and operational risk.

The current focus for banks and insurers is on developing, or enhancing, the processes and controls across the business that will bring a complete firm wide view of the key risks and how they interact, as well as embedding a strong risk culture across the business. When asked if they currently have a firm-wide view of risk, 58% of interviewees in the insurance industry responded positively. The remainder feel they still have work to do but they are getting there, as one interviewee explains,

"It's certainly the end game. I think there's a reasonable view about what the key risks are, but in terms of how they interact and managing them all together sufficiently, I think that's probably an area for more development."

The global banks, with as many as 2,000 risk management staff, have particular challenges in mapping risk management to the business matrix. Typically, new risk management structures have been implemented within the past two years and these are still under review to ensure that no important detail of individual risks is missed in the overall analysis.

Interviewees in investment management firms typically described a global risk management structure with heads of financial and operational risk areas reporting to Global or Group CROs. In these firms investment or portfolio managers are viewed as the risk takers with responsibility for managing the risk in their portfolio to meet benchmarks or mandates. Oversight of portfolio risk falls to a risk function variously described as market/credit risk, risk control or investment risk management. This function may sit within the front or middle office, providing independent monitoring of investment decisions. Operational risk is kept separate and is viewed as a back office function. Independent of operational and investment risks teams is business risk or internal audit, checking that internal processes and controls are adhered to.

Risk priorities

For 53% of insurance interviewees and all reinsurance interviewees, product/insurance risk is the most significant risk to be managed. Similarly, product/investment performance risk is the most significant in asset management.

Market risk, including credit risk, is a close second for significance in the insurance industry. The credit risks referred to by the insurance interviewees primarily relate to market risk but there are also counterparty credit risks to be considered, as the UK CRO of an international insurer describes,

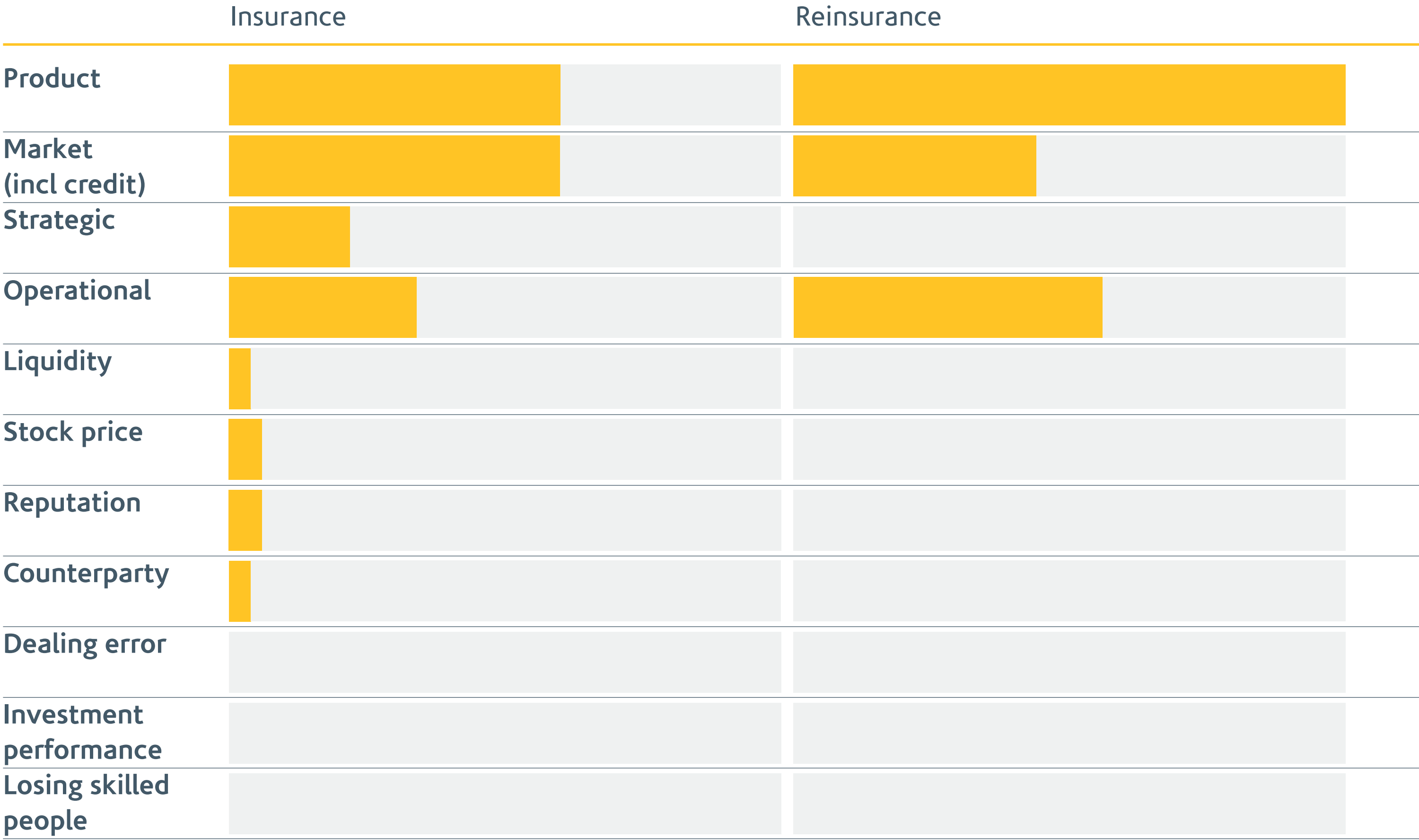
"In terms of credit, we've got two different aspects – investment credit risk, which is part of financial. Indeed that would be one of the very significant exposures. But there's also non-investment credit risk. That is the exposure we have to our own counterparties not fulfilling their obligations. For example, brokers who take premiums from policies but don't pay them over to us immediately. If they become insolvent we are exposed."

While product risk is a significant risk to be managed for all of the interviewees, the significance of market and credit risk depends very much on the historic strategy and risk appetite of the business. As one interviewee describes,

"Financial risks are important particularly credit risk which is the most difficult to manage because it's the hardest to hedge. That's the one we're exposed to with our current profile."

For another commercial and general insurer the impacts of the credit crunch pose quite different potential risks, relating less to internal impacts of market risk and more to the market itself, demonstrating well the strategic considerations arising within risk management,

Most important risks to be managed now

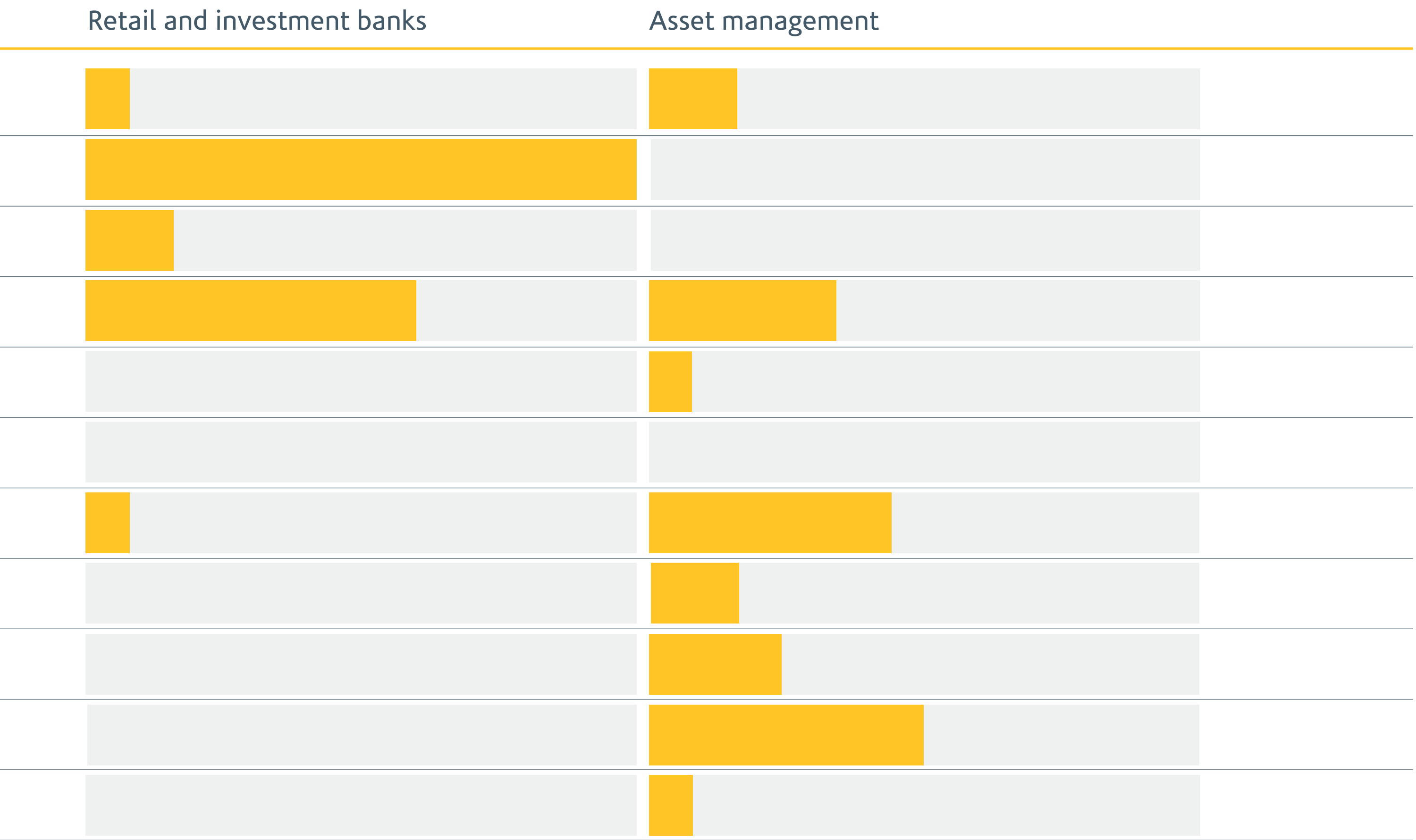


"Because we sell mostly unit-linked products and we don't have substantial equity shareholder investments, then in terms of direct impact on our own balance sheet, market risk isn't a huge concern for me. It's far more of a concern in terms of its impact on customers and then its impact on customer behaviours. That is significant."

The international retail and universal banks who fared less well in the credit crisis are currently focused on major restructuring and strategic issues relating to risk management. On the shifting ground of business disposals while managing down major loan and derivatives exposures, CROs are reviewing their risk appetite not only in absolute terms but relative to their more conservative peers in competitive markets. Market, credit and operational risks are the most important currently for those operating in a more 'business as usual' situation.

Meeting clients' expectations is the major challenge for institutional asset managers and delivering promised investment performance is closely linked with reputation in this industry. As the European Head of Market and Credit Risk Control for an international asset manager explains,

"If the mandate is to follow the FTSE and we've perfectly followed it down, then poor absolute performance might be exactly what we should have been doing. But unexpected "good" performance above expectation arising when we weren't holding the appropriate assets in a fund, could cause potential issues in terms of loss of business and maybe even damage reputation."



Will priorities change over the next three to five years?

More than half of the insurance interviewees expect to see some change in their risk priorities over the next three to five years with 39% believing there will be a shift towards a more strategic focus for risk. For some more strategic means “getting the right strategy and delivering on it”, while the majority who seek a more strategic positioning for risk management are seeking to play a major role in business decision making. As the CRO of a leading international insurance business explains,

“For me the priorities over the next three to five years are also about SII, but the emphasis will be more on how we create value and be part of the strategic process. So how we can make risk management more of a strategic partner, where historically we’ve had more of a reporting role.”

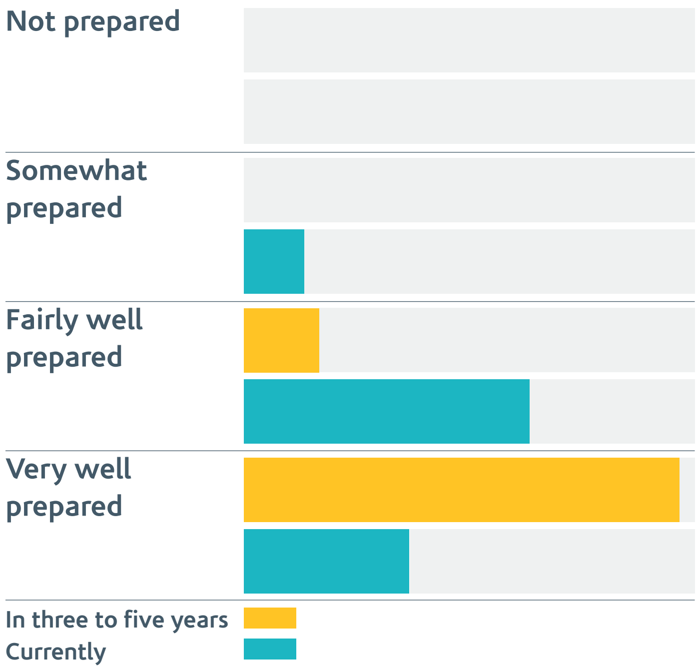
Several interviewees also predict that risk management will become more scientific and technically demanding in the future,

“Risk will have to become a lot more numerate on the one hand and strategic on the other hand. Anyone who doesn’t do that is in for a very sorry time.”

CROs in the universal and high street banks believe that in the mid-term future they will gain a more holistic view across the many divisions of their operations, while respondents from asset management and investment banking feel the priorities are unlikely to change.

Future growth in risk management resources

We asked interviewees how well prepared they are to handle the expected level of risk management activity over the short and medium term.



The majority believe their companies are currently fairly well prepared for their risk management requirements, while a few of the large businesses believe they are already in a strong position. Smaller companies find it particularly difficult to make the necessary investment, as one CRO describes,

“I think the challenge for a company like ours is the ability to invest in sufficient infrastructure. We’re probably never going to have a big enough risk team to be able to do all the things we would like to do. Therefore, we have to make sure that we focus on the areas that we get most value out of.”

Another, planning a small risk management function, is keeping the technical expertise within the actuarial department and requiring a more commercial capability in risk management to also understand the operational risk requirements.

The great majority expect to be very well prepared in the mid-term.

Resourcing

There has been significant expansion in risk management teams over the past year or so, with many having doubled in size. Despite this, however, the majority of interviewees in insurance and reinsurance believe there will be continued modest real growth,

"In three to five years, I would expect to have more staff, since Solvency II means that there will be more people within the business looking at risk. They may not be new people into the business but they'll transfer to the risk function. All of the areas will grow."

Others feel there are still skills requirements to be met in their teams,

"It's not necessarily numbers, but the quality of people within the function, in the next 12 months."

While reinsurers will seek additional risk managers internally, insurers expect both internal and external hires to join their teams.

Respondents from retail banks believe there will be continued growth, particularly in the areas of risk adjusted return on capital and balance sheet management, as well as product and distribution risk. One interviewee from a major US headquartered global bank believes the bank will continue to grow its risk management function as it increasingly looks to derive competitive advantage from risk management and the efficient allocation of capital. The asset management interviewees believe that here too there will be continued growth in both operational and investment risk staff. Other qualitative research commissioned by the Profession with actuaries working in non-traditional areas has found that there is expected to be significant growth in risk management staff in investment banking and this was the belief of one of the investment banking interviewees in this survey who reported his company would have requirements for additional staff for more sophisticated capital management activities. The large retail and investment banks have a preference to "grow their own" through highly developed graduate programmes with strong in-house training, while the smaller asset management firms tend to recruit externally.

External resources

The majority of interviewees use external consultants occasionally. Usage was least likely in the large retail and investment banks and rare in the asset management firms. The major accounting firms are the most used consultants in these sectors and mainly for special projects. 37% of insurance interviewees reported significant use of specialist actuarial consultancies and the major accounting firms, with assistance being sought primarily for technical expertise such as independent assessment of models. Just over 50% of insurance sector interviewees also valued opportunities for insights into market standards and benchmarking against peers. Although usage of external resources by reinsurers was occasional, it has increased with Solvency II and is particularly valued to ensure robustness and to gain an external view and wider market knowledge.

The majority of respondents expect to develop and maintain their own expertise and not rely extensively on external resources other than for projects where special expertise and skills are needed.

Opportunities for actuaries in risk management

Insurance and reinsurance

Risk management departments are now well established across the insurance and reinsurance sectors offering opportunities for managerial roles and advancement to the highest levels within companies in these sectors. Actuaries are predominant in the risk teams of reinsurance companies, while insurance companies are likely to combine individuals from a range of backgrounds and professional disciplines to form mixed teams covering the full range of expertise required to fulfill operational and financial risk functions.

Interviewees in both the insurance and reinsurance industries believe that actuaries should be strongly placed for many risk management roles, particularly within areas of financial risk, but to rise to the most senior levels they stressed the need for business, influencing and communication skills. The majority of insurance company CROs interviewed are themselves actuaries and over 60% of them found it challenging to source suitable candidates from within their own actuarial departments where the focus is on technical expertise, limiting actuaries' exposure to wider business experience. A number of insurance companies are addressing this issue by rotating actuarial students around the business to allow them to gain broader experience. A number of interviewees viewed actuaries with more varied work experience particularly within management roles more favourably.

While breadth of business experience may be a challenge for actuaries on the one hand, technical capabilities may also be challenged in the future in the insurance industry by an increasing requirement for sophisticated modelling capabilities equivalent to those of the physics PhD graduates found in investment banking and asset management. Conversely, a number of respondents from those sectors feel actuaries who are able to demonstrate excellent modelling skills could make a valuable contribution because of their breadth of knowledge and objectivity, bringing an advantage over typical PhD modellers who lack breadth and depth of understanding of the markets being modelled.

The majority of interviewees expect to hire more junior staff and graduates in the future once risk management functions are fully established and the initial requirements of Solvency II have been met. Although some interviewees would aim graduates towards an actuarial qualification others are exploring options, with a number seeking information on the CERA, qualification.

Banking and investment

A number of interviewees report that there are opportunities for actuaries in risk management roles within market risk or portfolio risk management in investment banking and asset management firms. A lack of awareness of the appropriateness of actuarial skills to these roles on the part of both actuaries and employers is the major limiting factor in this area. While respondents stress the need for actuaries to improve links with these wider areas of financial services, a number believe perceptions are improving,

"There is a growing recognition that in the nature of the business actuaries are suited for this. The training and experience are well aligned with the core risks that we have."

There is currently no risk management qualification tailored to the area of market risk practitioners.

Overall

Looking to senior roles in risk management, qualifications play only a small part in the selection criteria, with a far greater emphasis being placed on expertise and experience. Overall, many interviewees felt that actuaries have potential competitive advantages from their quantitative skills, their understanding of uncertainty and the limitations of models, their objectivity and ethics. However, they will need to be proactive in developing their broader experience of business and investment markets and demonstrate executive level communication skills.

The Actuarial Profession will factor this valuable feedback into its strategy to support actuaries in expanding their careers in risk management to acquire new skills through their training and continued professional development.

www.actuaries.org.uk

The Actuarial Profession
making financial sense of the future

Maclaurin House
18 Dublin Street
Edinburgh · EH1 3PP
T +44 (0)131 240 1300
F +44 (0)131 240 1313

Staple Inn Hall
High Holborn
London · WC1V 7QJ
T +44 (0)20 7632 2100
F +44 (0)20 7632 2111

Napier House
4 Worcester Street
Oxford · OX1 2AW
T +44 (0)1865 268 200
F +44 (0)1865 268 211

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