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MetLife®

Assurance Limited

UK Pension Risk Behaviour Index^{SM}

Study of Risk Management Attitudes & Aptitude
Among Defined Benefit Pension Scheme Sponsors & Trustees

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FOREWORD

The UK pension system is undergoing profound change. Over the past decade, the tide has swung firmly against defined benefit (DB) pension schemes in the private sector of the UK economy. From being the mainstay of occupational pension provision for more than three decades, DB schemes are now increasingly closed to new joiners, with new staff directed to defined contribution (DC) schemes where employer costs can be controlled to a greater extent.

Some experts believe the recent financial crisis may have accelerated the demise of the final salary benefit. Despite this prediction, however, there are still an estimated £1 trillion of DB liabilities which have to be managed. These DB liabilities will extend a long way into the future, until the youngest active and deferred members retire and they and their eligible dependants live out their lives. As scheme sponsors, in partnership with the schemes' trustees, determine whether or not to retain long-term pension liabilities on their balance sheets, the need to effectively assess and manage pension scheme risks is acute, and will remain so for decades.

To gain a deeper understanding of how pension scheme sponsors and trustees view 18 investment, liability and business risks, and to determine how well individual risk factors are being managed, MetLife Assurance Limited commissioned research of UK DB pension schemes. The result is the inaugural MetLife Assurance UK Pension Risk Behaviour Index℠ (UK PRBI).

Data from this survey were used to calibrate the importance that scheme sponsors and trustees ascribed to managing each risk, their success at implementing comprehensive practices to manage each risk and the consistency between the two, effectively measuring both attitudes toward, and aptitude for managing, pension scheme risks. The study establishes a baseline for the current state of risk management within DB pension schemes, and identifies emerging risk management gaps.

We hope this inaugural study serves as a benchmark against which future risk management attitudes and perceptions can be measured, and becomes a useful tool for scheme sponsors and trustees as they explore risk management strategies with one goal in mind, protecting member benefits.

Dan DeKeizer
Chief Executive Officer
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EXECUTIVE SUMMARY

Pension schemes in the UK represent[1] a significant portion of more than 2.6 million employees' retirement security[2]. Whilst many schemes are currently in a deficit position[3] and there is a noticeable trend of schemes closing to new members, the impact of pension schemes on the economic landscape of the UK and the financial health of its citizens remains very significant. An estimated £1 trillion of defined benefit (DB) liabilities need to be managed, and despite the shift from DB schemes to defined contribution (DC) schemes over the past decade, existing DB scheme liabilities will extend a long way into the future.

Much attention has been given to the need for trustees and scheme sponsors to focus on pension scheme risk management since the beginning of the 21st century. On the heels of the equity market fall in 2001, there was a move to more transparent accounting of scheme assets through FRS17 and IAS19, whilst legislators also decided to shore up the defences around member benefits in DB schemes in response to concerns that under-funded schemes were leaving members with less than their promised benefits. The Pensions Act 2004 required trustees to set prudent assumptions for scheme funding, which were typically stronger than assumptions used under the previous Minimum Funding Requirement (MFR) regime. The Pensions Regulator was also given greater powers to oversee funding assumptions and to take a proactive approach to funding. This greater scrutiny of DB schemes has been accompanied by a greater understanding of occupational pension scheme governance as evidenced through the Pensions Regulator's annual governance survey. However, little is known about how well scheme sponsors and trustees have been specifically managing critical DB scheme risks.

The recent economic volatility has placed the pension scheme system under extraordinary pressure. In addition, in this environment of more intensive supervision and visibility of pension scheme funding, MetLife Assurance believes that a view of pension risk management processes, priorities and perceived success as currently practiced may help scheme sponsors and trustees to identify potential improvements in their own practices, as well as help regulators and legislators in their efforts to develop effective and supportive regulation.

The primary objective of the MetLife Assurance UK Pension Risk Behaviour Index℠ (UK PRBI) research is to develop a baseline for the current state of risk management within DB pension schemes. We commissioned interviews with 89 scheme sponsors and trustees from December 2009 through February 2010. The study is comprised of two parts: an index (which measures the extent to which scheme sponsors report they are managing the risks they believe are most important) and an analysis (which examines patterns and

[1] The Pensions Institute (www.pensions-institute.org).

[2] Need to Slow Changes in Pensions Industry; Financial Times; 7 March 2010.

[3] The Purple Book: DB Pensions Universe Risk Profile 2009, The Pensions Regulator.

inter-relationships between risk attitudes and behaviours). MetLife Assurance designed and fielded this study to encourage dialogue around pension risk related issues for scheme sponsors and trustees, help scheme sponsors and trustees develop a new framework for understanding risks, and explore solutions for mitigating risk exposure.

Together, scheme sponsors and trustees take broad view of risk

The UK PRBI presents pension trustees' and scheme sponsors' views on current risk management practices and identifies inconsistencies between the risks viewed as "important" and those they say they are managing successfully. To understand how scheme sponsors and trustees prioritise and act on pension scheme related risks, the UK PRBI measured the relative importance ascribed to 18 risk factors by respondents. The risk factors were identified by MetLife in consultation with leading industry experts.

The study found that, on the heels of a global economic crisis that saw many pension schemes fall into deficit, scheme sponsors and trustees are collectively taking a broad view of pension risk management, ascribing broadly equal importance to the 18 risk factors included in the study. It is clear that financial market instability, a move to more transparent accounting of scheme assets through FRS17 and IAS19, the Pensions Act 2004 and the subsequent actions taken by The Pensions Regulator, coupled with the extraordinary challenges posed by the recent economic crisis, have strongly influenced the way in which scheme sponsors and trustees view and manage risk.

Interestingly, however, the findings from the inaugural study do not vary by typical "firmographic" characteristics (e.g. size of scheme, funded status, scheme status). That is, there are no discernable differences correlated to typical scheme characteristics that affect the manner in which scheme sponsors and trustees responded to this survey.

One way to evaluate how broadly (or narrowly) trustees and scheme sponsors are managing the full range of risk factors is to compute an Importance Selection Rate, which expresses, as a percentage, the number of times each of the 18 risk factors was selected by the respondent as receiving the most attention. The Importance Selection Rate for the UK PRBI ranges from a high of 29% for the most important risk factor (Measurement of Technical Provisions/ Liabilities), to a low of 21% for the least important risk factor (Litigation Risk Exposure).

This spread of only eight percentage points indicates that the participants in the study are taking a broad approach to risk management. The top five ranked risk factors, by greatest importance, include Measurement of Technical Provisions/Liabilities, Longevity Risk, Employer Covenant, Investment Management Style and Funding Deficits. The five lowest-ranked risk factors, by least importance, include Litigation Risk Exposure, Quality of Member Data, Asset Diversification, Decision Process Quality, and Adviser Risk.

Trustees and scheme sponsors have very different risk priorities

Whilst trustees and scheme sponsors are collectively looking at a comprehensive set of pension risk factors, the study found that they are individually most likely to focus on those factors that they themselves are primarily responsible for managing. Trustees ascribe more importance to investment related risks, while scheme sponsors are focused on liability and business related risk factors.

Beyond Measurement of Technical Provisions/Liabilities (which both trustees and scheme sponsors ranked second in importance), trustees' top five ranked risk factors, by importance, are Investment Management Style, Asset Diversification, Asset and Liability Mismatch and Investment Risk Profiling. This suggests that trustees take their responsibility for setting and managing the scheme's investment strategy very seriously. In contrast, scheme sponsors are less focused on investment risk and, instead, are focused on liability and business related risk factors, including Longevity Risk, Employer Covenant, Scheme Governance and Inflation Risk.

A "divide and conquer" approach may pose its own risks

There are some especially meaningful differences when it comes to determining the relative importance of risk factors to their pension schemes. For example, despite strong media emphasis on Employer Covenant and Scheme Governance, and a regulatory focus on these same issues, trustees rank these risks as numbers 9 and 16, respectively. However, as previously noted, the slight percentage variation between what trustees deem as "most important" and "least important" is small, indicating that trustees are challenged when it comes to risk management prioritisation.

Scheme sponsors, on the other hand, believe that the Employer Covenant and Scheme Governance are highly important risks to manage. Their focus on these risk factors may point to concerns about trustees' ability to effectively protect members' interests without sufficient employer support and a strong governance framework, particularly in the current challenging market environment. One sponsor attributed the emphasis on governance and due diligence to economic volatility, i.e. in the current environment, there is more emphasis on governance, due diligence and risk identification.

Whilst trustees and scheme sponsors focus on separate, yet potentially equally important, risks, this "divide and conquer" approach may actually pose its own risk to the scheme by hindering efforts to develop and implement holistic risk management solutions. In addition to the difference in prioritisation between scheme sponsors and trustees around Scheme Governance and the Employer Covenant, the lack of alignment on issues such as Investment Management Style is also concerning, especially as actions taken in response to managing some risks deemed central by one group may have an effect on the main risks on which the other group focuses. More frequent communications between scheme sponsors and trustees could help scheme sponsors and trustees align their thinking. This, in turn, would encourage a more coordinated plan of action and prevent both parties from walking down potentially separate and disjointed paths, while still enabling each to carry out their respective responsibilities in a more integrated context.

Longevity risk looms large on the horizon

Whilst further improvements in longevity are expected, the extent to which mortality rates will continue to fall and the age groups which will experience the most significant changes are uncertain. One train of thought suggests longevity will continue to improve indefinitely through medical advances, improved nutrition and a better lifestyle. The opposing view is that pandemics, war and adverse lifestyle choices will prevent longevity improvements. Whilst improvement in life expectancy has been good news for individuals, it has had a significant financial impact on sponsors of DB pension schemes.

With significant media attention paid to increased longevity, scheme sponsors show a good understanding of the impact this risk poses to their schemes and organisations as a whole. According to the UK PRBI, Longevity Risk is the second most important risk factor overall, and most important risk factor for scheme sponsors. However, it is ranked 18th overall in terms of success; it ranked 18th in terms of success among scheme sponsors and 16th in terms of success among trustees, respectively.

This indicates that trustees and scheme sponsors may be struggling to manage this critical risk on their own. This may be due to the fact that no one really knows how long people will live and if the trend of increased longevity will continue. Alternatively, it may be due to a lack of understanding for the range of options that are available to them to better manage Longevity Risk, such as linking retirement age to longevity trends.

Overall self-reported success is high – and even higher for trustees

Given increased pension scheme regulation, and the significant amount of attention being paid to pension risk management, it may not be surprising that both scheme sponsors and trustees are very confident in their ability to successfully manage risks facing their schemes. Nearly 8 in 10 (79%) of all the scheme sponsors' and trustees' reported ratings of how successfully they manage each of the 18 risk factors were either 4's or 5's, on a scale where 1 equals strongly disagree that the risk is managed successfully and 5 is strongly agree that the risk is managed successfully. Just 9% of all the success ratings were either a 1 or a 2.

The results of the UK PRBI confirmed that trustees take risk management extremely seriously – it is a significant part of their role. As a result, trustees may be more likely to self-report high success in managing risks compared with scheme sponsors, who may feel they have less control over pension risk management practices at a time when they are managing a range of issues that affect their companies' balance sheets. The median success rating among trustees is 4.31 and 4.13 among scheme sponsors.

Inconsistency between importance and success raises potential "red flags"

A potential red flag for scheme sponsors and trustees is the degree to which they believe they are successfully managing the most important risks facing their schemes. Ideally, there should be consistency in the importance ascribed to different risk factors and the success with which they are managed. However, only 8 of the 18 risk factors align this way, i.e. the factors are given a high importance and high success rating or a low importance and low success rating. This disconnect is particularly severe for Longevity Risk, which is ascribed high importance but low management success. This is a likely consequence of scheme sponsors' and trustees' uncertainty around how longevity will continue to develop and methods to manage this critical risk. Another inconsistency which presents an opportunity for improvement is with regard to Quality of Member Data, which scheme sponsors and trustees collectively rank as number 16 in importance and number 6 in success.

Given the recent attention paid to the quality of data by The Pensions Regulator and other industry leaders, seeing that scheme sponsors believe this is a risk that is managed well is certainly a good sign. However, it's somewhat surprising that it is not ranked higher in importance given the degree to which scheme sponsors and trustees self-report success in managing it. One potential explanation may lie in how success is perceived. For example, active member complaints may be a far less effective measure than readiness for a Pension Protection Fund (PPF) transfer.

Adviser Risk is emerging concern

There appears to be some scepticism about outside advisers among both trustees and scheme sponsors. While, combined, scheme sponsors and trustees selected Adviser Risk as an important risk factor only 23% of the time, the outsourcing of some asset management responsibility from the trustee board to an investment consultant, investment manager or fiduciary manager may be creating growing discomfort given that trustees retain responsibility for any action taken. When asked about the impact of the economic crisis, scheme sponsors and trustees say they're doing more due diligence and actively monitoring and managing service providers and professional advisers. Nonetheless, they ranked their relative success at managing Adviser Risk only 8th among the 18 risk factors, suggesting that they recognise scope for further improvement.

A call to action

This study has shown that scheme sponsors and trustees are collectively taking a broad, yet not necessarily integrated, view of pension risk management, and are focused on separate risks, which could hinder efforts to develop and implement targeted and holistic risk management solutions. With a more complete understanding of how all the various risks impact the scheme as a whole, trustees and scheme sponsors can be better positioned to adequately manage the risks their scheme faces. These results should be a call to action for all scheme sponsors and trustees who are not jointly and comprehensively managing pension scheme risks. Even if they believe they are successfully managing risks appropriate to their respective roles, scheme sponsors and trustees would be better served if they closely coordinated their policies and practices to ensure that no gaps exist in how they collectively address the risks that their schemes face. A truly holistic view of risk management on the part of both trustees and scheme sponsors requires both sides to fully assess, and prioritise, all risks, even those for which they are not primarily responsible.

A good working relationship between trustees and the scheme sponsor relies on clear and open communication. However, communication should not be restricted to the company's financial position or corporate changes that could affect the scheme. This inaugural UK PRBI should encourage scheme sponsors and trustees to communicate regularly about a full range of issues that affect their schemes, including critical risks.

Looking ahead, market forces, new regulation and demographics are expected to raise the importance of several risk factors impacting both trustees and scheme sponsors. In the next two years, we expect to see a greater emphasis on risks such as Quality of Member Data, Scheme Governance, and Employer Covenant.

The Quality of Member Data is one of the more manageable risks schemes face. Accurate member data is crucial throughout the life of a pension scheme as poor record-keeping can lead to significant additional costs in a number of areas including administration, inaccurate actuarial valuations and even claims from disgruntled members. It is a well recognised fact that nearly all pension schemes have some data issues, with problems ranging from basic errors in data files such as members' details not being recorded correctly, to whole member records being incorrectly deleted. Data validation can help identify any issues and, working with the administrator, a data cleansing project can rectify any gaps or inconsistencies identified. While the UK PRBI found that most scheme sponsors and trustees believe they are doing a good job managing the Quality of Member Data, data from the consultation on record-keeping issued by The Pensions Regulator in February 2010 states that only 19% of schemes sampled had tested the presence of common data as detailed in their guidance published in January 2009.[4] With the approaching introduction of the National Employment Savings Trust (NEST) and the experience of the PPF, both of which require accurate data and record-keeping to function efficiently, we expect regulators, and, in turn, scheme sponsors and trustees, to increase their focus and attention on Quality of Member Data in the near future.

[4] http://www.thepensionsregulator.gov.uk/press/pn10-03.aspx.

As we approach 2012 reforms, Scheme Governance will also be increasingly important. Good governance is critical to all aspects of pension scheme management. Indeed, the Pensions Regulator as part of their campaign on improving governance and administration communicated in a statement to trustees how good scheme governance underpins secure pensions and enables the effective management of risk. The Pensions Regulator's annual governance survey has also routinely noted that most schemes recognise the importance of the raising of governance standards – particularly the importance of regular trustee board meetings, trustee training and the level of trustee experience.

We believe that the Employer Covenant will also become increasingly important over the coming years. The equity markets have rebounded somewhat over the last six months. However, it remains to be seen whether or not scheme investment performance will be able to sufficiently support member benefits in the long-term. The critical question facing scheme sponsors today is whether to continue to operate a pension scheme with these growing liabilities, recognising that they will need to counteract pension fund volatility by providing additional funding if required. For more mature schemes, which arguably require greater risk management, the Employer Covenant may move front and centre. Of special note, mature schemes that have closed to new members may be of less perceived value to the sponsor as they typically have a lower percentage of members in active employment. Given that the Employer Covenant can be measured by both the ability and willingness of the sponsor to support the on-going funding of the scheme, it is likely that this risk will be more acute for mature or maturing schemes (i.e. those closed to new members or future accrual).

In summary, disjointed risk management can end up costing a pension scheme money, wasting trustee and management time and causing potential harm to the sponsor's reputation. Absence of a combined approach by trustees and scheme sponsors to manage their pension scheme risks can be dangerous at the best of times, but during times of financial stress holistic risk management should be the new baseline approach. This calls for open and transparent communication between the two parties. It also requires trustees and scheme sponsors to be more vigilant than ever in identifying the short-term and longer-term risks associated with their DB scheme, and developing tools and processes for managing these risks in the future.

A baseline for risk management practices

MetLife Assurance worked with Bdellium, Inc. and Greenwich Associates to survey pension scheme sponsors and trustees in the UK. Data from this survey were used to calibrate the importance that these scheme sponsors and trustees ascribed to managing each risk, their perceived success at implementing comprehensive practices to manage each risk and the consistency between the two.

The results of this research have been synthesised into the UK PRBI, which reflects DB pension scheme sponsors' and trustees' attitude towards, and aptitude or effectiveness in comprehensively addressing, pension risk. The UK PRBI takes account of the relative importance of each risk.

This year, the UK PRBI establishes a baseline for risk management practices against which future changes may be measured. Over time the UK PRBI will track the extent to which comprehensive measures are being adopted to protect DB schemes from an extensive range of both near-term and longer-term risks.

The UK PRBI is constructed in three steps:

Step 1
In Step 1 we calculate an average success rating for each respondent that incorporates the scheme sponsor or trustee self-reported success at managing each of 18 risks, weighted by the relative importance that the scheme sponsor or trustee ascribed to each risk.

Step 2
Step 2 averages the individual importance-weighted success ratings across all respondents.

Step 3
The rating results obtained in both Step 1 and Step 2 are on an arbitrary scale of 1 to 5. In the final Step 3, we convert the overall average success rating across all respondents into a standardised scale from 0 to 100.

A higher value on the UK PRBI signifies that more schemes are being managed by scheme sponsors and trustees who report that they are successfully addressing important risks. A lower UK PRBI value would indicate either that certain highly important risk factors are not being successfully managed and/or that the highest success is being achieved in managing risks that have a relatively lower importance. Appendix A explains in detail the methodology used to calculate the UK PRBI.

A solid index value but room for improvement

The UK PRBI is built on responses by individual scheme sponsors and trustees as to whether they agree that they are successfully addressing various risk issues. An individual success rating of 1 or 2 indicates that they disagree strongly or somewhat disagree that they are successfully addressing the risk. A value of 3 indicates that a scheme sponsor and trustee neither particularly agrees nor disagrees that they are successfully managing the risk. Values of 4 or 5 indicate agreement or strong agreement, respectively, that they are managing the relevant risk.

The research team believes all scheme sponsors and trustees should, at a minimum, agree that they are addressing important risk items. This would translate into both an individual Importance-Weighted Average Rating for each respondent and an industry Average Success Rating of 4.0. The equivalent UK PRBI value is 75. This therefore sets a minimum acceptable index value. While it is unrealistic to expect to achieve an index value of 100, a target of 87 would not be unreasonable.

Based on an analysis of 89 respondents, the inaugural value of the overall UK PRBI is 78 out of 100. The UK PRBI among trustees is 82, and for scheme sponsors it is 75.

These values reflect the more detailed findings of the study that demonstrate that scheme sponsors and trustees are, together, taking a broad view of risk management, and each group independently believes it is managing its risks successfully.

However, these scores also indicate that there is room to improve the processes by which sponsors and trustees assess the risks that are most critical to their scheme. While the divergent values that scheme sponsors and trustees received indicate that trustees report that they are more successful at managing the risks that they deem most important than are scheme sponsors, it will be beneficial moving forward for scheme sponsors and trustees to come together to assure all risks that are the most relevant to the scheme are being carefully and successfully managed.

In addition to its absolute level, the UK PRBI score for this inaugural year also establishes a baseline against which future changes can be measured. Relative ratings of "importance" are likely to change over time and we would expect this to be influenced by market forces, regulatory developments and demographic trends, in addition to evolving risk management awareness levels and practices.

Together, scheme sponsors and trustees view risk broadly

Following one of the worst global economic downturns in history, and in the wake of increased regulation, trustees and scheme sponsors appear to be taking very seriously their risk management responsibilities. No one category of risk factors, investment, liability or business related risks, outweighs another in terms of importance, nor are scheme sponsors or trustees overly concentrating on one set of risks. Given that many schemes are now in deficit, although funding status has improved somewhat, it's reassuring that scheme sponsors and trustees are aware of the impact of all risk factors, not just the asset related risks.

Table 1: Overall Importance Rankings

	Overall		Overall
Measurement of Technical Provisions/Liabilities	1	Meeting Investment Return Targets	9
Longevity Risk	2	Mortality Risk	9
Employer Covenant	2	Scheme Governance	12
Investment Management Style	4	Inappropriate Trading	13
Funding Deficits	5	Adviser Risk	13
Asset and Liability Mismatch	6	Decision Process Quality	13
Investment Valuation	6	Asset Diversification	16
Inflation Risk	8	Quality of Member Data	16
Investment Risk Profiling	9	Litigation Risk Exposure	18

Further, the UK PRBI found that the differential between those risk factors chosen as "most important" and "least important" is small – just 8%. Based on the combined responses of both trustees and scheme sponsors, the most important risk factors facing schemes today are:

Measurement of Technical Provisions/Liabilities: *"We routinely review the value of the scheme's liabilities and understand the factors that contribute to our scheme's liabilities and the change in these over time."* (Average selection rate: 29%)

Longevity Risk: *"Distinct from the risk that our members will die before obtaining benefits, we implement and regularly review the effectiveness of procedures to mitigate, transfer or actively manage the risks associated with increasing longevity among scheme beneficiaries."* (Average selection rate: 28%)

Employer Covenant: *"We assess the employer covenant for the scheme in terms of willingness and ability to fund the scheme as required, through the monitoring of financial data for the company and the use of professional advice where appropriate."* (Average selection rate: 28%)

Investment Management Style: *"We have policies to determine whether we use passive investment managers to track indices or retain active managers and, to the extent we retain active managers, we have processes for systematically measuring and enforcing performance standards."* (Average selection rate: 28%)

Funding Deficits: *"We have successfully designed and put into place investment strategies that have proven effective in enabling us to manage our funding contribution levels."* (Average selection rate: 27%)

The risk factors that receive the lowest risk importance selection rating include:

Inappropriate Trading: *"We proactively review compliance with our Statement of Investment Principles and investment manager mandates to avoid inappropriate use of leverage, shorting, illiquid instruments or unsuitable investment products."* (Average selection rate: 23%)

Adviser Risk: *"We have sufficient knowledge, experience and training to assess the quality of advice and the effectiveness of services provided by third parties, including investment managers."* Average selection rate: 23%)

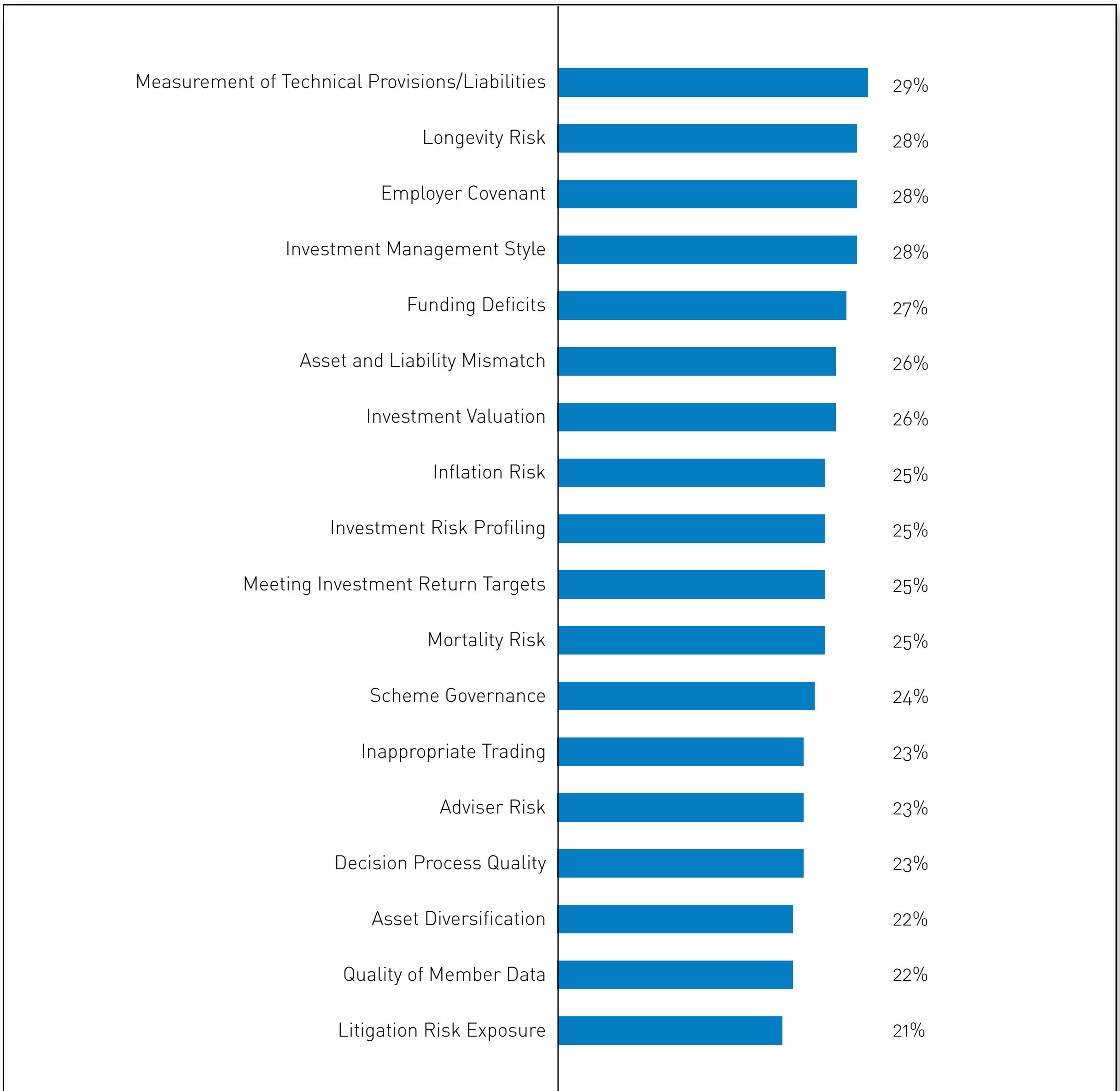
Decision Process Quality: *"We periodically assess the effectiveness of our decision-making processes by explicitly considering the links between the way in which we make decisions and the outcomes of those decisions."* (Average selection rate: 23%)

Asset Diversification: *"We use disciplined rebalancing to implement a strategic asset allocation policy as agreed and documented in our Statement of Investment Principles and investment manager mandates."* (Average selection rate: 22%)

Quality of Member Data: *"We review our data regularly and implement procedures to maintain the accuracy of our record-keeping to ensure member data is correct and complete."* (Average selection rate: 22%)

Litigation Risk Exposure: *"We explicitly manage the litigation risk to which the scheme is exposed through the use of the scheme's Internal Dispute Resolution Procedure (where applicable) and careful monitoring of litigation trends, including claims, costs and decisions."* (Average selection rate: 21%)

Chart 1: Overall Importance Selection Rates



All figures were rounded to the nearest whole number.

The structure of the UK PRBI dictates that each respondent to the survey must select a minimum of 5 different risks when assessing importance. Selecting more risks implies that the trustees and scheme sponsors are aware of the need to manage a wider range of risks. In the inaugural UK PRBI, just one scheme sponsor and one trustee chose fewer than 9 risk factors as important, suggesting that nearly all respondents are aware of the need to manage a fairly wide range of risks.

In order to provide a standard measurement for comparison purposes, a Risk Importance Concentration value was computed for each respondent. The Risk Importance Concentration measures the extent to which a trustee or scheme sponsor concentrates on a specific number of risks versus the full range of risks. This measurement takes into account the number of risk items (18 in all) and the relative level of importance ascribed to each, as measured in the importance selection rate. The Risk Importance Concentration value equals 0.00% if equal importance is ascribed to all 18 risk items and equals 100% if all importance is being ascribed to just one risk item.

This initial UK PRBI found that the maximum Risk Importance Concentration among individual respondents is 69%, the median Risk Importance Concentration is 46% and the minimum Risk Importance Concentration is 26%. Whether we look at maximum, median, minimum or aggregate measures of risk concentration, the values for trustees and for scheme sponsors are almost identical.

The aggregate Risk Importance Concentration across all respondents is 1%, meaning that there is an almost equal, democratic distribution of importance across the 18 risk factors. The reason why this result is so much lower than the Minimum Risk Concentration of 26% for any individual respondent is that while individual respondents might be concentrating their attention in specific areas, so long as each is concentrating on slightly different risks, aggregating all 89 responses has the effect of smoothing out the bumps, resulting in a significantly lower overall concentration. This is similar to the effect we observe when the volatility of an investment portfolio is lower than the volatility of the individual investments that constitute that portfolio.

Table 2: Risk Importance Concentration Summary Statistics

Overall	Trustees	Sponsors	
89	42	47	Number of respondents in respect of which we can calculate a Risk Importance Concentration
69%	68%	69%	Maximum Risk Importance Concentration among Individual Respondents
46%	46%	42%	Median Risk Importance Concentration among Individual Respondents
26%	26%	26%	Minimum Risk Importance Concentration among Individual Respondents
1%	2%	3%	Aggregate Risk Importance Concentration across all Respondents

Trustees and scheme sponsors have very different risk priorities

The UK PRBI also gives us the opportunity to view differences in risk management priorities and success among scheme sponsors and trustees. For the purpose of the UK PRBI, the definition of "scheme sponsor" used for this study is the "company (or one of a group of companies) which has responsibility for paying financial contributions sufficient to maintain the benefits specified under the scheme rules. The principal sponsor (where there is more than one) is usually the company which established the scheme, or its successor in business, and it has specified powers or duties in relation to such matters as the appointment of the trustees, trust deed and rule amendments (e.g. future benefit changes) and winding up, either in its own right or in conjunction with the trustees of the scheme."

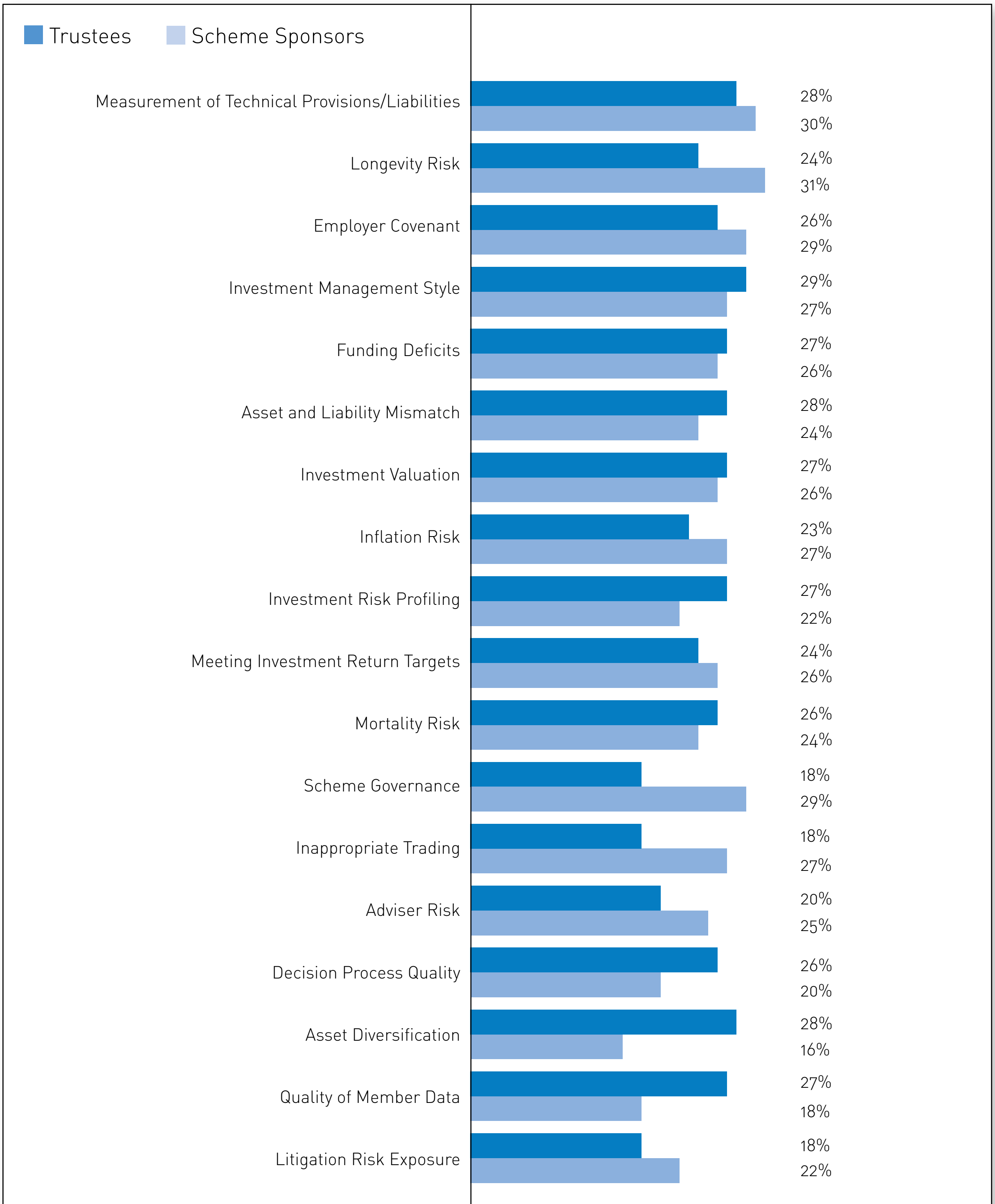
By "trustees," we mean the "individuals or company appointed to carry out the purposes of a trust in accordance with the provisions of the trust deed and rules and general principles of trust law. The fundamental duty of the trustee is to give effect to the provisions of the trust deed, their other duties are wide and varied, and include paying out the right benefits to the right person at the right time, keeping accurate records, keeping proper accounts and ensuring the scheme assets are properly and prudently invested."[5]

The trust deed defines the powers and duties of the trustees and scheme sponsor, and the duties of trustees to the members. The trust rules state who is eligible to be a scheme member and covers details of the benefits promised, where trustees have discretion, the arrangements for determining employer contributions and the level of members' contributions. When looking at the Risk Importance Selection Rates among trustees and scheme sponsors, it becomes clear that trustees and scheme sponsors are focusing more closely on the risk factors that lie within their remit.

Whilst most acknowledge the relative importance of all 18 risk factors, trustees believe that the most important risk factors facing pension schemes today fall on the asset-side of the asset-liability equation – i.e. Investment Management Style, Asset Diversification, and Asset and Liability Mismatch. Scheme sponsors are more concerned with overall scheme implementation – i.e. Longevity Risk, Employer Covenant, Scheme Governance and Inflation Risk.

[5] The trustees of a scheme can be either individuals or corporates (or both). However, the researchers asked self-declared trustees, who were also representatives of a scheme sponsor, to undertake the trustee survey as their responses will be dictated by their position as trustee as opposed to their role as a representative of the sponsor.

Chart 2: Importance Selection Rates for Trustees and Scheme Sponsors



All figures were rounded to the nearest whole number.

Whilst both trustees and scheme sponsors agree that the Measurement of Technical Provisions/Liabilities is extremely important, and, in terms of rankings, it's tied for the second most important risk factor, there are meaningful differences in the other rankings.

Table 3: Most Important Risk Factors for Trustees by Percentage and Ranking

Risk Item	Selection Rate	Ranking
Investment Management Style	29%	1
Asset Diversification	28%	2
Asset and Liability Mismatch	28%	2
Measurement of Technical Provisions/Liabilities	28%	2
Investment Risk Profiling	27%	5

Table 4: Most Important Risk Factors for Scheme Sponsors by Percentage and Ranking

Risk Item	Selection Rate	Ranking
Longevity Risk	31%	1
Measurement of Technical Provisions/Liabilities	30%	2
Employer Covenant	29%	3
Scheme Governance	29%	4
Inflation Risk	27%	5

In looking at the differences in importance rank among trustees and scheme sponsors, it becomes clear that trustees are focusing on investment related risks while scheme sponsors are focusing on liability and business related risks. For example, scheme sponsors rank Longevity Risk, a major liability risk, as the number one risk factor, where trustees rank Longevity Risk as 12th.

Conversely, trustees are focusing on investment risks. Trustees rank the Investment Management Style of the scheme as number one, while scheme sponsors place it as 6th. Similarly, trustees believe Asset Diversification and Asset and Liability Mismatch are extremely important (2nd for both). These are ranked 18th and 12th, respectively, among scheme sponsors.

Since the Myners Report in 2001[6], trustees have been urged to improve their level of expertise and the Pensions Act 2004 brought in requirements for trustee knowledge and understanding without going as far as imposing formal qualifications. Trustees also now face more complex investment solutions to volatile markets and, under the new funding regime they could face greater conflicts as a result of their role at their employer and their duty as a trustee to negotiate on commercial terms for scheme funding. Therefore, it's not completely surprising the investment related risks are given such priority by trustees. However, with such pressure to deliver short-term financial results and pension schemes' performance being put under the microscope, it is somewhat surprising that scheme sponsors aren't more focused on investment related risks.

Table 5: Importance Rankings for Trustees and Scheme Sponsors

	Trustees	Sponsors
Measurement of Technical Provisions/Liabilities	2	2
Longevity Risk	12	1
Employer Covenant	9	3
Investment Management Style	1	6
Funding Deficits	5	8
Asset and Liability Mismatch	2	12
Investment Valuation	7	9
Inflation Risk	14	5
Investment Risk Profiling	5	14
Meeting Investment Return Targets	12	9
Mortality Risk	10	13
Scheme Governance	16	4
Inappropriate Trading	16	6
Adviser Risk	15	11
Decision Process Quality	10	16
Asset Diversification	2	18
Quality of Member Data	7	17
Litigation Risk Exposure	16	14

[6] Institutional Investment in the United Kingdom: A Review (2001).

“Divide and conquer” approach may pose its own risks

While it's reassuring to know that, together, trustees and scheme sponsors are viewing risk management broadly, the fact that both groups are focusing on different risk factors could become problematic over the long-term. Historically, scheme sponsors and trustees have not been required to meet on a regular basis to discuss risk management and, as noted in a report from The Pensions Regulator as far back as 2007, strengthening the relationship between the trustee and the employer is a key challenge.[7]

The economic downturn has made communication between the scheme sponsor and trustee more important than ever before. It's advisable for both parties approach the process of managing risks facing the scheme in partnership. Without agreement, it's possible that both parties may be walking down separate paths of risk management.

For example, despite the attention given to Employer Covenant and Scheme Governance and the need for trustees to closely manage this risk, trustees rank these risks as numbers 9 and 16, respectively. Despite the fact that the percentage difference between the most important risks and least important risks is small, it's interesting to note that trustees nonetheless believe that certain investment related risks outweigh these two risks. Though the message has been communicated, trustees don't appear to be taking these on as main risks that need to be managed. Scheme sponsors, on the other hand, rank these two risk factors as very important – numbers 3 and 4, respectively.

In this first edition of the UK PRBI, and in the absence of historical data, it is difficult to judge whether scheme sponsors and trustees believe these critical risks are more important to manage today than they were in the past. However, the responses to our open-ended queries on how risk management practices have changed in light of market volatility are revealing, indicating that both risks have risen in prominence.

According to one trustee, "Keeping a watchful eye on the employer covenant and regular monitoring of the funding condition" has become more important because of economic volatility. In response to risk in the current environment, one trustee said "We've reviewed and updated our governance controls and risk register, moved equities into LDI [Liability Driven Investment] and have an on-going employer covenant review." Sponsors agree: "With the current market volatility, the strength of the employer covenant has become far more important."

According to trustees interviewed for the UK PRBI, market volatility, regulatory changes and the economic slowdown over the past two years have made the employer covenant, funding issues and asset diversification more important to manage. Scheme sponsors also say that assessing the strength of the employer covenant, managing the deficit and the investment strategy are all more important now than they were before.

[7] The Pensions Regulator, How the regulator will promote better governance of work-based pension schemes: The regulator's response (October 2007).

Furthermore, trustees and scheme sponsors both run the chance of creating a potentially difficult situation for themselves and their schemes if they only concentrate on the risk factors directly in their remit. For example, trustees rank the Investment Management Style as the most important risk factor. Sponsors rank it as the 6th most important risk factor. Perhaps trustees rank Investment Management Style so high because investing DB assets in a volatile market has become exceedingly difficult for even the most astute trustees.

Yet, it's hard to reconcile why scheme sponsors don't rank this risk factor even higher, especially when you consider that, should trustees fail to successfully manage the investment, scheme sponsors may be left to contribute additional funds to the scheme to make up for any investment error. One consideration for scheme sponsors and trustees is to increase communications about the Investment Management Style they are employing to ensure both parties are comfortable with the risk management steps, whether passive or active, that are being taken.

As previously discussed, the differential between what scheme sponsors and trustees deem to be "most important" and "least important" is very small. So it is possible that some trustees and scheme sponsors are taking very seriously all the risks facing their schemes, and that some risks simply rank lower on the priority scale, where all risks on that scale are important. Monthly (or, at a minimum, quarterly) meetings between scheme sponsors and trustees, frequent reporting and on-going dialogue can help both scheme sponsors and trustees align their risk management priorities so they have appropriate processes and procedures in place.

Longevity Risk looms large on the horizon

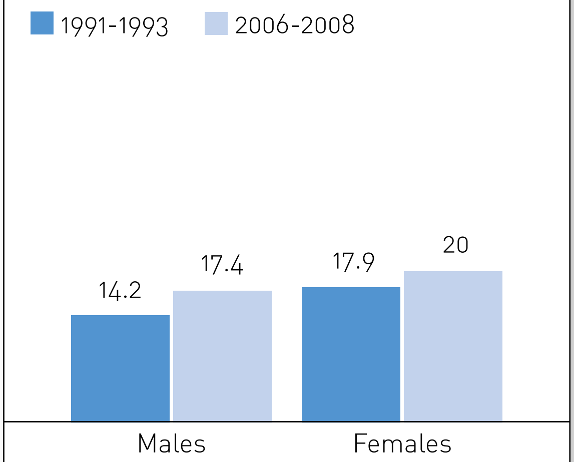
Scheme sponsors are particularly concerned about the risk that their pensioners may live longer than expected. According to the UK PRBI, Longevity Risk is the second most important risk factor overall and the number one risk factor among scheme sponsors.

The challenges and risks longevity poses to a scheme are significant. According to the Department for Work and Pensions, in 2010 there will be 12 million pensioners and 12,000 people aged 100 or over in the UK. In 2050, there will be around 16 million pensioners and 280,000 people aged 100 or older. Every extra year that members are assumed to live adds £15 billion to the UK private sector scheme balance sheet.[8]

For some pension schemes, especially those that are already underfunded and feeling the pinch from the collapse of the equity market and low interest rates, increasing life expectancy assumptions can add too much to their liabilities. The fact that no one really knows how long people will live and if the trend of increased longevity will continue complicates longevity risk management even further.

[8] Source: http://rd.kpmg.co.UK/mediareleases/18893.htm.

Chart 3: Period Life Expectancy at Age 65 (UK)



Source: Office for National Statistics, 2009

However, despite the clear risk that longevity poses, and the significant amount of media attention that has been paid to longevity, trustees rank Longevity Risk as the 12th most important risk. This may be an instance where trustees believe that scheme sponsors are adequately managing this critical risk. However, there are strategies that trustees can employ, such as longevity swaps and bulk annuity solutions, to help mitigate this risk.

When it comes to self-reported success at managing this risk, scheme sponsors give themselves low marks. Longevity Risk is ranked 18 out of 18 in terms of successfully managing pension risks. While it's clear that scheme sponsors take Longevity Risk very seriously, they may be struggling to develop strategies for managing it and looking to outside sources for help. Increasing the normal retirement age, linking retirement age to longevity trends, and insurance solutions such as longevity insurance and bulk annuities are all strategies employers may want to consider.

Managing Longevity Risk is certainly a case where it's critically important that scheme sponsors and trustees are communicating about their risk management strategies to ensure that it's being managed properly.

Adviser Risk is emerging concern

Expert advice is essential to help trustees and scheme sponsors run their pension schemes. The economic environment over the past two years may have led some trustees and scheme sponsors to take a closer look at how they work with third party advisers. The Pensions Regulator has pointed out that there are two types of risk associated with advice. First, a trustee adviser may have a conflict of interest if he or she (or the same firm) is also advising the scheme sponsor. Secondly there is the risk that the advice is not properly understood by trustees, or is not provided by suitably qualified advisers.

While Adviser Risk (the belief that the trustee/sponsor has sufficient knowledge, experience and training to assess the quality of advice and the effectiveness of services provided by third parties, including investment managers) was only selected 23% of the time collectively by scheme sponsors and trustees as an important risk factor, the qualitative interviews paint a different picture.

When asked what the three biggest effects of market volatility, regulatory changes and the economic slowdown on their pension scheme risk management practices have been, trustees and scheme sponsors alike commented that they are actively monitoring and managing service providers and professional advisers. According to one scheme trustee, "We are more sceptical about managers' claims." Another said, "We do deeper due diligence on investment managers and third party providers."

Some of this concern may be the result of outsourcing asset management responsibilities in some schemes to investment consultants, investment managers or fiduciary managers. Given that the trustee retains responsibility for any action taken, they may be taking a closer look at the advisers, and type of advice, they receive.

Self-reported success at managing risk is high

Scheme sponsors and trustees alike are confident in their ability to successfully manage risk, according to the inaugural UK PRBI. Each respondent was asked to rate on a scale of 1 through 5 how strongly they agreed with each of 18 risk management statements. The rating was used as a proxy for how successfully the scheme sponsor or trustee is implementing comprehensive measures to manage each risk item. A rating of 1 or 2 therefore indicated failure, 3 was neutral and a 4 or 5 indicated success.

As shown in the chart below, 79% of the total ratings provided were either a 4 or a 5, indicating success. Just 9% of all ratings were a 1 or a 2. This upward skew is to be expected in any survey based on self-assessment of performance, and may reflect a natural propensity to self-report positively. Therefore, caution must be exercised in reading too much into a high absolute rating level.

Chart 4: Overall Success Rating Frequency

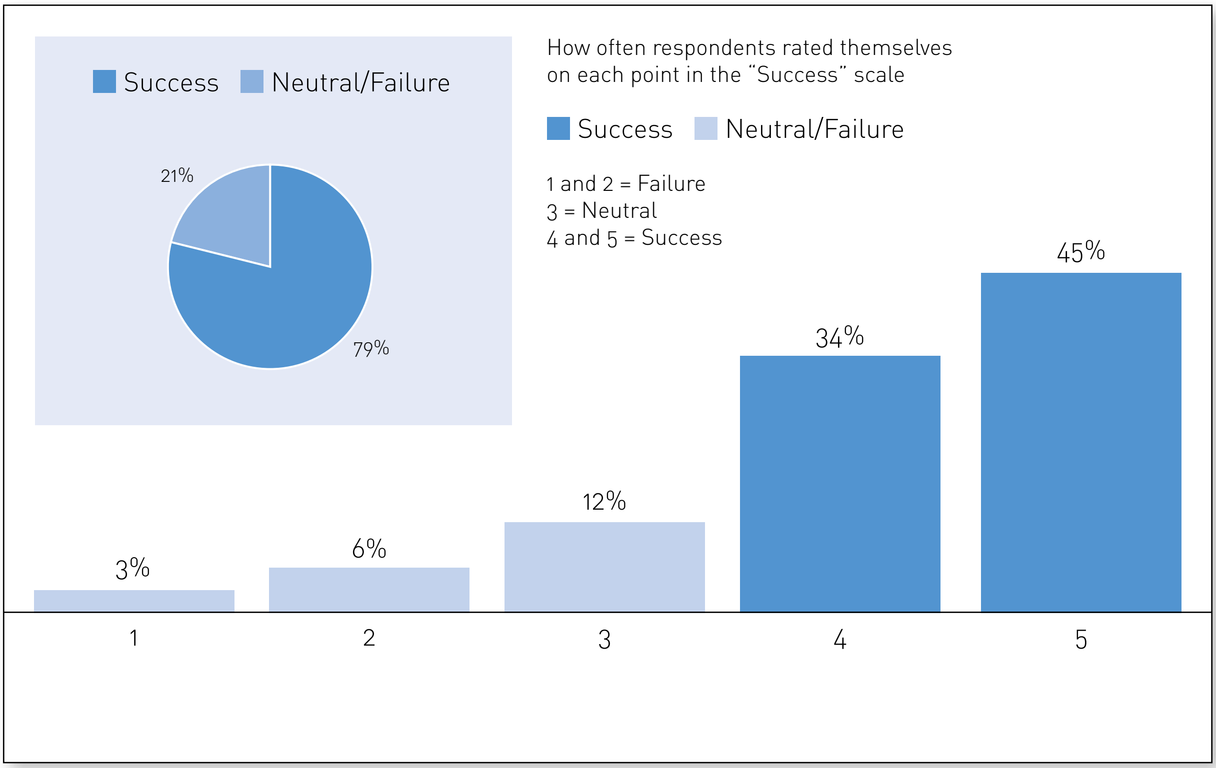
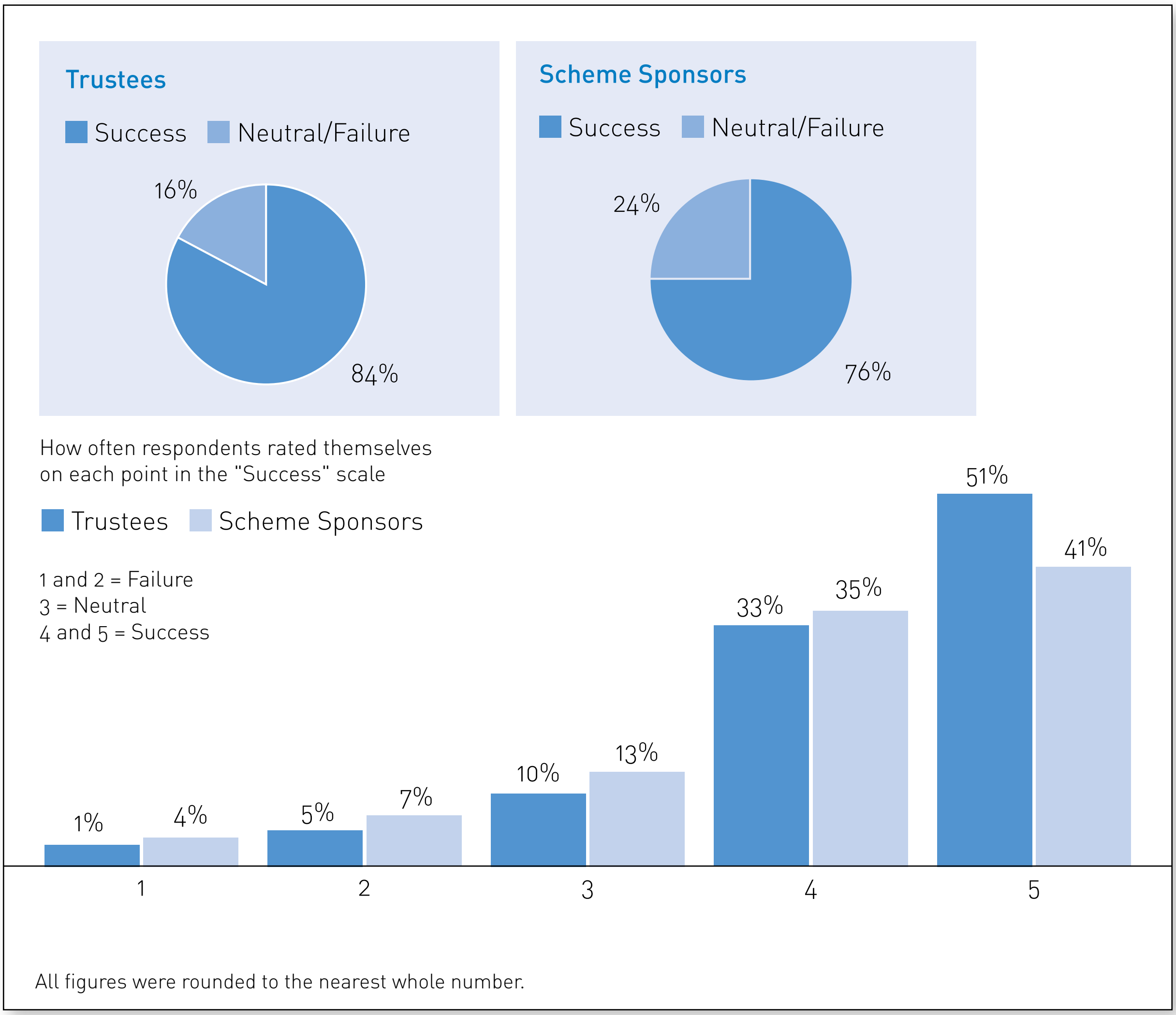


Chart 5: Success Rating Frequency for Trustees and Scheme Sponsors



However, assessing how highly trustees and scheme sponsors rate themselves in terms of managing these risks provides interesting insights. While both trustees and scheme sponsors give themselves high marks for success on nearly all risk factors, there is a meaningful difference between the risks that receive the highest average success rating and the lowest. Overall, the highest average success rating is a 4.84 (given to the Measurement of Technical Provisions/Liabilities) and the lowest is a 3.49 (given to Longevity Risk), which translates into a spread of 1.35.

The highest average success ratings include:

Measurement of Technical Provisions/Liabilities: *"We routinely review the value of the scheme's liabilities and understand the factors that contribute to our scheme's liabilities and the change in these over time."* (Average Success Rating: 4.84)

Employer Covenant: *"We assess the employer covenant for the scheme in terms of willingness and ability to fund the scheme as required, through the monitoring of financial data for the company and the use of professional advice where appropriate."* (Average Success Rating: 4.63)

Scheme Governance: *"We ensure good governance of the scheme through effective evaluation of risks and appropriate risk mitigation measures, such as through the use of a risk register and plan management tools that are regularly reviewed and updated to reflect changes in risks and their impact on the scheme."* (Average Success Rating: 4.48)

Inappropriate Trading: *"We proactively review compliance with our Statement of Investment Principles and investment manager mandates to avoid inappropriate use of leverage, shorting, illiquid instruments or unsuitable investment products."* (Average Success Rating: 4.46)

The lowest average success ratings include:

Litigation Risk Exposure: *"We explicitly manage the litigation risk to which the scheme is exposed through the use of the scheme's Internal Dispute Resolution Procedure (where applicable) and careful monitoring of litigation trends, including claims, costs and decisions."* (Average Success Rating: 3.63)

Decision Process Quality: *"We periodically assess the effectiveness of our decision-making processes by explicitly considering the links between the way in which we make decisions and the outcomes of those decisions."* (Average Success Rating: 3.58)

Investment Risk Profiling: *"We routinely use analytical tools that allow us to measure the level, volatility, correlation and effects of multiple risk factors at the investment portfolio level and, where appropriate, within and across different investment fund managers, investment styles and asset classes."* (Average Success Rating: 3.53)

Longevity Risk: *"Distinct from the risk that our members will die before obtaining benefits, we implement and regularly review the effectiveness of procedures to mitigate, transfer or actively manage the risks associated with increasing longevity among scheme beneficiaries."* (Average Success Rating: 3.49)

Self-reported success is higher for trustees

As a group, trustees are more confident of their ability to manage risk successfully than their scheme sponsor counterparts. This could be due to the fact that risk management is so ingrained in the trustee mindset. According to the UK PRBI, 84% of trustees' success ratings were positive (4's and 5's) versus 76% of scheme sponsors' ratings, and 51% of trustees' success ratings were 5's versus 41% of scheme sponsors' ratings.

Table 6: Average Success Ratings (High to Low) for Trustees

	Average Success Rating
Measurement of Technical Provisions/Liabilities	4.88
Employer Covenant	4.79
Investment Management Style	4.55
Inappropriate Trading	4.52
Mortality Risk	4.52
Scheme Governance	4.40
Asset Diversification	4.39
Meeting Investment Return Targets	4.33
Quality of Member Data	4.33
Investment Valuation	4.29
Adviser Risk	4.24
Asset and Liability Mismatch	4.07
Inflation Risk	4.07
Funding Deficits	4.05
Decision Process Quality	3.93
Longevity Risk	3.81
Litigation Risk Exposure	3.79
Investment Risk Profiling	3.74
Median	4.31

Table 7: Average Success Ratings (High to Low) for Scheme Sponsors

	Average Success Rating
Measurement of Technical Provisions/Liabilities	4.81
Scheme Governance	4.55
Employer Covenant	4.50
Inappropriate Trading	4.40
Quality of Member Data	4.33
Adviser Risk	4.31
Investment Valuation	4.21
Mortality Risk	4.17
Investment Management Style	4.13
Meeting Investment Return Targets	4.13
Asset and Liability Mismatch	3.87
Funding Deficits	3.85
Inflation Risk	3.79
Asset Diversification	3.71
Litigation Risk Exposure	3.49
Investment Risk Profiling	3.35
Decision Process Quality	3.27
Longevity Risk	3.21
Median	4.13

Trustees give themselves higher success scores than do scheme sponsors on 15 of the 18 risk factors. Scheme sponsors only rank themselves higher than trustees on Scheme Governance and Adviser Risk. Scheme sponsors and trustees give themselves the same success score – 4.33 – on Quality of Member Data.

Table 8: Average Success Ratings Trustees Minus Scheme Sponsors

	Trustees Minus Sponsors
Asset Diversification	0.68
Decision Process Quality	0.66
Longevity Risk	0.60
Investment Management Style	0.42
Investment Risk Profiling	0.39
Mortality Risk	0.35
Litigation Risk Exposure	0.30
Employer Covenant	0.29
Inflation Risk	0.28
Meeting Investment Return Targets	0.20
Asset and Liability Mismatch	0.20
Funding Deficits	0.20
Inappropriate Trading	0.12
Investment Valuation	0.08
Measurement of Technical Provisions/Liabilities	0.07
Quality of Member Data	0.00
Adviser Risk	-0.07
Scheme Governance	-0.15

The greatest difference in success ratings between trustees and scheme sponsors are on Asset Diversification (difference of 0.68), Decision Process Quality (difference of 0.66) and Longevity Risk (difference of 0.60).

Because of the reporting skew associated with self-reported performance measures, the UK PRBI also calculates a "Probability of Failure." This is the number of risk items that received a rating of 1 or 2, expressed as a percentage of the total number of respondents who rated that risk item. Table 9 lists the Average Success Rating and Probability of Failure for each of the 18 risk items. Collectively, the risk factors with the highest probability of failure are Litigation Risk Exposure, Decision Process Quality, Investment Risk Profiling and Longevity Risk. The maximum probability of failure for trustees is 19% and 32% for scheme sponsors.

Table 9: Overall Average Success Rating and Probability of Failure

	Success Ranking	Average Success Rating	Probability of Failure
Measurement of Technical Provisions/Liabilities	1	4.84	0%
Employer Covenant	2	4.63	2%
Scheme Governance	3	4.48	4%
Inappropriate Trading	4	4.46	3%
Mortality Risk	5	4.34	3%
Quality of Member Data	6	4.33	2%
Investment Management Style	7	4.33	4%
Adviser Risk	8	4.28	2%
Investment Valuation	9	4.24	7%
Meeting Investment Return Targets	10	4.22	4%
Asset Diversification	11	4.02	9%
Asset and Liability Mismatch	12	3.97	11%
Funding Deficits	13	3.94	10%
Inflation Risk	14	3.92	11%
Litigation Risk Exposure	15	3.63	20%
Decision Process Quality	16	3.58	21%
Investment Risk Profiling	17	3.53	23%
Longevity Risk	18	3.49	24%

Inconsistency between importance and success raises potential "red flags"

Whilst scheme sponsors and trustees give themselves high marks for success, the UK PRBI highlights a strong disconnect between the level of importance that trustees and scheme sponsors attach to various risk factors and the success with which they feel they are managing those risks. Ideally, there should be consistency between the importance that scheme sponsors and trustees place on risk factors and how successfully they are managed.

The differences between importance and success help to explain why the value of the inaugural UK PRBI is not higher. Notable differences between the two measures include:

Higher Importance than Success:

- Longevity Risk: Tied for 2nd in importance, but ranked 18th in success
- Funding Deficits: Ranked 5th in importance, but 13th in success
- Investment Risk Profiling: Tied for 9th in importance, but 17th in success

Higher Success than Importance:

- Quality of Member Data: Ranked 6th in success, but tied for 16th in importance
- Inappropriate Trading: Ranked 4th in success, but tied for 13th in importance
- Scheme Governance: Ranked 3rd in success, but 12th in importance

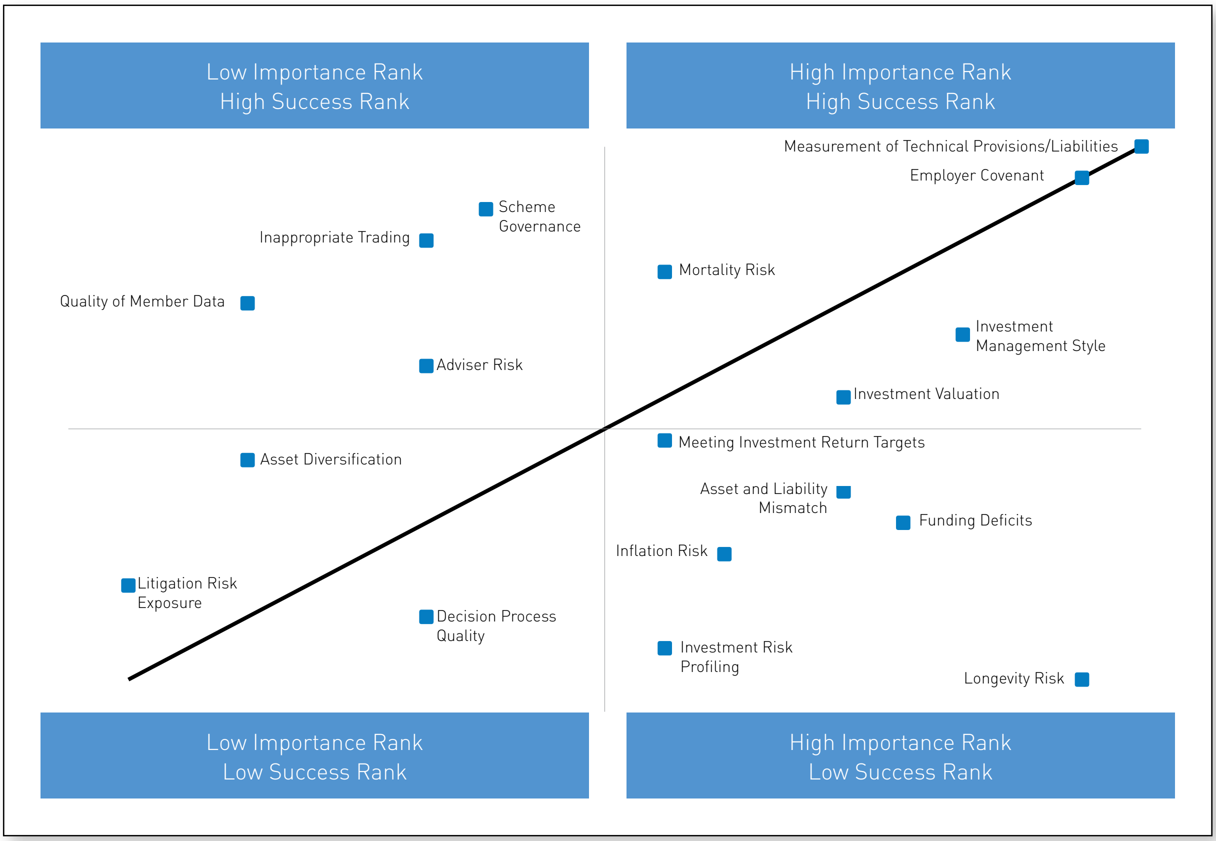
Table 10: Differences Between Importance and Success Rankings

	Rank By Importance	Rank By Success	Importance Rank Minus Success Rank
Quality of Member Data	16	6	10
Inappropriate Trading	13	4	9
Scheme Governance	12	3	9
Asset Diversification	16	11	5
Adviser Risk	13	8	5
Mortality Risk	9	5	4
Litigation Risk Exposure	18	15	3
Employer Covenant	2	2	0
Measurement of Technical Provisions/Liabilities	1	1	0
Meeting Investment Return Targets	9	10	-1
Investment Management Style	4	7	-3
Investment Valuation	6	9	-3
Decision Process Quality	13	16	-3
Asset and Liability Mismatch	6	12	-6
Inflation Risk	8	14	-6
Investment Risk Profiling	9	17	-8
Funding Deficits	5	13	-8
Longevity Risk	2	18	-16

Chart 6 shows a scatter plot of the importance rank and success rank for each risk item. The vertical and horizontal axes intersect at the midpoint of each ranking (equivalent to a value of 9.5). The vertical distance from each point to the line represents the mismatch between the rankings.

There is perfect alignment in only two cases – Measurement of Technical Provisions/ Liabilities and the Employer Covenant – indicating that scheme sponsors and trustees are struggling to manage the risks most important to their schemes.

Chart 6: Overall Consistency of “Importance” and “Success” Rankings



Scheme sponsors and trustees may be well advised to focus greater attention on the risk factors which fall within the high importance, low success quadrant. This may entail devoting additional staff and financial resources to those risk factors on which they place high importance but for which they self-report that they are not yet successfully managing.

At the same time, since all risks are deemed relatively important, a good governance process should lead to relative success for all risks regardless of their importance on this scale.

Chart 7: Consistency of "Importance" and "Success" Rankings for Trustees

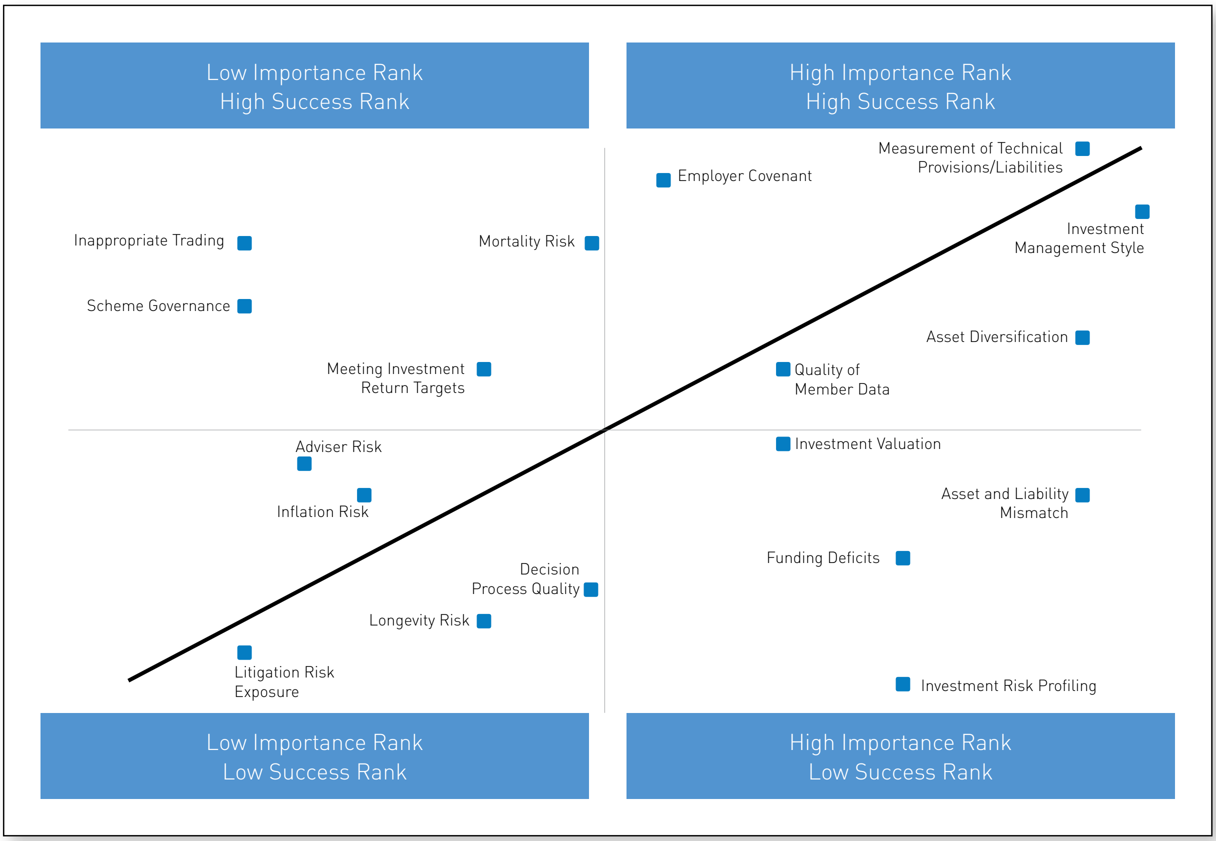


Chart 8: Consistency of "Importance" and "Success" Rankings for Scheme Sponsors

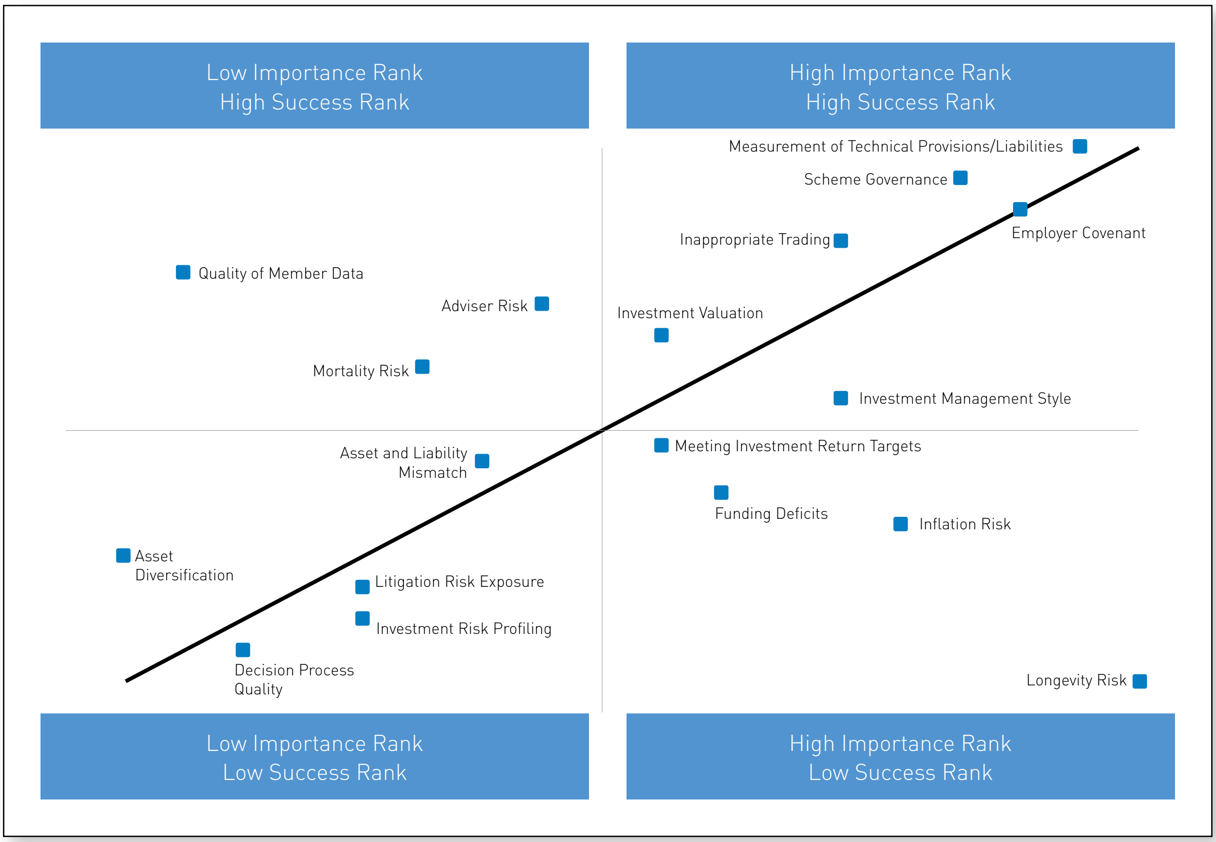


Table 11: Consistency Test Results Between Importance and Success

Item	Overall		Trustees		Sponsors	
	Number	Percentage	Number	Percentage	Number	Percentage
All Respondents	89	100%	42	100%	47	100%
Respondents Who Failed Consistency Test	32	36%	16	38%	16	34%
Respondents Who Passed Consistency Test	57	64%	26	62%	31	66%
Maximum Value	110%		110%		110%	
Median Value	101%		101%		101%	
Minimum Value	82%		90%		82%	

In addition to identifying inconsistencies in a graphic representation above, MetLife Assurance and its research partners also created a measurement to determine the consistency with which individual respondents are successfully managing the risks to which they are giving the greatest attention. This is the ratio of the Importance-Weighted Average Rating to the simple Unweighted Average Rating. Expressed as a percentage, if a respondent has a higher success rating on the more important risk items, this should be greater than 100%. This controls for overall rating bias.

In the inaugural UK PRBI, 57 of the 89 respondents (64%) passed the Importance-Weighted Average Rating/Unweighted Average Success rating test. Just over 6 in 10 trustees (62%) and 66% of scheme sponsors successfully passed this consistency test.

This indicates that a notable percentage of respondents do not report that they are most successful in managing their most important risks. This fairly high level of inconsistency between importance and success among both scheme sponsors and trustees may lead to a need for prioritisation or may even raise governance related questions.

However, even though scheme sponsors and trustees demonstrate inconsistencies when it comes to importance and success, in some instances this inconsistency is welcome. In fact, several inconsistencies indicate that scheme sponsors and trustees are less concerned about certain risks because they have policies and procedures in place to manage them.

For example, trustees rank Inappropriate Trading as 16th in importance and 4th in success, indicating that they may have processes and procedures in place to successfully manage this important risk. Furthermore, scheme sponsors ranked Inappropriate Trading as tied for 6th in importance and 4th in success. This is extremely encouraging in light of strict regulations around asset allocation and investment strategy put in place by the Pensions Act 1995.

Scheme Governance, while ranked relatively low on importance among trustees and higher among scheme sponsors, is another perceived well-managed risk, ranked 12th overall in terms of importance and 3rd in terms of success.

Still, there are significant opportunities for improvement when it comes to consistency among the importance and success of certain risks. Longevity Risk, ranked as 2nd in importance but 18th in success, is clearly a risk that scheme sponsors and trustees are struggling to manage but believe is critical to the scheme's health. Similarly, Funding Deficits is a risk receiving significant attention, but scheme sponsors and trustees do not believe they're doing a good job managing it.

Another inconsistency which presents an opportunity for improvement is with regard to Quality of Member Data, which scheme sponsors and trustees collectively rank as 16 in importance and 6 in success. Given the recent attention paid to the quality of data by the Pensions Regulator and other industry leaders, seeing that scheme sponsors believe this is a risk that is managed well is certainly a good sign.

However, it's somewhat surprising that it is not ranked higher in importance. As noted earlier, while the UK PRBI found that most scheme sponsors and trustees believe they are doing a good job managing the Quality of Member Data, data from the consultation on record-keeping issued by The Pensions Regulator in February 2010 states that only 19% of schemes sampled had tested the presence of common data as detailed in their guidance published in January 2009.[9]

With the approaching introduction of the National Employment Savings Trust (NEST) and the experience of the PPF, both of which require accurate data and record-keeping to function efficiently, we expect regulators, and, in turn, scheme sponsors and trustees, to increase their focus and attention on Quality of Member Data in the near future.

[9] http://www.thepensionsregulator.gov.uk/press/pn10-03.aspx.

In order to assess how market volatility, regulatory changes and the economic slowdown over the past two years have impacted DB pension schemes in the UK, MetLife Assurance complemented its quantitative research with three open-ended questions.

These open-ended questions provide insight into several key areas: the effect that the economic environment and regulatory changes have had on pension scheme risk management practices; how the priority attached to risks has changed as a result; how the inter-relationship among pension scheme risk, scheme liabilities and broader enterprise risk are managed; and, the specific risk management or structural changes that trustee boards have implemented over the past two years to respond to the current environment.

Risk management in focus

Scheme sponsors and trustees alike have become much more risk-aware in light of the global economic downturn. Funding deficits and the collapse of the equity markets had a significant impact on the way that trustees and scheme sponsors view and understand risk.

According to one trustee, "[We] moved more towards passive asset management and [we were] made more aware of risk. [We're] more concerned about what would have been perceived as low risk [and] spent more time on looking at what might go wrong in a worst-case scenario." Echoed a scheme sponsor, "There has been a more cautious approach in terms of investments and risk management."

Specifically, both scheme sponsors and trustees are taking a closer look at investment risk. A trustee said, "We are more proactive in looking at portfolio risk," and a scheme sponsor agreed, "We've had to take a much closer look at our investment strategies and manage the risk."

Trustees are also reviewing asset allocation as a result of economic and regulatory changes. Many are reassessing asset classes and liability matching and more actively diversifying the portfolio. Several trustees said they are moving more into fixed income and away from equities. Not surprisingly, there is less of a focus from scheme sponsors on asset allocation. However, several employers did say they are looking to diversify assets and reviewing asset classes.

Other effects of the economic downturn include a focus on funding status/level. Both trustees and scheme sponsors are concerned about funding position, are checking it more regularly and having more conversations about scheme funding. Trustees are also more closely reviewing managers, advisers and consultants as a result of the downturn.

Changing priorities

When asked how market volatility, regulatory changes and the economic slowdown have changed the priority of importance scheme sponsors and trustees attach to specific risks, they agreed that several risks have become more important, including the employer covenant and the funding status of the scheme.

According to the interviews, both scheme sponsors and trustees agree that the strength of the employer covenant has become more important. This is in line with The Pension Regulator's focus on the employer covenant this year. Only 83% of trustees review the employer covenant, according to the Pensions Regulator[10]. They are hoping to see an increase in that number over the next year.

Neither scheme sponsors nor trustees thought many risks became less important to monitor as a result of the economic downturn. Just one trustee said that Investment Management Style is less important and another trustee said that Inflation Risk was less important. One sponsor believes that the Quality of Member Data and Mortality Risk are less important, but only because they are lower priorities.

Trustees making risk management structural changes

Trustees are taking specific risk management measures in response to the current economic environment. Several said they are increasing reporting. As one trustee said, "We have improved the reporting we get from investment and actuarial advisers to better understand the risks and feed this into regular monitoring." Another trustee said "We've improved our asset value reporting so we get more frequent asset value reports from the custodian. We're generally more alert to the possibilities of change." Others are communicating more frequently and holding more meetings.

Some trustees say they are moving toward liability-driven investment (LDI) strategies, increasing diversification, implementing risk registers and holding employer covenant reviews.

[10] The Pensions Regulator, Occupational Pension Scheme Governance, A Report on the 2009 Scheme Governance Survey.

CONCLUSION

The UK pension scheme landscape is rapidly changing. Over the last ten years, there's been a shift away from DB schemes and toward DC schemes. From the mainstay of occupational pension provision in the 1970's, 1980's and in the first part of the 1990's, traditional DB schemes are now increasingly closed to new joiners, with new staff directed to DC schemes, where employer costs can be controlled to a greater extent.

Despite this trend away from DB schemes to DC schemes, there is some £1 trillion of DB liabilities which have to be managed long into the future. While in some cases, scheme sponsors will decide that they can no longer carry the DB liabilities on their balance sheets, others will decide that they are prepared to retain these schemes and seek to manage them internally through careful investment and risk management. For these organisations, and for the pensioners of the future, it is critically important that scheme sponsors and trustees manage these risks together.

The inaugural UK PRBI revealed that trustees and scheme sponsors take their risk management roles very seriously. No one set of risks, investment, liability, or business related, was deemed to be more important than another. Interestingly, the findings from the study cut across all scheme sizes, and were irrespective of scheme funded status.

However, while across the two groups, scheme sponsors and trustees are collectively taking a broad view of pension risk management, the study showed that they are individually most likely to focus on those factors that they are primarily responsible for managing, with the result that neither group is viewing the spectrum of risks in a complete context. Trustees ascribe more importance to investment related risk and scheme sponsors focus more on liability and business related risk factors.

This "divide and conquer" approach could hinder efforts to develop and implement effective risk management solutions, with the call to action being more communication between the two groups to help ensure that scheme sponsors and trustees don't walk down separate paths of risk management. An integrated context may help enable truly holistic risk management for both groups.

Going forward, market forces, increased regulation and demographics are expected to raise the importance of several risk factors, which will make the need for better data quality, robust scheme governance and a strong employer covenant even greater.

The Quality of Member Data will become increasingly important to manage as time goes on. Poor record-keeping can lead to significant additional costs in a number of areas, including administration, inaccurate actuarial valuations and even claims from disgruntled members.

While all pension schemes have some data issues, data validation and working with the administrator to implement a data cleansing project to rectify any gaps or inconsistencies identified will help.

During this time of change, it is important to note that the Employer Covenant covers both the financial strength of the employer and their willingness to support the scheme. A sponsoring employer can be financially strong, but uncommitted to a DB scheme. It's critical, therefore, that trustees are taking all aspects of the employer covenant seriously.

When it comes to managing the many risks DB schemes face today, engaging both the scheme sponsor and trustee in considerations of the ways liabilities are growing, and taking concrete steps to manage that growth, goes a long way toward reducing scheme risk for both sponsors and members.

STUDY METHODOLOGY

As part of this comprehensive research for 2010, Greenwich Associates conducted quantitative interviews with 89 scheme sponsors and trustees from December 2009 through February 2010. This included 47 scheme sponsors and 42 trustees. Interviews were completed by telephone with a web-assisted option, i.e. respondents had the ability to view the risk factors and questions online while answering the survey via telephone. Chart 9 gives the distribution of respondents by scheme plan asset size, while Table 12 provides the number and percentage of respondents by scheme asset size.

Chart 10 gives the distribution of respondents by scheme funded status and Table 13 provides the number and percentage of respondents by scheme funded status. Finally, Chart 11 gives the distribution of respondents by scheme status (e.g. open to new members, closed to new members, etc.), while Table 14 provides the number and percentage of respondents by scheme status.

Chart 9: Distribution of Respondents by Scheme Asset Size

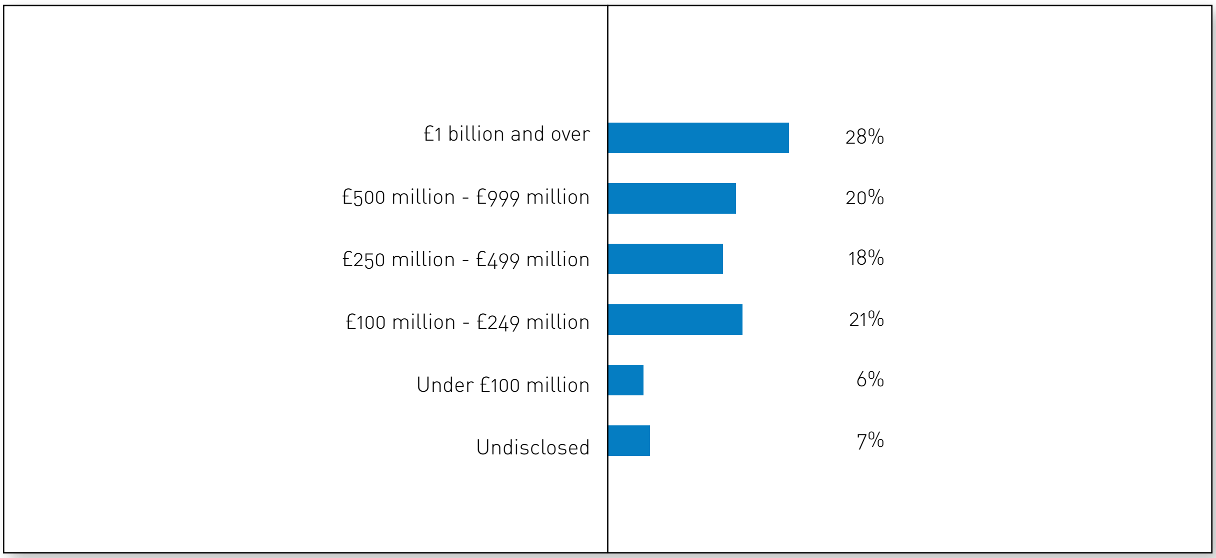


Table 12: Number and Percentage of Respondents by Scheme Asset Size

Scheme Asset Size	No. of Respondents	% of Respondents
£1 billion and over	25	28%
£500 million - £999 million	18	20%
£250 million - £499 million	16	18%
£100 million - £249 million	19	21%
Under £100 million	5	6%
Undisclosed	6	7%
TOTALS	89	100%

Chart 10: Distribution of Respondents by Scheme Funded Status

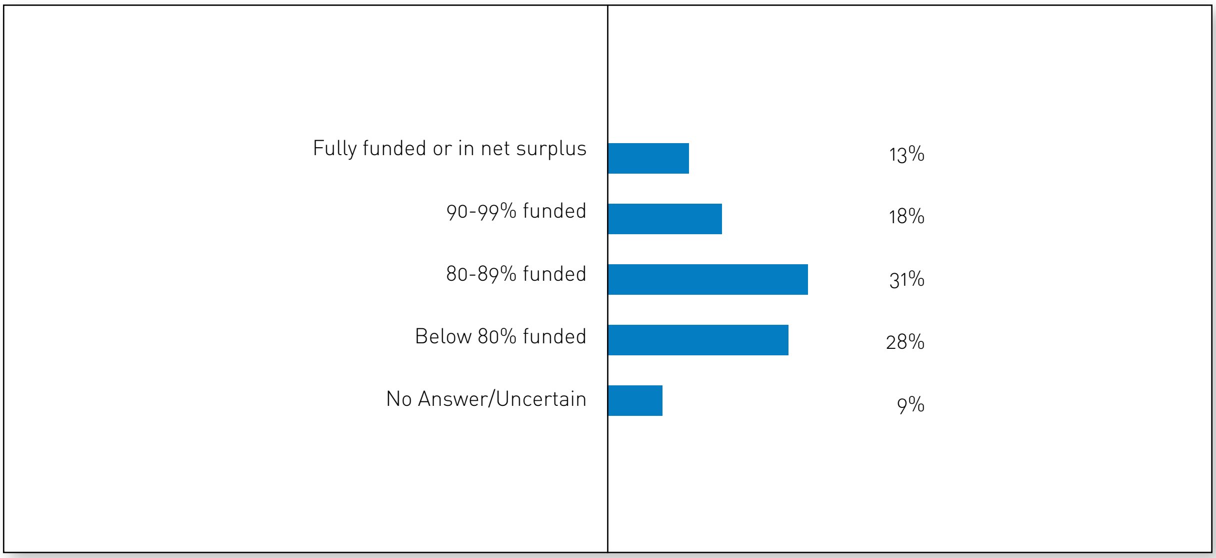


Table 13: Number and Percentage of Respondents by Scheme Funded Status

Scheme Funded Status	No. of Respondents	% of Respondents
Fully funded or in net surplus	12	13%
90-99% funded	16	18%
80-89% funded	28	31%
Below 80% funded	25	28%
No Answer/Uncertain	8	9%
TOTALS	89	100%

Chart 11: Distribution of Respondents by Scheme Status

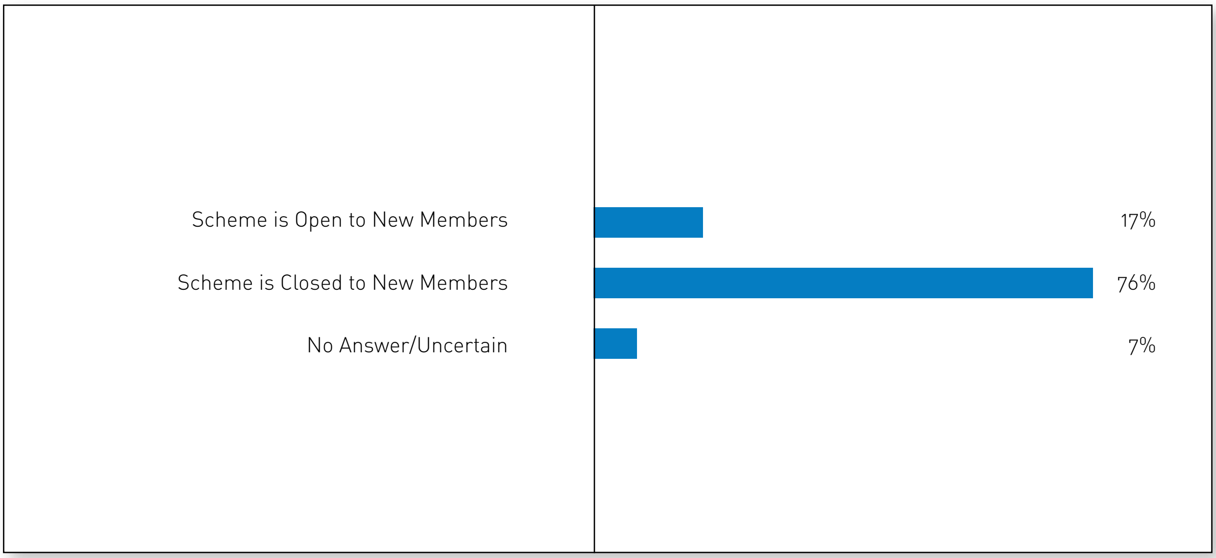


Table 14: Number and Percentage of Respondents by Scheme Status

Scheme Status	No. of Respondents	% of Respondents
Scheme is Open to New Members	15	17%
Scheme is Closed to New Members	68	76%
No Answer/Uncertain	6	7%
TOTALS	89	100%

The survey addressed 18 investment, liability and business risks faced by DB schemes. These risks were identified by a panel of industry experts and researchers, including Bdellium Inc. and Greenwich Associates. Each risk item had associated with it a statement describing comprehensive measures for successfully managing that particular risk. Three open-ended questions were also included in the survey. The 18 items and open-ended questions are reproduced in Appendix B.

The survey questions were divided into two sections. In the first section each respondent was asked to indicate on a 5-point rating scale how strongly they agreed or disagreed with each of the 18 risk management statements. A rating score of 1 indicated strong disagreement, a score of 2 indicated some disagreement, a score of 3 neither agreement nor disagreement, a score of 4 indicated some agreement, and a score of 5 indicated strong agreement. The order in which the 18 statements were presented to the respondents was rotated across the interviews.

The extent to which a respondent agreed or disagreed with the statements in Section 1 of the survey was interpreted as an indication of how successful or not the scheme sponsors and trustees perceived they were at implementing the risk management measures described.

The second section of the survey presented each respondent with a list consisting of 4 of the 18 risk items and respondents were asked to indicate the risk item to which they pay the most attention. This was repeated a total of 18 times with each respondent. Each time the choice set presented a different combination of risk items. The number of choice sets, the risk items included in each set, and the ordering of those risk items were designed to optimise survey design qualities such as frequency, orthogonality, connectivity, and positional balance.

The proportion of times each item was selected was interpreted as an indication of the importance the respondent ascribed to successfully managing that risk item.

The survey responses were analysed using a number of specially designed measurements, each of which is described in the Glossary at Appendix C of this report.

Calculating the UK Pension Risk Behaviour Index

Step 1

Calculate an average success rating for each respondent that incorporates the scheme sponsor's/trustee's self-reported success at managing each of 18 risks, weighted by the relative importance that scheme sponsor/trustee ascribed to each risk.

In Section 1 of the survey each respondent provided a self-assessment of how successfully they are managing each of 18 different investment, liability, and business risks. This assessment took the form of a rating on a scale from 1 to 5, with 5 indicating the highest level of perceived risk management success.

The importance-weighting is derived from responses to Section 2 of the survey. We first calculate each risk item's Importance Selection Rate. This is the number of times each risk item was selected by the respondent as receiving most attention, expressed as a percentage of the number of times it was included in all the choice sets that were shown to that respondent. Each Importance Selection Rate can range from 0% to 100% and their sum across all 18 risk items can therefore range from 0% to 1800%.

Next we divide each Importance Selection Rate by the sum of all Selection Rates for that respondent. We call the resulting value a risk item's Share of Importance. The total Share of Importance across all risk items always equals 100%. Furthermore, if each risk item is considered equally important the Share of Importance for each item would be the same and would equal 1/n, where n is the total number of risk items. (In the case of this survey, n = 18 and each risk item's Share of Importance would equal 1/18 or 5.56%).

We then multiply the success rating a respondent gave to each risk by its corresponding Share of Importance and sum the results across all 18 risk items. We call this number the respondent's Importance-Weighted Average Rating. This value will range from 1 to 5. A value of 1 or 2 indicates that important risks are not being successfully managed. A value of 3 indicates that the scheme sponsor/trustee is neither particularly successful nor unsuccessful at managing important risks. Values of 4 or 5 indicate successful management of important risk items.

Table 15 illustrates how an Importance-Weighted Average Rating is calculated for a survey respondent, assuming that the survey addressed five risk items.

Table 15: Example of the Calculations Used in Step 1 of UK PRBI Construction

Row #	Description					
1	Risk Item Number:	1	2	3	4	5
2	Success Rating for each risk item (directly from Section 1 of survey)	1	3	5	4	5
3	Number of times risk item was included in choice sets shown to the respondent:	4	4	4	4	4
4	Number of times respondent selected risk item as most important within a choice set:	1	0	2	2	3
5	Selection Rate for each risk item (row 4 divided by row 3)	0.25	0.00	0.50	0.50	0.75
6	Sum of Selection Rates across all risk items (add the values in row 5 for risk items 1 through 5)	2.00				
7	Share of Importance (each value in row 5 divided by the total in row 6)	0.125	0.00	0.25	0.25	0.375
8	Multiply each value in row 2 by its corresponding value in row 7	0.125	0.00	1.25	1.00	1.875
9	Importance-Weighted Average Rating (sum of the values in row 8 for risk items 1 through 5)	4.25				

Table 16: Example of the Calculations Used in Step 2 of UK PRBI Construction

Row #	Description					
1	Respondent ID:	A	B	C	D	E
2	Importance-Weighted Average Rating (calculated from Step 1 for each respondent)	4.25	3.94	2.75	4.78	3.09
3	Sum of Row 2	18.81				
4	Total Number of Respondents	5				
5	Industry Average Success Rating (Row 3 divided by Row 4)	3.762				

Step 2

Calculate an equal-weighted industry average success rating across all respondents. The individual importance-weighted average success ratings for each respondent are summed and the total is divided by the number of respondents. Table 16 illustrates how this is calculated, assuming that the survey had 5 respondents.

Step 3

Convert the industry average success rating into the final index value. The rating results obtained in both Step 1 and Step 2 are on an arbitrary scale of 1 to 5. The final index value takes the industry average success rating and converts it into its corresponding value on a standardised scale from 0 to 100. In order to standardise the rating we subtract 1 from the raw value and multiply the result by 25. This provides the final UK PRBI value.

Table 17: Example of the Calculations Used in Step 3 of UK PRBI Construction

Row #	Description	
1	Industry Average Success Rate (calculated from Step 2)	3.762
2	Subtract 1 from the value in row 1	2.762
3	UK PRBI value (multiply the value in row 2 by 25)	69

Calculating Risk Importance Concentration

Risk Importance Concentration measures the extent to which a scheme sponsor/trustee is overly concentrating on a relatively small number of risk items rather than paying attention to the full range of risks. This measurement takes account of both the number of risk items and the relative level of importance ascribed to each. The Risk Importance Concentration value equals 0.00% if equal importance is attributed to all 18 risk items and equals 100.00% if all importance is being ascribed to just one risk item.

Risk Importance Concentration is based on the Herfindahl-Hirschman Index, a well-established measurement of market concentration used by U.S. regulators to determine the competitive effect of proposed corporate mergers. The Herfindahl-Hirschman Index is equal to the sum of the squared market shares of the firms in an industry. The Risk Importance Concentration value used in this study is the standardised reciprocal of the Herfindahl-Hirschman Index where a weighting called Share of Importance replaces the usual market share weighting in the original Herfindahl-Hirschman calculation.

Risk Importance Concentration is derived from responses to Section 2 of the survey. We firstly calculate each risk item's Importance Selection Rate. This is the number of times each risk item was selected by the respondent as receiving most attention, expressed as a percentage of the number of times it was included in all the choice sets that were shown to that respondent. Each Importance Selection Rate can range from 0% to 100% and their sum across all 18 risk items can therefore range from 0% to 1800%.

We then divide the Importance Selection Rate for each risk item by the total Importance Selection Rates for all 18 risk items. We call the resulting value a risk item's Share of Importance. The total Share of Importance across all risk items always equals 100%. Furthermore, if each risk item is considered equally important the Share of Importance for each item would be the same and would equal 1/n, where n is the total number of risk items. (In the case of this survey, n = 18 and each risk item's Share of Importance would equal 1/18 or 5.56%).

Next we square each Share of Importance, sum the results and take the reciprocal. This provides a single number (which we call an Equal Weight Equivalent or EWE) that expresses the actual distribution of Importance Selection Rates across the 18 risk items as an equivalent number of items, assuming each had an equal importance. In general, this value can range from 1 to n, where n is the total number of risk items. As a final step, we therefore standardise this value to make it independent of the number of risk items. The standardised Risk Importance Concentration value equals the total number of risk items minus the EWE value, expressed as a percentage of the total number of risk items minus 1.

Table 18: Example of How to Calculate Risk Importance Concentration

Row #	Description					
1	Risk Item Number:	1	2	3	4	5
2	Number of times risk item was included in choice sets shown to the respondent:	4	4	4	4	4
3	Number of times respondent selected risk item as most important within a choice set:	1	0	2	2	3
4	Selection Rate for each risk item (row 3 divided by row 2):	0.25	0.00	0.50	0.50	0.75
5	Sum of Importance Selection Rates across all risk items (add the values in row 4 for risk items 1 through 5):	2.00				
6	Share of Importance (each value in row 4 divided by the total value in row 5):	0.125	0.00	0.25	0.25	0.375
7	Equal Weight Equivalent (square each value in row 6, sum the results and take the reciprocal):	3.56				
8	Risk Importance Concentration (subtract the value in row 7 from 18 and devide the result by 17):	85%				

Investment Risks		
1	Investment Risk Profiling	We routinely use analytical tools that allow us to measure the level, volatility, correlation and effects of multiple risk factors at the investment portfolio level and, where appropriate, within and across different investment fund managers, investment styles and asset classes.
2	Inappropriate Trading	We proactively review compliance with our Statement of Investment Principles and investment manager mandates to avoid inappropriate use of leverage, shorting, illiquid instruments or unsuitable investment products.
3	Asset Diversification	We use disciplined rebalancing to implement a strategic asset allocation policy as agreed and documented in our Statement of Investment Principles and investment manager mandates.
4	Investment Management Style	We have policies to determine whether we use passive investment managers to track indices or retain active managers and, to the extent we retain active managers, we have processes for systematically measuring and enforcing performance standards.
5	Meeting Investment Return Targets	We have policies and procedures in place to determine our return targets, to identify the reasons for any deviation between actual results and targets and to take appropriate action in a timely manner.

Liability Risks		
6	Asset and Liability Mismatch	We carry out timely reviews that have proven accurate and effective in helping to manage mismatches between the amount and timing of the scheme's asset and liability cash flows.
7	Funding Deficits	We have successfully designed and put into place investment strategies that have proven effective in enabling us to manage our funding contribution levels.
8	Mortality Risk	Distinct from the risk that our pensioners will live longer than expected, we have modelled and understand how the expected mortality of our scheme members affects our scheme's cash flows and funding requirements.
9	Longevity Risk	Distinct from the risk that our members will die before obtaining benefits, we implement and regularly review the effectiveness of procedures to mitigate, transfer or actively manage the risks associated with increasing longevity among scheme beneficiaries.
10	Inflation Risk	We implement and regularly review the effectiveness of procedures to manage the impact of inflation on the level of future liabilities.
11	Quality of Member Data	We review our data regularly and implement procedures to maintain the accuracy of our record-keeping to ensure member data is correct and complete.

Business Risks

12	Scheme Governance	We ensure good governance of the scheme through effective evaluation of risks and appropriate risk mitigation measures, such as through the use of a risk register and plan management tools that are regularly reviewed and updated to reflect changes in risks and their impact on the scheme.
13	Adviser Risk	We have sufficient knowledge, experience and training to assess the quality of advice and the effectiveness of services provided by third parties, including investment managers.
14	Employer Covenant	We assess the employer covenant for the scheme in terms of willingness and ability to fund the scheme as required, through the monitoring of financial data for the company and the use of professional advice where appropriate.
15	Litigation Risk Exposure	We explicitly manage the litigation risk to which the scheme is exposed through the use of the scheme's Internal Dispute Resolution Procedure (where applicable) and careful monitoring of litigation trends, including claims, costs and decisions.
16	Investment Valuation	We clearly document, systematically implement and periodically review procedures that ensure the complete, accurate, timely and independent valuation of all scheme investments including non-UK investments or any illiquid or complicated investment vehicles such as currency swaps, derivatives, hedge funds and private equity.
17	Measurement of Technical Provisions/Liabilities	We routinely review the value of the scheme's liabilities and understand the factors that contribute to our scheme's liabilities and the change in these over time.
18	Decision Process Quality	We periodically assess the effectiveness of our decision-making processes by explicitly considering the links between the way in which we make decisions and the outcomes of those decisions.

Open-Ended Questions

Question A	What are the 3 biggest effects that the market volatility, regulatory changes and economic slowdown over the past 2 years have had on your pension scheme risk management practices?
Question B	Has the market volatility, regulatory changes and the economic slowdown over the past two years led your scheme to change the priority of importance it attaches to any particular risks in the last year?
Question C (Scheme Sponsor)	How do you manage the inter-relationships among pension scheme investment risk, pension scheme liabilities and general enterprise risk management?
Question C (Trustee)	Please describe any specific risk management measures or structural changes that your trustee board has implemented over the past year to respond to risk in the current environment?

Glossary of Terms

Throughout this report, MetLife Assurance worked with our research partners to analyse and interpret scheme sponsor and trustee responses. What follows is an alphabetised list of the measurements we used, together with an explanation of each measurement.

Average Success Rating:

When applied to a risk item this means the average of all ratings for that item across respondents who provided a rating.

When applied to a respondent this means the average rating across all risk items to which that respondent assigned a rating.

The rating scale is from 1 to 5 where 1 equals strongly disagree that the risk is managed successfully, 3 equals a neutral response as to whether the risk is managed successfully and 5 is strongly agree that the risk is managed successfully.

Risk Importance Concentration:

When applied to a risk item this measurement indicates the extent to which a disproportionate importance is being ascribed to just a few risk items.

The concentration factor equals (the number of risk items minus the Equal Weight Equivalent value)/(number of risk items minus 1), expressed as a percentage.

The Concentration Factor can range from 0% to 100%. A value of 0% would indicate that all risk areas are being ascribed equal importance (no concentration). A value of 100% would indicate all importance being placed on just one risk area (total concentration).

See Appendix A for a full explanation and worked example of how this measurement is calculated.

Importance-Weighted Average Rating:

In respect of each respondent, multiply the rating assigned to each risk item in Section 1 of the survey by its Share of Importance and total the results. This weighted average rating can range from 1 to 5. It indicates the extent to which risk items that receive the most attention from respondents also received a high rating for success in implementing comprehensive risk management measures.

Probability of Failure:

In respect of a risk item, this is the number of scheme sponsors/trustees who gave the risk item a rating of 1 or 2, expressed as a percentage of the total number of respondents who rated that risk item.

In respect of a respondent it is the number of risk items to which that respondent assigned a rating of 1 or 2, expressed as a percentage of the total number of risk items to which the respondent assigned a rating.

Ratio of Weighted to Unweighted Average Success Rating:

This is the ratio of the Average Rating to the Importance-Weighted Average Rating, expressed as a percentage.

A ratio close to 100% indicates that the respondent was successfully implementing risk management measures in respect of items that were deemed important. A ratio close to 0% indicates that the respondent was not successful in implementing risk management measures in respect of risk items that were receiving the most attention.

This ratio measures consistency between success and importance while controlling for any general upward or downward bias in the scores assigned by each respondent in the Section 1 of the survey.

Importance Selection Rate:

The number of times each risk item was selected in Section 2 of the survey as receiving most attention, expressed as a percentage of the number of times it was included in the choice sets.

Share of Importance:

Each risk item's Share of Importance equals its Importance Selection Rate divided by the sum of the Importance Selection Rates for all risk items. The result is a percentage value between 0.00% and 100.00% and provides a standardised relative importance of each risk item compared to the other risk items. The sum of the Share of Importance values for all risk items always equals 100.00%.

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