MetLife

MetLife U.S. Pension Risk Behavior Index℠

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2nd Annual Study of Risk Management Attitudes and Aptitude Among Defined Benefit Pension Plan Sponsors

FEBRUARY 2010

About MetLife

For over 140 years, MetLife has been one of the country's most trusted financial institutions. In 1921, Metropolitan Life Insurance Company was the first company to issue a group annuity contract. Our group life and group annuity contracts are principally issued through Metropolitan Life Insurance Company and MetLife Insurance Company of Connecticut, both operating companies of MetLife, Inc. Today, these operating companies manage $60 billion of group annuity assets[1] with $34 billion of transferred pension liabilities[1] and provide guaranteed income payments to over 600,000 individuals every month.[1] We have a 30-year track record in stable value with $22 billion in stable value business,[1] and have $17 billion of nonqualified benefit funding assets.[1]

The MetLife enterprise serves more than 90 of the top 100 FORTUNE 500®-ranked companies and has over $539 billion in total assets and over $505 billion in liabilities.[2] The operating companies, Metropolitan Life Insurance Company and MetLife Insurance Company of Connecticut, have $356 billion in total assets and over $339 billion in liabilities supporting the group annuity and insurance business.[3] The top credit rating agencies have repeatedly recognized us for our financial strength[4] and careful management of over $12 billion in capital.[5]

MetLife is a trusted market leader — a thoughtful and insightful partner, combining a unique perspective for plan sponsors with the means to make solutions a reality.

1 As of December 31, 2009.

2 MetLife, Inc. as of December 31, 2009. Total assets include general account and separate account assets and are reported under accounting principles generally accepted in the United States of America.

3 Metropolitan Life Insurance Company and MetLife Insurance Company of Connecticut as of September 30, 2009. Total assets include general account and separate account assets and are reported on a statutory basis.

4 For current ratings information and a more complete analysis of the financial strength of Metropolitan Life Insurance Company and MetLife Insurance Company of Connecticut, please go to www.metlife.com and click on "About MetLife," "Ratings."

5 Includes $11.6 billion in surplus and $1.1 billion in investment reserves as of September 30, 2009 for Metropolitan Life Insurance Company. Reported on a statutory basis.

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ABOUT THE RESEARCH PARTNERS

Bdellium Inc. helps retirement plan sponsors, institutional investors and fund managers to reduce risk and improve performance by implementing better decision-making processes. Bdellium offers clients deep industry knowledge supported by strategic planning and operational management experience, advanced technical skills and sophisticated analytical tools. Bdellium fosters collegial working relationships that encourage creativity and innovation, supported by disciplined process and relentless attention to detail.

Greenwich Associates is the leading international research-based consulting firm in institutional financial services. Greenwich Associates' studies provide benefits to the buyers and sellers of financial services in the form of benchmark information on best practices and market intelligence on overall trends. Based in Stamford, Connecticut, with additional offices in London, Toronto, Tokyo, and Singapore, the firm offers over 100 research-based consulting programs to more than 250 global financial-services companies.

MetLife also consulted with **Investment Governance, Inc.**, an independent research and analysis company that focuses on benefit plan related investment risk, corporate strategy, valuation and accounting issues, with the fiduciary perspective in mind.

Foreword

The global financial crisis has challenged many defined benefit (DB) plan sponsors to re-examine their risk priorities — and explore new solutions for mitigating their plan's risk exposure. A hard lesson learned over the past 12 to 18 months is that managing a DB pension plan in a volatile market is a difficult challenge for even the most sophisticated corporate executives. Today, it's imperative to have a better understanding of the pension plan environment and how it may impact the overall financial performance of their businesses.

In early 2009, MetLife released new, proprietary research based on the leading U.S. defined benefit pension plan sponsors to help better understand their approach to risk management and encourage them to explore new solutions for mitigating exposure. In the inaugural study, we found that most plan sponsors — regardless of plan design and size — had an opportunity to develop a broader, more holistic view of all of the risks to which their plans could be exposed. The inaugural study also identified opportunities for plan sponsors to more successfully manage the risks plan sponsors deemed most important.

What a difference a year makes. The second annual study, fielded in late 2009, found that plan sponsors are now paying significantly more attention to a much broader range of DB plan risk factors.

With changing priorities in an uncertain market environment come changing needs. Plan sponsors are now looking for new tools to help them manage and mitigate a broader range of risk factors, especially risks — including liability-related risks — to which many may not have paid as much attention in the past.

To deliver on the promise of a secure retirement, we believe it remains critical that plan sponsors continue to fine-tune their framework for understanding and managing the risks they view as most important. We look forward to working with sponsors and the consulting community to define these solutions — and to tracking progress in 2010 and beyond.

William J. Mullaney
President, U.S. Business
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The primary objective of the MetLife U.S. Pension Risk Behavior Index^{SM} research, a quantitative study of large plan sponsors supplemented by a series of in-depth individual interviews, is to track over time the current state of risk management within defined benefit (DB) pension plans – and to identify early warning signs of risk management gaps.

Executive Summary

Since MetLife fielded its inaugural U.S. Pension Risk Behavior Index Study^{SM} one year ago, plan sponsors have made dramatic changes to the way they think about and manage defined benefit (DB) pension plan risks.

Last year's study revealed that plan sponsors were focused on only a few risk factors associated with their DB pension plans. At the same time, they reported inconsistent success in addressing the risks they viewed as most important.

Against the backdrop of one of the most volatile market environments in recent memory, the study results show that U.S. defined benefit pension risk management priorities have changed quite dramatically over the period of 12 months. Today, plan sponsors are taking a broader view of the risks to which their plans are exposed, as market volatility has brought into focus the importance of risk management practices. Not only do their risk management practices—or absence of those practices—impact their plans' funded status but they can also have a significant impact on their companies' balance sheets.

PLAN SPONSORS TAKE A BROADER VIEW OF RISK

What's becoming abundantly clear is that maintaining DB pension plan funded status and managing pension liabilities in a volatile market is a difficult challenge for even the most sophisticated corporate executives. Perhaps that's why a significant number of plan sponsors are expanding the range of DB pension risks to which they are paying attention—quite a shift from last year when a large proportion of sponsors focused on only a handful of risks.

This year, we are also witnessing a "democratization" of risk factors—a narrowing of the differential between the 18 risk factors selected as "most" and "least important."

In summary, plan sponsors are concerned about more risks and each of these risks is more equal in importance than in the past.

ASSET AND LIABILITY RELATED RISKS EQUALIZE

With this expanded view, plan sponsors are no longer largely concentrating on the asset side of the asset-liability equation. Instead, there has been a shift away from a narrow concentration almost exclusively on investment-related risks to a more holistic focus on both the asset and liability sides of the equation, in addition to greater focus on operational risks.

This study is comprised of two parts: an index (which measures the extent to which plan sponsors are managing the risks they believe are most important) and an analysis (which examines patterns and inter-relationships between risk attitudes and behaviors). The risks were identified by MetLife in consultation with leading industry experts.

While MetLife doesn't claim to have a crystal ball, we did predict in last year's report that plan sponsors would become much more "liability aware," spurred, in large part, by the market environment. Twelve months later, there are clear indications that this shift has occurred. In this year's study, for example, we see that Liability Measurement and Underfunding of Liabilities now occupy the two top spots in the importance ranking—replacing last year's most important risk factors of Asset Allocation and Meeting Return Goals, respectively. Longevity Risk and Early Retirement Risk have also moved up significantly in importance year-over-year.

At the same time, the findings also reveal that traditional methods of mitigating risk, particularly relying solely or primarily on diversifying the investment portfolio, may no longer be considered sufficient for effective pension plan risk management. Asset Allocation, which ranked number one in importance last year, dropped to the fourth spot this year, while Meeting Return Goals, which was the second ranked risk factor by importance last year, dropped dramatically in importance to number 14 out of 18 risk factors. Perhaps we can hope that these significant declines in relative importance reflect a better appreciation by plan sponsors of the dangers in over-reliance on a single means of managing risk and the need for a multi-dimensional approach.

PLAN GOVERNANCE GAINING IN IMPORTANCE

With changing priorities come changing needs. Over the past 12 months, the rate of external change has been rapid and sudden. In the face of such changes, and the increased attention placed on plan oversight, plan sponsors are looking for new tools to help them manage and mitigate risk. Plan Governance has moved up in importance from the ninth spot last year to third this year, at a time when the stakes have never been higher for effective plan management. The importance of Decision Process Quality also rose slightly and perhaps this reflects a dawning recognition that improving the way in which decisions are made is an essential step towards achieving lasting success. Unfortunately, the success rating for Decision Process Quality still languished at the bottom of the list so plan fiduciaries are not yet reaping the benefits of modern decision science.

In response to the market volatility, regulatory changes, and economic slowdown over the past two years, one plan sponsor commented that they "are placing more emphasis on manager guidelines, monitoring of managers, and asset allocation" while another said they are "changing [their] whole investment philosophy." That's a view shared by others: "We are re-evaluating the entire process: investment, governance, [and] the understanding and valuing of liabilities."

Like Plan Governance, Advisor Risk has also increased in importance this year — moving from 13th in importance last year to fifth this year — as plan sponsors are under pressure to ensure that they are equipped to assess the quality of advice and the effectiveness of services provided to them by third parties. With pension plan management being viewed more broadly, some plan sponsors feel that they may not be able to — nor want to — rely on their consultants and advisors to the same extent they once did when consulting assignments were more standardized. And, if they do, then they need to be able to demonstrate to their governance committees that more care is being taken to effectively evaluate, select and manage their plan advisors and consultants.

Inappropriate Trading has also become more important, moving from 14th in 2009 to seventh this year. This significant change in importance is most likely due to an emerging need for plan sponsors to proactively review compliance with clear investment guidelines for all investment managers in light of concerns about investment performance and changes in the investment markets. These concerns, coupled with liquidity challenges and the recognition that structured assets carry greater risk than anticipated, are underscoring the need for greater transparency.

WITH BROADER ATTENTION COMES GREATER "PERCEIVED" SUCCESS

As the challenging market environment compels sponsors to sharpen their focus on risk management, many believe their performance has improved. Plan sponsors are rating themselves even more successful than they did last year at managing various pension risks. Today, plan sponsors believe they are doing a very good job of managing not only the most important risk factors, but also a wide range of risks. Their self-confidence does not simply extend to their belief that they are successful at managing the risks that are typically the easiest to model and measure (e.g. Meeting Return Goals, Fiduciary Risk & Responsibility, etc.). In fact, year-over-year their self-ascribed success rating increased for 14 of the 18 risk factors, it decreased for three risk factors and remained unchanged for one risk factor. As plan sponsors become more engaged in focusing on a broader number of risks, their self-reported success appears to be related to how engaged they feel relative to last year, rather than on actual success. Indeed, the gap between importance and success bears this out.

GAP BETWEEN IMPORTANCE AND SUCCESS WIDENS

Despite a "democratization" of risk factors and increased self-reported success, the gap has widened between the importance that plan sponsors ascribe to risk factors and their perceived success in managing those risks. Across all three measures of consistency that are part of the study analysis, there is less consistency between Importance and Success measures in 2010 than there was in 2009.

One of the major implications of the 2010 U.S. Pension Risk Behavior Index℠ may be that while plan sponsors are viewing risk more holistically, implementing the management of all of these risks is a work in progress. Several factors might contribute to uneven implementation — first, it takes time to move to action once the risk has been identified; second, the sheer number of risk factors has been too challenging to manage given the economic environment; or third, time is needed to become proficient at managing newly identified risks.

A CALL TO ACTION

To close the implementation gap, plan sponsors need better tools and benchmarks to mitigate the risks they view as critically important. They also need more flexible models for approaching risk management. Over the next 12 to 24 months, MetLife expects the industry to develop new practices and tools to monitor and successfully manage these risks.

It's important to note that a "holistic" approach does not mean "one-size-fits-all." MetLife believes that a holistic model for risk management — and a holistic toolkit for addressing risks — will become standard practice. But, how firms implement risk practices and tools — and the actions they take — will remain firm-specific. While certain risks will remain more important than others, it's critical that plan sponsors develop a risk management plan that fits their individual organization and pension plan.

Over the past 12 months, plan sponsors have taken a critical first step toward achieving this goal. In a challenging market and regulatory environment, sponsors have become more engaged in the risk management of their plans. While engagement doesn't always translate into immediate success — it is an important and necessary prerequisite to improved, sustainable performance.

MetLife U.S. Pension Risk Behavior Index℠

In this ground-breaking study, now in its second year, MetLife worked with Bdellium Inc. and Greenwich Associates to survey large pension plan sponsors in the U.S. Data from this survey were used to calibrate the importance that these companies 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 plan risks.

The results of this research have been synthesized into the MetLife U.S. Pension Risk Behavior Index ("PRBI"), which reflects DB plan sponsor attitudes towards, and aptitude or effectiveness in, comprehensively addressing pension risk. The PRBI takes account of the relative importance of each risk.

MEASURING CHANGES IN ATTITUDES AND BEHAVIORS

Last year, the PRBI established a baseline for risk management practices against which future changes could be measured. This year, the PRBI measures the extent to which attitudes and behaviors have changed year-over-year. Over time, the PRBI will be instrumental in tracking how pension risk factors are being managed across the industry.

The PRBI is constructed in three steps:

Step 1

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

Step 2

Step 2 combines the results across all plan sponsors by calculating an industry average success rating.

Step 3

The rating results obtained in both steps one and two are on an arbitrary scale of 1 to 5. In the final Step 3, we convert the raw industry average success rating into a standardized scale from 0 to 100.

A higher value on the PRBI signifies that more plans are being managed by sponsors who report that they are successfully addressing important risks. A fall in the PRBI value would likely indicate either an increase in the importance of certain risks without an equivalent increase in success at managing them, or a decrease in success at managing risks that remain highly important. Appendix A explains in detail the methodology used to calculate the PRBI.

INDEX VALUE: SLIGHT DECLINE YEAR-OVER-YEAR

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

At a minimum, every plan sponsor should at least agree that they are addressing important risk items. This would translate into both an individual *Importance-Weighted Average Rating* for each plan sponsor and an industry average success rating of 4.0. The equivalent 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.

The second annual value of the Pension Risk Behavior Index is 79, a slight decline from the inaugural study 82.[1] During a tumultuous year, this reflects the more detailed findings in the following report that suggest that plans sponsors are now viewing risk factors much more holistically, but are struggling to successfully manage all the risks they face. This is consistent with broader awareness preceding effectiveness, which at this point, is to be expected.

As described in-depth in the following pages, the ratings of "importance" ascribed to certain risk factors decreased while others increased significantly, resulting in a leveling out of relative importance across all 18 factors. Instead of placing a high level of importance on as few as 5–6 risks as they had last year, plan sponsors now deem nearly all 18 risk factors as somewhat important. However, the success ratings for managing these risks compared to the importance granted to each has become increasingly inconsistent—indicating that plan sponsors are challenged to find ways to manage each and every risk.

One year ago, MetLife predicted that advisors and external forces would put more importance on liability-related risks. That prediction has come true—the pendulum has swung from an over-emphasis on asset-related risks toward more of a focus on liability-related risks. The number-one risk factor that plan sponsors now believe is most important is Liability Measurement, replacing Asset Allocation.

In the future, MetLife expects to see the pendulum move gradually back toward the center. As the markets recover and plan sponsors are able to better address the myriad risks they face, it's likely that asset and liability-related risks will be given almost equal attention, and that sponsors will focus on a balanced set of risks most meaningful to their plans.

1 These values reflect some changes that have been made to simplify and improve the Index calculation methodology (see Appendix A) in the light of experience gained from the inaugural study.

Importance of Managing Pension Risks

PLAN SPONSORS VIEW RISKS MORE HOLISTICALLY, FOCUS MORE ATTENTION ON LIABILITY-RELATED RISKS

During a year of extraordinarily volatile market conditions, plan sponsors' attitudes toward pension risk management — and the importance of individual risk factors — changed dramatically. In 2009, plan sponsors focused almost exclusively on a handful of risks, and ranked investment-related risk factors ahead of liability-related factors. Today, sponsors are focusing more significantly on the liability side of the equation — and looking at the full spectrum of risks in a more holistic way. This year, in fact, the two risk factors rated as "most important" were Liability Measurement and Underfunding of Liabilities.

Last year, MetLife had hypothesized that plan sponsors' heavy weighting on asset-related risks would likely decrease as market conditions worsened and the need to protect plans against additional risk increased. Today, we see strong evidence that this shift is well underway.

Table 1: Importance Rankings 2010 vs. 2009

Risk Factor	2010	2009	Change
Liability Measurement	1	6	5
Underfunding of Liabilities	2	3	1
Plan Governance	3	9	6
Asset Allocation	4	1	–3
Advisor Risk	5	13	8
Asset and Liability Mismatch	6	4	–2
Inappropriate Trading	7	14	7
Ability to Measure Risk	8	7	–1
Fiduciary Risk & Litigation Exposure	9	10	1
Decision Process Quality	10	12	2
Longevity Risk	10	16	6
Early Retirement Risk	10	18	8
Investment Valuation	13	11	–2
Meeting Return Goals	14	2	–12
Accounting Impact	15	5	–10
Negative Alpha	16	8	–8
Quality of Participant Data	17	15	–2
Mortality Risk	17	17	0

When asked about the biggest effects that the market volatility, regulatory changes, and economic slowdown over the past two years have had on their pension risk practices, one plan sponsor commented that "liability measurement" is more frequent and deeper, while another said they've "had to reduce risk by being more liability aware." Other plans sponsors cited "paying more attention to downside risk and funded status volatility."

In light of current economic and regulatory pressures, it's not surprising that Liability Measurement — i.e., better understanding the drivers that contribute to plan liabilities — emerged as the most important risk factor this year. Last year, Liability Measurement came in as the sixth most important risk factor.

Underfunding of Liabilities continues to be a major area of focus for plan sponsors, moving from the number three position last year into the number two position in terms of importance in 2010. This increase is likely due to the declines in the asset values of plans overall, plan sponsors' concerns about recouping those losses over the long term, the impact of pension liabilities on companies' balance sheets and continued concern over the need for plan contributions.

Although S&P 500 companies have seen an improvement in the funded status of their pension plans between 2008 and 2009 (today, on average, they have an 85 percent funded status with a deficit of $229 billion in 2009, up from 2008 year-end deficit of $409 billion, corresponding to a funded status of 75 percent),[2] there are still concerns that these gains could again be eroded if market volatility returns.

Interestingly, several other risk factors deemed less important in 2009 climbed in importance significantly. Last year, plan sponsors believed that Early Retirement Risk, Mortality Risk and Longevity Risk were relatively insignificant risks, likely due to the fact that the effects of these risks are typically seen more slowly compared to other risks their plans face. As reported in 2009, "fund executives may be less concerned about these risks in the near-term, while attentive to their long-term impact." However, as with the majority of risks rated through the PRBI, plan sponsors see these risks as more important than before.

Longevity Risk and Early Retirement Risk are now both ranked tenth in importance, up from numbers 16 and 18, respectively. As "traditional" assumptions about retirement patterns change, employers may be paying greater attention to the impact that early retirement subsidies could have on their employees' decisions about when to retire, thus influencing the liability management strategy of the plan. At the same time, they are paying more attention to the risks associated with increasing longevity among plan beneficiaries. Although some experts expect longevity increases to level off at a future point, others believe medical breakthroughs could increase life expectancy further in the future.[3]

The shift from an asset-related focus to a more balanced perspective that also contemplates liability-related risks is evident when we compare the top risk factors of 2009 to those of 2010. The findings of the 2010 PRBI indicate that traditional methods of mitigating risk by diversifying the investment portfolio may no longer be sufficient in light of the economic downturn. Asset Allocation, 2009's number one risk factor, moved down to number four in importance in 2010. Meeting Return Goals, which came in at number two in 2009,

2 Pension Plan Funded Status Improves but Volatility Remains Concern in Avoiding Funding Erosion, Mercer, January 4, 2010.

3 Longevity Risk Quantification and Management: A Review of Relevant Literature, Society of Actuaries, Thomas Crawford, FIA, FSA, MAAA, Richard de Haan, FIA, FSA, MAAA, Chad Runchey, FSA, MAAA, Ernst & Young LLP, November 2008.

Plan Sponsors are becoming more actively engaged with regard to their pension liabilities. One plan sponsor noted: "We have done explicit studies (and are doing a new one) to quantitatively assess our absolute investment risk and the investment risk relative to the pension liabilities." Another mentioned removing "any human emotion from our rebalancing policy."

dropped in importance to number 14 this year. It's possible that modern portfolio theory, whereby diversification can reduce volatility risk without sacrificing return, will shift from being considered the only tool needed to optimize returns to just one of the many tools that plan sponsors have in their arsenal.

Accounting Impact also dropped significantly in importance from five in 2009 to 15 in 2010, as accounting rule changes, which were unfamiliar last year, have become operationalized to a significant degree.

Whether assets and liabilities will be given equal weight in the long-term remains to be seen. Once market conditions regain stability, one indication will be whether assets are managed in terms of plan liabilities, and another on whether investment returns are measured relative to liabilities rather than to benchmarks. For now, however, one thing is clear: among plan sponsors' top priorities is the need to understand their plans' liabilities, as well as how to manage assets in this context and (at present) this is much more important than relying on meeting generic benchmarked return goals.

PLAN GOVERNANCE GAINS IN IMPORTANCE

At a time when effective plan management is more important than ever, Plan Governance also moved up in the importance ranking to number three in 2010, from number nine in 2009. The volatile economic environment over the past 18 months brought several issues to light, including the need to maintain funded status, the need to find suitable investments, a greater emphasis on plan liquidity, and whether maintaining the plan is a viable long-term option. It's not surprising, then, that plan sponsors are paying more attention to those responsible for plan governance—ensuring that they're providing effective, independent oversight that's supported by internal controls.

As plan sponsors and their advisors try to grapple with a wider range of risks, the interrelationships between these factors will increase the complexity of the decisions they need to make.

As noted in last year's report, unless the decision-making process itself is improved, there is a real danger that fiduciaries might succumb either to data overload or decision paralysis. Inability to sustain the required holistic risk management approach might be evidenced by a quick reversion to focusing on just a handful of risks. The slight increase in the importance ascribed to Decision Process Quality in this year's survey might reflect a dawning awareness of this reality but the fact that its success ranking remained unchanged at 16th out of the 18 risk factors shows that much work still remains.

With closer oversight of advisors and consultants, new approaches may evolve. One plan sponsor said: "We have elected to go from independent individual manager mandates, which have been overseen by an independent investment advisor, to a fully integrated defined benefit plan approach."

With plan sponsors and pension plans under more scrutiny than ever before and a growing need among plan sponsors to demonstrate management of their outside consultants and advisors, Advisor Risk moved from number 13 in importance in 2009 to number five in 2010. Inappropriate Trading also moved from number 14 last year to number seven this year, indicating that plan sponsors may have an additional appreciation for closer oversight of their investment stewards. This may also be a by-product of plan sponsors realizing that more attention needs to be paid to the liability side of the pension risk management equation, and less to the asset-side of the equation, where outside advisors have historically focused.

One of the challenges facing the advisor community is that advisors are often selected for different, sometimes discrete assignments — i.e., investment and actuarial advice may not be synchronized. Moving forward, it will be increasingly critical for plan sponsors to work holistically with their advisors to ensure that risk management solutions work well for their plans.

To encourage such coordination and mitigate both governance- and advisor-related risk, plan sponsors have a range of practices at their disposal. Among them:

- Clarify and communicate scope of work
- Create clear lines of accountability on the part of the plan sponsor and advisor
- Implement a governance oversight mechanism that incorporates modern, multi-criteria decision-making methods
- Test knowledge of advisors
- Bid out work competitively on a periodic basis

Over the next 12 – 18 months, we expect plan sponsors to begin to develop more integrated (but highly customized) models for handling risks. Solutions will remain firm-specific, but tools and common practices will gradually become more broadly available, accepted and frequently used.

THE DEMOCRATIZATION OF RISK FACTORS

Between the 2009 and 2010 studies, the differential between the risk factors selected as "most" and "least important" narrowed substantially — essentially pointing to a "democratization" of risk factors. In 2009, Asset Allocation was the most frequently selected factor by importance, selected 54% of the time by respondents. This value represents the percentage of times the risk was selected as the most important risk factor compared to the total number of times it was offered in the choice sets across all respondents. This year, it was selected 27% of the time by respondents. At the other end of the scale, the least important risk factor last year, Early Retirement Risk, was selected only 2% of the time. This year, it was selected 24% of the time — a significant shift.

Looking at the 2010 data overall, the range between the "most" and "least" important risk factors is now much closer. Liability Measurement is the most frequently selected factor (selected 29% of the time by respondents), while Mortality Risk and Quality of Participant Data are tied for the least frequently selected factor (both selected 21% of the time), shrinking the range to just 8%. Few factors were deemed "unimportant" by plan sponsors.

This year's top four risk factors include:

- **Liability Measurement—** *"We routinely review liability valuations and understand the drivers that contribute to our plan's liabilities"*—was selected 29% of the time as the risk factor to which plan sponsors pay most attention.
- **Underfunding of Liabilities—** *"We have successfully designed and executed investment strategies that have proven effective in enabling us to comfortably manage our funding contribution levels."*—was selected 28% of the time.
- **Plan Governance—** *"Those responsible for plan governance exercise effective, independent oversight, supported by internal controls within all areas and at all levels of plan management"*—was selected 28% of the time.
- **Asset Allocation—** *"We use disciplined rebalancing to implement a documented strategic asset allocation policy"*—was selected 27% of the time.

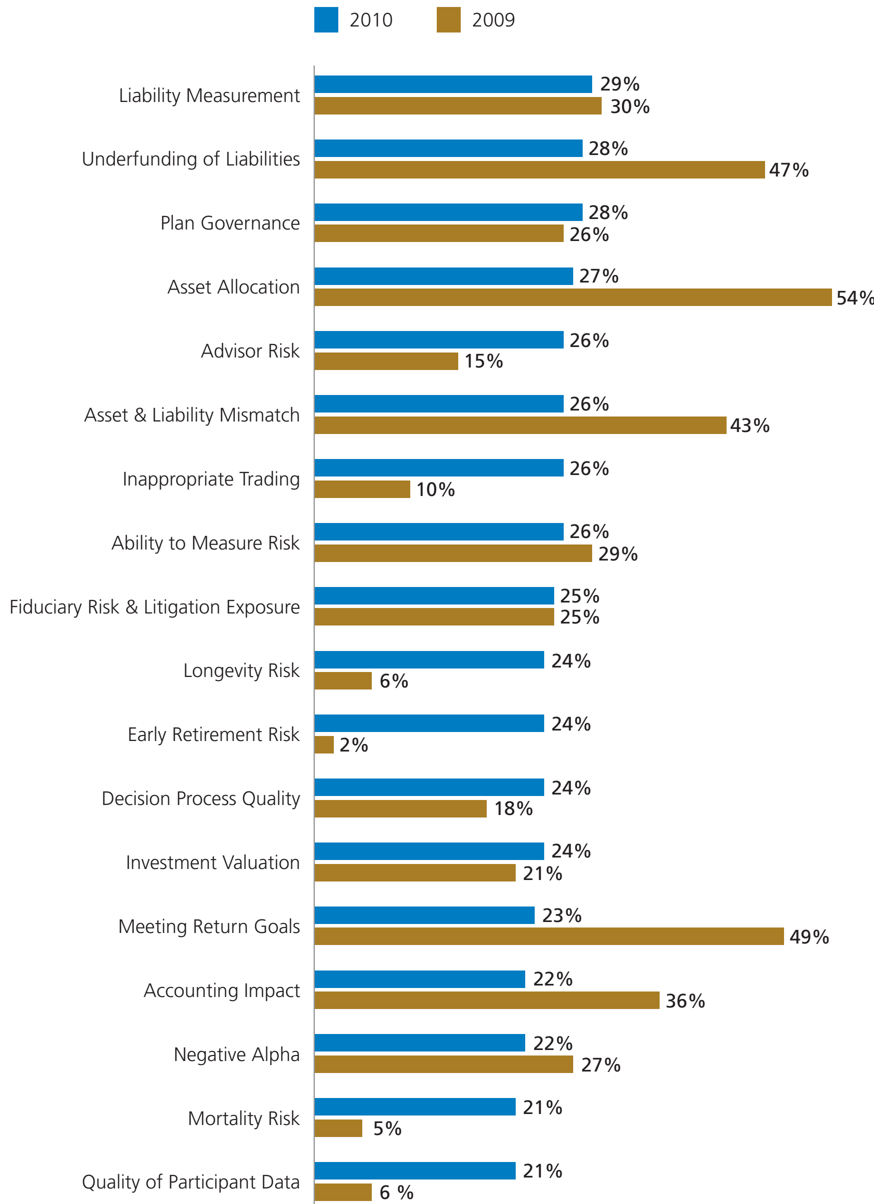
The risk factors that received the least attention from respondents in 2010 include:

- **Accounting Impact—** *"We are able to forecast and regularly monitor the impact on the sponsor's balance sheet, income statement and cash flow of fluctuations in pension assets and liabilities"*—selected 22% of the time.
- **Negative Alpha—** *"We have policies to determine whether we index or retain active managers and, to the extent we retain active managers, we have processes for systematically measuring and enforcing performance standards"*—selected 22% of the time.
- **Quality of Participant Data—** *"We implement a procedure to ensure that census information on plan participants is correct and complete"*—selected 21% of the time.
- **Mortality Risk—** *"We have modeled and understand how the expected mortality of our participants affects our plan cash flows"*—selected 21% of the time.

One of the major findings from this year's PRBI is that the "spread" among the attention that plan sponsors pay to different risk factors has narrowed considerably. For example, the range between Asset Allocation (the most important risk factor) and Early Retirement Risk (the least important) was 52% in 2009 (54% – 2%). This year, the range between Liability Measurement (most frequently selected factor by importance) and Mortality Risk/Quality of Participant Data (least frequently selected factors by importance) was only 8% (29% – 21%).

In order to provide a standard measurement of risk concentration for comparison purposes, MetLife computed a Risk Importance Concentration value for each respondent. The Risk Importance Concentration measures the extent to which a plan 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 attributed to all 18 risk items and equals 100% if all importance is being ascribed to just one risk item.

Chart 1: Overall Importance Selection Rate



In 2009, we found that there was a high concentration of attention to just a few risk factors—the median risk importance concentration was 65%. This year, that has dropped significantly to 46%. Looked at in a different way, in 2009 the maximum risk importance concentration was 78%—meaning that some plan sponsors were paying attention to a very small number of risks—and this year it's 69%. Consistent with this, in 2009 every respondent had at least five risk items that received a 0.00% rate—in 2010, that fell to three risk items. However we look at the data, plan sponsors have started to view risk management more holistically.

Perceived Success in Managing Pension Risk

WITH BROADER ATTENTION COMES GREATER "PERCEIVED" SUCCESS

The challenging market environment has increased plan sponsors' awareness that both aspects of the risk management equation (i.e., liabilities and assets) are critically important. Increased awareness should lead to changed behavior and greater success. Therefore it is not surprising that respondents believe they were more successful in managing a broad range of risk factors this year than they were in 2009. Furthermore, the greatest increases in success ratings are reported for factors that were already identified last year as most important, with newly important factors showing positive, but lesser, improvement year-over-year.

Each respondent was asked to rate on a scale of 1 through 5 how strongly they agreed with each of the 18 risk management statements. The rating was used as a proxy for how successfully the plan sponsor is implementing comprehensive measures to manage each risk item. A rating of 1 or 2 indicated failure, a rating of 3 was neutral, and a rating of 4 or 5 indicated success at managing the risk.

As noted in 2009, a relatively high success rating is to be expected in any survey based on self-assessment of performance, and may reflect a natural reluctance to publicly acknowledge weaknesses in respondents' risk management practices. While steps can be taken to control for this bias, we advise caution when reading into a high absolute rating level.

That being said, comparative analysis remains valuable, especially with year-to-year data that was derived based on identical measures.

Year-over-year, plan sponsors believe they're doing a better job implementing risk management measures. In 2009, in 75% of cases where a rating was provided, respondents indicated by a rating of four or five that they are successfully implementing against the risk management factors. This figure rose to 80% in 2010. In just 8% of the instances where a rating was provided did respondents indicate failure — a one or a two.

SUCCESS RATING FREQUENCY

Looking at the risk factors as a group, respondents give themselves a median score of 4.27, up slightly from 4.19 last year. Furthermore, despite a challenging economic environment, sponsors' self-ratings for their success in managing risk were higher than they were last year for 14 risk factors and lower for three risk factors. One factor — Accounting Impact — experienced no change. These increases reflect the higher level of engagement on the part of plan sponsors — by paying more attention, and therefore devoting more time to more risks, they may perceive that they're doing a better job managing the risks. This also reflects the effect of sponsors ascribing some level of importance to virtually all risks.

Chart 2: Success Rating Frequency

How often respondents rated themselves on each point in the "Success" scale
1 and 2 = "Failure", 3 = "Neutral", 4 and 5 = "Success"

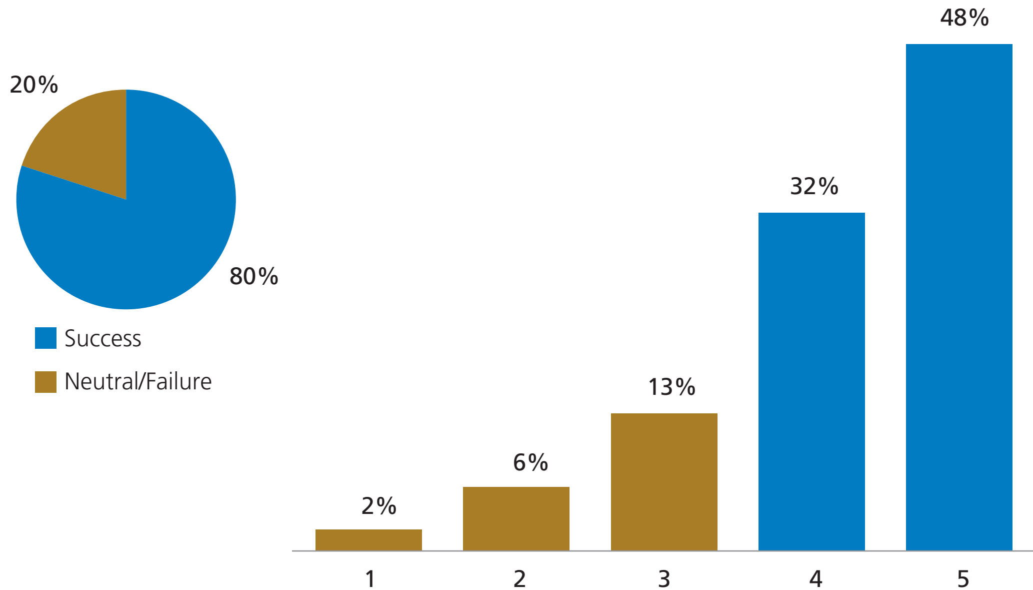


Table 2: Average Success Rating (High to Low)[4]

Risk Factor	2010	2009	Change
Asset & Liability Mismatch	4.06	3.69	0.37
Negative Alpha	4.39	4.04	0.36
Inappropriate Trading	4.56	4.22	0.34
Ability to Measure Risk	4.06	3.76	0.30
Early Retirement Risk	3.57	3.30	0.28
Decision Process Quality	3.74	3.50	0.24
Liability Measurement	4.72	4.51	0.21
Investment Valuation	4.45	4.28	0.17
Advisor Risk	4.57	4.44	0.12
Longevity Risk	3.48	3.37	0.11
Meeting Return Goals	4.44	4.35	0.09
Mortality Risk	3.98	3.93	0.04
Quality of Participant Data	4.29	4.26	0.03
Fiduciary Risk & Litigation Exposure	4.00	3.98	0.02
Accounting Impact	4.25	4.25	0.00
Plan Governance	4.58	4.58	–0.01
Asset Allocation	4.36	4.60	–0.24
Underfunding of Liabilities	3.89	4.17	–0.28

4 All figures shown, including the calculation of the changes from 2009 to 2010, were rounded to two decimal points.

Plan sponsors rate themselves as most improved in their success in managing Asset & Liability Mismatch, though the improvement in the success rating is fairly modest — a 0.37 gain from 3.69 to 4.06, corresponding to 10% year-over-year. Understandably, they rate their ability to successfully manage the Underfunding of Liabilities and the success of Asset Allocation less well in 2010 than in 2009, down 0.28 and 0.24, respectively. In a year when U.S. pension plans remain underfunded, even with gains in the stock market in 2009, the perceived decline in success for Underfunding of Liabilities isn't surprising, but it is unfortunate given that it is now the second most important risk factor. While this combination makes sense given the market experience, it will be critical for plan sponsors to continue to focus on this risk moving forward. Because it's a risk that is clear and relatively objective to measure, improvements should be straightforward to track. Plan sponsors may be feeling less successful about their asset allocation strategy because they believe they failed to find a strategy that would have protected their plan — or at least lessened the impact of the sharp drop in asset values. More likely, however, is the probability that plan sponsors feel no asset allocation strategy would have helped them weather the economic environment over the past year. The lower success rating may reflect the reality of the outcome — rather than a reflection on their performance or abilities.

Although plan sponsors report a slight improvement at managing Longevity Risk and Early Retirement Risk the absolute success levels for both factors remain low. This could be due to the absence of well developed tools — beyond actuarial tables — for understanding these risks. As more plan sponsors begin to focus on these risks — as we predict they will continue to do based on the results of this year's PRBI — we also expect the success rating to increase.

As with the 2009 PRBI, because of the reporting skew associated with any self-reported performance measure, we also calculated a measurement, called Probability of Failure, in 2010. 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 3 shows the year-over-year change in the Probability of Failure for each of the 18 risk items.

The increased Probability of Failure for Asset Allocation and Underfunding of Liabilities are consistent with their lower overall success ratings. With plan sponsors under the microscope now more than ever, it is interesting to note, however, that despite a slight increase in its overall success rating, Fiduciary Risk and Litigation Exposure produced the third highest increase in Probability of Failure. Perhaps this recognition is a leading indicator that legal sanctions are starting to be felt by plan sponsors.

Table 3: Probability of Failure Ranked by Change[5]

Risk Factor	2010	2009	Change
Asset Allocation	7%	2%	5%
Underfunding of Liabilities	11%	7%	4%
Fiduciary Risk & Litigation Exposure	10%	7%	3%
Accounting Impact	6%	4%	2%
Plan Governance	1%	0%	1%
Quality of Participant Data	4%	4%	0%
Liability Measurement	1%	2%	–1%
Advisor Risk	1%	2%	–1%
Meeting Return Goals	2%	4%	–2%
Mortality Risk	9%	11%	–2%
Longevity Risk	21%	23%	–2%
Decision Process Quality	13%	15%	–2%
Investment Valuation	2%	6%	–4%
Inappropriate Trading	2%	8%	–5%
Ability to Measure Risk	10%	15%	–6%
Early Retirement Risk	18%	24%	–6%
Asset & Liability Mismatch	12%	18%	–6%
Negative Alpha	2%	10%	–8%

5 All figures shown, including the calculation of the changes from 2009 to 2010, were rounded to the nearest whole number.

Pension Risk Importance and Success

GAP BETWEEN IMPORTANCE AND SUCCESS WIDENS—WITH LESS CONSISTENCY

Despite the "democratization" of risk factors and the increased self-reported success of managing these risk factors, the gap has widened between the importance and the perceived success that plan sponsors ascribe to managing the 18 risk factors. Across all three measures of consistency, there is less consistency between Importance and Success measures in 2010 than there was in 2009.

Ideally, all risk factors would lie within preferred quadrants: high importance and high success, and low importance and low success. The chart below shows a scatter plot of the Importance Rank and the 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. Unfortunately, only Liability Measurement lies on the line, and just 10 of the 18 risk factors fall cleanly within these preferred quadrants.

More than two-thirds of plan sponsors indicate some degree of inconsistency in how they view and manage pension plan risk. Three different

Chart 3: Consistency of "Importance" and "Success" Rankings
Risk items with the same importance and success rankings would lie along the diagonal blue line

Table 4: Results of Three Tests for Consistency Between Importance and Success (2010 vs. 2009)

Test Measurement	Number of Respondents		Percentage of Respondents	
	2010	2009	2010	2009
Test 1: Importance-Weighted Average Rating < 4.50	118	96	72%	63%
Test 2: Ratio of Average Ratings < 100%	73	41	45%	27%
Test 3: Consistency Rate < 50%	84	41	51%	27%
Failed All Three	49	23	30%	15%

Test Measurement	Maximum		Median		Minimum	
	2010	2009	2010	2009	2010	2009
Importance-Weighted Average Rating	5.00	5.00	4.28	4.39	2.44	2.47
Ratio of Average Weightings	115%	145%	100%	104%	65%	56%
Consistency Rate	89%	94%	45%	56%	11%	28%

measurements were used to determine the consistency with which individual respondents are successfully managing the risks to which they were giving the greatest attention. They are:

- **Importance-Weighted Average Rating—***This weighted-average rating can range from 1 to 5, and 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. Ideally every risk item that has a positive Importance Selection Rate should have a success rating of 4 or 5 so that the weighted average rating would be in excess of 4.5.*
- **Ratio of the Importance-Weighted Average Rating to the Simple Un-Weighted Average Rating—***Expressed as a percentage, if a respondent has a higher success rating on the more important risk items, this ratio should be greater than 100%. This controls for overall rating bias.*
- **Consistency Rate—***This is the percentage of risk items that combine either above average importance with above average success or below average importance with below average success. Either combination indicates consistency between importance and success. A result below 50% indicates significant inconsistency.*

The inconsistency between importance and success measures was fairly high in 2009. In 2010, that inconsistency increased. In 2010, 118 of the 164 respondents, or 72%, failed the Importance Weighted Average Success Rating, compared to 63% in 2009. This is the first measure of consistency between importance and success.

Further, 73 of the 164 respondents, or 45%, failed the Weighted Average/Unweighted Average Success Rating in 2010. Just 27% failed this consistency test in 2009. More than half (51%) of respondents in 2010 failed the Consistency Rate test, compared to 27% in 2009.

Finally, 30% of plan sponsors surveyed this year failed all three tests of consistency compared to just 15% last year. In comparison, 15% of plan sponsors surveyed this year passed all three consistency tests. More than double that number (31%) passed all three tests in 2009.

The 2010 PRBI reveals that while plan sponsors are paying more attention to a broader spectrum of risk, they appear to be playing “catch-up” when it comes to successfully managing the most important risks.

There are several possible reasons for this shift in behavior. The economic environment encouraged plan sponsors to move away from a singular focus on assets and toward a more careful and balanced mindset. And, with sharp declines in plan value, many are aware that their plans are vulnerable to any number of risks that can thwart their plan’s success.

As a result, plan sponsors are becoming much more engaged in the risk management of their plans. While this engagement doesn’t necessarily translate into success, it is a critical step towards control and preparation for the risks their plans face. But plan sponsors must not become complacent and assume that awareness means they’re done with the work.

Still in need of development are standardized tools to quantify the full spectrum of pension risks. It took years for sponsors to create a system to manage and measure asset- and investment-related risks.

Part of the challenge lies in the fact that there are many ways to report liabilities in contrast to asset performance standards for which there is relatively well-developed consensus. Another complicating factor is that critical inputs are frequently hard to estimate for broad groups of retirees. Longevity—a key driver of DB liability size—varies by cohort age but can also be materially influenced by a variety of other unrelated factors.

Even as liability-management strategies are gaining in popularity, there is no "one size fits all" solution. Risk tolerance is not the same for all sponsors, nor is the level of available cash to support a pure long-only investment approach such as immunization. Some strategies could be deemed unsuitable if they are overly complicated and hard to explain to upper management.

The important thing is that fiduciaries do their homework and decide on a path that makes sense for their organization. As uncertain markets and financial insecurity continue, plan sponsors need tools and adequate resources (e.g., internal, third party, consultants, etc.) to help them measure, manage and mitigate the full range of pension risks. With few standardized methods, tools and providers able to manage liability-related risks, it will take some time to develop a reliable approach to manage these critical risks. For plan sponsors, the sooner the better.

Qualitative Interviews: Overview

To assess how the economic and regulatory environment is impacting DB pension plans, MetLife complemented its quantitative research with a series of in-depth plan sponsor interviews conducted by Asset International.[6] The qualitative interviews provide additional insight into the pension risk management practices and behavior of various organizations.

This year, the qualitative interviews focused on plan oversight and governance, reliance on outside advisors, the impact of the economic landscape on DB pension plans and risk management practices.

PLAN OVERSIGHT STRUCTURES VARY

Consistent with the findings of the 2009 PRBI, no single model has emerged with respect to pension governance structures, use of outside advisors and the job titles of those tasked with the oversight and management of DB pension plans. While most interviewees report to Treasury or Finance—and all indicated that there is a committee involved for plan oversight—job titles were across the spectrum. They included Director of Investments, Investment Counsel, Manager of Retirement Benefits, Plan Administrator, Assistant Treasurer, Chief Investment Officer, Director of Retirement Investments, Finance Manager and Benefits and Director of Trust Investments.

The investment committees of the DB plans included in the qualitative interviews varied in size, but generally included four to ten individuals who either make decisions based on staff recommendations or make recommendations to the board. At times, respondents reported the existence of a second, non-fiduciary, benefits committee. One plan sponsor said that its plan was governed by ten, mostly non-management, trustees. Most investment committees said they meet quarterly, and in some cases monthly.

ADVISOR RISK

Overall, plan sponsors report a strong reliance on outside advisors such as investment advisors, risk advisors, risk managers and actuarial advisors. One admitted that they have no actuary and no one advising on liability matters—a potentially critical gap, especially in light of Liability Measurement becoming the most important risk factor this year. While the quantitative portion of the 2010 PRBI found that DB plan sponsors believe that Advisor Risk is more important than before (it moved from 13 to five in importance), one sponsor cited that one key challenge with outside advisors was that consultants and advisors are not able to move from risk reduction and funded status improvement "concepts" to "action." One plan sponsor said they're using more passive than active managers to reduce risk, and one plan sponsor expressed interest in moving away from "consultant-driven asset allocation systems."

6 Asset International is a privately-held publisher and information provider to global pension funds, asset managers, financial advisers, banking service providers, and other financial institutions in the private and public sector. Asset International produces and distributes print and digital publications, conferences, research and data resources via its industry-leading brands PLANSPONSOR, PLANADVISER, Global Custodian, ai5000, Strategic Insight and The Trade. The company was acquired in January 2009 by Austin Ventures and has offices in New York, London and Stamford, CT.

Other strategies to manage advisor risk include enacting counter-party risk policies such as those that reflect International Swap and Derivative Association standards, moving away from individual manager mandates to fully-integrated DB plan approaches managed by an outside advisor, greater due diligence efforts and greater scrutiny of investment managers. According to the quantitative survey, plan sponsors feel they do a very good job of managing Advisor Risk. They ranked this risk as three in terms of success, up from four in the rankings last year. Their average success rating also went up from 4.44 to 4.57, while the Probability of Failure fell from 2% to 1%.

FIDUCIARY RISK AND LITIGATION EXPOSURE

Overall, the quantitative and qualitative results both convey a mixed message in relation to fiduciary risk and litigation exposure. Respondents feel they have a strong, formal fiduciary process in place for their committee. However, one plan sponsor pointed out that while he feels the plan has a good fiduciary process, he worries about a court being able to recognize a sound process. Another expressed concern from a fiduciary standpoint that — if the entity goes out of business — it will no longer be able to support the fiduciaries.

IMPACT OF ECONOMIC ENVIRONMENT, REGULATIONS: GREATER RISK AWARENESS

In light of the economic environment of the past year, it's not surprising that many plan sponsors cited the asset/liability mismatch, asset allocation, and funded status of their plans as some of the biggest issues impacting their plan. One plan sponsor said that, as a result of the economic downturn, "We went from an over-funded plan to a partially under-funded plan." Plan sponsors are also concerned about increased illiquidity at a time of cash contributions, whether to keep the plan open, how to find suitable investments, rate and liability hedging and tail risk.

Overall, however, plan sponsors say the economic downturn brought to light many of the risks their plan faces. One plan sponsor said that the biggest effect of market volatility, regulatory changes and the economic slowdown of the past two years is "first and foremost, an overall awareness of pension risk." Some, but not all, emphasized becoming more "liability aware."

Consistent with quantitative survey results, most plan sponsors say they've changed the priority/importance they attach to addressing particular risks to combat the impact of the economic downturn. Again consistent with the quantitative survey results, plan sponsors say they're paying special attention to underfunding of liabilities, the liability side of their plan, balancing assets and liabilities, asset allocation and liquidity risk.

One plan sponsor commented: "You have to know where you're good and where you're weak, and you get a much higher return on working on what you're good at than trying to fix where you're weak." Conversely, another plan sponsor said "The strengths will just keep on…you have to pay attention to those too but it's the weaknesses that can get you in the potholes."

When it comes to asset allocation changes, most sponsors aren't making major changes. Instead, some are moving to more passive investments, and seeking out ways to control risk and volatility. One plan sponsor interviewed believes modern portfolio theory is flawed, and is seeking a new portfolio construction model that relies on a "robust risk management tool kit." Several plan sponsors say that they have, or plan to, close their plan to new members.

Asset-liability management strategies continue to be influenced by rules and regulations such as FAS 158, the Pension Protection Act of 2006 (PPA), The Worker, Retiree and Employer Recovery Act of 2008 (HR 7327) and new guidelines from the IRS announced in March 2009, which permit using the spot yield curve to measure pension plan assets and liabilities as a way to relieve plan funding requirements. However, many say that HR 7327 and the guidelines issued in March had little, if any, real effect on volatility or funding. Many plans reported that they were already "smoothing." Most plan sponsors interviewed said they're continuing to keep an eye on these regulations, but that the rules are changing so often that it's hard for plans to make decisions. Plan sponsors also say that there's an inherent conflict between accounting rules and the PPA changes, and that while they want to keep a long-term view, in light of long-term liabilities, recent legislation (the PPA in particular) is not helping them do that. We agree, and would note that plan measurement under accounting rules and those under the PPA that determine whether plan contributions are required, serve fundamentally different purposes.

RISK MANAGEMENT PRACTICES

In the quantitative portion of this report, we noted that Asset Allocation has decreased in importance year-over-year, and that traditional methods of risk management through diversification may not hold as much weight as a result of the economic downturn. Some plan sponsors believe that once funded status improves, diversification can be lessened to increase fixed income. Overall, however, plan sponsors believe that diversification remains an important "de-risking" tool.

When it comes to managing the interrelationships among pension investment risk, pension liabilities and general enterprise risk management, some sponsors say they have an enterprise-wide risk management process in place. These include informal committees that meet several times a year, internal actuarial staffs, a mix of internal resources and third-party consultants and investment committees. Others look at risk in the plan totally apart from other risks the firm is dealing with. This decision seems to be a factor of how big the plan is compared to the firm's overall market cap, and is also dependent on the industry, and average

age and tenure of employees. About half of the plans included in the qualitative interviews have either formally or informally implemented LDI (liability-driven investment) to some degree. Of those that have not, most are not considering it at the moment. With liability measurement becoming increasingly important to plan sponsors, it will be interesting to see how many plan sponsors move toward LDI in 2010 or whether they will bypass LDI in favor of other pension risk management solutions.

One possible explanation for the inconsistency in the "importance" rankings and "success" rankings that was evident in the quantitative data is differences in the way that plan sponsors are trying to balance good performance in areas where they are strong with trying to improve performance in areas where they perceive weakness. As one plan sponsor said, "The strengths will just keep on…you have to pay attention to those too but it's the weaknesses that can get you in the potholes." However, making a special effort to improve in weak areas is not universal. Another plan sponsor said "You have to know where you're good and where you're weak, and you get a much higher return on working on what you're good at than trying to fix where you're weak."

Plan sponsors also attribute weakness in some areas of risk management to insufficient focus on certain factors (e.g., liability assessment). The consensus seems to be that all risks need to be examined and managed — but that some risks deserve more attention than others. According to one plan sponsor, "Some risks can be more catastrophic than others, so it's a wise allocation of resources to cover those. So you have to devote your resources to the areas that have the strongest ability to affect the plan's viability."

Overall, the biggest shift in risk attitudes and behaviors appears to be increased awareness of the full spectrum of asset- and liability-related factors. Only time will tell if this awareness persists and gives way to new behaviors, tools and protocols — or lessens once market volatility declines. In either case, the challenges ahead are significant and the stakes high. Plan sponsors would be well-advised to fine-tune their framework for understanding and managing key asset- and liability-related risks in order to maximize their plans' ability to deliver on the promise of a secure retirement for their employees.

Study Methodology

As part of this comprehensive quantitative and qualitative research for 2010, Greenwich Associates conducted quantitative interviews with 166 corporate plan sponsors from August through November 2009. 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. Consistent with last year's research, respondents were primarily executives responsible for pension investments, risk management or employee benefits, in addition to senior corporate management. Chart 4 gives the distribution of respondents by plan asset size, while Table 5 provides a breakdown of the respondent companies by DB asset size for both years.

Chart 4: Distribution of Respondents by Plan Asset Size

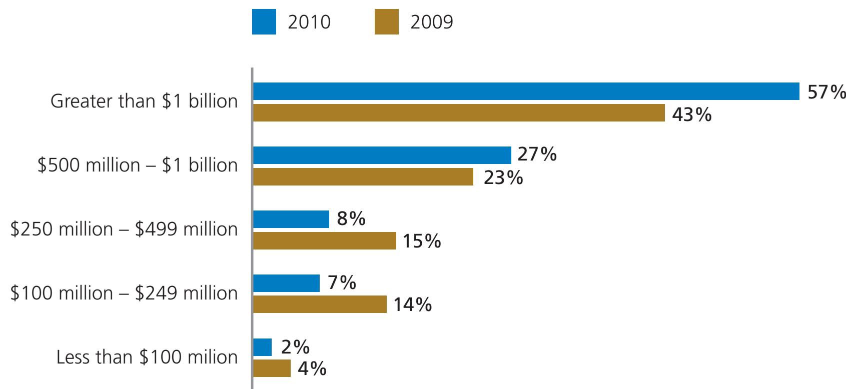


Table 5: Number of Respondents by DB Plan Asset Size

DB Plan Asset Size	2010	2009
Greater than $1 billion	94	73
$500 million–$1 billion	45	39
$250–$499 million	13	26
$100–$249 million	11	23
Less than $100 million	3	7
Total:	**166**	**168**

The survey addressed the same 18 investment, liability, or business risks faced by DB plan sponsors as in 2009 in order to compare and contrast results on a year-over-year basis. 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 number of risk statements and their content were the same as for the inaugural study, except for some minor edits to make the syntax of each statement a little more consistent.

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 plan sponsors 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 optimize 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 analyzed using a number of specially designed measurements, each of which is described in the Glossary at Appendix C of this report.

Conclusion

In 2009, plan sponsors embarked on a new path towards a much broader risk management approach to their DB plans. What's striking is the degree of change in awareness over the course of just one year, in an arena where change typically comes more slowly.

As a more holistic view of the importance of various risk factors replaces last year's focus on just a handful of risks, sponsors are scanning the horizon for any and all potential threats to their pension plan. Partly as a result of the economic events of the past year, plan sponsors are anticipating more risks, and re-awakening to the role that the liability side of the risk management equation plays in successful risk management. What remains to be seen is whether this broad focus will be sustained, or if plan sponsors will revert back to concentrating more on the asset-side of the risk management equation once the economy rebounds and sponsors regain more flexibility to change asset allocations.

One of the major implications of the 2010 PRBI is that while plan sponsors are viewing risk more holistically, it will take time to implement solutions to manage these risks. Not only does it takes time to move from "awareness" to "action," but in this case, while the risks can be articulated, tools to manage them will also take longer to fully develop.

When 2009 is viewed from the vantage point of the future, it may well stand out as a watershed year marked by the first broad based sponsor shift from a decades-long reliance on total rate of return on assets — and the related focus on investment risks — to a more pragmatic and balanced view that puts investment risk and asset measures in a new context. Just as 2008 could be characterized as the last of the "total rate of return" years, and 2009 might be characterized as the "year of awareness," there is reason to hope that 2010 will see a judicious refinement of risk factors, ushering in a new era of informed risk assessment and management.

Appendix A

CALCULATING THE U.S. PENSION RISK BEHAVIOR INDEX^{SM} (PRBI)

> Step 1: Calculate an average success rating for each respondent that incorporates the plan sponsor's self-reported success at managing each of 18 risks, weighted by the relative importance that sponsor 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 plan sponsor is neither particularly successful nor unsuccessful at managing important risks. Values of 4 or 5 indicate successful management of important risk items.

Table 6 illustrates how an Importance-Weighted Average Rating is calculated for a survey respondent, assuming that the survey addressed five risk items.

> 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 7 illustrates how this is calculated, assuming that the survey had 5 respondents.

In the inaugural study the industry average was weighted by the relative asset size of each respondent's DB plan(s). This added complexity to the calculation, and required subjective judgments of plan asset size due to inconsistencies among the assets reported by different data sources. It also potentially exposed the index to random swings due to whether or not any particularly large plan(s) participated in the survey, which would make year-to-year comparisons more difficult. With the

Table 6: Example of the Calculations Used in Step 1 of 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 7: Example of the Calculations Used in Step 2 of 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				

benefit of two years of survey data and after carefully considering different options, it was therefore decided not to asset-weight the results and instead to assign an equal weight to every respondent. This simplifies the methodology, eliminates the difficulties of determining asset size and improves inter-survey comparison of results.

> 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 standardized scale from zero to 100.

In order to standardize the rating we subtract 1 from the raw value and multiply the result by 25. This provides the final MetLife Pension Risk Behavior Index (PRBI) value.

CALCULATING RISK IMPORTANCE CONCENTRATION:

Risk Importance Concentration measures the extent to which a plan sponsor 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

Table 8: Example of the Calculations Used in Step 3 of 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	MetLife Pension Risk Behavior Index (PRBI) value (multiply the value in row 2 by 25)	69

Table 9: 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 divide the result by 17):	85%				

market shares of the firms in an industry. The *Risk Importance Concentration* value used in this study is the standardized 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 standardize this value to make it independent of the number of risk items. The standardized 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 one.

Appendix B

COMPLETE LIST OF RISK ITEMS, ASSOCIATED RISK MANAGEMENT STATEMENTS AND OPEN-ENDED QUESTIONS

Risk Item	Risk Management Statement
Question Block 1: Investment Risks	
1 Ability to Measure Risk	We routinely use analytical tools that allow us to measure the level, volatility, correlation and effects of multiple risk factors at the portfolio level and within and across managers, investment styles and asset classes.
2 Inappropriate Trading	We have designed and proactively review compliance with clear investment guidelines for all investment managers to avoid inappropriate use of leverage, shorting, illiquid instruments, inadequate collateral, or other risk exposures to boost investment returns.
3 Asset Allocation	We use disciplined rebalancing to implement a documented strategic asset allocation policy.
4 Negative Alpha	We have policies to determine whether we index or retain active managers and, to the extent we retain active managers, we have processes for systematically measuring and enforcing performance standards.
5 Meeting Return Goals	We have policies and procedures in place to determine our return goals, to identify the reasons for any deviation between actual results and goals and to take appropriate action in a timely manner.
Question Block 2: Liability Risks	
6 Asset and Liability Mismatch	We carry out regular studies that have proven accurate and effective in managing mismatches between the duration of plan assets and liabilities.
7 Underfunding of Liabilities	We have successfully designed and executed investment strategies that have proven effective in enabling us to comfortably manage our funding contribution levels.
8 Mortality Risk	We have modeled and understand how the expected mortality of our participants affects our plan cash flows.
9 Longevity Risk	We implement and regularly review the effectiveness of procedures to mitigate, transfer or actively manage the risks associated with increasing longevity among plan beneficiaries.

10	Early Retirement Risk	We actively implement and regularly review the effectiveness of procedures to manage the impact of early retirement risk on the level and timing of future liabilities.
11	Quality of Participant Data	We implement a procedure to ensure that census information on plan participants is correct and complete.
Question Block 3: Business Risks		
12	Plan Governance	Those responsible for plan governance exercise effective, independent oversight, supported by internal controls within all areas and at all levels of plan management.
13	Advisor Risk	Plan trustees and internal plan managers have sufficient knowledge, experience and training to assess the quality of advice and the effectiveness of services provided by third parties.
14	Accounting Impact	We are able to forecast and we regularly monitor the impact on the sponsor's balance sheet, income statement and cash flow of fluctuations in pension assets and liabilities.
15	Fiduciary Risk and Litigation Exposure	We explicitly manage fiduciary risk and related litigation exposure based on 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 plan investments including non-USD investments or any illiquid or complicated positions such as derivatives, hedge funds or private equity.
17	Liability Measurement	We routinely review liability valuations and understand the drivers that contribute to our plan's liabilities.
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		How do you manage the interrelationships among pension investment risk, pension liabilities, and general enterprise risk management?
Question B		Given the market volatility, regulatory changes, and economic slowdown over the past two years, what are the three biggest effects that they've had on your pension risk practice?
Question C		Have these events led your plan to change the priority or importance you attach to addressing any particular risks in the last year?

Appendix C

GLOSSARY OF TERMS

Throughout this report, MetLife worked with our research partners to analyze and interpret plan sponsor responses. What follows is an alphabetized 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 reflecting the degree to which each respondent disagreed (1 or 2), was neutral (3), or agreed (4 or 5) that they are successfully implementing certain risk management measures.
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* EWE 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.
Consistency Rate:	This is the percentage of risk items that combine either above average importance with above average success or below average importance with below average success. Either combination indicates consistency between importance and success. This is a broad measurement of consistency that controls for any bias in the underlying ratings. A result below 50% would indicate significant inconsistency.

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 plan sponsors 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 standardized 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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