Aging and Retirement

Defined Benefit Risk
Phase 2: Expert Interviews

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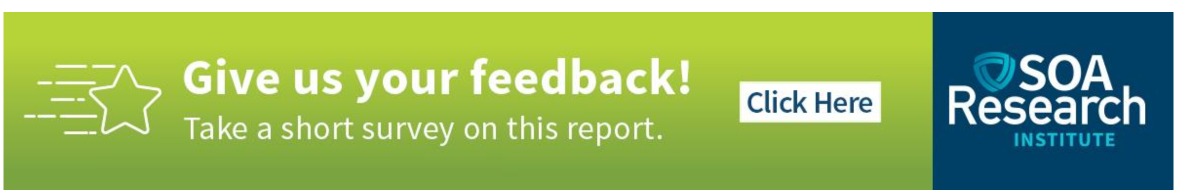
SOA Research INSTITUTE

Defined Benefit Risk

Phase 2: Expert Interviews

Author David G. Pitts, FSA, MAAA
Independent Actuarial Services

Sponsors Retirement Section



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Defined Benefit Risk

Phase 2: Expert Interviews

Executive Summary

The Retirement Section of the Society of Actuaries commissioned a research project on the topic of *communicating pension risk*, recognizing the challenges actuaries face in addressing this complicated topic with stakeholders.

In collaboration with the project oversight group (POG), the researchers are conducting this project in three separate phases:

- Phase 1: Literature Search
- Phase 2: Interviews
- Phase 3: Review and Discussion

The Phase 1 report can be found here: https://www.soa.org/resources/research-reports/2020/defined-benefit-risk/

Phase 2 of this project includes interviews with several individuals representing various aspects of plan administration: plan fiduciaries, finance professionals, consultants, and providers. This report provides a summary of each interview, concluding with common themes.

Phase 3 of this project will review and integrate the findings from Phases 1 and 2 and recommend areas for further study.

Readers of the Phase 1 Literature Search Report may recall that the search identified research that broadly fell into the following categories: (1) Risk Management, (2) Risk Measurement, and (3) Risk Mitigation.

Executive interviews were sought to explore each of these areas in more detail. We also asked interviewees to describe the role of the pension plan within the sponsoring organization – whether the plan was ongoing or closed, the importance of the plan relative to operating results, etc.

We secured interviews with professionals representing a broad array of expertise, including in-house actuaries, CFO's and CRO's, and actuarial and investment consultants. The views expressed by each interviewee are specific to their companies, plans, and experiences.

Here are the key findings from the interviews:

- Risk management processes vary by type of plan (Taft-Hartley, Public Sector, Corporate)
- Risk management processes vary by sophistication level of plan's trustees / decision makers
- Risk management processes vary by levels of importance of the plan on a sponsoring entity's financials
- Governance is a challenge for all plans

We also learned of innovative approaches to risk management and suggestions from some of the interviewees that would enhance the work provided by actuaries in this critical area; not all interviewees had specific suggestions for the pension actuary.

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The body of this report includes the summary notes for each interview. The conclusion summarizes the main observations from the interviews.

Special thanks are given to Susan Mangiero who helped with the early phases of this research project.

David G. Pitts, FSA, MAAA
Independent Actuarial Services
April 2022

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Section 1: Introduction

Over the course of 2020 and 2021, the research team interviewed the following subjects:

- Chief Financial Officer
- Chief Risk Officer
- Multiemployer Plan FSA
- Public Plan FSA
- Investment Consultant / FSA
- Outsourced Chief Investment Officer / FSA
- Canadian FSA / CERA

Each interview lasted approximately one hour.

All interviewees are senior practitioners in the defined benefit space.

The interview notes include a faithful representation of the ideas discussed, with some changes in minor details to ensure the anonymity of the respondent.

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Section 2: The Interviews

2.1 CHIEF FINANCIAL OFFICER

Background

This interviewee is the CFO of a $100+ billion commercial bank and has chaired its pension investment committee for several years.

INTERVIEW HIGHLIGHTS

Topic	Comments
Risk Perspective	The bank's primary financial risks include liquidity and credit. We have managed these risks well, evidenced by our long-standing AAA credit rating. To maintain the credit rating, we strictly manage capital adequacy while maintaining a large liquidity portfolio. The pension plan has several billion dollars in assets and is accounted for using GAAP in the bank's financial statements. The bank voluntarily includes pensions in its capital adequacy measures. I tried to integrate pensions holistically in the bank's financial management processes (by including pension assets and liabilities in our balance sheet) but encountered barriers in doing so. Why should we be taking risks in the pension plan when we are a commercial bank? My colleagues pushed back: • "The pension plan is fine as is" • "Our plan is 100% funded on a PBO basis, why cause trouble?" *The CFO notes that the pension plan is very generous.*
Risk Management	<u>Conflict of interest</u> The internal process is dominated by retirement staff and actuaries who do not want to rock the boat. The actuarial relationship is "owned" by HR.
Risk Measurement	<u>Accounting anomaly</u> There is a strange disconnect in the accounting rules. We maintain a AAA rating on non-secured debt, so it is nonsensical to discount our collateralized pension debt using AA rates. <u>Accounting drives behavior</u> The LDI strategy that was presented in our recent ALM study was not a proper hedge – it worked on an accounting basis but was not sound economically. *Author note: the interviewee is referring to interest rate assumption selection in the discussion on LDI (see accounting anomaly).*

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	<u>Stochastic models are incomplete</u> Most stochastic models only measure volatility, or the *lumpiness of the ride*. Under this approach, the *destination* is never in doubt, only the *ride.* This is an incorrect approach.
Risk Mitigation	Following the 2008 financial crisis, the bank reduced accruals for new hires, and now focuses more closely on quarterly changes in funded status, asset-liability matching, LDI strategies, and interest rate / currency hedging.
Suggestions for Pension Actuary	The actuary should be knowledgeable about financial risks that are important to us. Actuaries should be more like accountants: Tell us the truth, whether we like it or not. Individual actuaries are not the problem – the Standards should be strengthened to address known flaws. Actuaries should come to us instead of being reactive. Actuaries should routinely perform stress tests – How much can we lose?

2.2 CHIEF RISK OFFICER

Background

This interviewee is the head of Enterprise Risk Management for a large manufacturing firm with a large pension plan.

INTERVIEW HIGHLIGHTS

Topic	Comments
Risk Perspective	The size of our pension plan relative to ongoing operations is large enough that there was consensus – within the company and the rating agency community – that the plan could bankrupt the company if not responsibly managed. Our key philosophical approach is that managing the pension fund is a *risk management* problem, not an *investment* problem. We needed to manage down the risks of the liabilities overwhelming the company. We had to honestly answer the question "What are we trying to accomplish?" • There is no upside to outperforming • Participants have downside risk but no upside optionality Risks are asymmetrical – this is a classic "Gambler's Ruin" problem. The plan sponsor is a credit support provider – responsible for topping up the plan when needed.
Risk Management	<u>Interaction with investment managers</u>

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	Sometimes we had to say "no" to the investment team when they came across an exceptionally good deal. Pension investments exist solely to discharge liabilities [that are estimable, but not assured.] <u>Our approach to setting investment strategy</u> We considered the following: 1. The cashflow estimation problem 2. The run out of money problem 3. The path-dependency problem
Risk Measurement	<u>Cashflow needs</u> The PPA introduced mandatory contributions which are pro-cyclical. Equities go down when interest rates go down, our sales go down, yet our union workforce has fixed expenses. Our high operating leverage leads to the worst of all worlds. *Author note: the American Rescue Plan Act of 2021 provides some relief for this phenomenon.* <u>Interim vs. terminal</u> We needed to consider both timing and liquidity needs at each point in the future. Another key question is the importance of tracking the market value of assets compared to the market value of liabilities along the way. <u>Investment team perspective</u> The investment professionals are generally aware of liabilities. This is fine for investment management problems, such as determining efficient frontiers. However, we have a risk management problem, not an investment problem.
Risk Mitigation	During my tenure, we executed a substantial pension risk transfer transaction and successfully adopted and implemented a liability driven investing strategy.
Suggestions for Pension Actuary	Actuaries are uniquely situated to provide pension cashflows. Actuaries are particularly good at providing tactical support – with deep domain expertise on demographics, the distinction between real and nominal cashflows, etc. Actuaries could provide further help by providing a *dispersion* of cashflows – for example, if projected cashflows are $1 million, is the $1 million the point estimate between $0.9 and $1.1, or between $0.5 and $1.5?

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2.3 MULTIEMPLOYER PLAN FSA

Background

This interviewee is a Fellow of the Society of Actuaries who focuses on Taft-Hartley plans. This actuary has worked for several major actuarial consulting firms during his career, has worked in academia, and regularly volunteers for the profession on multiemployer plan issues.

INTERVIEW HIGHLIGHTS

Topic	Comments
Risk Perspective	My clients include medium and large multiemployer plans and are reasonably well-funded. While most are in cyclical industries, there is a strong belief that their representative industries will survive – there is no "time horizon." Trustees are generally risk averse. They do not want to be outliers – "let's not assume 8.5% when the pack is at 7%." Also, they do not want to be the ones responsible for having to cut benefits. <u>Litigation risk</u> There is some concern over risk from outdated actuarial equivalence factors. In my experience, trustees are not overly concerned with litigation risk due to poor performance; however, there is less tolerance for bad short-term performance. Trustees are quick to make changes if managers miss benchmarks, lag national performance, etc.
Risk Management	<u>Stakeholders</u> The Trustees are the ultimate decision makers. Management has business experience, whereas labor usually "grew up in the field." Management has a corporate focus: "Let us get to 100% funded so we can terminate the DB plan. Our employees (and us!) have 401(k) plans and are happy … let us do the same." Labor: "No, we want to keep the DB plan. Business interests are not the same as union interests. We want our guarantee. Let us get to 100% funded so we can increase our benefits, because we only need to be 90% funded." <u>Interaction with investment consultants</u> Trustees typically outsource investment management. There is a decidedly asset-only focus.
Risk Measurement	There are no mandated interest rates for actuarial valuations; the investment consultants tend to want low actuarial interest discount assumptions, as they help define a target which is easy to meet. There is no real interest in Sharpe ratios … eyes glaze over. "Color" zones have very technical requirements and are downplayed from the perspective of the trustees.

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Risk Mitigation	Use of derivatives Not a big focus – as one investment manager states: "I will never put you into something you can't feel, touch, or taste."
Suggestions for Pension Actuary	Do not put the cart before the horse as discussed in a recent Academy brief – set assumed discount rate after investment policies are set.

2.4 PUBLIC PLAN FSA

Background

This interviewee is a Fellow of the Society of Actuaries and has worked in-house as a legislative actuary for a state system with multiple plans exceeding $8 billion in assets. In addition to overseeing pensions, this actuary's oversight role includes retiree medical plans, prepaid tuition, and LTC plans.

Author's note: larger public sector plans would likely present a different perspective on governance structures, risk measurement, and levels of stakeholders' outreach and involvement.

INTERVIEW HIGHLIGHTS

Topic	Comments
Risk Perspective	The pension plan's funded ratio is 92% using a 7.5% discount rate. The consensus within the system is that the plans are well funded and prudently managed. Our investment policy is to "maximize returns at a prudent level of risk" … whatever that means. We were originally concerned with revenue shortfalls due to COVID, and delayed pension funding as a form of "short-term borrowing." We got ahead of the curve by making sure stakeholders understood the pitfalls of stopping funding. Fortunately for us, our revenue has rebounded to pre-COVID levels. We have annual scorecards for risk assessment and have a portion of our web page devoted to risk commentary. Our real challenge is getting stakeholders to engage in the risk discussion. This is especially difficult given how "well" the system has performed in their eyes. Additionally, there is a lack of direct accountability based on our fragmented governance structure. We feel that we are constantly trying to convince the stakeholders of the importance of risk management.
Risk Management	Governance Governance is fragmented; other systems have a top-down structure, whereas we have numerous independent committees that report up to a bipartisan group. Working with investment committee

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	The State Investment Board has separate staff. They set investment policies and focus historically on asset-only risks. Some consideration is given to liabilities – we provide cashflows for ongoing liquidity requirements and our triennial asset / liability modeling study. This group provides capital market assumptions, which are used to prescribe long-term asset return assumptions, which we use to discount the pension cashflows for our actuarial valuations.
Risk Measurement	Our view of Enterprise Risk Management is to consider all asset classes, sectors, etc. We perform stochastic simulations; our primary focus is on spiking contributions. There is some interest in funding status and insolvency, but short-term budgets rule the day. ERM is not a focus for the states; the biggest issue is how we survive the next two years. We do not think ASOP 51 will have a big impact for us, as we already comply with the major tenets. This should be a bigger deal for other statewide systems.
Risk Mitigation	In the mid-nineties we put in a hybrid DB / DC plan, thereby sharing longevity risk with participants.

2.5 INVESTMENT CONSULTANT / FSA

Background

This interviewee is an investment consultant providing discretionary services primarily to Taft-Hartley pension funds. This consultant is also a Fellow of the Society of Actuaries, although admittedly, has not practiced as an actuary for many years.

INTERVIEW HIGHLIGHTS

Topic	Comments
Risk Perspective	My clients are predominantly ongoing Taft-Hartley plans. For risk management, we use investment policy levers (as opposed to plan design, for example). Since our client base has ongoing plans (open enrollment and ongoing accruals), we help sponsors balance the following, within predefined tolerance ranges: • Achieving long-term expected return targets • Satisfying short-term liquidity needs We help to balance the two competing objectives with the use of derivatives / synthetic overlays.
Risk Management	We have retainer agreements with our clients and multi-year contracts which help inform our approach.

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	We take an iterative approach when providing risk management advice, which we effectuate through investment policy development and tactical [discretionary] moves, for example, through taking positions on credit spreads. Many of our trustee clients still see the world in an “asset-only” space, so our consultative advice builds off asset-only views, next incorporating asset-liability views, with synthetic overlays / derivatives to help bridge the competing objectives between the two views. <u>Asset return targets</u> There are multiple parties providing input, although no one party has ultimate responsibility for assumption / target selection.
Risk Measurement	I have seen many of the ALM studies produced by the larger shops, which can be 150 pages of exhibits that can be overwhelming. We build our advice incrementally, in a way that helps tell a story. For example, when analyzing short-term liquidity, we explore sequence of returns risk. For example, what if we look at three good years followed by three bad years, and then flip the script (three bad followed by three good). What is the impact on liquidity? Funded status? We also look at cash inflows vs. outflows. The impact of a plan shrinking by 1% / year is quite different from a plan shrinking by 10% / year. By balancing our analysis between long-term and short-term, we narrow the focus. We look at interest rate risk and spread risk, but also trading costs. For example, in March of 2020, synthetic trading was 10x cheaper than physical trading. We have also begun to use “HDO” – or High Dimension Optimization – which is a “Big Data” approach to investment policy development. We put all the parameters (manager fees, alpha, risk, etc.) into the blender and through HDO see what comes out. We believe this produces superior alpha, better tracking, etc.
Risk Mitigation	Since I work in the discretionary side of the business, the risk management we help implement is through interest rate and credit spread overlays. We may also take positions on things like credit spreads. In doing so, we increase hedge ratios above those produced by physical assets. As the markets change, we can lower or increase our overlays, adjusting the physical asset hedge ratios, thereby taking advantage of changing interest rates. Of course, it is important that we continue to inform our clients of the nature of the hedge, so there are no surprises when collateral payments are required.

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Suggestions for Pension Actuary	There is overlap in key features of risk mitigation vs. reward seeking asset classes. It would be helpful if research were conducted on these differences.

2.6 OUTSOURCED CHIEF INVESTMENT OFFICER / FSA

Background

This interviewee is a Fellow of the Society of Actuaries who works for an outsourced investment management firm, after having spent several years working for traditional actuarial consulting firms.

INTERVIEW HIGHLIGHTS

Topic	Comments
Risk Perspective	Our company has mostly corporate clients, with a mix of frozen and cash balance plans. The work we perform is mostly OCIO (Outsourced Chief Investment Officer) work, with ancillary advisory services.
Risk Management	Our clients all have similar goals – to exit the DB business. Historically, our work was economically focused – we used a corporate finance model in our communications; hedging through leverage was a common theme, with a risk management focus. In recent years, under new leadership however, we shifted to more of an accounting focus. Our communications favored asset-only type metrics and glide paths, which were more client friendly and easier to understand.
Risk Measurement	Many focus on funded ratios as a risk measure, however dollars at risk are more meaningful (yet harder to understand). For example, an 80% funded plan that is 100% hedged will see a decline in funded percent if interest rates go up, even though the deficit is fully immunized. We look at total plan costs – including taxes and PBGC premiums – and our projections typically look at net funding costs with terminal funding deficit. Our efficient frontier analysis looks at net funding costs vs. net funding cost at risk. This could equal the 5% worst outcome minus the average. <u>Assumptions</u> Many plan sponsors cling to the belief that interest rates will rise and base their investment decisions accordingly. However, the rising interest rate expectations is *already* priced into the market. The treasury market is deep and liquid, and there are lots of smart, dedicated professionals making interest rate bets. These people are better equipped than the traditional plan sponsor to make these assessments.

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	Many plan sponsors believe that equity risk premiums are fixed over a long enough time horizon – yet the opposite is true, both in theory and in practice. Assumptions are often glossed over, yet assumptions drive the analysis.
Risk Mitigation	Many of our clients are "anti-swap" or "anti-futures" so we eliminate these instruments from our portfolios. We achieve comparable results using leverage. We do not employ longevity hedging. As a rule, we believe it is better to be hedged than not, since taking interest rate risk is uncompensated.

2.7 CANADIAN FSA / CERA

Background

This interviewee has both the FSA and CERA credentials. After spending many years working in the U.S. on large clients, this actuary / risk expert relocated to Montreal where he now works on a range of Canadian and International clients, both public and corporate, from small to large.

INTERVIEW HIGHLIGHTS

Topic	Comments
Risk Perspective	I have public sector clients that sponsor pension plans as going concerns, with open enrollment and ongoing accruals. However, many of my corporate clients are in various stages of de-risking. We provide both actuarial and investment advisory services, including outsourced CIO type work. <u>Finding the sweet spot</u> The goal is to always find the sweet spot between expected cost and risk. I ALWAYS demonstrate how risk and reward are inextricably linked. There generally is no such thing as a free lunch. HOW to determine sweet spot? WHAT is client most sensitive to? In my experience, it usually boils down to one of the following: 1. Balance Sheet 2. Contributions 3. Expense 4. Benefit Security Unlike the U.S., there is no PBGC backstop, so Benefit Security is often a key objective for the plan sponsor. Once the priorities are established, the next question is HOW SENSITIVE is the client? What is the pain threshold? This helps to establish a pension risk budget.

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	<u>CERA Training</u> Helpful – the "wheel" that illustrates identification, measurement, etc. provides a good framework for structuring my thoughts.
Risk Management	There is a broad spectrum of objectives which vary by client: - public sector – main goal is sustainability for open plan with ongoing accruals - corporate plan – intention is to eliminate plan when conditions are favorable <u>Working with CRO's</u> We do not usually work with CRO's. If our clients were insurers, we could translate our work product into metrics they would understand at the corporate level. We work with CFO's. Although they understand ERM, they typically take a plan-centric view. For many of our clients, the pension plan is noise. A second thought. Although, interest rate risk is an obvious ERM type risk that could be discussed / quantified, depending on the company.
Risk Measurement	We use stochastics to support asset allocation decisions for ALM studies. We have an in-house simulator, although we are currently looking at commercially available ESG's. Tolerance levels are not that critical – we usually focus on 95th percentiles rather than extreme tail risk. We have had three bad years in the last twenty, so using a 99th percentile is overengineering for our purposes. <u>Adequacy of existing tools</u> I am 100% certain I can meet the needs of my clients with existing tools. Often, I am told to "take a step back." When we do OCIO, there is a need for increased frequency of reporting – e.g., daily, monthly, quarterly. We have reporting dashboards and monitor key metrics such as credit spreads, MV (market value) of liabilities vs. MV of assets, glide path progress.
Risk Mitigation	Overall decline in equities as liability hedging assets increase. No expense incentive under IFRS to compensate equity holdings in expense calculations, although the analyst community is knowledgeable about the shortcomings in FASB rules. Strategic decisions are made in advance, such as glide path development or serial PRT's.

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Section 3: Conclusions

Here are common themes based on the interviews we conducted:

Taft-Hartley and Public Plan Sponsors Believe Their Plans Are Sustainable and Tend to Favor Asset-Only Risk Management Strategies

> *While most [clients] are in cyclical industries, there is a strong belief that their representative industries will survive – there is no "time horizon."* – Multiemployer Plan FSA

> *[On the use of derivatives for Taft-Hartley Plans]: Not a big focus – as one investment manager states: "I will never put you into something you can't feel, touch, or taste."* – Multiemployer Plan FSA

> *Many of our trustee clients still see the world in an "asset-only" space, so our consultative advice builds off asset-only views. Next, we incorporate asset-liability views, with synthetic overlays / derivatives to help bridge the competing objectives between the two views.* – Investment Consultant / FSA

> *For public sector clients – the main goal is sustainability for open plan with ongoing accruals*. – Canadian FSA / CERA

> *The State Investment Board has separate staff*. *They set investment policies and focus historically on asset-only risks. Some consideration is given to liabilities – we provide cashflows for ongoing liquidity requirements and our triennial asset / liability modeling study*. – Public Plan FSA

Corporate Plan Sponsors Have Plans in Various Stages of De-risking and Are More Open to Asset / Liability and Enterprise Risk Management Strategies

> *Historically, our work was economically focused – we used a corporate finance model in our communications; hedging through leverage was a common theme, with a risk management focus*. – Outsourced Chief Investment Officer / FSA

> *Our key philosophical approach is that managing the pension fund is a risk management problem, not an investment problem. We needed to manage down the risks of the liabilities overwhelming the company*. – Chief Risk Officer

Governance Is a Challenge for All Plan Sponsors

> *Our real challenge is getting stakeholders to engage in the risk discussion. This is especially difficult given how "well" the system has performed in their eyes. Additionally, there is a lack of direct accountability based on our fragmented governance structure. We feel that we are constantly trying to convince the stakeholders of the importance of risk management*. – Public Plan FSA

> *There are multiple parties providing input, although no one party has ultimate responsibility for assumption / target selection*. – Investment Consultant / FSA

> *[I asked] Why should we be taking risks in the pension plan when we are a commercial bank? My colleagues pushed back: "The pension plan is fine as is," "Our plan is 100% funded on a PBO basis. Why cause trouble?"* – Chief Financial Officer

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Interviewees Provided Their Insights on Risk Measurement

> *Many plan sponsors cling to the belief that interest rates will rise and base their investment decisions accordingly. However, the rising interest rate expectations are already priced into the market. The treasury market is deep and liquid, and there are lots of smart, dedicated professionals making interest rate bets. These people are better equipped than the traditional plan sponsor to make these assessments*. – Outsourced Chief Investment Officer / FSA
>
> *Many plan sponsors believe that equity risk premiums are fixed over a long enough time horizon – yet the opposite is true, both in theory and in practice*. – Outsourced Chief Investment Officer / FSA
>
> *When analyzing short-term liquidity, we explore sequence of returns risk. For example, what if we look at three good years followed by three bad years, and then flip the script (three bad followed by three good). What is the impact on liquidity? Funded status?* – Investment Consultant / FSA
>
> *Many focus on funded ratios as a risk measure; however, dollars at risk are more meaningful (yet harder to understand). For example, an 80% funded plan that is 100% hedged will see a decline in funded percent if interest rates go up, even though the deficit is fully immunized.* – Outsourced Chief Investment Officer / FSA
>
> *Most stochastic models only measure volatility, or the lumpiness of the ride. Under this approach, the destination is never in doubt, only the ride. This is an incorrect approach*. – Chief Financial Officer

Interviewees Offered Suggestions to Actuaries for Improving Their Consultative Offering

> *Actuaries are uniquely situated to provide pension cashflows. Actuaries could provide further help by providing a dispersion of cashflows – for example, if projected cashflows are $1 million, is the $1 million the point estimate between $0.9 and $1.1, or between $0.5 and $1.5?* – Chief Risk Officer
>
> *Actuaries should be more like accountants: Tell us the truth, whether we like it or not.* – Chief Financial Officer
>
> *Do not put the cart before the horse as discussed in a recent Academy brief – set assumed discount rate after investment policies are set.* – Multiemployer Plan FSA

Summary

As we have seen, there are numerous risk management processes, risk measurement, and risk mitigation techniques in practice. The determinant of practice appears to be the perceived time horizon and perceived health of the plan. Can the plan be sustained in perpetuity? If so, risk models and structures tend to focus on longer term dynamics such as terminal funded ratios under various investment and risk management strategies. If the plan is already frozen or at risk of running out of money, sponsors adopt a short-term view focusing more closely on liquidity, cashflows, and dynamics such as sequence of returns risk.

Understanding the expected life cycle / sustainability (and regulatory regime) of the pension plan will help the consulting actuary become familiar with the risk management practices commonly used for similarly situated plans. Given this foundation, the actuary will be better prepared to communicate pension risks in a way that will resonate with his or her clients.

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Section 4: Acknowledgments

The researchers’ deepest gratitude goes to those without whose efforts this project could not have come to fruition: the Project Oversight Group for their diligent work overseeing, reviewing and editing this report for accuracy and relevance.

Project Oversight Group members:

Deborah Tully, Chair, FSA, MAAA, EA

James Anderson, FSA, MAAA, EA, FCA

David Cantor, ASA, EA

Eric Keener, FSA, MAAA, EA, FCA

Adam Kehler, ASA, CERA

Grace Lattyak, FSA, MAAA, EA, FCA

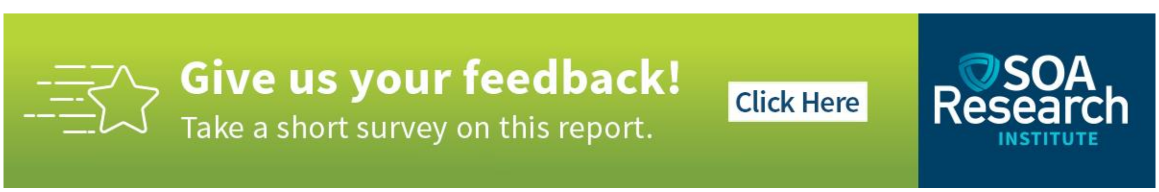
Julian Robinson, FSA, MAAA, EA

Kacy Tuffner

At the Society of Actuaries Research Institute:

Steve Siegel, ASA, MAAA, Sr. Practice Research Actuary

Barbara Scott, Sr. Research Administrator



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Appendix A: Phase 2 Executive Interviews – Sample Question Guide

The Retirement Section of the Society of Actuaries commissioned a research project on the topic of communicating pension risk, recognizing the challenges in addressing this complicated topic with stakeholders. The independent research team of David G. Pitts, FSA and Susan Mangiero, PhD was selected to lead this project. In collaboration with the project oversight group (POG) the researchers conducted this project in three separate phases:

Phase 1: Literature Search

Phase 1 of this project entails a literature search, spanning several topics of interest in pension risk.

Phase 2: Interviews

Phase 2 of this project includes interviews with individuals representing different aspects of plan governance and operations: plan sponsors, finance professionals, investment and actuarial consultants, and risk transfer providers.

Phase 3: Review and Discussion

Phase 3 of this project reviews and integrates the findings from Phases 1 and 2 and recommends areas for further study.

This question guide is meant to guide the questioner in the executive interview process. Results of the executive interviews are presented in a separate report.

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Section A1: Introductory Remarks

- This research project is sponsored by the Society of Actuaries Retirement Section. All answers will be kept strictly confidential.
- The project is focused on defined benefit plans: ongoing or frozen, union, or public. Although 401(k) and other defined contribution plans require significant risk management processes, that is not the focus of this project.
- We believe that defined benefit risk management as a discipline is evolving, and few if any plan sponsors would rate their internal risk management processes as ideal. We recognize there are gaps, and our survey is trying to objectively assess the current state of pension risk management in a desire to direct future research efforts.
- The questions will broadly fall into three categories: 1) Risk ***Management***, concerning risk management as an organizational function. 2) Risk ***Measurement,*** concerning specifics around risk metrics or measurement techniques used by your organization. And 3) Risk ***Mitigation*** – specific risk mitigation techniques employed or under consideration by your organization.

A1.1 BACKGROUND INFORMATION

Interviewer to research in advance and confirm with interviewee.

1. Please confirm pension plan size in terms of assets.
2. Is the plan frozen, and if so, when?
3. Is this a public sector, private or multiemployer plan?
4. How well funded is the plan?

A1.1.1 COVID-19

Interviewer to explore the impact of COVID-19 on pension risk management, using open-ended questions.

1. Can you describe generally how things have changed in your organization as the result of COVID-19?
2. How have your governance processes changed?
3. Is the organization more inclined to mitigate risk as the result of COVID-19?
4. Were there any positive outcomes as the result of COVID-19 (i.e., what worked well)?
5. What do you think the organization should have done differently, in hindsight?

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Section A2: Risk Management

Risk Management concerns how pension risks are managed within the organization. Risk Management refers to the management of risk as an ongoing process, addressing such topics as governance, reporting, policies, etc.

Since there are no detailed requirements for managing pension risk in the U.S., sponsors must necessarily look elsewhere for guidance to ensure they are adopting best practices and satisfying fiduciary standards.

A2.1 POLICIES

Do you have a separate risk management policy? When was it adopted/last revised?

Does your risk management policy or IPS include risk management guidelines? If so, are these risk management guidelines reviewed and potentially revised? On what basis? Automatic triggers? Corporate restructuring? Changes in capital markets? Other?

Does your risk management policy or IPS address how fiduciaries are selected? Evaluated? Terminated from their duties as ERISA fiduciaries?

A2.2 GOVERNANCE STRUCTURE

Approximately how many people would you say are devoted to managing pension risk within your organization?

How frequently is pension risk monitored, both formally (in terms of meetings) and informally?

A2.3 FRAMEWORK

Do you feel your investment, risk and decision-making processes enable your organization to effectively manage pension risk?

A2.4 COMMUNICATIONS

Does your organization use a risk dashboard, or scorecard, or something similar for monitoring pension risks? Would you consider providing a sample set of communications which could be shared more broadly? (We will sanitize all references to your organization.)

A2.5 SELF ASSESSMENT

On a scale of 1 to 5, how would you rate your overall effectiveness as an organization in managing pension risks:

1: Generative: risk management is how we do business.
2: Proactive: we identify emerging risks and learn from risk events.
3: Calculative: we have systems in place to manage all risks.
4: Reactive: we focus on risk whenever something goes wrong.
5: Pathological: who cares about risk as long as we don't get caught.

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Section A3: Risk Measurement

Risk Measurement addresses the “how?” of risk analysis: What should we measure? How should we perform the analysis? Are there constructs that help frame the issues? Risk Measurement deals with the complex subject of risk analysis, an essential component of prudent risk management.

A3.1 FRAMEWORK

- Do you establish an overall risk budget? How so?
- Does your organization analyze risk within an enterprise framework? How so?
- Does your organization consider the impact of pension risk on credit ratings or stock valuation?
- Do you use a Holistic Balance Sheet approach, considering employer covenants for example?
- Do you use a technology system to measure DB risks? If so, which one?
- How do you revise your risk factor ranking? IPS triggers? Actuary or consultant recommendations?

A3.2 METRICS

- Do you benchmark your plan funding ratios? If so, how?
- Do you benchmark your asset allocation? If so, how?
- What are your top three DB plan risk concerns?
- How do you currently measure each of those three risks?
- Do you believe the current risk metrics reviewed by your investment committee are sufficiently accurate for you to make a meaningful decision about investment and/or liability management?
- Have you asked your actuary/consultant to provide additional risk metrics?
- How do you measure downside risk? Var? CVAR?
- Do you determine an Economic Capital metric?

A3.3 MEASUREMENT TECHNIQUES

How are calculations performed?

- Simulations? ESG’s or mean-variance?
- Stress Tests?
- Tail risk analysis?
- Sensitivity Tests?
- Maturity Gap Analysis?
- Duration / convexity analysis?

Questions on assumptions

- Do you consider liabilities calculated at a risk-free rate in your analysis?
- Is there a consensus that in the long run stocks will outperform bonds?
- Is there a consensus that interest rates will rise?
- Is there a consensus that alternative assets will outperform traditional asset classes, given enough time?

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Section A4: Risk Mitigation

Risk Mitigation refers to techniques which mitigate all or a portion of a plan's financial risks, ranging from Pension Risk Transfer to "DIY/ALM" approaches.

A4.1 RISK TRANSFER

What steps have already been taken toward eliminating or transferring risk? Lump sum cashouts? Buy-outs?

Same question for the next 5-10 years?

A4.2 RISK MITIGATION FOR RETAINED RISKS

What steps have been taken toward managing risk that have been retained?

LDI?

Other ALM strategies?

Are investment managers allowed to use derivatives in managing DB plan assets? If so, what kind of derivatives? Hedges only or are derivative overlays allowed?

A4.3 RISK EVALUATION

Elaborate how you evaluate each type of strategy in terms of costs and benefits (economic, legal, operational, etc.).

From a plan design perspective, who bears investment risk? Longevity risk?

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Section A5: Additional Questions

What are advisors doing well? Need improvement?

What's missing from a measurement / reporting / technology perspective?

Is there anyone else in your organization that could provide additional insight beyond what you've provided?

Give us your feedback!
Take a short survey on this report.
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Representing the thousands of actuaries who help conduct critical research, the SOA Research Institute provides clarity and solutions on risks and societal challenges. The Institute connects actuaries, academics, employers, the insurance industry, regulators, research partners, foundations and research institutions, sponsors and non-governmental organizations, building an effective network which provides support, knowledge and expertise regarding the management of risk to benefit the industry and the public.

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Society of Actuaries Research Institute
475 N. Martingale Road, Suite 600
Schaumburg, Illinois 60173
www.SOA.org

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