

2022 CCA Annual Meeting Session Summaries

2022 CCA ANNUAL MEETING

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Session 101

Required ASOP Disclosures – Practical Applications

Speakers:

- Maria M. Sarli, FCA, FSA, EA - Senior Director, WTW
- Julie M. Ferguson, ASA, EA, MAAA - Principal, Mercer
- Frederica S. Daniels, FCA, EA, MAAA - Vice President and Managing Actuary/CT, USI Consulting Group

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- Gail Steward, FCA, EA, MAAA, MSPPA - Vice President and Consulting Actuary, USI Consulting Group

Session Assistant:

- Brian R. West, FCA, ASA, MAAA, EA, MSPA - Consulting Actuary, Newport Group, Inc.

Overview

Recent updates to various Actuarial Standards of Practice (ASOPs) warrant frequent review and discussion amongst actuaries.

This session provides some commentary regarding the practical application of these updates.

While much of the slide presentation pulls from ASOPs 4, 51 and 56, it is important to recognize that ASOPs 6, 23, 27, 35, 41 etc. will be applicable to retirement plan actuaries.

ASOPs

ASOP 4 (Measuring Pension Obligations and Determining Pension Costs or Contributions) was revised with an effective date of February 15, 2023. ASOP 51 (Assessment and Disclosure of Risk Associated with Measuring Pension Obligations and Determining Pension Plan Contributions) was effective in 2018. ASOP 56 (Modeling) was effective in 2020.

The session is mainly broken down between Risk and Responsibility and Reliance. Appendices are supplied for additional information regarding Bias, Deviation from the Standards and Reliance on Models Constructed/Maintained by others.

ASOP 51 was designed as an enhancement to ASOP 4 and provides information about assessing and disclosing risk. For practical pension purposes, ASOP 51 is applicable to funding valuations for a pension plan, including a pricing valuation for a proposed pension plan or for plan changes. ASOP 51 does not apply to accounting valuations under ASC or GASB.

ASOP 4 provides new risk measure definitions and disclosures. ASOP 4 provides that the actuary should consider the uncertainty or risk inherent in the measurement assumptions and methods while ASOP 51 requires the actuary to assess and disclose the potential effects of the uncertainty and risk.

This leads to three basic steps of 1) determine what effect the actual versus expected results from each source of risk could have on the liabilities 2) assess how asset and liability changes from assumptions and methods affect contributions requirements and the funded status of the plan and 3) decide how to disclose the liability and/or contribution effects, i.e., quantitatively,

qualitatively or both. The actuary should also disclose whether additional modeling/testing is needed to adequately assess future effects.

ASOP 51 lists several assumption risks that may or may not be “reasonably anticipated to affect the plan’s future financial condition”. These generally fall into three buckets of Economic Assumptions Risks (such as Interest Rate risk, Asset/Liability Mismatch Risk, Inflation Risk, etc.), Non-Economic Assumptions Risks (such as Longevity Risk, Election Timing Risk, and Population Decline Risk) and Other Risks (such as Contribution Risk, Plan Termination Insolvency Risk). Most actuaries are familiar with the various risks involved and not all risks may be relevant to the plan. The risks listed in ASOP 51 are not intended to be exhaustive.

ASOP 51 also provides various maturity measures, such as duration, the ratio of retiree liability over total liability, etc. that may also be used to help the plan sponsor understand the risks involved.

For the first poll of the session, attendees seemed to meet ASOP 51 by either mostly providing qualitative examples and discussion or an equal mix of quantitative examples and qualitative discussion.

The ASOP 4 revision is effective for reports with a measurement date on or after February 15, 2023, that are also issued on or after that date.

The most controversial revision is the requirement for the actuary to provide a Low-Default-Risk Obligation Measure, or LDROM. The standard says “the actuary should calculate and disclose a low-default-risk obligation measure of the benefits earned (or costs accrued if appropriate under the actuarial cost method used for this purpose) as of the measurement date. The actuary need not calculate and disclose this obligation measure more than once per year. When calculating this measure, the actuary should use an immediate gain actuarial cost method.” Assumptions other than the discount rate may be the same as those use for the funding valuation.

The standard provides examples of discount rates that meet the requirements to be a “Low-Default-Risk” rate. These are US Treasury yields, lump sum or annuity purchase rates, non-stabilized ERISA funding rates, etc.

While a first glance may make this seem like it involves extra work, most attendees (by poll) seemed to agree that there would be some additional work to initially institute this requirement, but not on an ongoing basis. For practical purposes, most pension actuaries are probably already calculating a liability based on the non-stabilized ERISA rates for helping clients determine a maximum allowable contribution (single employer plans) or a current liability (multi-employer plans). Both of these should satisfy the requirements of the LDROM. ASC 715 ABO or PBO would also seem to fit the criteria

ASOP 4 provides that “the actuary should also calculate and disclose a reasonable actuarially determined contribution” using a contribution allocation procedure that satisfies several conditions within the ASOP. This requirement is not applicable if the actuarially determined contribution is based on a prescribed assumption or method set by law, such as the PPA minimum required contribution for single employer plans.

This requirement should be applicable to public plans and non-elective church plans.

The actuary should also include concise commentary to help understand the significance of the actuarially determined contribution, keeping in mind the intended audience. The commentary should include some of the pertinent conditions taken into account in determining the reasonable actuarially determined contribution, such as intergenerational equity, stability of costs/contributions, timing/duration of benefit payments, etc.

ASOP 4 also requires the actuary to:

1. qualitatively assess the implications of the contribution allocation procedure or the plan's funding policy on the plan's expected future contributions and funded status.
2. estimate how long before any contribution as determined by the contribution allocation procedure or the plan's funding policy is expected to exceed the normal cost plus interest on the unfunded actuarial accrued liability, if applicable.
3. estimate the period over which the unfunded actuarial accrued liability, if any, is expected to be fully amortized; and
4. assess whether the contribution allocation procedure or funding policy is significantly inconsistent with the plan accumulating assets adequate to make benefit payments when due, and estimate the approximate time until assets are depleted.

There is no exception for funding valuations where the contribution allocation procedure is set by law. Therefore, the actuary might discuss how the corridor for single employer plan minimum funding rates is expected to affect the period until the plan will be fully funded, whether the 15-year amortization period for minimum contributions will accumulate assets adequate to make benefit payments when due, and effects of use of funding balance or a current surplus.

For this purpose, the actuary can assume that all assumptions will be realized and that all contributions expected by the contribution allocation procedure or funding policy are made.

The final section of this session covers Responsibility and Reliance, which are intertwined.

ASOP 41 requires that the responsible actuary be identified in the work product communication. Absent commentary to the contrary, the signing actuary is presumed to be fully responsible for the work product. If the actuary is not taking responsibility, they are generally relying on others.

The types of reliance we typically use are reliance on experts, reliance on data and other information supplied by others, reliance on assumptions set by others, reliance on a collaborating actuary and reliance on models developed/maintained by others.

There may be instances where there is no realistic opportunity for an actuary to review an assumption for reasonableness. The situation may be time constrained such that the actuary does not have the time to review the assumption, or the actuary may not have access to the information (e.g., attorney-client privilege). The actuary must disclose the reliance and the reasons for the reliance.

The most common reliance for pension actuaries preparing valuations is reliance informed by a review of reasonableness. When reviewing data, we look for data that is inconsistent with other information provided, request plan amendments to ensure we have current provisions of the plan, compare benefits paid versus expected, etc.

Reliance on experts is mentioned in ASOPs 51 and 56. ASOP 51 provides that the views of experts may be considered, but the selections of assumptions for the assessment of risks

should reflect the actuary's professional judgment. ASOP 56 provides that the actuary may rely on experts in the fields of knowledge used in the development of a model.

Reliance on experts is not an excuse for blind reliance.

For models, ASOP 56 provides things to consider when determining whether reliance is reasonable. These include that the capability of the model meets its intended purpose, and that the model structure, data, assumptions, governance/controls, model testing and output validation are consistent with the intended purpose.

Actuaries do not need to be programmers to determine whether reliance on valuation software is appropriate. However, actuaries should understand the model, including its limitations and sensitivities, and perform basic testing and output validation. Reliance on models is covered in more detail in the appendices attached to the slide presentation.

When relying on others in setting assumptions, the actuary should make sure the advice is not inconsistent with other information available to the actuary, and consider the qualifications, experience and possible conflicts of interest of the "expert." In addition, the actuary will want to disclose the reliance and why it is reasonable. In some circumstances, the actuary does not have the expertise to assess the information and must rely on an assumption set by others.

For all assumptions other than those prescribed by law the actuary must indicate either (i) that the assumption does not significantly conflict with what would be reasonable and the rationale for this determination, or (ii) that the actuary is unable to assess the assumption.

An example is the expected return on plan assets. For accounting disclosures or funding for some plans (e.g., public plans, church plans, CSECs, 401(h)/VEBA) we will need to comment in accordance with the paragraph above. However, in reviewing that assumption, we are likely relying on capital market assumptions prepared by investment professionals.

For the circumstances in which the actuary is unable to assess an assumption or method, the actuary must disclose the assumption and the source of the assumption, and explain the inability to assess (e.g., the actuary is not qualified to assess an EROA due to the complexity of the investment approach).

This provision of ASOP 41 is not blanket authority to blindly rely on an assumption and rely on the expert advice. Also note that the language for "unable to assess because the additional work is outside the scope of the assignment" is now gone from ASOPs 27 and 35.

The session concludes with reliance on a collaborating actuary. Examples are a pension actuary who collaborates with an investment actuary on a stochastic forecast or with a health and welfare actuary on a retiree medical valuation. All collaborating actuaries should sign communications with their roles described, but all signing actuaries must take overall responsibility for the reasonableness of the results.

Appendices to the slide presentation provide a discussion of Bias, Deviation from ASOPs and Reliance on Models Constructed/Maintained by Others.

Session 102

Into the Weeds on LDI

Speakers:

- Michael Clark, FCA, FSA, CFA, EA – Agilis
- Sweta Vaidya, FCA, FSA, CFA, EA – Insight Investment

Session assistant:

- Andrew Lape, FCA, FSA, EA – Agilis

Background

A pension plan faces many risks to both its assets and liabilities, some of which are linked to capital markets on both sides of the equation and can therefore be hedged. Liability Driven Investing (LDI) seeks to create a smoother ride and reduce a plan's funded status volatility by correlating its asset performance to changes in its liabilities as capital markets move.

The plan sponsor's objectives will dictate how smooth the ride is. Fixed income instruments, such as corporate bonds and Treasuries, will provide returns and diversify risk away from equities. They also provide liquidity for benefit payments and can be used to hedge against liability changes caused by movements in interest rates and credit spreads. For example, a popular use case is for sponsors to protect against a situation where interest rates fall, causing liabilities to increase and funded status to deteriorate. This year has seen interest rates rise dramatically so, ignoring declines in a plan's equity portfolio for the moment, any plans that were not fully hedged against interest rate movements will have seen improvements in their funded status since their assets will have fallen less than their liabilities.

With the American Rescue Plan Act of 2021 ("ARPA") reducing pension contribution requirements, and the markets "knowing" interest rates would continue to rise in the near term future, reducing the fixed income portfolio and re-risking by increasing the size of the equity portfolio has been a popular point of discussion recently. With the continued rise in interest rates this year, many plans have now found themselves in better funded positions than they started the year in, leading to discussions of hibernation, pension risk transfer, and potential plan termination.

LDI portfolios

Actuarial liability models produce future expected benefit payment streams which, when discounted using a given rate or yield curve (typically based on AA-grade bonds), result in a present value liability. In reality, that benefit payment stream and the underlying yield curve are not directly investable. The actual volume of bonds available in the marketplace is insufficient for pension plans to directly invest in, and bonds can be re-rated so will drop in and out of consideration for constructing a given yield curve. Yield curves are compilations of various yields and each have rules for bonds staying in that universe – even if a plan holds those bonds, it could later be dropped from the yield curve's universe, producing lower yields on the curve and therefore raising plan liability. That risk is known as credit migration risk and is not just theoretical – in recent history, relatively high-yielding Argentinian bonds were included in some yield curves but were then suddenly excluded, dropping rates significantly. And over the past 30-40 years, on average 9% of AA bonds have been downgraded each year.

In short, pension liabilities are generally un-investable directly in AA corporate bonds and plans typically need to out-earn the benchmark to keep pace with it. If a plan has service cost, this becomes even

more difficult to do. Other types of credit outside of investment grade bonds can help increase yields and diversify the credit spreads risk.

Liabilities are often longer duration than the investment grade fixed income instruments available so, depending on the liability duration of the plan, you can use a variety of other instruments to construct a duration-matched portfolio. The presenters gave an illustrative example of what such a portfolio could look like to match the sample plan's liability characteristics, pointing out that return-seeking assets don't necessarily have duration, so total portfolio duration may appear lower than the liability duration even if the liability-matching portion is duration-matched. As rates rise and funded status improves, as we've seen in 2022, sponsors would likely rebalance the portfolio to increase the liability-hedging portion to lock in gains.

The panelists then discussed considerations for constructing a hedge portfolio. Does the plan sponsor want to target the plan termination / economic liability, the accounting liability for their balance sheet, the IRS minimum funding liability, or something else? What is an appropriate benchmark to measure against? How much interest rate risk should be hedged, and how should it be achieved? Should a glidepath be put in place? Does the sponsor have a view on interest rates they want to express through their pension plan's investments?

The presenters wrapped up by discussing the use of derivatives in a portfolio, which can make the portfolio more precise and efficient. For example, derivatives can provide a larger return-seeking allocation than holding the physical assets would. Completion mandates with specialized managers can help reach the ultimate target hedge and improve cash flow timing between assets and liabilities.

In summary

It is impossible to have a portfolio with zero tracking error, so you should understand how the liability curves compare to the actual universe of available investments and how that affects your funded status. There are many ways to track performance, but success should be evaluated relative to your target and goals, which is not necessarily outright performance relative to industry benchmarks. At the end of the day, the plan's funded status is what matters.

Session 104

Forecasting in a Highly Inflationary and Uncertain Environment

Speakers:

- Katie Martin – Health Care Cost Institute
- Philip Ellis, PhD – Ellis Health Policy, Inc.
- Robert Tate, FSA, MAAA – Aon
- Dale Yamamoto, FCA, MAAA – Red Quill Consulting

Session Assistant: Steve Guzski, FCA, FSA, MAAA – Paychex

Overview

Inflation has been its highest in the last 40 years and the world is recovering from a pandemic that hasn't seen in a century. Healthcare cost trends over the next few years will be influenced by these uncertain conditions. In this session, the speakers address the following questions: what can the audience learn from recent experience, and what should be considered when reviewing and forecasting short-term cost trends?

Looking Back

Based on commercial claims data from the Health Care Cost Institute (HCCI), per person Employer-Sponsored Health Insurance (ESI) spending grew +22% from 2015-2019. However, due to COVID, 2020 per person spending was -4% lower than 2019, driven by reductions in utilization across all service categories (except prescription drugs). That said, two phenomena can be observed in the aggregate data: (1) unit prices for medical services during 2020 continued to increase, and (2) overall mix across service categories (inpatient, outpatient, professional services, and prescription drugs) remained relatively consistent with the split observed in 2016.

Another interesting observation was that, during the COVID-affected year of 2020, high-spend metros were mostly the same high-spend metros as in 2019 (and vice versa). In addition, 2020 spending reductions were concentrated in April and May, and total spending per person stabilized by June 2020. Notably, lower year-over-year spending occurred in the inpatient and outpatient settings, and greater spending was allocated to physician and prescription drugs. This pattern is expected to continue in the 2021 data set.

Looking Forward – An Economist's Perspective

Inflation, in layman's terms, is paying a higher price for the "same" thing. The operative word is "same" because it is difficult to argue that, over time, the quality of goods and/or services in our economy is static (for instance, the 1992 Honda Accord is not the same car as the 2022 Honda Accord). Therefore, inflation may be more nominal and illusory than we recognize over the long-term. However, there is no doubt there are destructive consequences of inflation, which are spurred by its short-term unpredictability and its ability to perpetuate and entrench in an economy.

With respect to healthcare, spending growth can be decomposed into four factors: age/sex mix, population growth, price, and utilization/intensity. Since 1990, price (as measured by the PHC Price Index) has been the primary contributor to spending growth, with utilization/intensity of care being a close second (and subject to greater volatility over the measurement period). Through 2028, overall healthcare spending growth is expected to trend annually at +5.5%, with price growth being the greatest contributing factor. Most price growth is expected to take place earlier in the decade in response to forces correlated with the COVID pandemic.

One prominent piece of legislation that will influence inflationary dynamics in the US healthcare economy is the Inflation Reduction Act (IRA), enacted in August 2022. Three provisions in the law that will influence Medicare drug pricing are:

1. Medicare gains the ability to negotiate prices of some high-cost drugs (10 drugs per year initially, rising to 20 per year). As well, the law permits ceilings on “negotiated” prices varying by vintage, all the while allowing Part D plans to develop formularies and negotiate rebates.
2. The addition of inflation penalties for all Part B and Part D drugs.
3. The introduction of caps on Part D out-of-pocket (OOP) costs (starting at \$2K), as well as redesigns of the coverage gap and catastrophic phases.

Note that the provisions above have no direct impact on private-sector (i.e. commercial) drug pricing. However, they will increase economic costs to drug manufacturers, whether it is by adhering to the laws, or by paying penalties for noncompliance. Therefore, launch prices for new drugs will likely be higher to support these additional costs.

Payment rates for healthcare goods and services are likely to catch up with inflation, though with a lag. Wage rates, which are facing upward pressure, are the mechanism that will trigger inflation within the healthcare system.

Looking Forward – An Actuary’s Perspective

From a practical perspective, when looking ahead and forecasting employer costs based on the current economic environment, actuaries need to consider that conservatism is warranted given the need for short-term forecasts, the dynamic current environment, and the abundance of known risk factors that impact medical claims costs (e.g. high consumer inflation, long-COVID, delayed care for chronic conditions). However, they should note that significant and persistent conservatism can erode professional credibility with key clients and stakeholders (i.e. HR, Finance).

How does inflation impact actuarial forecasts? It affects the unit price of healthcare, but with a lag. As mentioned earlier, inflation puts upward pressure on wages, which contributes to higher provider increase requests at contract renewal. There is a significant lag in these components hitting Medicare reimbursement mechanisms (e.g. IPPS, Physician Fee Schedule), and provider contracting conducted by commercial insurers is somewhat dependent upon Medicare increases. Since provider contracts typically renew on a three-year cycle, the impact should be gradual over time.

To date, it should be noted that health cost trends and health care system employment have stabilized and are trending “normally” (i.e. at a pre-pandemic rate) again. However, COVID has impacted the distribution of services by setting. For instance, inpatient admissions for cardiac and orthopedic procedures are down -10% and -20%, respectively.

Finally, what resources can actuaries leverage to identify and quantify the current inflationary environment’s impact on trend? One resource is the Personal Consumption Expenditures (PCE) price index, where an influx in total health spending would likely indicate commercial trend increases. Also, emerging client-specific medical and prescription drug trends will provide evidence of any inflationary impact, as service-level price data for frequent services.

Session 107

Language Matters - Talking about Political Context

Speakers:

- Elizabeth Wiley, FCA, FSA, MAAA, EA - Cheiron
- Emily Brock, Government Finance Officers Association
- Jeannine Raymond, National Association of State Retirement Administrators
- Leigh Snell, National Council on Teacher Retirement

Session Assistant:

- Jody Carreiro, FCA, ASA, MAAA, EA - Osborn, Carreiro & Associates

Overview

In public pensions, as in so many areas, without awareness of context and background of political processes, unintended consequences are likely to occur. This session's panel of federal government relations experts discusses topics of interest for public pensions related to federal policies and politics. The topics they explore include those most pertinent, including any late breaking developments, but may include federal reimbursement considerations and audits, language related to surplus and funding, and pressures to extend ERISA funding rules into the public sector, including market value of liability measures.

“Pension Costs” for Federally Funded Positions

Federal legislation has created many federally funded positions at the state and local level through grants and other awards. These grants and awards are often audited by the Office of Management and Budget (OMB) or Department of Health and Human Services (HHS). All of these types of grants and awards recognize the inclusion of employee benefits, including pension costs, as a legitimate use of such federal funds and federal regulations recognize that pensions may be financed using a pay-as-you-go or actuarial cost method.

However, recent federal audits have called into question certain pension contributions regulators felt were unreasonable. First, auditors took exception to contributions greater than the Actuarially Determined Contribution (ADC). This thinking has been further refined to recognize that an ADC can be a range versus a bright line, assuming it is based on reasonable assumptions and is not used to build a reserve or fund a stabilization account. Regulators also recently found that a flat employer contribution (versus a percent of payroll) is acceptable so long as it is not being used to build a reserve or to fund a stabilization account. However, federal regulators have not wavered in their view that federal rules do not allow for payment of Unfunded Accrued Liability (UAL) to be assigned to employees who are not participating in the defined benefit plan. Thus, employers who assign UAL across payroll, and who have closed or optional DB plans, should be sure to not charge this cost to a federally funded employee that is only covered by a DC plan.

Discussions of Risks

As actuaries, we think about and discuss risk in the context of our training. ASOP 51 defines risk as future measurements deviating from current ones due to “actual future experience deviating from actuarially assumed experience.” The panel pointed out that those outside our profession hear the word “risk” and think in terms of the dictionary definitions, which include exposure to danger, possibility of harm, and possibility of loss. In other words, when an actuary discusses “risk” in our reports, others in a more political context are hearing “risky behavior.”

Now we will need to explain the new provisions of ASOP 4 (discussed more fully in Session 207). One new item that will be disclosed is the Low-Default-Risk Obligation Measurement (LDRM). The panel is concerned that those already critical of public pensions will use this disclosure and the words related to it to argue that public pension are being risky with assets.

Another issue in dealing with federal legislative staffs is they are often young and have not dealt with these concepts yet in their careers. It is suggested that actuaries be ready with a translation of terms when dealing with those new to pensions. In essence, a “plain language” translation of terms that could level the discussion between actuaries and federal elected officials. In addition, such a guide would be especially helpful for government finance officers speaking with their locally-elected officials as well and in onboarding newly elected members of boards.

We are reminded of the quote used as a tagline for the SOA, “Risk is Opportunity.” We have new opportunities to discuss and describe risk and what liability measurements are and the context when they are appropriate. It is noted that the National Association of State Retirement Administrators, the National Conference on Public Employee Retirement Systems, the National Council on Teacher Retirement, and the National Institute on Retirement Security will be working together and with others to outline discussion points to be used concerning communicating the new LDRM and liability measures to the various affected stakeholder groups.

American Rescue Plan Act

The American Rescue Plan Act of 2021 (ARPA) provides direct relief to states, cities, and towns. ARPA has many permitted uses outlined, and the pension cost associated with any salaries that are a permitted use is also a permitted use of funds. Pension costs were a significant point of discussion. Public pension plans were often discussed as a specific reason why Federal funding for state and local governments should not be included in any final ARPA legislation.

The difficulty is illustrated by quoting from the Treasury Department Fact Sheet for state and local governments. “No recipient may use this funding to make a deposit to a pension fund. Treasury’s Interim Final Rule defines a “deposit” as an extraordinary contribution to a pension fund for the purpose of reducing an accrued, unfunded liability. While pension deposits are prohibited, recipients may use funds for routine payroll contributions for employees whose wages and salaries are an eligible use of funds.” A “routine payroll contribution” typically includes a payment for funding previously accrued liabilities.

The Government Accountability Office (GAO) is studying where the money is really going. Because of the way this was distributed and the way the rules were produced, it is going to be hard for the GAO to prove whether Federal assistance was or was not indirectly used to assist state and local pensions. Treasury Secretary Janet Yellen was quoted as saying that “funds are fungible,” which in a sense admits that it will be difficult to pinpoint the exact uses of the funds.

Inflation

There are opportunities for actuaries to discuss and define the various effects of inflation. Users need to understand the differences between real and nominal measures of inflation, and how inflation affects both sides of the balance sheet of a pension plan. How inflation affects the cost-of-living increases in different plans is also an important point to keep in mind, as each plan handles their COLAs differently. How do our assumed inflation rate and the current inflation to which consumers are subject fit together? It is noted that NASRA has available research on cost-of-living increases in various plans across the country.

Environmental, Social, Governance (ESG)

The ESG acronym has become a flash point in political conversations. GFOA is not making any statement on the topic other than looking at the risk disclosures required on bond disclosures made by public entities. NASRA is going to stick to educating people on fiduciary standards, as is NCTR. Neither has a specific policy on ESG.

It was noted that the Department of Labor is looking at changes that will alter rules for ERISA fiduciaries around ESG issues. It was also noted that the Securities and Exchange Commission (SEC) is now looking at funds that have been “greenwashed,” that is, providing information that makes them appear more environmentally conscious than can be documented.

Surplus or Negative Unfunded

The panel suggests that “negative unfunded” is a term only actuaries would say and that no one will understand what it means. This does need to be discussed with and understood by our plan sponsors, but actuaries should work to use plain language. We should also consider the audience when addressing the topic.

Conclusion

Actuaries for public pension plans have many topics to discuss with our stakeholders that are not part of the everyday vocabulary of those groups. We need to work to change our actuarial lingo into plain language that can be useful. We need to recognize the political context around the topic to ensure we don’t create other issues due to misunderstandings.

Session 202

Multiemployer Plans for Single Employer Actuaries

Speakers:

- Mariah Becker ACA, MAAA, EA - NCCMP
- Richard O. Goehring FSA, FCA, MAAA, EA – Richard O. Goehring Inc.
- Josh Shapiro FSA, MAAA, FCA, EA – The Groom Law Group
- Carrie F Vaughn ASA, MAAA, EA – Milliman Inc.

Session Assistant:

- Michael I. Helmer FCA, MAAA, EA – Segal Consulting

Multiemployer Basics

Multiemployer plans are established as a result of collective bargaining between at least two employers and at least one union. Plans are managed by joint boards of trustees, independent of either bargaining party, and with equal labor and management representation. Plans are funded solely by contributions determined as a result of collective bargaining for the exclusive purpose of providing benefits for participants. There are approximately 1,400 multiemployer DB pension plans covering approximately 10 million participants. Plans are subject to the same vesting, accrual and minimum participation rules as single employer plans. Benefits are typically determined as “dollar-per-year of service” or “percent of contributions.” Participants can accrue benefits by working for more than one contributing employer (hence multiemployer) and reciprocity often occurs between plans.

PBGC Guaranty

Separate multiemployer and single employer PBGC guaranty funds exist. The maximum PBGC guaranteed benefit is \$12,870 per year for multiemployer participants with 30 years of service, which is funded through premiums of \$35 per participant per year. Benefits are paid from pension fund assets until insolvency occurs, then PBGC begins providing money to the fund to cover the payments.

Pension Funding Formula

Contributions PLUS Investment Earnings = Benefit Payments PLUS Expenses [$C + I = B + E$].
If [$C + I < B + E$] then plans typically decrease **future** benefit accruals AND/OR increase contribution rates. Certain benefit features are allowed to be reduced if a plan is in “critical” or “critical and declining” status.

Accrued Liability and Normal Cost are determined using an interest rate determined to be the actuary’s best estimate of expected returns. Actuarial Value of Assets is calculated using smoothing up to 10 years and is limited to 80% - 120% of Market Value of Assets determined from audited financials. Typically, a flat dollar expense load is assumed. Most unfunded liability changes are amortized over 15 years (assumption changes, experience gains/ losses, plan changes) while funding method changes are amortized over 10 years. The Credit Balance (Funding Deficiency) is used to track how far ahead (behind) of the minimum funding standards the plan is.

Long Term Expectations – Assumptions

Under 431(c)(3), all costs, liabilities, rates of interest, and other factors under the plan shall be determined on the basis of actuarial assumptions and methods each of which is reasonable (taking into account the experience of the plan and reasonable expectations) and in combination, offer the actuary’s best estimate of anticipated experience under the plan.

Demographic assumptions are typically set by experience studies or published tables and are subject to ASOP 35. Mortality tables can vary based on industry or blue collar versus white collar. There is no requirement for any specific tables. Investment return assumptions often rely on capital market assumption models. Nearly half of all plans reduced their discount rate over the past five years.

IRS Zone Statuses

IRC 432 details PPA certification and funding rules for multiemployer plans. MPRA of 2014 added a new category. Zone status relies primarily on:

- PPA funded percentage - determined as (AVA/PVAB) at the start of the current year, and
- Credit Balance/Funding Deficiency projections

Zone Status timeline:

- Certification – due 90 days after the beginning of the plan year
- Notices to Participants and deadline to elect Critical – due 30 days after Certification
- Improvement Plan Adoption – due 240 days after Certification
- Schedules to bargaining parties – within 30 days of adoption

Zone statuses range from Not Endangered or Green to Critical and Declining (Maroon), once again, based primarily on PPA funded percentages and Credit Balance/Funding Deficiency projections.

Yellow or Orange Zone statuses require a Funding Improvement Plan (FIP).

Red Zone status requires a Rehabilitation Plan (RP) and is typically the result of significant reductions in hours worked. Certain “adjustable” benefits can be reduced when the Plan is deemed Critical or Critical and Declining. Adjustable benefits include:

- Early retirement subsidies
- Normal form of benefits other than single life annuity
- Non-required death benefits (QPSA is required)
- Certain optional forms of payment
- Disability benefits

Critical and Declining tools are allowed by MPRA as a last resort when a Plan is projected to go insolvent after all reasonable measures have been taken. The Plan applies to Treasury to “suspend accrued benefits” in just the right amount to avoid projected insolvency – this includes benefits already in pay status. Suspended benefits are limited to a floor of 110% of the PBGC guarantee (roughly \$35.75/ year of service). Participant ratification is required for benefit suspensions. Suspensions are rejected if majority of all participants (not just majority of all voters) vote against it.

As of December 2021, 67% of all plans are certified Green; 9% of all plans are certified Endangered; 14% of all plans are certified Critical; and 10% of all plans are certified as Critical and Declining.

ARPA

Passed in March 2021, ARPA allows certain financially troubled multiemployer plans to apply for special financial assistance (SFA) from the government. ARPA was enacted because 10-15% of plans covering 1-3 million participants faced inevitable insolvency AND, as a result, PBGC also faced insolvency by 2026. If PBGC goes insolvent, PBGC support for insolvent plans is reduced to incoming PBGC premiums. SFA money is intended to enable eligible plans to pay full benefits, including restored benefits after suspensions, through 2051.

SFA money must be invested conservatively, however, up to 1/3 may be invested in “return seeking” assets. PBGC guidance imposes conditions related to:

- Increases in future accrual rates and benefit improvements
- Allocation of plan assets
- Reductions in employer contribution rates
- Diversion of contributions to other plans, and
- How plans determine withdrawal liability

Withdrawal Liability

A withdrawal occurs when an employer stops contributing to a pension plan, and is defined as a permanent cessation of the obligation to contribute, or permanent cessation of covered operations. Withdrawal events include – bargaining out of a plan; no longer hiring union employees; closure of facility, elimination of operation or line of business; sale of all or a portion of company; or bankruptcy or liquidation.

Withdrawal liability is measured as of the last day of the preceding plan year. Common methods for determining withdrawal liability include Rolling 5; and Presumptive and Direct attribution methods.

New proposed PBGC regulations allow discount rates to range from the PBGC settlement rate to the valuation funding rate.

Payment of withdrawal liability is typically satisfied through quarterly payments. The payment duration is based on the withdrawing employer’s liability, not to exceed 20 years. Note that the 20-year cap is not applicable in Mass Withdrawal situations. Disputes are resolved through arbitration and, if appealed, possibly Federal court. The withdrawing employer is obligated to make withdrawal liability payments while the withdrawal liability amount is in dispute.

Mass withdrawals occur when all employers, or substantially all employers pursuant to an agreement, withdraw. A claw back period may be applicable. Partial withdrawal occurs when there is 70% decline in “contribution base units” (typically hours worked covered by the plan), or due to a partial cessation at a facility or under a CBA. A 70% decline is measured based on the high base year during a 3-year testing period.

Session 203

My DB Plan is Frozen: Now What?

Speakers:

- Stacey Schmid, FCA, FSA, EA, CERA, MAAA – Empower
- Alexandra Hyten, FSA, MAAA – Prudential
- Ruth Schau, FCA, FSA, EA – Pacific Life Insurance Co.

Moderator:

- Katy Aronova, FSA, MAAA – Prudential

Session assistant:

- Andrew Lape, FCA, FSA, EA – Agilis

Many of us are working with several frozen pension plans. Once a pension plan is frozen, what's next? Speakers detail the path of a pension plan from frozen to termination. They also address strategies on Defined Contribution (“DC”) plan designs that can help address the loss of the Defined Benefit (“DB”) plan.

Managing a frozen plan

Once a plan’s benefit accruals are frozen, there are generally two paths to take: (1) hibernation, in which the plan is still managed on an ongoing basis and significant de-risking action is not taken, or (2) active de-risking to ultimately reach plan termination. Each plan sponsor’s needs, finances, and other circumstances vary greatly and will inform the approach they take.

It is important that sponsors understand that hibernating a plan does not mean do nothing – the plan still needs to be managed as it is still susceptible to volatility in markets, assets, liabilities, contribution requirements, and possible legislative changes. With the passage of the American Rescue Plan Act of 2021 (ARPA), plan sponsors have more flexibility than ever to deploy a contribution strategy that aligns with their goals. However, they must keep in mind that even though funded status may *look* better with ARPA, on a non-stabilized or economic/plan termination basis they may not have meaningfully moved the needle at all, or may have even lost ground. The presenters discuss the pros, cons, and use cases for various contribution strategies for plans that are underfunded, including the use of investment glidepaths to gradually trade return-seeking assets for a larger liability-hedging asset portfolio as funded status improves.

With the significant rise in interest rates during 2022, many pension plans are now fully funded or overfunded on a plan termination basis so sponsors are beginning to act on active de-risking of their plans. Offering a one-time lump sum window is a popular way to reduce the size of the plan, which often yields administrative savings, and its annual PBGC premiums. While this is beneficial to the plan sponsor, it shifts the investment and longevity risk to the individual participants to manage.

Annuity buy-outs are also a common tactic, and have increased in volume greatly over the past 10 years to the point that insurers are becoming selective on what cases they bid for due to capacity constraints. In the past it was often the case that buy-outs targeted retirees with the

smallest benefits since they have the largest administrative cost relative to their benefit size, but this has recently trended towards full plan termination purchases (which necessarily include deferred benefits as well). While it may be enticing to purchase annuities for a large portion of the plan's retirees, such actions could result in having too large a portion of the remaining liability comprised of deferred benefits come time for plan termination, which is unattractive to insurers. Deferred benefits, complex plan provisions, poor data, and missing participants are not appealing to insurers so it is important to clean up and simplify wherever possible to ensure the plan sponsor can draw numerous competitive bids.

The first annuity buy-in occurred in the early 2010s and such transactions remain relatively rare, but are starting to become more common as a bridge step towards a buy-out as part of plan termination. In a buy-in, the sponsor continues paying benefits and administering the plan, but a contract is purchased with an insurer to reimburse the plan for all benefit payments made. Buy-ins that are later converted to buy-outs help manage basis risk (plan assets move differently than the lump sums paid / annuities purchased to settle liabilities), lump sum risk (the uncertainty of election results and changes in lump sum interest rates during the termination process), and insurer capacity risk (lack of competition due to capacity and including too many deferred lives) in advance of a plan termination.

Replacement retirement plan

Although the defined benefit pension plan may be gone, the sponsor likely still has other retirement programs in place. A sponsor's DC plan is often a remnant of a previous DB+DC, so the sponsor should consider what they would do differently if they were to design a DC-only program from the start. Should the employer manage the investment risk on the employer-paid portion of the benefit? Can messaging the plan differently help with recruiting, retention, and participation? Does the plan design alienate certain participant groups, such as recent college graduates, and what should be done to remedy that?

Participants have goals and desires for their retirement, such as longevity protection, even if they cannot articulate them. Peace of mind and simplicity of the retirement process are often top of mind, but there are not good tools widely available to help the lay person understand and smartly spend their retirement savings. Participants often trust their employer more than third-party advisors, so sponsors should consider how they can best help educate their participants to prepare them for retirement.

Skilled and knowledgeable participants are buying annuities in the marketplace, but the average person is not. These tools need to be made more accessible to everyone to help DC plans serve the societal role that DB plans did (providing lifetime income sources for those of retirement age). One simple but underutilized tool is the Qualifying Longevity Annuity Contract ("QLAC"), which is similar to reverse life insurance – if a participant lives to a certain age, they begin receiving the monthly annuity benefit. Purchasing QLACs fits well into a DC program and can help retirees and their beneficiaries by providing protection against longevity risk.

In summary, plan sponsors should consider what they can do to ensure their employees truly appreciate the retirement program and have successful retirement outcomes.

Session 204

Current Topics in Medicare Advantage and Part D

Speakers:

- Kevin Johnson, FCA, ASA, MAAA – Optum
- Dave Tuomala, FCA, FSA, MAAA – Optum
- Shyam Kolli, FSA, MAAA, CEBS – Milliman Inc.
- Dan Hoffman, FCA, FSA, MAAA – Optum
- Martin Hill, FSA, MAAA – PricewaterhouseCoopers LLP

Background

Speakers highlight current topics in Medicare Advantage and Part D using an interactive format including presentations, polling, and audience participation. Topics include Medicare Advantage, Part D, and employer sponsored Medicare plans.

Summary

Medicare Advantage (MA) continues its rapid enrollment growth for Medicare-eligible individuals and employer groups. MA plans have been delivering more and more attractive product offerings to enrollees including a multitude of benefits not covered by traditional Medicare Fee-For-Service such as dental, vision, OTC drugs and transportation. How has the Medicare population responded? There are more than 28 million individuals enrolled in a Medicare Advantage plan in 2022 which represents almost half the Medicare-eligible population (MA penetration rate of 48%). Enrollment in MA plans varies by geography, but the overall MA market continues to be highly concentrated with a broad range of product offerings.

Profitability among Medicare Advantage Organizations (MAOs) also varies considerably by entity. In 2021, half of MAOs nationwide reported underwriting gains and the other half reported underwriting losses. The distribution of profitable entities is skewed based on the size of the entity with 72% of MAOs with revenue exceeding \$1B reporting underwriting gains compared to 42% of MAOs with revenue below \$300M reporting underwriting gains. A historical analysis of financial statements among MAOs nationwide showed higher profits in 2020 largely due to the reduction in elective care during the onset of the COVID-19 pandemic and a rebound to reduced profits in 2021. Future financial performance will depend on the ability of MAOs optimize revenue, manage claims costs and minimize administrative expenses amid an uncertain landscape.

Medicare Part D reform has been proposed for years, but no major regulatory changes have occurred until recently. What is changing?

First, the CY 2023 CMS Final Rule requires pharmacy price concessions to be administered at the point of sale beginning in 2024. Pharmacy price concessions have become increasingly popular in recent years as Part D plans establish payment arrangements with specific pharmacies. In 2020, nationwide price concessions totaled \$9.5B which represents about 5% of all Part D drug spend. The emergence of these price concessions resulted in the negotiated prices exceeding the final payment to pharmacies. This has led to increased beneficiary cost-sharing since cost-sharing amounts have been calculated based on negotiated prices. In 2024, the administration of the price concessions at the point

of sale will ensure cost-sharing is based on the final payment to pharmacies. This will effectively reduce beneficiary cost-sharing particularly for those paying coinsurance.

Second, the Inflation Reduction Act was passed in August 2022 and there are many impactful provisions within the law. In 2023, drug companies are required to pay rebates if drug prices increase faster than inflation benchmarks, insulin copay limits of \$35 per monthly supply will be established, and vaccine copays will be eliminated. In 2024, the national average beneficiary premiums used to determine direct subsidy payments will be capped at 6%, beneficiary cost-sharing will be eliminated in the catastrophic phase, and low-income subsidies will be expanded. In 2025, the Part D benefit design will be overhauled resulting in the elimination of the coverage gap, lower member out-of-pocket (MOOP) to \$2,000 for faster progression to the catastrophic phase, and significant cost-shifting from Federal Reinsurance to Part D plan liability within the catastrophic phase. The Part D benefit redesign is not expected to change total program costs, but the intent is to better align incentives to influence stakeholder behaviors. In 2026, the Medicare program will be authorized to negotiate drug prices with manufacturers of 10 select single-source brand drugs. Price negotiations will be focused on qualifying drugs with the highest Part D spend and the number of drugs to be negotiated will increase in subsequent years. Several of these provisions will demand considerable planning for Part D stakeholders to be equipped for the changes ahead.

Employer-sponsored Medicare Plans face similar challenges brought on by the Inflation Reduction Act. Employers may offer prescription drug benefits through an Employer Group Waiver Plan (EGWP) or through drug plans receiving the Retiree Drug Subsidy (RDS). For EGWPs, employer cash costs may substantially increase due to the Part D benefit design changes occurring in 2025. Since drug companies must pay rebates if prices exceed inflation benchmarks and price negotiations will be authorized beginning in 2026, however, there will likely be downward pressure on future EGWP drug cost trend. Employers will need to understand the net impact before these provisions take effect due to reporting of Other Post-Employment Benefits (OPEB) amounts in financial statements. Employer plans receiving RDS are not considered Part D plans, but will need to continue to demonstrate actuarial equivalence with the standard Part D design to meet creditable coverage requirements and remain eligible for subsidies. These requirements will be harder to meet, especially when the major Part D benefit changes occur in 2025. The Inflation Reduction Act presents many opportunities and many challenges in the coming years.

Session 206

Identifying and Assessing Bias in Pension and Healthcare

Speakers:

- Justin Hornburg, FCA, FSA, MAAA – Justin Hornburg Consulting
- Tom Terry, FCA, MAAA, FSA, EA – The Terry Group
- Elizabeth Wiley, FCA, EA, FSA, MAAA - Cheiron
- Yi-Ling Lin, FCA, MAAA, FSA – The Terry Group

Session Assistant: Andy Blough, FCA, EA, FSA, MAAA – Indiana Public Retirement System

Evolution of the Bias Topics Requirement

The US Qualification Standards (USQS) are one aspect of actuarial professionalism in the United States. The Code of Professional Conduct requires adherence to the USQS and provides some definitions referenced in the USQS, such as “actuarial services.” Since 2008, the USQS have included both a basic education and a continuing education component. In the 2022 update to the USQS, the continuing education component was amended to require that at least one hour of the annual 30-hour requirement be on bias topics. As specified in §2.2.6(b) of the USQS, “bias topics include content that provides knowledge and perspective that assist in identifying and assessing biases that may exist in data, assumptions, algorithms, and models that impact Actuarial Services. Biases may include but are not limited to statistical, cognitive, and social biases.”

While certain types of bias education have always been present in the basic education requirements for actuaries, the new continuing education bias requirement reflects the increasing prevalence of big data, artificial intelligence, and societal expectations. There are different facets of bias, and this continuing education requirement will refresh and extend the basic education requirement. Actuarial Standards of Practice Nos. 3, 4, 23, 27, 35, and 44 also contain requirements around bias within various aspects of pension and healthcare actuarial services.

The requirement in the USQS forms a model for thinking about statistical, cognitive, social, and other biases in actuarial data, assumptions, algorithms, and models. As an aid to the actuary in considering bias in their work, they may use a chart demonstrating the intersection of those factors and consider if any biases are present in each combination: four biases vs. four aspects of actuarial services.

	Data	Assumptions	Algorithms	Models
Statistical Biases				
Cognitive Biases				
Social Biases				
Other Biases				

Types of Biases

The panel defined each of the types of bias identified in the USQS:

- Statistical bias leads to a systematic difference between the true parameters of a population and the statistics used to estimate those parameters.
- Cognitive bias occurs when people are processing and interpreting information in the world around them and affects the decisions and judgments that they make

- Social biases are unfair or incorrect assumptions and judgments about people.

Bias is not inherently an error. Some pension or healthcare plan designs are intentionally biased. For example, a pension plan may bias their benefits towards higher earners to offset the progressive benefits under Social Security. A healthcare plan with a higher deductible biases benefits towards those that can spend more than the deductible. An actuary should be aware of any bias inherent in their work and consider if that bias needs to be addressed. Not all biases may need to be corrected for or be material enough to justify the additional precision required to correct them. These considerations will take additional time, as biases often result from approximations, heuristics, or shortcuts. Professional judgment is thus frequently required in assessing bias.

Following this background information and definitions of specific types of bias named in the USQS, presenters discussed specific examples of these biases that may arise in both pension and healthcare actuarial practices. These are not intended to be an exhaustive list of all biases present in these areas, but rather a sample to demonstrate potential biases in each area.

What Biases Should We Be Aware of in Pension Actuarial Services?

Statistical bias in pension actuarial services may arise in the estimate for the expected return on assets compounding rate. Arithmetic and geometric asset returns may both be viewed as biased depending on the time period and the purpose of the measurement.

Within retirement services, defaults are a powerful example of cognitive bias. When plan participants have a choice but also a default option in some aspect of their retirement plan, many participants remain with the default option. When the default changes, the behavior also changes, demonstrating the effect of the bias.

An example of societal bias within pension actuarial services discussed in the session is in the assumptions used to convert pension annuities to lump sum payments. Although mortality tables frequently use sex as a predictor of future mortality, and although this factor can be used to create more actuarially accurate lump sum calculations, US courts have decided that this type of differentiation is unacceptable. The result is that the lump sums amounts are typically biased by sex, in opposite directions.

What Biases Should We Be Aware of in Healthcare Actuarial Services?

There may be statistical bias within the data set being used for healthcare actuarial services. The actuary typically must estimate future claims of the population being modeled. If part of that population is missing from the data set, this could bias the estimates of those claims. Similarly, using a set of claims data to estimate the prevalence of a disease or in a chronic disease management program may lead to biased result, as the data set was not intended for that purpose and may be incomplete.

Cognitive bias within healthcare actuarial services can be shown in hesitancy to change the structure of benefits. One speaker outlined an example where an ancillary benefit was going to be rolled into a larger health plan for administrative ease but otherwise left unchanged. The participants in the plan objected, as they feared this was a benefit reduction, even though it was the same benefit packaged differently.

There is a societal view that if healthcare costs such as copayments for office visits are set too low, participants in those plans will overutilize the benefits. However, this may not be true of all populations. Certain populations may be hesitant to utilize healthcare services for reasons unrelated to cost. In an effort to increase utilization, awareness of the population's barriers to utilization would reveal a potential bias in the cost-utilization hypothesis.

Session 207

Impact of ASOP 4 Changes on Public Plans

Speakers:

- Paul Angelo, FCA, FSA, MAAA – Segal
- Brent Banister, FCA, FSA, PhD – Cavanaugh Macdonald
- Bill Hallmark, FCA, ASA, EA, MAAA – Cheiron

Session Assistant:

Christine O’Neal, FCA, FSA, EA, MAAA – Deloitte Consulting LLP

Paul Angelo, Brent Banister and Bill Hallmark take the audience through a brief review of the ASOP 4, provided an overview of the noteworthy changes with regard to public plans and engaged in a spirited discussion of potential considerations and implications associated with considering and incorporating these changes.

ASOP 4 was last revised in December 2013. Then in July 2014, the Actuarial Standards Board (ASB) issued a Request for Comments on the topic of ASOPs and Public Pension Funding and Accounting. This led to the ASB establishing the Pension Task Force in December 2014 to review these comments. The Pension Task Force compiled a report and presented the report to the ASB in February 2016. In June 2016, the ASB directed the Pension Committee to draft changes to the ASOPs to implement the Pension Task Force’s suggestions. Subsequently there were three exposure drafts of ASOP 4 and in December 2021 the revised ASOP 4 was adopted effective for measurement dates and reports on or after February 15, 2023.

The changes with the greatest effect on public pension plans are:

1. Disclose a Reasonable Actuarially Determined Contribution (ADC)
2. Assess Implications of Contribution Allocation Procedure (CAP) or Funding Policy
3. Disclose a Low-Default-Risk Obligation Measure (LDRM)
4. Other changes: contribution lag, gain/loss analysis

An ADC is reasonable if: “reasonable assumption” rules are met (ASOPs 27 and 35), actuarial cost method is consistent with Section 3.13, amortization method is consistent with Section 3.14, asset valuation method is consistent with 3.15, any output smoothing method is consistent with Section 3.16 and the contribution allocation procedure is consistent with the plan accumulating assets adequate to make benefit payments when due.

In section 3.14, ASOP 4 provides new guidance on Unfunded Actuarial Accrued Liability (UAAL) amortization methods, both for each amortization base and for the total UAAL. For each base the method should either fully amortize the amortization base within a reasonable time period or reduce the outstanding balance by a reasonable amount each year. This effectively precludes rolling negative amortization. For the total UAAL the guidance is the same except that the UAAL only needs to be reduced by a reasonable amount within a sufficiently short period, rather than each year. The ASOP also outlines seven possible factors to consider in determining whether the full amortization periods or the amounts of base or UAAL reduction are reasonable.

Section 3.16 adds new guidance on output smoothing methods (OSM). An OSM is defined, and it is clarified that asset smoothing is not an OSM. The OSM guidance is similar to the ASOP 44

guidance on the relationship between the actuarial value of assets (AVA) and market value of assets (MVA), saying that an OSM value should not fall below a reasonable range around the ADC without the OSM, and that the difference between the OSM value and ADC value without the OSM should be recognized within a reasonable period of time. However, the AVA range requirement in ASOP 44 is symmetrical, while the OSM is only constrained if it is below the ADC without the OSM. Disclosing what the ADC is without the OSM is also required.

Section 3.19 covers implications of the CAP or funding policy. This section requires: a qualitative assessment of implications of the CAP or funding policy based on the plan's expected future contributions and funded status, to estimate how long before contributions determined by the CAP or funding policy are expected to exceed the normal cost plus interest on the UAAL if applicable, estimate when an UAAL is expected to be fully amortized and assess whether the CAP or funding policy is significantly inconsistent with the plan accumulating adequate assets to make benefit payments when due.

The speakers posed the question of whether the "or" in Section 3.19 implies that there is a choice actuaries can make between assessing the implications of the CAP or funding policy. Literal reading would imply a choice in which to evaluate, but the intent is probably that the evaluation basis should be determined by how the plan is actually funded.

The new LDRM disclosure requirement in Section 3.11 evolved through the three exposure drafts. The final ASOP allows use of any immediate gain actuarial cost method (initial versions required use of the present value of accrued benefit). The discount rate has a non-prescriptive list of examples including highly rated municipal bonds (like the GASB crossover rate).

If the LDRM uses the same actuarial cost method as used for funding, then the LDRM can be interpreted as what the ongoing funding liability is if the plan were to invest in low-default-risk fixed income securities (i.e., cashflow matching investments). Under this interpretation, the difference between the LDRM and the actuarial accrued liability (AAL) measures the reduction in taxpayer liability from investing in a diversified portfolio which has cashflow mismatch risk. The difference between the LDRM and AAL is then the "expected savings" associated with investing the assets in non-cash flow matching investments. That means this measure provides information more related to the cash flow mismatch risk than the risk of default

Additional complications and considerations exist for plans with Risk-Sharing Provisions. The speakers discuss several examples of risk-sharing provisions commonly found in public plans and debate differing options on how these risk-sharing provisions would be valued under the LDRM.

The new ASOP 4 requires the actuary to provide "commentary to help the intended user to understand the significance of the LDRM with respect to the funded status of the plan, plan contributions and the security of participant benefits."

Where do we present the LDRM disclosure? The most natural selection could be in the same section with the required ASOP 51 disclosures (or separate ASOP 51 report). The speakers also remind the audience that there could be a Precept 8 risk with these disclosures as proponents of Financial Economics will likely say that the LDRM shows the "true cost" of the pension promise by no longer taking advance credit for future investment risk.

Session 306

What Actuaries Should Know About Climate Change

Speakers:

- R. Dale Hall, FSA, CERA, MAAA, CFA – Society of Actuaries Research Institute
- Lisa Slotznick, FCAS, MAAA – Retired

Moderator:

- Margaret Tiller Sherwood, FCA, FCAS, FSA, MAAA, CPCU, ARM, ERMP, CERA – Tiller Consulting Group, Inc.

Session Assistant:

- Vaidehi Hoyer, FSA, FCAS, EA - Agilis

Overview

Climate-related risks arise when various direct and indirect climate-related impacts affect the physical resources or assets of individuals or entities. When climate impacts also interact with various socioeconomic systems, the result may disrupt the mechanisms traditionally used to maintain financial stability. To an actuary that means assumptions may change or may need further disclosure, especially with growing regulator focus and the focus on climate-related financial disclosures across many insurance and financial services industries. The panelists cover the Actuaries Climate Index (ACI); discuss the Actuaries Climate Risk Index (ACRI); highlight the evolution of actuarial research on these topics including six climate issue papers promulgated by the International Actuarial Association; and explain what actuaries from all disciplines need to know about climate change including disclosures proposed or considered by various regulators.

Summary

Lisa and Dale cover a broad range of topics – they first define some commonly used climate change terms and then discuss how climate impacts the actuarial profession. Throughout the session, they provide links to various material that the audience can further read to learn more about climate change and how it will impact the work we do in the near and long term.

At the beginning of the session, they define terms most used in climate change discussions – including Risks, time horizon, ESG, Greenhouse Gas emissions and net zero. A little context on each of these terms helps set the stage for how these impact an actuary's work.

Next, Lisa discusses how climate change impacts different areas of actuarial practice. For example, the Casualty practice is concerned with exposures in property losses from storms, wildfires, floods and sea level rise. Health practice is impacted when health claim, long term medical and disability claims are created from these extreme climate events. Life practice is impacted when changes in mortality trends are observed from extreme climate events; lastly, Pension practice is impacted when employment patterns to fund retirement changes.

Dale discusses two indices that the actuarial community has developed to measure climate change.

Actuaries Climate Index (ACI)

The ACI is jointly sponsored by the American Academy of Actuaries, Canadian Institute of Actuaries, Casualty Actuarial Society and Society of Actuaries. It tracks six climate variables across North America -- High temperatures, low temperatures, heavy rainfall, drought, wind speeds and sea level. The index also shows how extreme observations are compared to base time periods.

ACI is used as an independent and objective measure of climate change. It is a leading indicator of change, used to manage exposures, inform public policy and has also been used for academic research.

Actuaries Climate Risk Index (ACRI)

ACRI incorporates actual loss data and considers changes in exposure to loss but only contains data from the US. ACRI 1.0 showed that as of 2016, there were relatively small additional losses controlling for climate exposures which is consistent with other results. ACRI 2.0 will incorporate more complete and granular data including data from Canada and will also move to additional robust sources of data.

Next, Dale discusses climate-related financial disclosures and the availability of sustainability reports that are published by various entities (both corporate and regulators).

First, he discusses recommendations put out by the Task Force on Climate Related Financial Disclosures (TCFD Recommendations). These recommendations were released in 2017 and there has been large-scale adoption of them in Asia-Pacific and European markets, but not much activity in North America.

Over the last few years, more reports and white papers have been published on how financial services companies are implementing TCFD recommendations and how actuaries are getting involved in the process.

Financial disclosures specific to Actuaries' Principals reflect the current view of profitability and solvency. Some larger Principals also use ERM analyses to understand and measure risk to the entity by modeling the impact on future financial statements of various risks.

Outside of TCFD recommendations, many entities both in the corporate world and government agencies prepare resiliency and sustainability reports outside of financial reporting. Links to these reports are shared during the session. These reports vary in focus and depth; they are not regulated nor comparable. They share how an entity plans to continue operations if exposed to natural disaster. Some reports mention net zero goals and the entity's approach for getting there.

Lastly, speakers discuss that Regulators such as the National Association of Insurance Commissioners (NAIC), U.S. Securities and Exchange Commission (SEC), and Employee Benefits Security Administration (EBSA) are seeking to understand the impact of climate change on risk/solvency and profitability of entities in their scope through reporting with the goals of improving accountability and comparability. Links to these reports and surveys put out by various government agencies are shared during the session.

Session 307

Social Security Considerations for Public Pension Legal, Political and Practical Issues

Speakers:

- Audra Ferguson-Allen, Ice Miller
- Sandy Matheson
- Jeannine Raymond, National Association of State Retirement Administrators
- Elizabeth Wiley, FCA, FSA, MAAA, EA - Cheiron

Session Assistant:

- Amy Williams, FCA, ASA, MAAA - Gabriel, Roeder, Smith & Company

Background

In 1935, the Social Security Act (SSA) was enacted and excluded State and local government employees. In 1937, Social Security tax was first collected and all state and local government employees were excluded (there was a question of whether the federal government could tax a state). Section 218 of the SSA extended Social Security coverage to non-public safety government employees without retirement benefits (1950) and with retirement benefits (1954) through voluntary agreements. A referendum process was required to allow employees to vote for Social Security coverage if covered under a retirement plan. In order to avoid the referendum process, some states terminated the retirement plan for one day and then resumed the retirement plan coverage.

In 1983, Section 218 agreements could no longer be terminated (unless the governmental entity is dissolved). In 1990, the Omnibus Budget Reconciliation Act (OBRA) amended the SSA to require mandatory participation of public employers in Social Security whose employees were either 1) not already covered by Social Security through a Section 218 agreement or 2) not covered by a public retirement system that provides a minimum benefit that qualifies as a Social Security replacement plan.

The Social Security Independence and Program Improvements Act of 1994 extended voluntary Social Security coverage to public safety government employees with retirement benefits.

As of 2018, about 28% of government employees were not covered by Social Security. The uncovered percentage varies by state and ranges from less than 10% of uncovered employees to over 95% uncovered employees (in Massachusetts and Ohio, respectively). Social Security coverage also varies by employee type, with teachers and public safety employees more likely to not be covered by Social Security.

Section 218 Agreements

Positions not covered by a retirement system on the date the 218 agreement became applicable to the group are considered an absolute coverage group. A group that would have been excluded from Social Security except a majority of employees holding positions in the retirement system voted to have Social Security coverage through a referendum process is considered a retirement system coverage group. Once covered by a 218 agreement, the position will always be covered by Social Security.

Social Security Qualified Replacement Plan

In order to be considered a qualified replacement plan under Section 3121, a System 1) must provide retirement type benefits (requires a legal assessment) and 2) must provide a minimum level of benefits (requires a legal and actuarial assessment). Section 31.3121(b)(7)-2(e)(2)(i) requires retirement systems to provide benefits that are comparable to those provided under Social Security. There are

three methods provided in Revenue Procedure 91-40 for making this determination 1) Defined Benefit (DB) safe harbor, 2) if accrued benefits under the system are at least as great as those calculated under the safe harbor in section 3.01(l), or 3) Defined Contribution (DC) safe harbor key features.

The DB safe harbor key elements are: 1) a normal retirement age of 65 or less, 2) a minimum benefit multiplier based on final average salary, 3) compensation definition (if the plan definition is less inclusive, an adjustment to the safe harbor benefit multiplier is needed), 4) maximum service adjustments to the safe harbor benefit multiplier.

The DC safe harbor key elements are: 1) total minimum contribution of 7.5% of the employee's compensation, 2) compensation must include at least the employee's base pay, but can exclude pay in excess of the Social Security Taxable Wage Base (SSTWB), 3) the employee must immediately satisfy all conditions for receiving the minimum allocation, 4) special rules for part time, seasonal (must be vested at all times) and temporary employees. The 7.5% combined employee/employer minimum contribution is likely not high enough today to be considered equivalent to Social Security benefits.

Legal Considerations

There are legal considerations related to Social Security coverage and plan changes - changes to benefit formulas may trigger mandatory Social Security coverage (which may cost more than the savings from any benefit formula changes). There are also considerations related to mergers, Social Security coverage for different employee groups, governmental status, if a referendum is needed, and legislation requiring retroactive coverage.

There have been numerous bills over the years to try and address the Windfall Elimination Provision (WEP) and Government Pension Offset (GPO). The WEP affects workers who receive a retirement benefit related to noncovered employment as well as Social Security benefits from covered employment. The GPO affects the spousal benefit provided by Social Security to those receiving retirement benefits related to noncovered employment. Repealing the WEP and GPO would eliminate unfairness for some, but create unfairness for others, and would be very costly (it would accelerate by one year the date when the Social Security trust funds are expected to be exhausted). Therefore, it is expected to be difficult to come to a consensus on any changes.

Practical Considerations for Actuaries and a Case Study

There are practical considerations for actuaries related to stakeholder awareness of the benefits provided to employees not covered by Social Security. The public and the media may not understand that the benefits provided are a replacement plan (and while they may be considered generous and expensive, they may be less costly than the cost of providing Social Security benefits). Plan members may not understand they are entering a non-Social Security covered plan and may struggle at retirement with the realization that their Social Security benefits are affected and that they may have a lower income than they anticipated (and may have no inflation protection). Employers may lose track of the fact that they are not making Social Security contributions and focus on the cost of the replacement plan as too expensive. Politicians hear from retirees unhappy about the Windfall Elimination Provision (WEP) and Government Pension Offset (GPO). Actuaries can help plan administrators with benefit and cost comparisons and help with fact sheets to change public perception and provide factual, but reliable, information.

The State of Maine retirement plans do not participate in Social Security. Maine is the only state that has expressed ongoing interest in moving to Social Security and as a result, the legislature has requested plan design studies over the past 10 years. Members and retirees are unhappy with the WEP and GPO and that is the number one complaint that legislators receive related to retirement benefits provided by the State of Maine. There has also been interest in moving to Social Security because the plan has a large unfunded liability balance that will be paid off in 2028, freeing up money that could be used toward the cost of a plan that participates in Social Security.

Session 402

Advanced Topics in Accounting for Defined Benefit Retirement Plans

Speakers:

- Steve Eisenstein, FCA, FSA, EA, MAAA – KPMG LLP
- Phil Bonanno, FCA, FSA, EA, MAAA – Grant Thornton LLP
- Ellen Fogarty, FCA, EA – Deloitte Consulting LLP

Session Assistant:

- Andrew Etheridge, FCA, FSA, EA, MAAA – Grant Thornton LLP

Overview

The speakers addressed several accounting topics such as purchase accounting, implications of deferred freeze dates, subsequent events, settlement accounting, qualified plan termination, interim measurements and changes in accounting estimates. The speakers engaged audience members through the use of polling questions and general audience commentary.

Purchase Accounting/Fresh Start Accounting

Fresh start accounting refers to an entity's ability to present their assets, liabilities and equity as if they are a new entity following chapter 11 bankruptcy. This new reporting basis is described within ASC 852-10. While this basis is required after bankruptcy, it can also be applied with other business transactions such as acquisitions.

If a single-employer defined benefit pension plan is acquired, harmonization of the accounting policies and methods should be reviewed as the acquirer is not required to maintain the accounting policies and methods of the prior entity. Planned or expected plan amendments, plan terminations and curtailments are not considered part of the liability on the acquisition date.

Deferred Freeze Date

A deferred freeze date for a defined benefit pension plan refers to the situation where the plan is amended today specifying a full accrual freeze in the future. In a situation like this, curtailment accounting applies as of the amendment date. However, there are additional accounting considerations for deferred freeze dates such as actuarial gain/loss amortization periods. The amortization period is the average remaining service period of active employees expected to receive benefits under the plan. If all or almost all of a plan's participants are inactive, the remaining life expectancy of the inactive participants shall be used instead of average remaining service.

ASC 715 does not specify when a plan becomes all or almost all inactive, therefore judgment should be based on facts and circumstances of the plan. For example, participants that are no longer accruing benefits may be considered inactive. In this example, participants may still be employed by the company yet be considered inactive under the plan because they are no longer accruing future benefits. This type of accounting policy influences the actuarial gain/loss amortization period as there may be different periods between the deferred freeze plan amendment date and the specified freeze date. As noted through discussion with the audience, there may be multiple reasonable approaches to this situation and discussion with the company's auditors early in the decision making process would be recommended.

In general, if a defined benefit pension plan is amended to provide additional benefits, the company may have multiple options for amortizing the change in benefit obligation. These options include 1) assigning equal amounts to each future period of service of each active participant at the date of the amendment, 2) using a straight line amortization over average remaining service period of active employees or 3) using the period of time over which the employer expects the economic benefits from the plan change. In the situation where a plan has been amended with a future benefit accrual

freeze date, consideration should be given to the alternative where the amortization period is based on the period of time over which the employer expects the economic benefits from the plan change.

Subsequent Events

There are two (2) types of subsequent events described within ASC 855-10, recognized and unrecognized. Specifically, under a recognized subsequent event, an entity shall recognize in the financial statements the effects of all subsequent events that provide additional evidence about conditions that existed at the date of the balance sheet, including the estimates inherent in the process of preparing financial statements. This type of subsequent event commonly occurs during ASC 960 and ASC 965 financial statements when new mortality tables are released as those tables are based on historical experience. In addition, consideration should also be given to the timing of an experience study.

Under an unrecognized subsequent event, an entity shall not recognize subsequent events that provide evidence about conditions that did not exist at the date of the balance sheet but arose after the balance sheet date but before financial statements are issued or are available to be issued. An example of an unrecognized subsequent event could include the expected long-term rate of return on plan assets assumption based on information that is after the end of the plan year and before financial statements are issued for ASC 960 purposes.

For plans with lump sum forms of payment and that assume lump sums in the valuation, there are multiple approaches for the lump sum mortality assumption. One approach only considers the lump sum table in effect at the measurement date as any changes to the IRS prescribed lump sum mortality table are equivalent to a change in law. Another approach anticipates future lump sum mortality table changes. This treatment is similar to the cost-of-living adjustments to IRS limits. Whichever approach the entity applies, the same approach should be used consistently.

Settlement

A settlement occurs when a transaction 1) is an irrevocable action, 2) relieves the entity (or the plan) of primary responsibility for a pension or OPEB obligation and 3) eliminates significant risks related to the obligation and the assets used to effect the settlement. There are different views over whether the obligation being settled should be considered at the participant level or at the plan level. This distinction may become especially relevant for partial lump sums (for example, 50% lump sums due to IRC 436 benefit restrictions). Through audience polling and discussion, the plurality of the group would consider partial lump sums part of the cumulative settlements during the fiscal year.

Settlement accounting occurs when actual fiscal year lump sum payments and annuity purchase(s) exceed the sum of the service cost and interest cost over that same period. When settlement accounting is applied, there is an accelerated recognition of a portion of the AOCI unrecognized gain/loss through the P&L. ASC 715 describes the minimum recognition of settlement accounting and there is flexibility to recognize differently based on an accounting method such as applying settlement accounting even if the service cost plus interest cost threshold is not exceeded. The recognition of any settlement accounting should occur when the threshold is first exceeded and each period thereafter. In addition, some recognize settlements at the beginning of the period if the settlement threshold is expected to be exceeded during the period.

The timing and type of distribution needs to be considered. For example, if a lump sum window is effectively designed to span two (2) fiscal periods, only the actual payments during a given fiscal year are considered for any settlement accounting. As another example, if an annuity is purchased as a "buy-out" annuity, this is considered a settlement transaction. However, if the annuity purchase is a "buy-in" annuity, this is considered a plan investment and therefore not a settlement transaction.

With regard to the service cost plus interest cost threshold, there are two (2) views over trust payable administrative expenses. Under viewpoint one, service cost is the actuarial present value of benefits related to services rendered during the current reporting period and expenses should be excluded. Under viewpoint two, since ASC 715 does not address expenses, the historical practice

of including expenses in the service cost can be deemed permissible. Through audience polling and discussion, the proportion of the group supporting each viewpoint is evenly split.

Qualified Defined Benefit Plan Termination

The standard termination process for a qualified defined benefit plan can take 1-3 years (typically 18-24 months). When a company initiates the process, the auditors will request applicable plan termination documents. If plan benefits are not already frozen, they will be frozen on or before the stated date of plan termination which will trigger curtailment accounting. If plan benefits are enhanced to reduce anticipated plan surplus, a prior service cost may be generated and nondiscrimination testing of the plan amendment is highly recommended.

For valuation purposes, plan termination (liquidation) assumptions should be considered instead of ongoing plan assumptions when the termination is deemed to be probable. ASC 205-30-25 describes the conditions over when a liquidation is considered imminent.

When valuation assumptions are updated to reflect a plan termination, demographic assumptions (such as lump sum take rates, mortality rates and commencement dates) should be reviewed and possibly updated to reflect best estimates of the anticipated experience. For the economic assumptions, consideration should be given to anticipated prescribed lump sum interest rates as well as anticipated insurer interest rates for any annuities that are purchased. In addition, the expected return on assets should be revisited as a change to the plan asset mix will likely occur.

Interim Measurement

An entity may remeasure both plan assets and benefit obligations during the fiscal year when significant events occur. Examples of significant events include 1) plan amendments, 2) settlements, 3) curtailments, 4) special termination benefits and 5) business transactions. However, while substantial changes in economic conditions such as large discount rate increases and large asset declines can significantly change a plan's funded status, these would generally not represent significant changes under ASC 715-30. In addition, if plan sponsors voluntarily perform interim remeasurements, this may signal an accounting policy to be applied consistently going forward.

In addition, settlement activity may influence the timing of potential interim remeasurements. Specifically, if settlement accounting is highly probable, plan sponsors should consider settlement accounting prior to payments exceeding the service cost plus interest cost threshold specified within ASC 715-30. However, if the anticipated settlement activity does not occur and the plan sponsor has recognized a settlement cost, that amount cannot be reversed.

Basis of Estimate and Change in Accounting Method/Principle

When discussing changes with auditors, correct terminology should be used to avoid confusion. Often times changes are changes in the basis of estimate, not changes in accounting principle, method or correction of errors. Changes in the basis of estimate generally result in an improved or refined methodology/estimate as more/better data is now available. Once the improvement is made, it is difficult to switch back to the prior basis of estimate approach. Changes in the basis of estimate are recognized prospectively. However, changes in accounting method, principle and correction of errors are recognized retrospectively.

Examples of a change in basis of estimate include changing how the discount rate for annuity payments is developed, such as changing the yield curve, changing from a yield curve approach to a hypothetical bond portfolio approach, or changing to the granular/spot rate method.

Under ASC 250-10-45-12, an entity may change an accounting principle if the allowable alternative accounting principle is justified on the basis that the new approach is preferable. An example of changing to an alternative that is preferable would be changing the period for actuarial gain/loss amortization where the change accelerates the recognition of unrecognized amounts through the P&L. Ultimate determination is dependent upon facts and circumstances and the burden of justification rests with the entity. Changes to preferable methods may need to be applied retroactively and may introduce greater volatility on the financial statements.

Session 403

DC Plan Nondiscrimination Testing

Speakers:

- Jeremy P. Olszewski, FCA, FSA, EA, MAAA
- Donna Kropf, ASA, EA
- Dan Froehlich, ASA, MAAA
- Patrick Blanchard, JS, LLM

Session Assistant:

- Rebecca Bak, FCA, FSA, EA

Background

Nondiscrimination testing is a plan qualification requirement that ensures tax-advantaged benefits do not disproportionately favor highly compensated employees, demonstrating that a plan does not discriminate based on employee compensation. The testing results are verified through third-party plan audits, and the focus of this session is on testing for Defined Contribution Plans (DC Plans). The types of testing covered in the session include benefits testing, coverage testing, and various other testing (annual limits, cross testing, BRFs).

A highly compensated employee (HCE) is an employee who meets either of the following criteria: More than a 5% owner in the current or prior year, or prior year compensation is greater than the 414(g) limit in the prior year. Information about HCEs should be known before the year of testing.

Benefits Testing

Benefits testing specific to DC Plans is completed through the actual deferral percentage (ADP) and actual contribution percentage (ACP) tests. These tests focus on disaggregating the benefit components of the plan (pre-tax and ROTH deferrals, employer match and employee after-tax contributions) and are completed at the plan level. To calculate the ADP and ACP, census information is obtained, including anyone who is eligible to participate in the plan, and mandatorily disaggregating any union employees. The average deferral and contribution are calculated for each employee, based on the employee's limited compensation. Then, the average of rates for all HCEs and NHCEs in the plan are calculated, and the HCE average must be within a certain distance from the NHCE average. An example of this calculation was presented during the session.

The results of ADP/ACP tests may be altered with a variety of methods. The plan document defines the use of the current year method or prior year method to determine the NHCE percentage for the comparison, with some restrictions for switching between methods. Another way to alter the results of the ADP/ACP tests is shifting the passing margin from the ADP to the ACP. Shifting of passing margin is done in aggregate and does not need to be completed at the participant level.

If a plan fails benefit testing, there are a few ways plan sponsors can correct their results. The first option is to offer refunds to HCEs under the leveling method, refunding excess deferrals or contributions to lower the HCE average into the passing range. A second option is to fund qualified nonelective contributions (QNECs) to NHCEs to bring the NHCE average up to passing range. Examples of leveling and QNEC funding were presented during the session. Plan sponsors can avoid ADP/ACP testing if they implement a Safe Harbor Plan design.

Coverage Testing

Coverage testing is another requirement to ensure nondiscrimination in DC plans. Coverage testing compares the proportion of NHCEs and HCEs benefitting through the use of the Ratio Percentage Test or the Average Benefits Test. Plans that exclude classes of employees (for example, interns, hourly employees, etc.) are more likely to fail the coverage test, but similar to benefits testing, there are allowable methods to alter the results of the test.

The first step in the coverage testing is the ratio percentage test, comparing the NHCE benefitting percentage to the HCE benefitting percentage. If the ratio percentage is at least 70%, the plan passes coverage testing. If the ratio percentage is below 70%, the plan must also complete the Average Benefits Test. To pass the Average Benefits Test, the plan must satisfy the nondiscriminatory classification test, as well as the average benefit percentage test. Examples of these tests were presented during the session.

Controlled Groups and QSLOBs

If two employers are in the same controlled group, they must be treated as a single employer for testing purposes. Examples of types of controlled groups include parent-subsidiary or brother-sister. It is recommended that the controlled group be determined by ERISA or corporate counsel for the plan sponsor.

Employers may have large, complex organizational structures that make it difficult to pass when testing the controlled group as a whole. Employers can divide their business units into qualified separate lines of business (QSLOBs) for purposes of testing, and this can often lead to passing of nondiscrimination testing. It is encouraged to use the IRS Flowchart, which is published to establish the QSLOB business rules and ensures employers meet the requirements for testing, and to consult with ERISA counsel when determining whether a business unit can be deemed a QSLOB.

General Testing

If a plan sponsor incorporates a nonelective employer contribution (an employer contribution that is determined without regard to the employee deferrals) in the plan, then the amount of the contribution must be nondiscriminatory. This can be achieved by implementing a safe harbor plan design or passing a general test. The general test compares NHCEs and HCEs at or above each contribution level by calculating allocation percentages and associated rate groups.

Similar to the previous nondiscrimination tests, there are methods plan sponsors can take to alter the results of the general test. The general test can be completed using imputed permitted disparity, adjusting allocation rates based on Social Security benefits. The general test also allows for grouping, where employers can treat participants with similar allocation rates as having the same allocation. Cross testing is another method to alter the results of the general test, changing the basis of the test from contributions to benefits. Cross testing often improves results significantly, but cross testing has its own set of required gateway tests, covered in the session.

Benefits, Rights, and Features Testing (BRF)

Any benefit, right, or feature in a DC plan that is not available to all plan participants must be shown to be available to a nondiscriminatory group. Testing is completed for the group for which the BRF is currently available (coverage testing), and the BRF must be effectively available on a basis that doesn't substantially discriminate in favor of HCEs. BRFs can include optional forms of benefits, ancillary benefits, or other rights and features that provide more than insignificant value to participants.

Recent Legislation

The session concluded with some recent legislation regarding nondiscrimination testing covered under the SECURE Act. Testing relief was provided for closed defined benefit plans, which can be aggregated with DC plans for testing if they meet certain eligibility requirements. The SECURE Act also provided relief for DC plans, allowing them to be tested on a benefits basis without a gateway test if they provide make whole contributions to participants whose benefits were frozen in a DB plan and meet certain conditions. It is advised to consult ERISA counsel with any new legislation around nondiscrimination testing.

Session 407

COVID-19 Impacts on Demographic Assumptions

Speakers:

- Todd Kanaster, FCA, ASA, MAAA – S&P Global
- Adrienne Ostroff, FCA, FSA, EA, MAAA – Athena Actuarial Consulting
- Craig Chu, FCA, FSA, EA, MAAA – Cheiron
- Piotr Krekora, FCA, ASA, EA, MAAA – Gabriel, Roeder, Smith & Company
- Kevin Spanier, FCA, ASA, EA, MAAA – Buck

Session Assistant:

- Brett Hunter, ACA, ASA, EA, MAAA – Buck

Overview

The COVID-19 pandemic introduced significant deviations between actual and expected demographic experience from 2020-2021 and 2021-2022, but what does this mean for the future? Actuaries have a professional obligation to consider what effect, if any, the COVID-19 pandemic should have on the long-term future demographic assumptions that they set or propose to plan sponsors. This obligation comes with significant challenges:

- There are few, if any, similar events in modern history to draw from;
- There are conflicting views of public officials and experts;
- COVID-19 has not been evenly distributed across the US, across race, ethnicity, state, communities, or family units; and
- Data collection efforts to this point have been unreliable.

In the face of these challenges, actuaries must employ a systematic and rational approach when discussing the potential future effect of COVID-19. As part of this approach, actuaries can use professional resources, including reports from the Society of Actuaries (SOA), applicable Actuarial Standards of Practice (ASOPs), and more. One framework that actuaries can employ when discussing the potential future effect of COVID-19 is to consider:

- 1) What happened since the beginning of the pandemic,
- 2) What might happen in the future,
- 3) How interested parties could take action, and
- 4) What could lead to significant deviations from expectation and how would it affect the plan's future.

What has happened over the last two years?

In considering what happened since the beginning of the pandemic, actuaries are generally encouraged to view publicly available mortality data with additional skepticism. The SOA has a page on their website "SOA Research Institute Reports on COVID-19" that can be useful for users to evaluate/interpret mortality experience attributable to COVID-19. Perhaps the most reliable measure of the effect that COVID-19 had on actual mortality is "excess deaths," or the difference between total and expected deaths.

Outside of mortality, other types of demographic experience deviated significantly from expectation in light of the COVID-19 pandemic. The "Great Resignation" has shown record numbers of employees leaving their jobs. Salary increases have been affected. Regarding post-retiree medical benefits,

healthcare costs per person varied widely above and below expectation in 2020, and healthcare utilization was suppressed in Q2 2020. Care was forgone or delayed in the second half of 2020 with only a partial recoupment of delayed care in 2021, and COVID-related hospitalizations in 2020 and 2021 were unusually high.

As a case study, consider New York City Retirement Systems. Notably, New York City bore the brunt of the COVID-19 pandemic in March 2020 before public health guidance had settled. Pensioner and beneficiary deaths for the years-ending 6/30/2020 and 6/30/2021 were consistent with general population COVID-19 excess mortality in the 10-20% range. Active civilian (not police or fire personnel) line-of-duty deaths increased substantially from prior experience which coincided with the city enacting special line-of-duty death benefits for civilian employees presumed to have died from COVID-19. Civilian termination and uniformed (police and fire personnel) retirement saw noticeable upticks during the 2020-2021 pandemic years, though not necessarily as a result of the pandemic. On a preliminary basis, the uniformed retirement experience created the most notable demographic gains or losses (loss for the year-ended 6/30/2020 of 0.68% of the 6/30/2020 accrued liability and a loss for the year-ended 6/30/2021 of 0.62% of the 6/30/2021 accrued liability). Civilian termination and line-of-duty death experience generated small but immaterial gains and losses, respectively, while civilian pensioner mortality generated a measurable actuarial gain, though it was still smaller than other common sources of gains and losses. In summary, while New York City Retirement Systems' demographic experience was affected significantly by the pandemic, gains and losses due to COVID-19 may still be less significant than other items.

What might happen in the future?

The SOA's Retirement Plan Experience Committee (RPEC) is responsible for the ongoing reporting of mortality and other experience of pension benefits provided directly by employers with services provided by actuarial consulting firms. RPEC currently has three studies in different stages: mortality improvement, public sector mortality, and private sector mortality. In the development of past mortality tables and mortality improvement scales, RPEC has considered recent mortality experience as the best indicator of near-term future experience. This, however, is not the current belief: RPEC does not believe that 2020 is the best indicator of what will occur in the near-term future and will not be treating 2020 data with the same emphasis as past recent experience.

Another resource for actuaries to consider is the SOA's recently released report titled *COVID-19 and the Short-term Impact on Future U.S. Mortality, An Expert Opinion Survey*. The purpose of that report was to gather insights from experts on how COVID-19 might affect future U.S. general population mortality. Experts submitted their expectations of excess mortality for 2022, 2023, 2025, and 2030. Aggregating the opinions showed that the collective group projected excess mortality for each age group and each year considered. Projected excess mortality for each age group declined with the passage of time (e.g. projected excess deaths for 2023 were lower than for 2022, 2025 lower than 2023, 2030 lower than 2025). Actuaries on average projected fewer excess deaths than non-actuaries.

Regarding post-employee medical trends, near-term medical costs are expected to be elevated due to growing demand for health care services, utilization returning to normal, and excess demand from care postponed as a result of COVID-19. Long-term medical cost trends, as described in the SOA's *Long-Run Medical Cost Trends Update for 2022-2030+*, are expected to be dependent on economic factors as opposed to any disease incidence (including COVID). Long-term trend assumptions should also be informed by the new requirements of the Inflation Reduction Act of 2022.

How could you take action based on these hypotheticals?

Experience studies are prepared as a means for actuaries to set or propose assumptions to plan sponsors. Given the pandemic, however, any experience study incorporating 2020-2021 or 2021-2022 experience is likely to include results that are not necessarily indicative of future experience. As a result, actuaries may want to consider deferring significant changes in long-term assumptions until such time as all data sets in the study demonstrate post-pandemic (or new normal) experience. For smaller plans, actuaries may want to rely on larger studies of demographically similar groups to determine mortality and other assumptions.

Actuaries may also want to consider setting select and ultimate demographic assumptions that reflect short-term COVID effects in the select period and converge to post-pandemic long-term assumptions after the select period. Projections in the 2022 Social Security Annual Report used such an approach for the mortality assumption: mortality rates in 2020 through 2023 were adjusted to account for the effects of the pandemic, while rates for 2024 and after were unchanged from the prior report. The SSA assumed that increased deaths from the residual effect of living through the pandemic would be offset by decreased deaths that happened sooner.

Ultimately, actuaries have a professional obligation to adhere to the standards set forth in ASOP 35: Selection of Demographic Assumptions and are well-served by doing so. Importantly, in light of the COVID-19 pandemic, assumptions should “not give undue weight to experience that may not be relevant to future expectations.”

What are the reasons future scenarios could deviate significantly from our expectations and how does it affect the plan’s future?

To be certain, the long-term effects that the COVID-19 pandemic will have on demographic experience are not clearly known or universally agreed upon. While the end of the COVID-19 pandemic appears to be in sight, there is uncertainty regarding the effects of long-COVID as well as the effect of future mutations of the virus. General economic conditions in the wake of the pandemic remain extraordinary as well. Despite this uncertainty, actuaries are relied upon to consider what effect, if any, COVID-19 is likely to have on plan demographic experience. They can be well positioned to do so given their adherence to applicable Actuarial Standards of Practice, use of industry-wide research, and an ability to contextualize the pandemic with an eye towards long-term plan experience.

Session 408

Professionalism in a Diverse World

Speakers:

- Douglas Carey, FCA, FSA, MAAA, EA
- Renata deLeers, Member Belgian Institute of Actuaries (Retired)
- Dwayne Husbands, FSA, MAAA
- Cathy Lyn, FSA, FIA

Session Assistant: Geoff Bridges, FCA, FSA, EA – Segal

As an introduction to the topic, the audience was polled on why diversity is important in our profession. Top answer was: Incorporating diverse/unique perspectives. Other responses included attracting talent, facilitating actuarial thought leadership and innovation, improving productivity, better reflecting changing demographics and achieving better business results.

The speakers discussed many of these factors in detail. Inclusive teams and leadership can create environments where all people are likely to feel a sense of belonging. In these environments, employees are more engaged, leading to higher productivity and contributions.

Among employed millennials, a D&I workplace is a higher priority than for employed Gen. X'ers and Boomers.

Companies with diverse teams are more likely to improve market share, to capture new markets, and to have higher innovation revenues.

The more included employees feel, the more productive, energized and engaged they are at work.

Diversity, equity and inclusion are all equally important. Having one or two of the three but not all three will lead to issues such as reduced productivity, low morale, and limited innovation.

The audience was polled on how our profession can improve diversity: the most popular answer was to explore and create new pathways for people from underrepresented populations.

Other methods to improve diversity: reduce barriers to entry, redefine measures of actuarial potential and qualifications, improve marketing for the profession, focusing holistically on the actuarial pipeline, and promoting allyship and inclusion. There was further discussion on each of these items.

There was a discussion of programs that address barriers to entry and diversity, including programs sponsored by IABA (the International Association of Black Actuaries).

The session switched gears to a discussion of what DEI means for actuaries in Africa (excluding South Africa). This area has much lower GDP per capita than the US or Europe. Accordingly, actuaries earn much less, and as result the actuarial exams are much more of a barrier.

There are also many different ideas as to what DEI even means. Often, DEI is evaluated in terms of tribal diversity and tribal equity. Actuaries from developed countries can help them by financing students, helping universities, but not draining talent that is developed.

The audience was polled on whether the DEI movement is a global movement. The most popular answer is that DEI is becoming a global movement as the benefit of DEI programs becomes apparent.

The session moved a discussion of professionalism in a global context.

The discussion started with professionalism in a business context, then moved to the intersection of professionalism and DEI. DEI for global companies is an open question, as DEI means different things in different parts of the world.

International means cross border, but sometimes also cross state or province.

Diversity means introducing factors to make the family stronger without compromising quality, equity, competency, conscience and other goals.

Professionalism means living up to and improving actuaries' relevance, credibility and reputation.

Actuaries are fortunate to have professional associations together with Sections ready to embrace individual actuaries under the umbrella of the IAA.

In the Q&A, it was discussed that a lot of the focus of DEI has been on the talent pipeline, and we need to pay more attention on what to do to support people once they are "in the house".

Session 507

“What's My Line?”

Review of Recent Research on Public Sector Plans

Speakers:

- William (Flick) Forna, FSA, FCA, EA, MAAA – Pension Trustee Advisors
- Todd Tauzer, FSA, CERA, FCA, MAAA – Segal
- Dana Woolfrey, FSA, FCA, EA, MAAA – GRS Consulting

Moderator:

- Koren L. Holden, FCA, EA, MAAA – Colorado Public Employees' Retirement Association

Session Assistant:

- Jolene Roe – Deloitte Consulting

Overview

In this session, speakers along with participants reviewed and debated the finer points of recent research papers covering topics relevant to public plans, including funding, sustainability, and fiscal stress. Flick Forna provided a refresher on current practice and provided key points from, “Actuarial Funding Policies and Practices for Public Pension Plans”, Conference of Consulting Actuaries (CCA) Public Plans Community (PPC), October 2014. Todd Tauzer provided the key topics from “Enhancing Sustainability of Public Pensions”, NCPERS, January 2022. Lastly, Dana Woolfrey provided the key ideas from “Addressing and Avoiding Severe Fiscal Stress in Public Pension Plans”, Urban Institute, January 2022.

Actuarial Funding Policies and Practices for Public Pension Plans, Conference of Consulting Actuaries (CCA) Public Plans Community (PPC), October 2014

The CCA White Paper is based on funding policy discussions among the members of the CCA. The five main general funding policy objectives from the white paper include actuarially determined employer contribution (ADEC), intergenerational equity, contributions as a stable percentage of payroll, accountability and transparency, and governance issues. In summary, the future contributions plus current assets should be sufficient to fund all benefits for current members. In addition, there should be a reasonable allocation of funding to years of service and reasonable management of employer contribution volatility. These best practice funding objectives will allow one to understand if the plan sponsor can meet these funding requirements.

The white paper continues by summarizing funding policy elements, which helps with the funding volatility. The actuarial cost method should use entry age normal with an assumed rate of return. There are reasonable asset smoothing methods typically reflecting smoothing periods from 5 to 10 years, and the shorter the period, the less likely the need for a corridor. Additionally, the amortization period should be layered with fixed periods, generally ranging from 15 to 20 years, to help avoid negative amortization. Depending on parameters, a level percentage of payroll for amortization also can be considered reasonable.

When a plan sponsor does not have effective funding patterns, there are negative consequences. Ineffective funding will fail to meet the five main funding objectives noted earlier. The funding ratio could become stagnant or declining leaving the plan exposed to the next financial downturn and growing demographic headwinds. Smoothing helps during downturns, especially, what we've just seen in the

economy. Additional consequences may result due to negative amortization, increased costs that compound significantly over time, and excessive contribution volatility.

Enhancing Sustainability of Public Pensions, NCPERS, January 2022

This paper examines and promotes the use of the “sustainability valuation” approach to monitor pension plan fiscal conditions. The paper indicates, “The more sustainable pension plans are, the better funded they are.” The five key ideas from the paper include establishing context for pension liabilities, selecting a measure for economic capacity, defining a fiscal sustainability metric, evaluating states’ funded ratio and costs relative to the metric, and considering future action, including Stabilization Funds. In summary the paper indicates sustainability should be measured by comparing the UAAL to a 30-year measure of economic capacity. The author believes the best economic capacity measure is Personal Income (PI). The sustainability metric is then defined as the historical average ratio of UAAL to 30 years of PI. The paper looks at the sustainability metric for all 50 states and provides a number of graphics. In short, the better the sustainability metric, the better overall funded is the plan/system. The paper rebukes “the sky is falling” declaration, more so promoting an outlook of “if proven sustainable, all is fine”.

Addressing and Avoiding Severe Fiscal Stress in Public Pension Plans, Urban Institute, January 2022

This paper provides recommendations to help policymakers address pension funding issues and avoid worst-case scenarios. The four key ideas from the paper include rising pension costs and “pension crowd-out,” standardized risk zone analysis, options for plans in severe financial distress, and options to avoid severe financial distress. The paper explains that state and local pension contributions more than doubled over the last 20 years and that one should consider the ability to contribute by comparing Unfunded Liability to State GDP. The paper provides a rating system to help stakeholders better understand the financial risks their plans face called “standardized risk analysis.” The standardized risk analysis considers the funded ratio, the adequacy of annual contributions, and the demographics of the plan. The paper discusses the policy options and mechanisms available to governments whose plans face a solvency crisis, which include spending reductions, revenue increases, benefit reductions, bankruptcy and debt priority, and fiscal oversight board. Lastly, the paper outlines policy options that can help plans avoid severe financial distress including adopting: best practice funding policies, segregation and funding of existing unfunded liability, required statutory payments, investment policy adjustments, stress testing, risk sharing mechanisms, independent oversight board, debt prioritization, reduced legal authority over future accruals, and ERISA-like regulations.

This session closed with a number of polling questions where the speakers and participants debated their thoughts and opinions regarding the key elements of the papers presented.

Session 604

Virtual Care in a Virtual World

Speakers:

- Stephanie Calandro, FSA, MAAA – Willis Towers Watson
- Anne Crumlish, FSA, MAAA – Aetna
- Deb Friesen, MD, MBA, FACP – Kaiser Permanente
- Courtney Stubblefield, ASA, MAAA – Willis Towers Watson

Coollest thing in 2022:

Anne – Her daughter has had virtual orthodontic, psychoeducation, vertical integrated practice. At age 10, she has engaged in more meaningful ways than she has in person meetings.

Deb – Research being done in phones in being able to detect changes in their tone, typing, etc. to identify depression.

Courtney – Innovations in healthy maternity visits, connecting a virtual PCP with in-home care, and in-patient remote patient monitoring.

What is virtual care?

The presentation summarizes several aspects of virtual care vs. remote care. Virtual care is a means of bringing in all aspects of care in a unified fashion to make the patient the center. It is a change from how we do things today. It is a transformative way of doing what we are doing today that becomes the glue for how care is provided with the patient in the center. There is such a risk that virtual care becomes just another modality. It really needs to become the connectivity that makes all care more effective.

What are the key things we need to stop and get right at this time?

The virtual offerings take different shapes today. Some are very immediate need, while some are virtual PCP, perhaps the first line of PCP. Some of the questions that we need to explore:

- What are the referral patterns?
- Are the referrals happening correctly?
- What do the referral patterns mean for the quality of care?
- Do all providers have access to the same information?
- What if they disagree?
- How effective is the technology to enable virtual care?
- What does the payment for virtual care look like going forward?
- Can they make the investments needed to invest in virtual care?
- Does virtual care help equalize care or exacerbate health equity issues because of the requirement for technology?
- Who is actually using virtual care?

Health Equity

Access to virtual care probably should improve health equity because the patient doesn't have to incur the cost of travel and babysitter to be able to get in their 15 minute visit.

Virtual visits can occur on a break.

No one cares how much you know until they know how much you care. We need to develop trusted relationships. Trust is facilitated when information transitions from the in-person visit to the virtual world. The data systems and interoperability hasn't yet taken off, but it needs to get there in the future.

All of this should enable better, more meaningful care, and support people with their health. That gut reaction is that if it is virtual, it should be cheaper. The value you bring in a Teams meeting isn't meaningfully different. It is different, but you have more time for meaningful conversation. Should it really be cheaper, or is there greater value?

Currently 13% of visits (IP and OP) are virtual. Some are saying that virtual saves money, but WTW says it isn't tried and true, and we need more time and analysis to be able to determine if that is correct. The average number of interactions with virtual is 40 to 50, but they are being managed more efficiently and staying out of other modalities (in theory.)

The virtual capability does allow more and better triage to other modalities. It allows for more touchpoints with a broader range of care providers to get the right care that is needed at that time. The unit cost didn't change, but the number of visits has increased. The services per visit has come down. Depending on the situation, it may be a good or bad thing. What isn't getting done that should be getting done?

At Kaiser, they get paid the same to manage their panel regardless, but the virtual model allows them to manage patients without sweating the elements. When they got 15 inches of snow, they were able to call their patients and didn't need someone to check them in, etc.

It allows physicians to be able to work to the scope of practice.

The provider sustainability – all providers are missing their patients when they are not able to see them. There is a cost when they can't see their patients in person. Physicians go into medicine because they want a relationship with their patients. The transition into virtual is hard on the physician.

What is the impact on prescription drugs?

Aetna has not seen an increase in drug utilization behavior. Their main observation is the improved relationship with patients, so they get to know their patients, which allows them to better get to understand what they really need from a prescription drug perspective. There are standards by which we all practice, and there are certain things that require, for example, a throat swab and culture, so they do need to come in.

What is needed to enable people to be at home and still be able to support diagnosis?

WTW is analyzing the prescription drug impact. The concern is a bit less, in that they haven't seen any precipitous spike in prescription drug utilization. The bigger concern is the double dipping to have the virtual visit and then they still need med management in a clinic setting. There seems to be a hesitation to prescribe virtually. There seems to be a move back to in-person now that the pandemic is over.

How do we steer people back to virtual when it is appropriate?

Some physicians feel like virtual provides the reach they haven't been able to achieve through in person – people in remote locations, with disabilities, with tight schedules, etc. There are other challenges as well, 26% of adults don't have a desktop, 25% don't feel confident that they can access virtual care, 44% of low income people and 37% of rural don't have broadband.

The virtual visits have a care team, so many of the care touchpoints are not done by a physician, but the charge when you see a physician is the same. There are two models – FFS – when you see the physician, it is a higher fee and the care team is embedded in the fee. Ultimately, most of the payment models are moving to capitated. The follow-ups are not charged even in a FFS. In capitated, there will be a list of services that are covered under the PMPM fee. There may also be a FFS with a low monthly fee to be part of that panel that covers all the other touchpoints. Payment models are not always down to the provider level. The platform may be paying a FFS to the provider. The embedded platform will likely happen in the small group market first.

How do the employers integrate into plan design, increase literacy around virtual care, etc. It will take time to migrate? How has the stress on the providers due to increased demand been managed?

They are not immune to the impact of the pandemic. It has been rough and burnout has increased. It went from 43% to 46% even after the pandemic that they are experiencing at least one aspect of burnout. There is one provider that gets yelled at least once per week from a patient that is frustrated with the care system. Some providers really like virtual, because it provides more flexibility. There are generational difference in what physicians are willing to do. For mental health, virtual has increased what they can do to meet demand.

Where is at home diagnostics going?

At home care is accelerating. We can provide at home care as a significant replacement for in-patient care through appropriate remote monitoring and devices. We will see increased focus in this year as FDA approves more of these devices. Home health pairs well with the virtual care. At home care also can help address health disparities. Many of the platforms includes a package to go to the patient to support the at home care. This is a fundamental part of the system.

There has been some analysis of the cost difference for virtual, but it will likely more impact the rate at which FFS goes up. The cost is offset through other supports that need to be in place to support the virtual visit. It isn't actually conclusive that there is a reduction in cost when provided virtually.

How many patients can a physician see in a day virtually vs. in-person?

Most telephone advice is 10 minutes with double in person. People bring a list to in-person because they don't see a doctor very often, but they generally don't bring a list to a virtual visit.

What questions should employers be asking?

Best practices are still formulating around virtual care.

- What is the underlying network?
- What does the supporting technology look like?
- What is the range of care included?
- What is the payment model?
- What guarantees are there for engagement?

- How are they measuring quality and outcomes?

When Aetna is looking, they are looking to build. They are looking at the messaging that they receive from their providers vs. the plan to help ensure there is one voice. They want to place themselves in the patient's mind. The percentage of people that actually engage after outreach from the health plan is typically very low, so as they were starting the process of starting to build a virtual platform. They have three choices: 1) the virtual is absolutely the right thing to do and you should expect a call from the health plan. 2) the follow-up still happens by the physician and then Aetna expects one voice, but it only works if the physician says you can expect a follow-up call from Aetna 3) the virtual provider panel believes the follow-up and management from the health plan is misguided, in which case they need to actively partner with the health plan to redesign the UM/CM to ensure full alignment between virtual care team and health plan services.

The payment system needs to be addressed, because specialists make much more than PCPs. To help people make changes, we need to understand their motivations. To understand their motivations takes time.

Session 607

Pre-Funding Government OPEB Plans

Speakers:

- Michael J. de Leon, FCA, ASA, EA, MAAA – Deloitte Consulting LLP
- Maureen Toal, MPA – Public Agency Retirement Services
- Linda L. Bournival, FCA, FSA, EA, MAAA – KMS Actuaries

Session Assistant:

- Joe Kropiewnicki, FSA, EA, MAAA, CERA – Deloitte Consulting LLP

OPEB Plan funding can be the elephant in the room for governmental entities - while pension funding (and underfunding) is well-publicized, OPEB funding is often a topic that plan sponsors don't want to discuss. The arguments for why to fund an OPEB plan are similar as for pensions – creating intergenerational equity, reducing total cost by using investments to pay for benefits, providing benefit security, and creating more control over cost patterns. However, OPEB plans are generally not funded, or are just beginning to become funded. While there are many reasons this could be the case, some potential reasons outlined in the session are that OPEB plans can be a “soft” liability that could be reduced or eliminated (jurisdiction-dependent), funding gives the perception that the benefit is “guaranteed,” potential future Medicare-for-all would invalidate the need for OPEB plans, and entities feel the need to address pension funding challenges first before moving on to OPEB.

Funding, Trusts, and Investments

First, OPEB funding, trusts, and investments were discussed. Various statistics were shared that demonstrate the very-low funded status of OPEB plans across the country. The overall funding ratio is around 5% nationwide (including states, cities, counties, and school districts). State and local governments have \$1.2 trillion of unfunded OPEB liabilities. Of the 48 states that report OPEB liabilities in 2016, 19 had not put aside any funds, ten (10) had a funded ratio under 10%, 11 had a funded ratio between 10% and 29%, and only eight (8) had a funded ratio of 30% or more. OPEB funding varies geographically, with California and the Mid-Atlantic generally having the highest OPEB liabilities, as well as the highest funded percentages. Meanwhile, the southeast, south, mountain states, and some Midwest and northwest states have smaller OPEB liabilities (and some states only have liability for the implicit subsidy), and these states have made less progress towards funding.

Many smaller entities (e.g., counties, school districts) have joined together with other regions/associations in multiple employer trust and investment pools, gaining economies of scale on administration and fees. There are some examples of state-sponsored trusts where state governments or retirement systems sponsor a multiple employer trust, usually for the state's funding of OPEB liabilities but sometimes for local governments. One example is Rhode Island; in 2015 there were 13 OPEB plans in the state who were funding and 34 who were not funding. The state set up a multiple employer trust, and 38 plans are now funding as of 2022 (three (3) of the original 13 moved over from a single employer trust to join the multiple employer trust, and 25 new plans began funding in the multiple employer trust). In some cases, the participating entities in multiple employer trusts can select their desired asset allocation strategy along an efficient frontier, ranging from “conservative” to “capital appreciation”.

Additional considerations for OPEB trusts were discussed: there is a need for an executed written trust agreement, the trust must comply with GASB, IRS, and state/federal rules and laws, assets must be

held separately from other funds, the trust is irrevocable, free from creditors, and for the exclusive benefit of employees, retirees, and beneficiaries, and funds can revert back to the employer only when no beneficiaries in the plan remain.

OPEB Funding Strategies

Next, OPEB funding strategies were discussed. There are various benefits to establishing a formal OPEB funding strategy, including using funds to pay for rising medical costs, formally stating when the funds will be withdrawn, building assets to reduce unfunded OPEB liabilities, appearing more favorable to ratings agencies, and being able to reduce GASB 74/75 Total OPEB Liability further through a blended discount rate (discussed more in the next section).

If an OPEB plan is not pre-funded, the entity pays annual benefits from the general fund and does not build assets in a trust (referred to as “pay-as-you-go,” or “PAYGO”). For entities that have begun prefunding, there are various OPEB funding strategies that are in use, ranging from “PAYGO-plus,” where the entity continues to make PAYGO payments from the general fund but puts a little extra in the trust, to contributing a flat amount or a flat percentage each year, to contributing an Actuarially Determined Contribution (ADC) which is the Normal Cost plus an amortization of the Unfunded Actuarial Accrued Liability over a closed or open period. In other cases, an entity may have a “dedicated revenue source,” such as a tax, prior settlement, employee contributions, or annual budget surplus. There are also examples of entities that have arrangements to fund the OPEB once the pension achieves full funding, and even issuing OPEB Obligation Bonds to fund their programs (though these are rare).

To summarize, there are a wide variety of OPEB funding designs, and while funding something is better than funding nothing, entities that commit to funding the full ADC are generally in a strong funding position. This is demonstrated through a case study from the University of Maine System which began prefunding the full ADC (30-year closed) in 2008 and, as of FY2021, enjoyed a funded status of 111% and received positive commentary from ratings agencies due to its commitment to OPEB funding.

Discount Rate

Finally, discount rate considerations are discussed as they pertain to OPEB pre-funding. Under GASB 74/75, OPEB plans follow a similar “crossover test” as pensions where OPEB assets (FNP) and benefit payments for current members are projected to see if the assets will be sufficient to pay benefits for each future period. Projected future contributions should not include the portion “intended to finance the service cost of future employees.” In cases where OPEB contribution amounts are established by statute, contract, or a formal, written policy, an actuary should use professional judgement and consider contributions over the most recent five-year period. In the absence of a formal policy, a straight five-year average is recommended. For periods in which projected assets exceed projected benefit payments, the expected long-term rate of return on assets should be used to discount payments, and for periods in which assets are insufficient to meet projected benefit payments, a municipal bond rate should be used (a yield or index rate for 20-year, tax-exempt general obligation municipal bonds with an average rating of AA/Aa or higher, e.g., the Bond-Buyer 20-Bond General Obligation Index). A case study for Pennsylvania in 2021 was walked through. Assets are projected to exceed benefit payments until 2047; therefore the expected long-term rate of return of 6.75% is used from 2021-2047, and the municipal bond rate of 2.16% is used for 2048 and beyond. This results in a blended discount rate of 3.63%, and illustrates one of the benefits of pre-funding as the Plan’s Total OPEB Liability is significantly lower at a discount rate of 3.63% compared to 2.16% (which is what the discount rate would be if the plan were unfunded).

Session 704

Succeeding In the New Healthcare Economy Through Advanced Analytics

From An Employer and Health System Perspective

Speakers:

- Linh Ebbers, ASA, MAAA – WTW
- Aaron Brunson, FCA, ASA, MAAA – WTW
- Scott Rabin – Mercer
- Kari Johnson, MHA – Providence

Session Assistant:

- Nick Pearce, FCA, ASA, MAAA - McGriff

Increasingly, consulting actuaries are asked about providing their clients with services outside of the traditional pricing and reserving activities that are performed for a company's healthcare financial projections. Our speakers aim to offer up some real-world examples where a client might be on their analytics journey and the types of things that are being asked for from their actuary to provide. The speakers engage the audience through a live discussion and thought-provoking questions to generate meaningful idea sharing amongst the panel.

Some of the main items driving clients' needs are questions surrounding the competitiveness of their benefits, what is driving costs and whether the programs that have been implemented are having the desired impact. Analytics has changed over the years and can mean different things to different people, ranging from refining benchmarks to be more meaningful and targeted to looking at newer inputs such as social determinants of health and provider access. In consulting, the most important consideration is having a good understanding of the needs of your client and customizing your analysis to fit those needs. For instance, your client may not only be interested in data for multiple industries but also specific geographic locations. From an employer's perspective, the data provided is only great if it fits the context needed in that moment, and oftentimes varies based on the current focus of the client. When speaking to different people at the same client, helping to write the narrative so that it resonates with who your audience is.

It's important to note that the measurement part is easy, the difficulty is in deciding what to measure and what you do with it. With modern systems being able to take advantage of emerging technologies for machine learning and AI, you'll begin to see new connections in your data. An actuary is a great resource to help analyze different ways to use the data that you already have access to for different purposes. New questions may look like – What sort of healthcare access does your client have in their markets? What social determinants of health are affecting your workforce, and What does health equity look like in your market? What do the available providers look like from both a cost and quality standpoint? Right now, with 2020 and 2021 information being out of trend for many clients, you may be asked to show results compared to pre- and post-COVID information.

For larger employer clients interested in direct contracting and health system clients, there might be interest in understanding network adequacy from a geo-access and capacity standpoint. Consultants may also be asked to review the network from a cost efficiency and quality perspective to make recommendations on network and plan design.

There is a lot of skepticism of the understanding of population health. It's not to say that most of the population health industry is trying to "trick us", but rather that they have a hard time getting enough credible data and get an honest assessment. What we can be sure of is that it's better to have a more collaborative environment with the point solution vendors, and those that are transparent are better partners to work with. There is a range of client attitudes to these types of solutions. We have seen the pendulum swing from all-in with carrier data vs lots of point solutions and back again. But, by having all your disparate data sources aligned in a data warehouse, clients can work with their actuary to look at specific information. Furthermore, this is an area where predictive analytics can be of use. Using matched cohorts is a common approach used to analyze the potential impact of vendor solution. Traditionally, matching cohorts is a time consuming and prolonged exercise that now can be done more efficiently through the use of AI and predictive analytics.

When drilling into these more detailed questions, credibility of the size of the dataset can be a concern but newer models help mitigate some of that by drawing from other sources that previously would not have been available, such as the payer transparency dataset. Alternatively, one can consider the same information over multiple years for your client to mitigate some of those credibility concerns. When we think about credibility and variability of data, what we aren't doing enough is going beyond a point estimate and trying to gain an understanding of the variability within the population such as looking at the 25th, 50th, 75th percentile. The role of the actuary will be less so crunching numbers, but instead relying on the new technology to help save our time and being able to present the data in a more meaningful data. There is valuable commentary in the interpretation of the range.

How can we use these tools to take this type of consulting and analysis down market? You can now be smarter for the mid-market client than in the past. As the actuary, you are relied upon to be the expert in the room, interpreting what is driving the differences that may show up in the analysis. For financial forecasting – it starts with different components that impact the performance of a contract. Being able to quickly run simulations to understand the likelihood of losses to put together a story around what type of risks they are looking at and what types of strategies they would like to work with.

A case study on the cost and incidence of COVID-19 is presented as an example of how one may use information stored within your claims data to answer additional questions for your client. One such question could be, does it make financial sense to provide an incentive to my employees to get vaccinated for COVID-19? An experience study helped point out a significant difference in COVID-19 cost and incidence rate amongst employees who were vaccinated vs those that were not. Doing these types of analyses can assist a client in selecting a strategy based on actual information about their population. In addition to vaccination, one of the big questions that clients will need help interpreting is the impact of COVID-19 on the claims and utilization patterns of the modern healthcare shopper. As claims for catastrophic COVID patients subside, there will still be a need to analyze the ancillary impacts of the pandemic and how those changes will affect projections and population health for employers.

Our discussion ends with a recap of some of the key takeaways:

- Know your client
- Who is your audience, and how does their perspective differ from someone in a different role?
- What do you see as the future of the actuarial profession in healthcare consulting with the improvement of technology and AI?