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The Orthodox Church in America Pension Plan

Executive Summary of the Actuarial Audit

Produced by Cheiron

June 2022

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June 27, 2022

Metropolitan Council of the
Orthodox Church in America
PO Box 675
Syosset, NY 11791-0675

Re: ***The Orthodox Church in America Pension Plan***
Executive Summary of the Actuarial Audit

Dear Members of the Metropolitan Council:

As requested, Cheiron has performed an independent actuarial audit of The Orthodox Church in America Pension Plan (the Plan). This entailed the review of Milliman's most recent actuarial valuation report as of January 1, 2021 and their October 2015 assumption change report.

The purpose of this report is to present an executive summary of our actuarial audit results. What follows are our primary findings and recommendations. The remaining sections of the report are organized as follows:

Section I The Plan's Historical Trends
Section II The Plan's Projected Funded Status

Our primary findings and recommendations are as follows:

1. **The Plan has a significant deficit, only having enough assets to cover about 50% of pension benefits accrued as of January 1, 2021. Furthermore, over the last decade, actual contributions were less than the required amount needed to make sure there is enough assets to pay retirees in the future. This gap has grown significantly – in 2021 the required contribution rate was 26.8% of payroll but the actual contribution rate was only 16%.**

   Without corrective action, this deficit is projected to grow.

   Milliman's valuation report under the Risk Assessment section does not include analysis of this projected deficit and the "Contribution Risk". Furthermore, the "Investment Risk" does not address the exposure the Plan faces due to its negative net cash flow.

   We recommend additional analysis be provided to the stakeholders to ensure that they understand the potential risks facing this Plan.

   In Cheiron's professional judgement, Milliman's actuarial valuation report needs to clearly communicate the stakeholders' risks to the Plan under the Risk Assessment section. To accomplish this, we recommend the following:

- ***Provide historical graphs illustrating the decline in the funded status, the negative net cash flows and the demographic data including the support ratio to enable improved understanding of the Plan's prior trends.***
  - ***See Section I – The Plan's Historical Trends***
- ***Provide projection charts or graphs of assets, liabilities, funding ratios, and contribution requirements under different economic scenarios. This would enable stakeholders to see whether their goals will be achieved.***
  - ***See Section II – The Plan's Projected Funded Status***
- ***Model a variety of potential changes for the projections to empower the stakeholders to improve the funded status of the Plan in the future. These changes might include:***
  - ***Contribution increases,***
  - ***Cost sharing of administrative expenses,***
  - ***Reducing future benefit accruals for current and/or future hires, and***
  - ***Changing the Funding Policy to achieve concrete funding ratio goals over a specific period of time.***
- ***Move the Risk Assessment section of the report to the front to highlight the issues.***

2. **Milliman's report provides two funded status ratios. This may be confusing to stakeholders and should be clarified.**
   - **Milliman's valuation report shows a funded status of 76% as of January 1, 2021. This does not mean the plan is 76% funded based on liabilities and resources available on January 1, 2021. Rather it's a prospective measurement that is dependent on future experience, including all contributions, benefit accruals and administrative expenses expected to be paid in the future. A percentage less than 100% indicates that current contributions are insufficient to pay all Plan benefits.**
   - **In contrast, Milliman's valuation report also shows a funded status of 48.8% which is a true measurement as of January 1, 2021 and only takes into account assets and liabilities on that date. It is not dependent on the future experience noted above. This funded status shows that benefits currently accrued by participants are about 50% funded. In fact, even before considering new retirees in the future, the Plan does not have enough money to pay current retirees their promised monthly annuity over their expected lifetime.**

   Cheiron recommends Milliman provide additional descriptions of the two funded status outlined in their report to promote a clear understanding for the stakeholders.

3. **Milliman's assumption change report did not include review of the valuation interest rate (primary economic assumption) or expense load assumption. Also, their report did not include data supporting Milliman's recommended assumptions.**

   Cheiron recommends the interest rate be reviewed annually, reflecting:

   - ***Stakeholder's tolerance for risk;***
   - ***Industry trends;***
   - ***Historical Plan returns;***

- ***Plan maturity; and***
- ***Expectations for future returns.***

Milliman assumed future administrative expenses would equal 1.5% of payroll, which is equivalent to about $277,000 for 2021. However, over the last 10 years administrative expenses were higher, and recently averaged about 2.0% of payroll.

Unless future experience is expected to be different from recent experience, we recommend the administrative expense assumption be increased 0.5% from 1.5% to 2.0% of payroll. As a result, the required contribution rate would increase 0.5% from 26.8% to 27.3% as of January 1, 2021.

Cheiron recommends Milliman's experience study report include graphs, actual vs. expected experience, and discussion of credibility, as this will enhance the analysis and stakeholder understanding.

Additional Findings

In completing the audit for the Plan, Cheiron reviewed the demographic data and actuarial liabilities produced by Milliman for the January 1, 2021 actuarial valuation. Based on this review, the liabilities associated with the Plan are being determined reasonably based on the Plan provisions and the actuarial assumptions.

Supplemental Information

The separate, enclosed presentation serves to supplement this executive summary report and includes information on our scope of services and audit process, additional findings and supporting analysis.

Reliance

In preparing this report, we relied on information supplied by The Orthodox Church in America, The Orthodox Church in America Pension Plan and Milliman. This information includes, but is not limited to, actuarial valuation reports, assumption change report, Plan provisions, participant data, and financial information. We performed an informal examination of the obvious characteristics of the data for reasonableness and consistency in accordance with Actuarial Standard of Practice No. 23.

Future results may differ significantly from the current results presented in this presentation due to such factors as the following: plan experience differing from that anticipated by the assumptions; changes in assumptions or changes in plan provisions.

Cheiron utilizes and relies upon ProVal, an actuarial valuation software leased from Winklevoss Technologies for the intended purpose of calculating liabilities and projected benefit payments. Projected expected results of future valuations in this report were developed using P-scan, our

proprietary tool for the intended purpose of developing projections. As part of the review process for this report, we have performed a number of tests to verify that the results are reasonable and appropriate. We are not aware of any material inconsistencies, unreasonable output resulting from the aggregation of assumptions, material limitations or known weaknesses that would affect this report.

To the best of our knowledge, this report and its contents have been prepared in accordance with generally recognized and accepted actuarial principles and practices which are consistent with the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board. Furthermore, as credentialed actuaries, we meet the Qualification Standards of the American Academy of Actuaries to render the opinion contained in this report. This report does not address any contractual or legal issues. We are not attorneys, and our firm does not provide any legal services or advice.

This report was prepared exclusively for The Orthodox Church in America for the purposes described herein. Other users of this report are not intended users as defined in the Actuarial Standards of Practice, and Cheiron assumes no duty or liability to any other user.

Sincerely,
Cheiron

Gregory A. Reardon, FSA, EA, MAAA
Principal Consulting Actuary

Karen Zangara, FSA, EA, MAAA
Principal Consulting Actuary

Michael Moehle, FSA, EA, MAAA
Audit Specialist

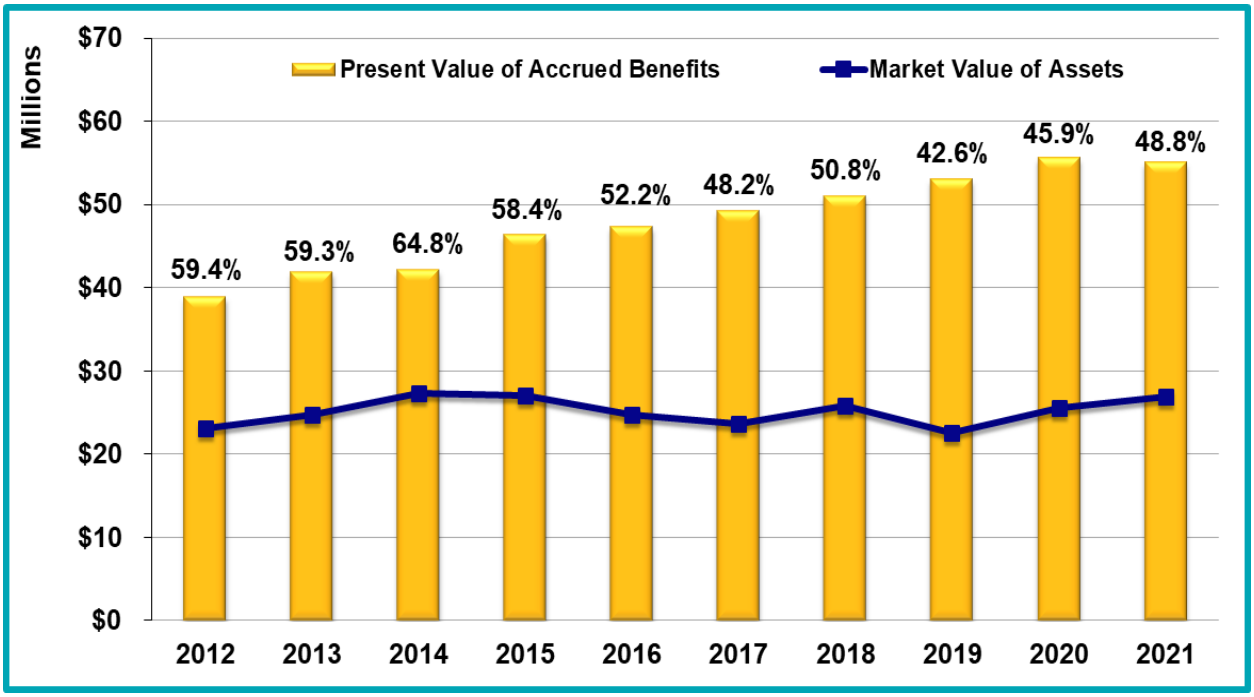
Enclosure

cc: Pension Subcommittee of the Metropolitan Council
Sean Murray, EA - Cheiron

SECTION I – PLAN'S HISTORICAL TRENDS

Assets and Liabilities

The gold bars on the chart below show the Present Value of Accrued Benefits and the blue line shows the Market Value of Assets (MVA). The Plan's funding ratio (MVA as a percent of the Accrued Liability) is shown at the top of each bar.



Years shown represent January 1 of the respective valuation year.

Key observations from this chart are as follows:

1. The Plan's Funding ratio has generally decreased over the ten-year period.
2. Liability has increased $16.2 million over the 10-year period.
3. Assets have only increased $3.8 million over the same period, causing an overall deterioration of the funded status.

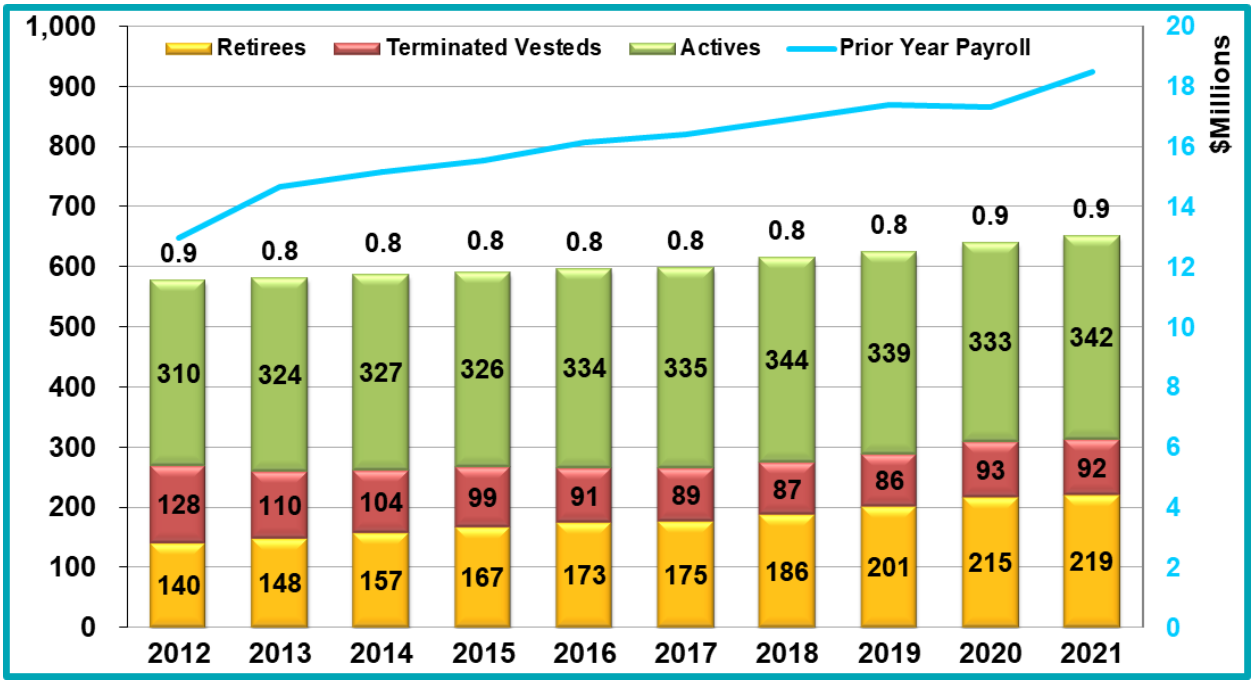
Plan Maturity Measures

Mature pension plans are more sensitive to risks than less mature plans. One simple measure of plan maturity is the support ratio: the number of inactive members (those receiving benefits or entitled to a deferred benefit) to the number of active members. The contributions supporting a plan is usually proportional to the number of active members, so a relatively high number of inactive members compared to the number of active members indicates a more mature plan. The higher the ratio, the more sensitive a plan is to investment or other losses, since generally contributions on behalf of active members will be needed to make up the loss.

SECTION I – PLAN'S HISTORICAL TRENDS

Support Ratio

The next chart shows the participants of the Plan (left-hand axis) and payroll (right-hand axis) at successive valuations. The numbers which appear above each bar show the ratio of inactive members to active members at each valuation date.



Years shown represent January 1 of the respective valuation year.

Key observations from this chart are as follows:

1. The Support Ratio has remained stable over the 10-year period with increases in the active and retiree population and decreases in the terminated vested population.
2. A Support Ratio less than 1.0 means there are more actives than inactives and is a positive factor which indicates that if there is a negative net cash flow coupled with a poor funded ratio, contribution increases as a percentage of payroll can improve a plan's funded status.
3. Actives increased 1.0% year-over-year during the last 10-year period and 0.4% year-over-year during the last 5-year period.
4. Payroll as measured on the right-hand axis increased from $12.9 million to $18.5 million, which is equivalent to an annualized increase of 3.6% and 2.4% over the last 10 and 5 years, respectively.

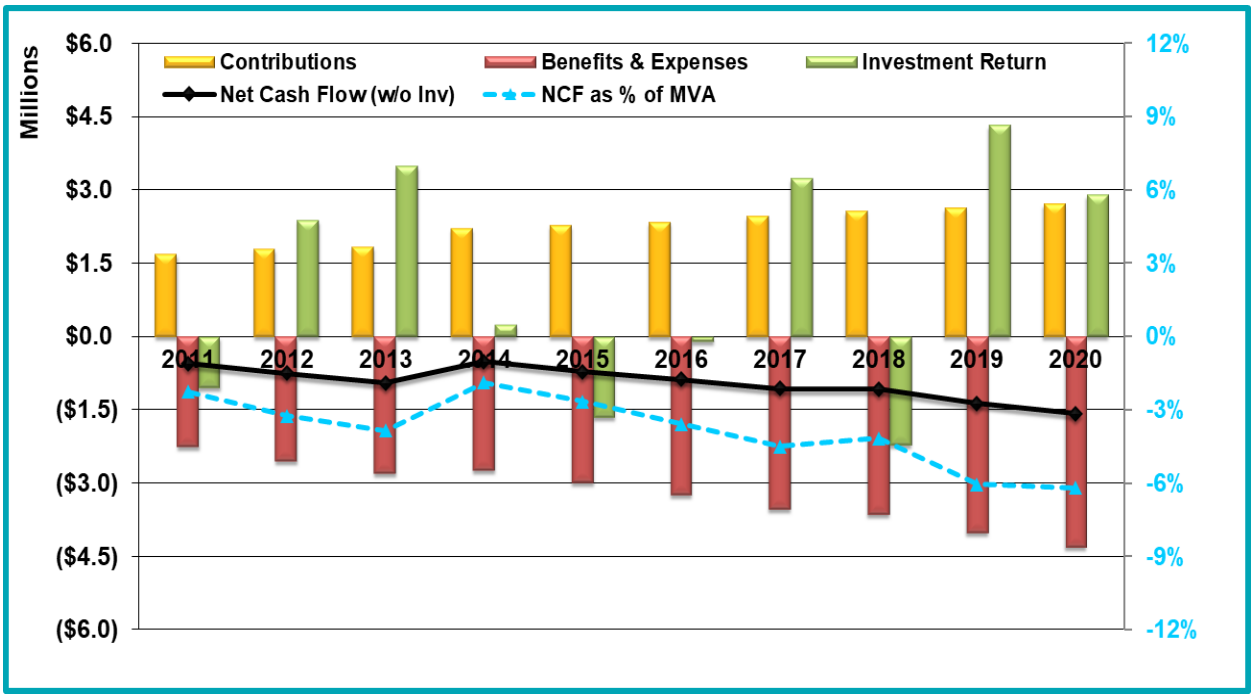
Net Cash Flow

The net cash flow of the Plan as a percentage of the beginning of year assets is another maturity measure that indicates the sensitivity of the Plan to short-term investment returns. Net cash flow is equal to contributions less benefit payments and administrative expenses. Mature plans can have large amounts of benefit payments compared to contributions.

SECTION I – PLAN'S HISTORICAL TRENDS

However, when a plan has a negative net cash flow, investment losses in the short-term are compounded by the net cash flow from the plan leaving a smaller asset base to try to recover from the investment losses. Large negative cash flows can also create liquidity issues.

As is the case with mature pension plans, the Plan is experiencing negative net cash flows measured as contributions less benefits and administrative expenses. The following chart shows the cash flows in the last ten years. We also show the negative net cash flow as a percent of Market Value of Assets (dotted blue line, right-hand axis) to illustrate what the Plan would have to return in order for the assets to remain level.



Years shown represent full calendar years. Church contribution rate for calendar year 2020 was 8% of pay. Effective January 1, 2021 this contribution rate increased to 10% of pay.

Key observations from this chart are as follows:

1. For the entire period shown in the above chart, the Plan has had a negative net cash flow. This means that the Plan is relying on assets and investment income to pay for benefits and expenses.
2. In 2020 the negative net cash flow represented $1.6 million more in benefit payments and expenses over contributions.
3. Since 2014, the negative net cash flow as a percentage of assets has grown significantly from 2.3% to 6.2% and is approaching the Plan's expected return assumption of 7.0%.
4. If assets do not at least earn the negative net cash flow as a percentage of assets (for example, 6% in 2020), then in order to pay pension benefits the Plan must use invested assets. This can be detrimental to a plan if the invested assets must be used to pay pensions during inopportune market conditions. Looking at this a different way, even if the assets return 7% during a year, 6% of the investment return is used to pay pension benefits, which limits the ability for the assets to grow.

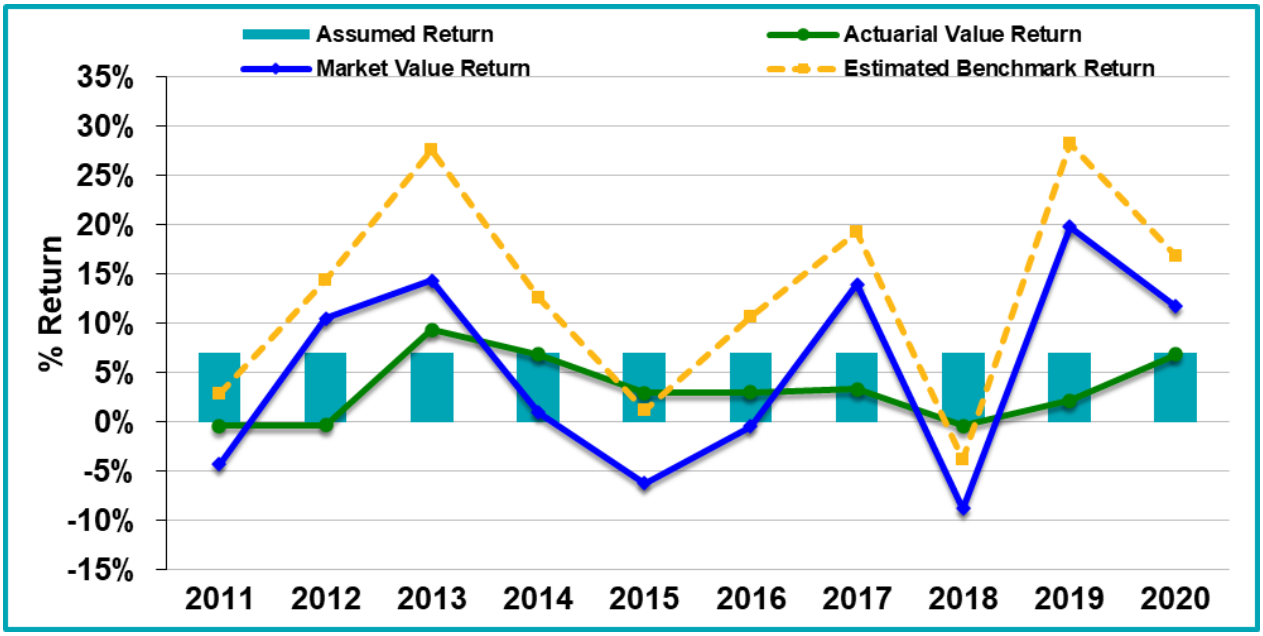
SECTION I – PLAN'S HISTORICAL TRENDS

Investment Risk

Investment risk is the potential for investment returns to be different than expected. Lower investment returns than anticipated will increase the Plan's deficit necessitating higher contributions in the future unless there are other gains that offset these investment losses.

The potential volatility of future investment returns is influenced by economic conditions and the Plan's asset allocation. A plan with an investment portfolio generating higher expected rates of return may anticipate lower future contribution requirements; however, this approach also comes with higher amounts of volatility. The affordability of investment risk is correlated to the amount of assets invested relative to the size of the contribution base or the revenue base of the employers.

The following graph shows the actual returns over the last ten years on the Market Value of Assets and the Actuarial Value of Assets (phases-in investment gains and losses over a 5-year period). For comparison purposes, the teal bars represent the expected return (7.0%), and the gold line represents the estimated benchmark return based on applying reported S&P 500 and Aggregate Bond returns with the Plan's February 2022 asset allocation. For this purpose, we modeled an 86% Equity and 14% Fixed Income portfolio allocation.



Years shown represent full calendar years.

Key observations from this chart are as follows:

1. The investment return on the MVA – was volatile – and averaged 4.75% over this ten-year period.
2. The return on the AVA has been smoother and averaged 3.33% over the last ten years.
3. Over the period shown, there are no years where the actual market return exceeded the estimated benchmark return. *Please note that we are not investment consultants and defer to their review of benchmark returns over the past 10 years based on their more granular analysis and their expertise.*

SECTION II – THE PLAN'S PROJECTED FUNDED STATUS

Projections

Typically, we find that funding objectives include accumulating sufficient assets during a member's employment to fully finance the benefits the member receives throughout retirement (i.e., intergenerational equity), maintaining an increasing funded ratio of plan assets to accrued liabilities, and monitoring future demands for liquidity.

While some actuarial firms do not provide projections as part of their standard services, we believe it is important to provide projections for multiple reasons:

- Actuarial valuation reports are often completed 6 months after the valuation date, which means that the information provided to stakeholders is already out of date.
- Allow stakeholders to understand the projected risk associated with their pension plan and can be updated to reflect current market returns to aid with future financial planning.
- Provide stakeholders the ability to make modifications to the Plan to achieve funding goals.

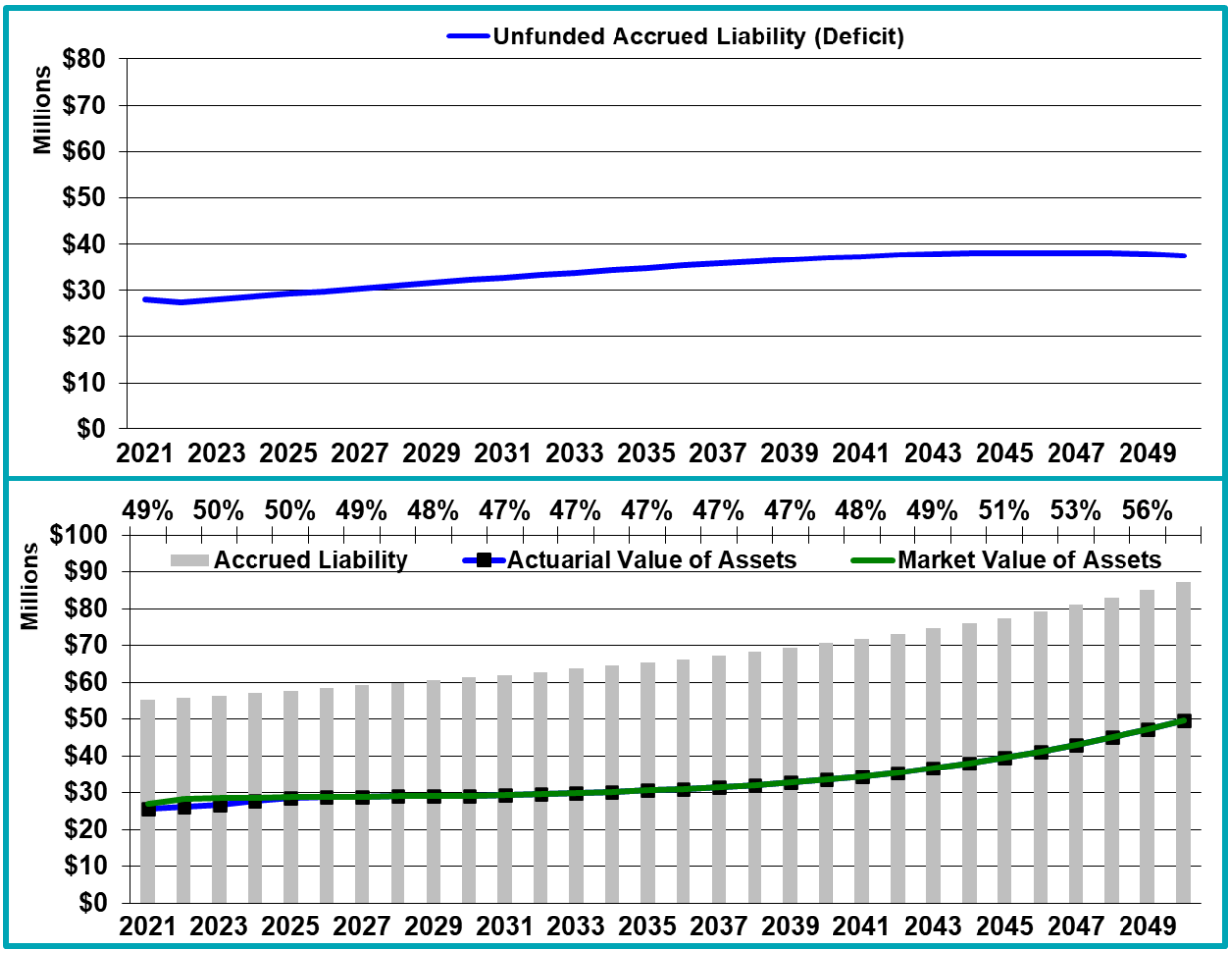
As part of our audit, the following pages provide three projections of Plan assets, liabilities and funding ratios over the next 30 years. This information can assist stakeholders in understanding future risks the Plan may face. Unless noted otherwise, projections are based on the same assumptions used for the January 1, 2021 actuarial valuation and assume they will be met each year in the future.

SECTION II – THE PLAN'S PROJECTED FUNDED STATUS

Baseline Projection

The baseline projection reflects the following:

- Preliminary assets as of December 31, 2021 and assumes 7.00% returns in each year thereafter.
- The current 16% of pay (6% member, 10% Church) contribution level is maintained.
- The Plan pays all administrative expenses at the rate of 2.0% of payroll (increased from 1.5%).
- Active membership will increase at an annual rate of 0.5% over the next 30 years.



Years shown represent January 1 of the respective valuation year.

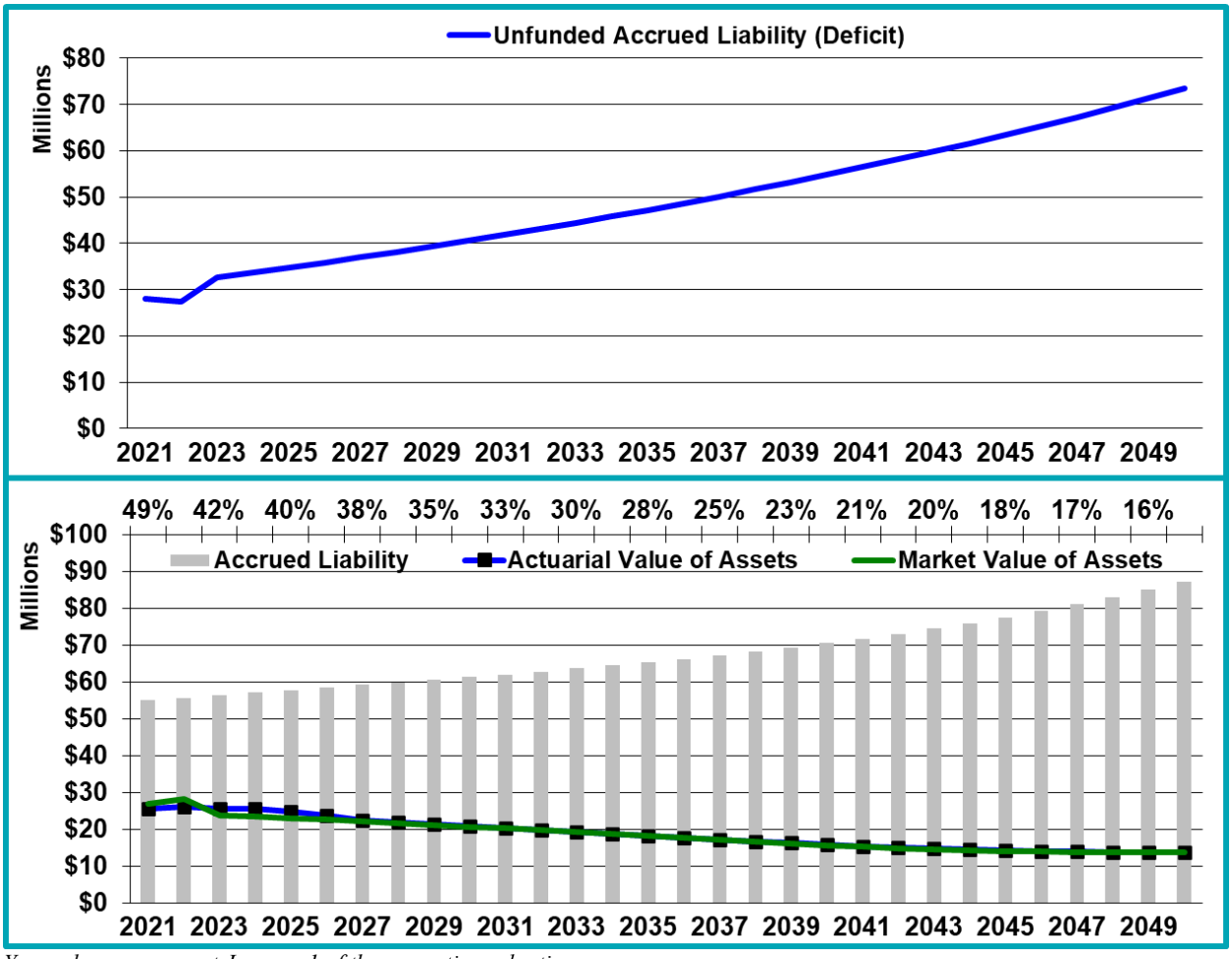
The top section of the first chart demonstrates that the dollar value of the deficit is expected to grow until 2047 and reach a dollar value of approximately $38.0 million. Not until this date will any portion of the current deficit begin to be paid down.

The bottom section shows the funding progress. The values along the top represent the funded status based on market value of assets, the bars are the liabilities, and the lines are the actuarial and market asset values assuming the Plan returns 7.0% each year. While the funded ratio remains stagnant over a 20-year period, then gradually improves, the deficit as a dollar amount increased 33% from $28.1 million to $37.5 million.

SECTION II – THE PLAN'S PROJECTED FUNDED STATUS

Alternative Projection 1

It is unlikely the Plan will experience a 7% return each year. If, for example, given the current market volatility, the return for 2022 is negative 10% followed by 6.5% returns thereafter (half a percent lower than currently expected), the following charts show that the deficit is expected to grow during the entire 30-year projection period, reaching a dollar value of $73.4 million and there would be no funding progress in the future.



Years shown represent January 1 of the respective valuation year.

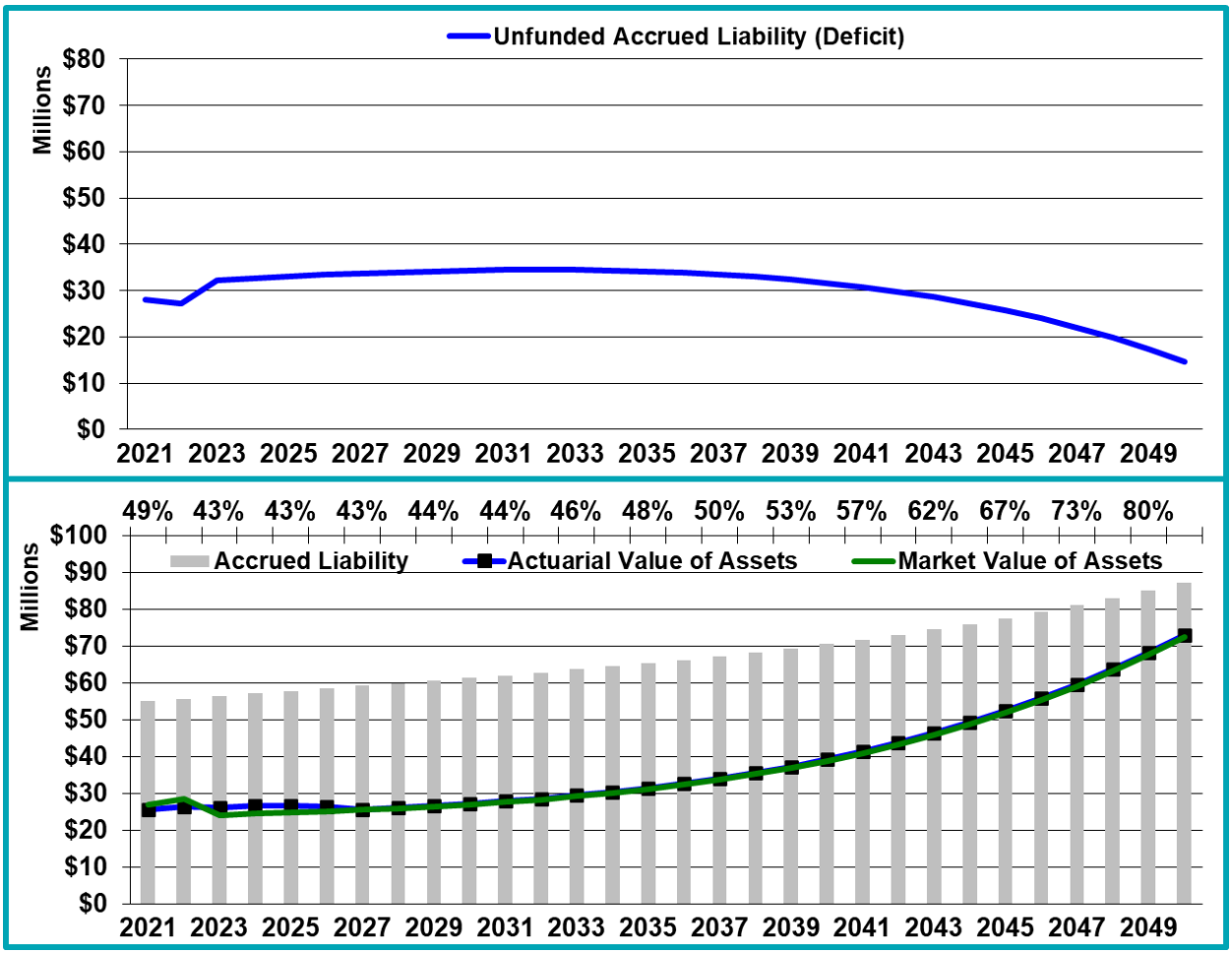
The above analysis is just one example of a possible economic scenario; however, it illustrates a number of issues with the Plan. With just one bad year and returns 50 basis points below the assumed rate, there is no expected funding progress and assets cover less than 20% of the Plan's long-term obligations.

SECTION II – THE PLAN'S PROJECTED FUNDED STATUS

Alternative Projection 2

We now build on this same economic scenario but reflect a contribution increase of 2% for a combined total of 18% of pay effective January 1, 2023. In addition, we introduce a cost-sharing approach for administrative expenses whereby the Plan and the OCA split the cost evenly (i.e., each provide 1% of pay so that the sum totals the 2% administrative expense load).

The following charts show that the deficit is expected to remain relatively level over the next 12 years after which funding progress begins and at the end of the 30-year projection period the Plan is projected to be 80% funded and the deficit improves to $14.7 million.



Years shown represent January 1 of the respective valuation year.