THOMAS GOLONKA
VPIC CHAIR

KIMBERLY GLEASON
VPIC VICE-CHAIR

STATE OF VERMONT
VERMONT PENSION INVESTMENT COMMISSION

TO: Vermont House and Senate Committees on Government Operations

FROM: Thomas Golonka, Chair
            Kimberly G. Gleason, Vice Chair

DATE: January 15, 2025

RE: Vermont Pension Investment Commission Annual Report

In 2021, the General Assembly of the State of Vermont enacted Act 75, relating to the membership and duties of the Vermont Pension Investment Commission (VPIC) and the creation of the Pension Benefits, Design, and Funding Task Force. Act 75 requires the VPIC to submit a comprehensive report to the House and Senate Committees on Government Operations on or before January 15th of each year and we are happy to submit it herewith.

Executive Summary

- VPIC generated a net investment return of 10.21% in fiscal year 2024, well above median among US public pension fund peers. VPIC's 5-year return of 7.9% now exceeds the 7% actuarial assumed rate of return and ranks at or above median among public pension funds for the fourth consecutive year. Our strong investment performance has lowered pension funding costs for Vermont taxpayers. More details can be found in Appendix A.

- VPIC's 20.48% 10-year private equity return ranked #1 Nationally among Public Pension Funds in 2024 by American Investment Council. More details can be found in the American Investment Council's annual ranking of public pension plan investment returns in Appendix F.

- VPIC has made significant progress professionalizing staffing and improving investment performance. To maintain this momentum and retain top talent, we request the legislature's support to implement Mercer's staffing recommendations from their 2022 study to address significant key-person risk. The report can be found in Appendix D.

- Investment earnings have funded approximately 63 cents of each dollar paid to plan participants. Dollars contributed by taxpayers are maximized through investment performance and the economic benefit to the Vermont economy as participants live and spend in state.

- During the year, VPIC and its actuary reaffirmed the 7.0% actuarial assumed rate of return and 2.3% actuarial inflation assumption. In addition, VPIC standardized the smoothing method for all three statewide pension plans following a comprehensive review.

- The 2023 Legislative Session funded an independent report by Meketa Investment Consulting to assess the impacts of the proposed S.42 on pension funding and evaluate VPIC's ability to mitigate risks associated with climate change. The report, available in Appendix E., affirmed VPIC's views that mandated divestment of fossil fuel companies from the portfolio would diminish expected returns and increase costs to taxpayers. In addition, Meketa recognized VPIC as a stewardship leader among our peers to effect positive change and suggested strategies for VPIC to further facilitate decarbonization of the real economy. By implementing the recommendations, VPIC aims to both maximize returns and contribute to a sustainable future. We are now focused on developing a climate transition plan and have engaged proponents of S.42 to address their concerns within this process.

Fiscal Year 2024 (FY24) Investment Performance

VPIC's 7.9% 5-year net return exceeded the 7% actuarially established rate of return and ranked well above median among public pension funds for the fourth consecutive year. This outperformance lowers pension funding costs for Vermont taxpayers. Strong long-term performance positions the fund for financial health and is one of several factors that contribute to the actuarially determined employer contribution (ADEC). VPIC exceeded the 5-year public market benchmark (60% MSCI ACWI IMI/40% Bloomberg Barclays Aggregate Bond Index) by 1.8%. This measures VPIC's skill to choose an allocation that outperforms a passively managed, diversified portfolio. Lastly, VPIC exceeded the Allocation Index by 0.7% on a 5-year basis. This Index allocates to passive indices that mirror VPIC's strategic asset allocation. It evaluates VPIC's ability to choose skilled managers capable of outperforming passive vehicles within comparable levels of risk.

5-YEAR RATE OF RETURN VS ASSUMED RATE OF RETURN
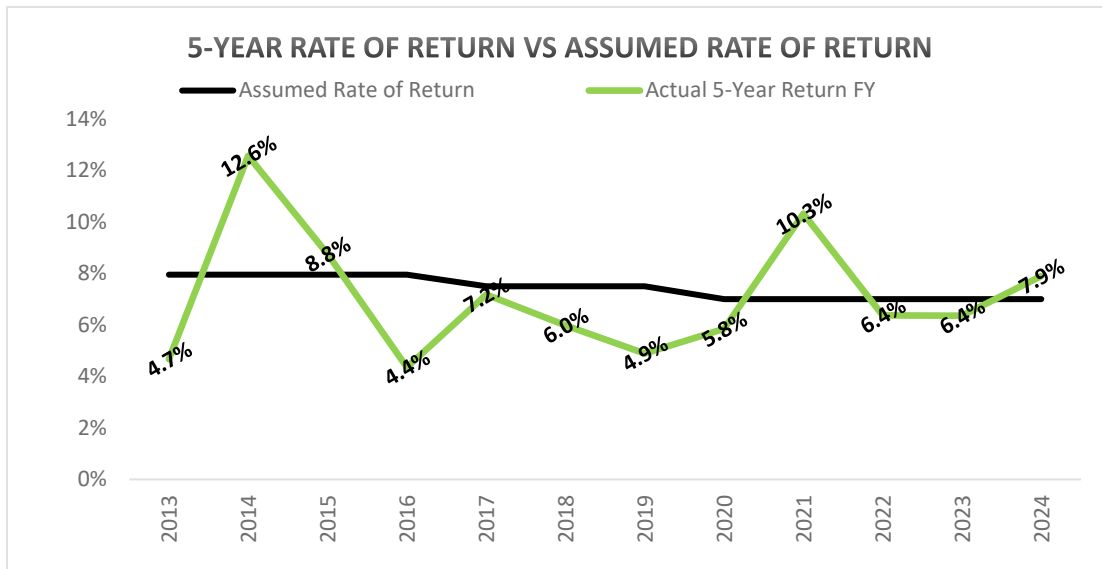
FY24 investment performance across the three pension plans, Vermont State Teachers' Retirement System (VSTRS), Vermont State Employees' Retirement System (VSERS) and Vermont Municipal Employees' Retirement System (VMERS), were 10.23%, 10.16%, and 10.22%, respectively. More details are available in Appendix A, including VPIC performance on page 19, VMERS on page 58, VSERS on page 74, and VSTRS on page 90. This year's strong performance significantly exceeded the 7.0% assumed rate of return and is the result of VPIC's efforts to maximize long-term returns within prudent levels of risk and liquidity.

The Global Market Environment

Escalating global geopolitical tensions, inflationary pressures, elevated interest rates, and declining globalization continued to create economic headwinds for investors. VPIC's equity allocations generated double-digit returns as inflationary pressures moderated and central bank sentiment turned dovish with the Federal Reserve and European Central Bank implementing rate cuts. While we have in recent years expected continued

downward pressure on future returns, increases in interest rates and moderating inflation are supportive of our 7.0% assumed rate of return. Investments have a propensity to deviate back to the average historical return and we are pleased to see such performance following the many investment challenges that arose simultaneously during FY22 and FY23.

We still believe that most asset class valuations remain high relative to history and, as relative valuation tends to be a powerful driver of future returns, we expect a challenging investment climate for the foreseeable future. Empirically high valuations tend to be followed by periods of lower investment performance and low valuations tend to be followed by periods of higher investment performance. Indeed, our consultant's capital market assumptions had declined in recent years, but were largely increased during FY23 to reflect higher interest rates and moderating inflation, as outlined on pages 19 and 20 of Appendix B. As a result of FY23 and FY24 strong public equity performance, we continue to believe valuations remain high relative to history with the S&P 500 price multiple outpacing earnings growth for another year.

Pension Plan Funding Overview

As outlined on the chart in Appendix C, FY24's strong investment performance generated actuarial gains of $186.8 million. This equates to $84.7 million for the Vermont State Teachers' Retirement System (VSTRS), $74.0 million for the Vermont State Employees' Retirement System (VSERS), and $28.1 million for the Vermont Municipal Employees' Retirement System (VMERS), based on these Plans' market value of assets. All three Plans saw improvements in funded status during the fiscal year, based on the market value of assets and the 5-year performance smoothing.

During the fiscal year, VPIC engaged actuarial firm GRS to advise it on the assumed rate of return, the inflation assumption, and the smoothing method, all of which are now VPIC responsibilities. After an extensive analysis, GRS recommended, and VPIC approved, keeping the assumed rate of return at 7.0% and the inflation assumption at 2.3%. After extensive analysis, VPIC and GRS agreed that synchronizing the smoothing methods for all three Plans was appropriate. Accordingly, VPIC changed the VMERS method to from the "fixed" method to the "adjustment" method. While the change had no material impact on Plan funding, it did bring it in line with VSTRS and VSERS. These factors assume that VPIC will continue to invest prudently in low-cost efficient global equity index funds and illiquid private market assets that drive long-term investment returns. If future legislation precludes the continuance of VPIC's successful long-term investment strategy, we will revisit the assumed rate of return assumption. While this assumption is simply a factor in determining the actuarially determined employer contribution to the three Plans, statutorily limiting VPIC's investment options could negatively impact the assumed rate of return and increase future expected taxpayer funding requirements.

The actuarial valuations for both FY24 and FY23 reflect a 7.0% actuarial assumed rate of return, and actual returns were above that assumption for both years. As we think about future investment returns, we do so with an eye on current equity valuations and interest rates. As outlined in the chart below, both the Shiller Cyclically Adjusted Price/Earnings Ratio (CAPE) and the yield on the 10-year Treasury indicate that the valuations of both equity and debt investments are high relative to history despite some narrowing of that gap during FY22 and FY23[1]. Further detail on current valuations relative to history can be seen on pages 4-10 of Appendix A. While accurately forecasting if, when, and how such metrics revert to more historically normal levels is very difficult, we do expect future returns to be lower than those of the recent past as the tailwinds of zero interest rates, globalization, the world peace dividend, and low inflation have abated.

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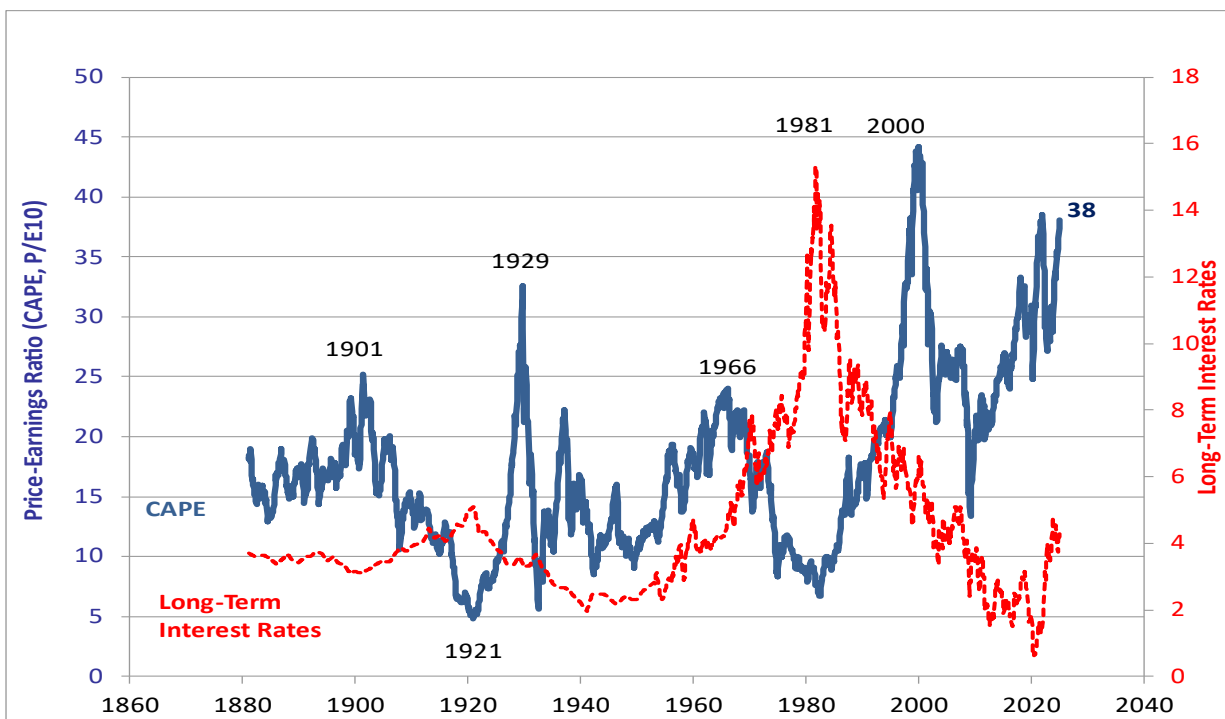
[1] Shiller, Robert J., Data Used in "Irrational Exuberance" Princeton University Press, 2000, 2005, 2015, updated

VPIC's FY24 Strategic Asset Allocation

The past 5 years have underscored the importance of a diversified investment approach, especially in volatile market environments. According to the National Association of State Retirement Administrators, since 1992, investment returns have provided 63% of public pension plan funding nationwide.[2] Because investments provide more than half of required pension contributions, it is essential that we develop a thoughtful asset allocation model that reflects both the demographic and economic characteristics of the three Vermont statewide pension plans, as well as the risk appetite and liquidity needs of VPIC. Portfolio design is grounded in thorough asset allocation and asset-liability studies (Appendix B) that consider Vermont's specific demographic, economic, and risk tolerance factors.

VPIC considers three primary themes in its strategic asset allocation: Growth, Downturn Hedging, and Inflation Protection.

  Growth: This bucket, comprising 70% of the portfolio, focuses on assets positively correlated with global GDP. It includes public and private equity, private credit, and non-core real estate. These assets generated a 14.15% return in FY24.

  Downturn Hedging: Allocated to a diversified bond portfolio, this bucket comprises 19% the VPIC portfolio and aims to protect the portfolio during economic slowdowns. In a potential rate-cutting environment where global GDP is slowing, bonds typically benefit from falling yields. For FY24 this allocation generated a 2.66% return.

  Inflation Protection: This bucket has an 11% allocation comprised of infrastructure, commercial real estate, farmland, and Treasury Inflation-Protected Securities (TIPS). These assets are designed to mitigate inflationary pressures and provide stable returns. However, the real estate component is particularly sensitive to interest rates and underperformed in FY24 with a return of -3.42%. To mitigate this risk going forward, VPIC reduced the duration within our real estate allocation by targeting Net Lease strategies.

By strategically allocating to these 3 thematic buckets, VPIC aims to achieve a superior risk-adjusted return that meet the long-term needs of the plan. The specific asset allocation within each bucket is carefully chosen to balance risk, return, liquidity, and correlation with other asset classes considering factors like inflation, interest rates, and economic cycles.

Portfolio Design Analysis

To determine the risk, return, and liquidity needs of the three plans VPIC engages the retirement plan actuary, Segal; VPIC's actuary, GRS; and VPIC's investment consultant, RVK. Annually, Segal tabulates demographic data for all members and retirees and

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[2] NASRA, Public Pension Plan Contributions

calculates a pension liability. This is essentially the present value of the obligation to provide a defined benefit pension plan to state employees, teachers, and municipal employees in Vermont. The actuary also tabulates the assets on hand to fund these pension liabilities and, ultimately, an unfunded actuarial liability (UAL). The UAL represents the shortfall between assets on hand and the liability to the members and beneficiaries of the Plans that must be made up by future investment returns and contributions from members and their employers. These annual actuarial valuations, as described above, are meaningful inputs to VPIC's annual asset allocation studies. These studies seek to assure that the portfolio is strategically aligned with the actuarial characteristics of the three statewide pension plans. By incorporating a thorough analysis of each Plan's demographic and economic characteristics, VPIC seeks to generate strong long-term returns to fund long-term pension liabilities at minimal cost to taxpayers, to maintain sufficient liquidity to fund current pension payments to retirees, and to balance these factors at prudent risk levels. The actuarial valuations and experience studies are important inputs to portfolio design and they inform prudent limits on illiquidity and risk factors, both of which drive investment returns.
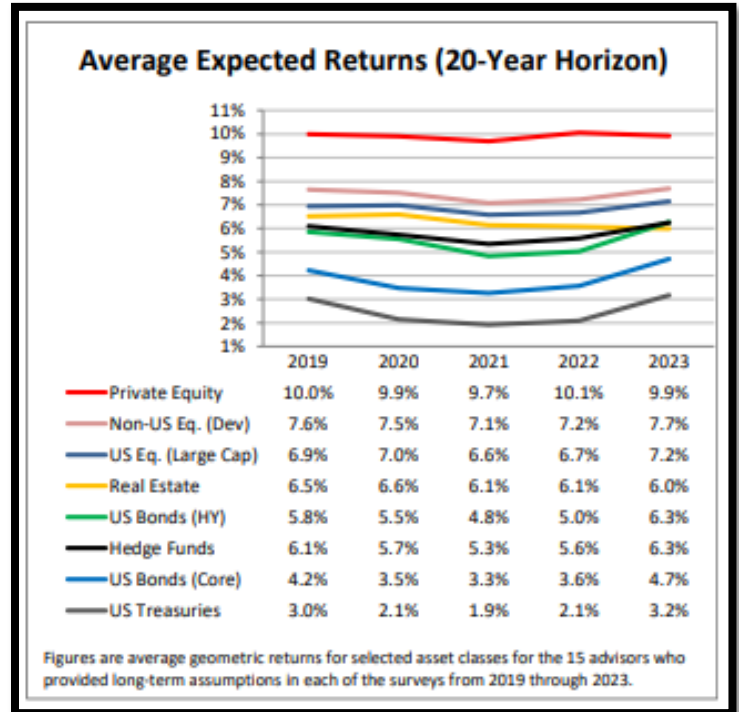
VPIC conducts with RVK a high-level analysis of each Plan's funding and cash flow metrics. Understanding these characteristics is essential to fully understanding each Plan's tolerance for illiquidity which, we believe, adds to long-term investment returns. Investors expect to be compensated for investing their money for longer periods of time.

VPIC then examines with Staff and RVK a variety of model efficient investment portfolios with varying levels of liquidity and risk across the three thematic buckets within VPIC's strategic asset allocation. VPIC assigns expected returns, risk, and asset class correlations to each component and runs *Monte Carlo* analyses. Such analyses show VPIC how each model portfolio is expected to perform on several metrics over the long-run and give VPIC important insights into expected investment returns, cash flows, funded status, and required employer (i.e., taxpayer) contributions.

It is important to note that VPIC's *Monte Carlo* simulations assume a normal distribution of returns and factors. We know, however, that investment outcomes are not always normally distributed. In fact, they are impacted by events like periods of high inflation, falling interest rates, high growth, low growth, and other normal cyclical trends. Further, more amplified market disruptions do occur periodically (e.g. tech bubble, great financial crisis, Covid-19, Ukraine invasion, deglobalization). To better understand the impact of such events, VPIC conducts additional scenario analyses on the portfolios under consideration. The intent of these analyses is not to forecast any future trend; rather, it is to better understand the tradeoffs among alternative portfolios during different economic scenarios and market dislocations. This allows VPIC to prudently design a resilient portfolio that can withstand market shocks and meet the financial commitments to the beneficiaries of the funds.

Capital Market Assumptions

Capital market assumptions are long term predictions of investment return and risk (standard deviation) for each asset class, as well as correlations with other asset classes. These factors drive the *Monte Carlo* modeling described above. Many investment managers and consultants release their capital market assumptions on an annual basis, with interim updates when market volatility warrants. Such assumptions are specific to each firm's market outlook and, when applied to a portfolio's asset allocation targets, show the expected range of returns that will result if the capital market assumptions come to fruition. The capital market assumptions are based on long-term expectations and typically exhibit small deviations year-over-year. The chart to the right shows the results of an annual study conducted by Horizon Actuarial Services and evaluates the capital market assumptions of 39 investment firms[3]. The expected long-term return for each asset class has on average seen a small downward shift through 2022, though these declines have moderated in recent years. We continue to believe that the current valuation levels will put downward pressure on future investment returns.

Average Expected Returns (20-Year Horizon)

	2019	2020	2021	2022	2023
Private Equity	10.0%	9.9%	9.7%	10.1%	9.9%
Non-US Eq. (Dev)	7.6%	7.5%	7.1%	7.2%	7.7%
US Eq. (Large Cap)	6.9%	7.0%	6.6%	6.7%	7.2%
Real Estate	6.5%	6.6%	6.1%	6.1%	6.0%
US Bonds (HY)	5.8%	5.5%	4.8%	5.0%	6.3%
Hedge Funds	6.1%	5.7%	5.3%	5.6%	6.3%
US Bonds (Core)	4.2%	3.5%	3.3%	3.6%	4.7%
US Treasuries	3.0%	2.1%	1.9%	2.1%	3.2%

Figures are average geometric returns for selected asset classes for the 15 advisors who provided long-term assumptions in each of the surveys from 2019 through 2023.
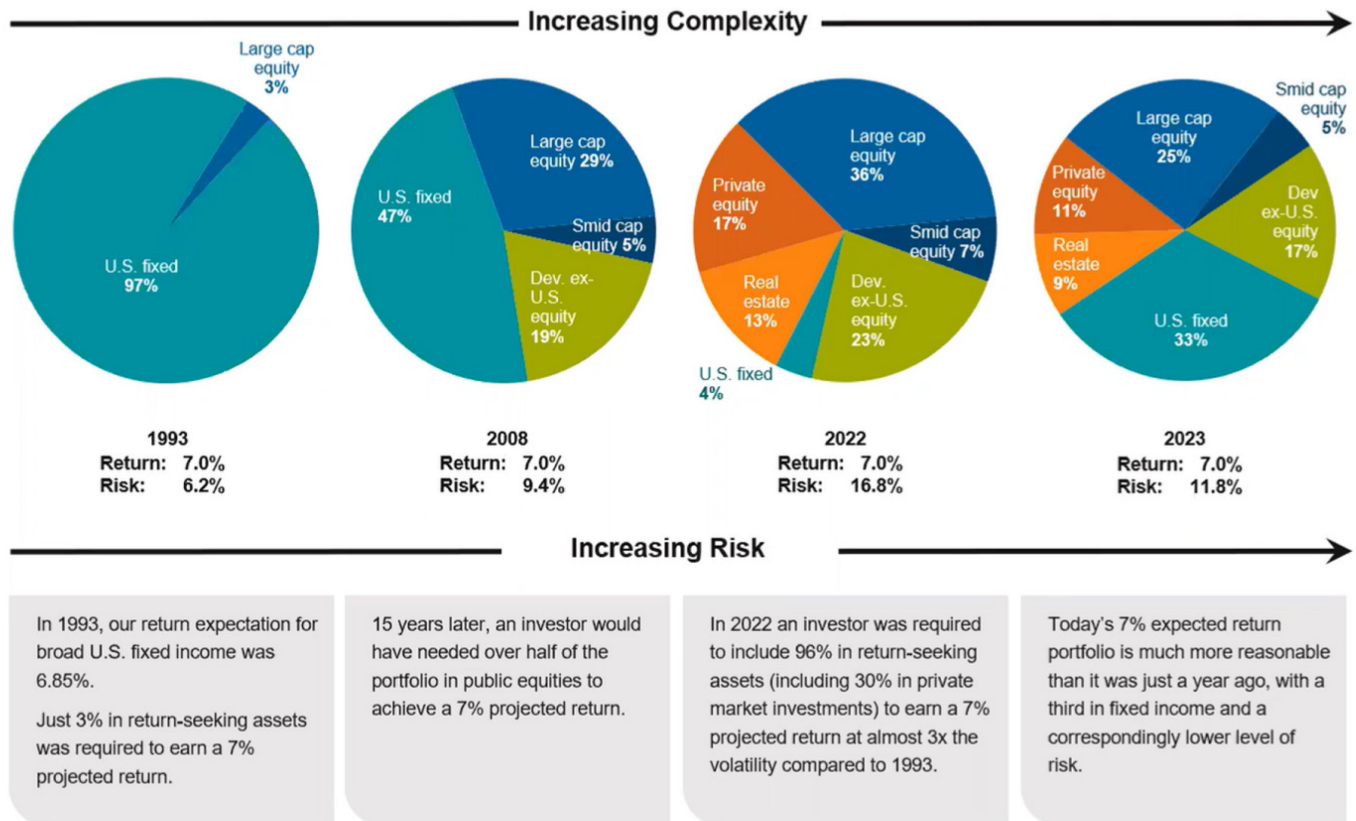
VPIC's current target portfolio, using RVK's capital market assumptions, has a median expectation to generate a long-term return of 6.4%. This assumes the capital market assumptions in the model come to fruition and represents a slight decrease in expected returns from the prior year's 6.6%. Our supporting capital market assumptions can be seen on pages 19 and 20 of Appendix B. The chart below shows the increasing difficulty of generating a 7.0% rate of return over the past thirty years.[4] It is our view, that designing a portfolio that is expected to generate a 7.0% return within the capital market assumptions provided by our consultant, is now largely achievable, particularly with prudent use of illiquid private market assets. Our actuary, GRS, studied our economic assumptions (assumed rate of return and inflation assumption) and recommended, and VPIC approved, maintaining them at 7.0% and 2.3%, respectively. VPIC plans to proactively revisit these assumptions on an annual basis to assure sound actuarial funding of the three Plans. It is important to bear in mind that we do not view the actuarial assumed rate of return as a return target. Rather, it is an actuarial tool for calculating

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[3] Horizon Actuarial Services, "Survey of Capital Market Assumptions", 2023 Edition
[4] Callan Institute, "2021 Capital Market Assumptions", January 2021, P. 46

pension contributions necessary to assure sound funding. Instead, we design the VPIC investment portfolio to maximize long-term returns within prudent levels of risk and liquidity.

7% Expected Returns Over Past 30 Years

Increasing Complexity →

1993
Return: 7.0%
Risk: 6.2%

Large cap equity 3%
U.S. fixed 97%

2008
Return: 7.0%
Risk: 9.4%

Large cap equity 29%
Smid cap equity 5%
Dev. ex-U.S. equity 19%
U.S. fixed 47%

2022
Return: 7.0%
Risk: 16.8%

Large cap equity 36%
Smid cap equity 7%
Dev. ex-U.S. equity 23%
U.S. fixed 4%
Real estate 13%
Private equity 17%

2023
Return: 7.0%
Risk: 11.8%

Smid cap equity 5%
Large cap equity 25%
Dev ex-U.S. equity 17%
U.S. fixed 33%
Real estate 9%
Private equity 11%

Increasing Risk →

In 1993, our return expectation for broad U.S. fixed income was 6.85%.

Just 3% in return-seeking assets was required to earn a 7% projected return.

15 years later, an investor would have needed over half of the portfolio in public equities to achieve a 7% projected return.

In 2022 an investor was required to include 96% in return-seeking assets (including 30% in private market investments) to earn a 7% projected return at almost 3x the volatility compared to 1993.

Today's 7% expected return portfolio is much more reasonable than it was just a year ago, with a third in fixed income and a correspondingly lower level of risk.

Recent market volatility highlights returns' end-point sensitivity

VPIC does not view its capital market assumptions, expected rate of return, or the actuarial assumed rate of return as accurate forecasts of future returns, especially over short periods of time. Instead, it uses these factors to better understand the tradeoffs among a variety of model efficient portfolios over varying economic scenarios. Indeed, a look at past returns reveals that, even over short periods of time, actual portfolio results can vary significantly and rarely equate with expectations. The chart below shows actual VPIC returns versus the actuarial assumed rate of return over time. To highlight this point, consider the nearly 25% return for fiscal year ended June 30, 2021, well above the 7.0% actuarial assumption. One year later, VPIC generated an investment return of -7.7%. While FY22's return ranked above median among its peers, it fell well short of the actuarial assumed rate of return. In FY 23 and FY24, VPIC outperformed the actuarial assumption. Again, the AROR does not represent VPIC's targeted investment return. Its role is simply

to determine pension contributions necessary to assure sound actuarial funding. That said, our returns over time, as well as recent analysis by VPIC actuary GRS affirm that 7.0% is a reasonable assumed rate of return for VPIC's current investment strategy.
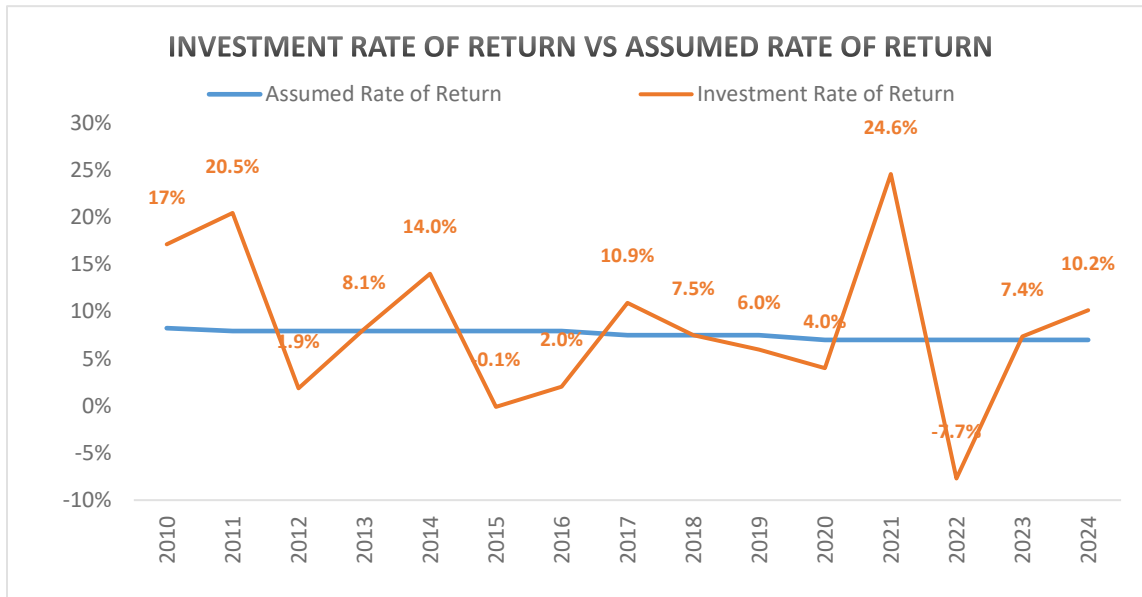
To account for these differences between actual and expected performance, the actuary uses a variety of smoothing techniques to minimize volatility in employer funding requirements and to assure intergenerational equity.

VPIC investment themes

We have embraced several overarching themes in managing the investments of the three statewide pension plans, as summarized below:

Simplify: Simplifying the construction of the VPIC portfolios allows for stronger oversight by a lean investment team.

Reduce fees: Outperforming passive benchmarks consistently is difficult. Because most passive indices are investable at a very low fee, the bar is high for active managers and their higher fees.

Underwrite everything: Understanding each investment manager's strategy, holdings, and role in the portfolio is essential for a prudent level of oversight by staff and VPIC. This theme resulted in the avoidance of an $80 million loss in the terminated Allianz Structured Global Alpha product.

Illiquidity premium increases returns: Illiquid assets (i.e., private equity, private credit, and non-core real estate) have a proven ability to outperform their public market equivalent

benchmarks. Accordingly, we have targeted 26% of the fund to illiquid growth assets and 9% to illiquid inflation-hedging assets and are systematically building them out over a prudent number of vintage years. VPIC evaluates these investments versus their public market equivalent indices to ensure the illiquidity premium remains attractive for the additional risk.

<u>Liquidity needs must be fully understood and assured</u>: While illiquid assets tend to generate higher returns than their liquid counterparts, building a prudently diversified portfolio is not simply adding higher-returning assets and removing lower-returning assets. Because illiquid assets cannot be readily monetized to pay retirement benefits, their use is limited by the need for liquidity. Having a full understanding of current liquidity needs and a source for liquidity, especially during economic downturns, is essential to avoid the need to sell discounted assets and locking in losses.

<u>Net returns must justify all investment manager fees</u>: While we can and do invest in fully liquid stock and bond index funds for a very low fee, we also utilize select active managers we believe have an ability to consistently add value in excess of their fees. To that end, we analyze all investment managers' performance net of all fees, and we have a formalized process for dealing with those that fall short of expectations.

Conclusion

Managing the investment portfolios of the three statewide pension plans is an exercise in balancing risk and liquidity with the need for higher investment returns. Instead of just seeking to maximize investment returns, we are tasked with strategically aligning the portfolios with the pension fund's demographic and financial characteristics. As fiduciaries, our goal is to maximize long-term investment returns within acceptable levels of risk and liquidity. To that end, we have engaged best-in-class investment advisors to work with our professional staff to prudently oversee these important assets for the exclusive purpose of providing retirement benefits to Vermont Teachers, state employees, and municipal employees, at best cost to Vermont taxpayers.

We thank the legislature and Governor Scott for recognizing the importance of VPIC's independence and autonomy. We believe Act 75 positioned us well for future oversight of the assets of the three statewide pension plans and we seek your assistance in continuing to strengthen VPIC's oversight of the assets of the three statewide pension plans, as outlined in this report. Specifically, giving VPIC more flexibility on hiring and compensating its investment professionals will go a long way towards mitigating the significant flight risk identified in the Mercer compensation study mandated by Act 75.

We look forward to discussing our annual report with you and your colleagues at your convenience.

APPENDIX A

VPIC Investment Performance Report

(June 30, 2024)

APPENDIX B

RVK 2024 Asset-Liability Study

APPENDIX C

Pension Plan Funding Overview

Vermont Pension Investment Commission
Annual Report
Pension Plan Funding Overview

	VT State Teachers' Retirement			VT State Employees' Retirement			VT Municipal Employees' Retirement		
	6/30/24	6/30/23	Change	6/30/24	6/30/23	Change	6/30/24	6/30/23	Change
Fiscal Year Investment Return	10.23%	7.64%	2.59%	10.16%	7.65%	2.51%	10.22%	7.69%	2.53%
Actuarial Metrics									
Actuarial funded percentage	61.17%	59.30%	1.87%	71.32%	70.31%	1.01%	74.04%	75.06%	-1.02%
Actuarial accrued liability	$ 4,602,348,775	$ 4,410,041,941	$ 192,306,834	$ 3,772,061,520	$ 3,589,070,212	$ 182,991,308	$ 1,371,375,192	$ 1,260,908,766	$ 110,466,426
Actuarially determined employer contribution	$ 212,752,627	$ 201,182,703	$ 11,569,924	$ 136,481,622	$ 131,346,935	$ 5,134,687	$ 0	$ 0	$ 0
Funding policy contribution rate (VMERS only)	n/a	n/a		n/a	n/a		0	0	
Assumed rate of return	7.00%	7.00%	0.00%	7.00%	7.00%	0.00%	7.00%	7.00%	0.00%
Inflation assumption	2.30%	2.30%	0.00%	2.30%	2.30%	0.00%	2.30%	2.30%	0.00%
Smoothing period (years)	5	5	-	5	5	-	5	5	-
Remaining amortization period	14	15	(1)	14	15	(1)	14	15	(1)
Actuarial Gains and (Losses)									
Investment (MV basis)	$ 84,690,556	$ 17,758,260	$ 66,932,296	$ 73,991,210	$ 13,043,367	$ 60,947,843	$ 28,068,948	$ 5,048,306	$ 23,020,642
Net turnover	12,387,965	10,355,606	2,032,359	8,806,334	4,513,484	4,292,850	768,439	(1,402,050)	2,170,489
Retirement	(19,689,024)	(13,111,226)	(6,577,798)	(10,016,416)	(5,790,656)	(4,225,760)	(4,516,152)	(7,724,194)	3,208,042
Mortality	(3,734,817)	1,281,703	(5,016,520)	5,418,232	8,005,442	(2,587,210)	(1,776,937)	(1,784,365)	7,428
Disability retirements	28	(418,493)	418,521	(1,594,218)	(59,419)	(1,534,799)	(621,917)	(252,483)	(369,434)
Salary increases and service increases	(9,677,386)	(1,961,824)	(7,715,562)	(6,655,012)	(8,552,557)	1,897,545	(16,593,792)	(10,849,123)	(5,744,669)
COLA experience	(18,394,263)	5,467,039	(23,861,302)	(29,862,642)	3,240,429	(33,103,071)	(5,238,190)	813,080	(6,051,270)
Miscellaneous	(20,835,916)	(15,110,615)	(5,725,301)	(18,003,411)	(10,721,754)	(7,281,657)	(7,036,158)	(7,445,107)	408,949
Net experience gain/(loss)	$ 24,747,143	$ 4,260,450	$ 20,486,693	$ 22,084,077	$ 3,678,336	$ 18,405,741	$ (6,945,759)	$ (23,595,936)	$ 16,650,177

APPENDIX D

Mercer 2022 Compensation Study

APPENDIX E

[Meketa 2024 Climate Report](#)

APPENDIX F

[New Study: Private Equity Delivers the Strongest Returns for Millions of Public Servants - American Investment Council](#)