

City of Chesapeake

OPEB Trust

April 3, 2023 | pfmam.com | Atlanta, GA

PFM Asset Management LLC

NOT FDIC INSURED : NO BANK GUARANTEE : MAY LOSE VALUE

Agenda

- I. Other Post-Employment Benefits (“OPEB”)**
- II. Investment Funding Options**
- III. PFMAM Investment Approach**
- IV. City of Chesapeake OPEB Trust**
- V. Appendix**

What is OPEB?

- Other (*than pension*) Post-Employment Benefits
 - Benefits (other than pensions) that U.S. state and local governments provide to their retired employees.
 - Medical, dental, vision, prescription drug, life, and long-term disability and care
 - Deemed a form of deferred compensation
 - Promise to provide retiree benefits accrued during the working years of employees

Benefits of Funding an OPEB Trust



- **Use a higher interest rate assumption, resulting in a lower actuarial liability**
- **Offset its liability with Trust assets**
- **Invest for higher potential returns to outpace healthcare inflation**
- **Reduce annual costs of paying benefits overtime**
- **Access funds at any time to pay for retiree OPEB benefits**
- **Demonstrate to creditors that you are proactively addressing the growing liabilities**



Common Funding Options

PAYGO or “Pay-as-you-go”



Convenient/
low upfront
costs



Potential
unsustainable
liability



Red flag to
credit raters



Concerns from
constituents



Guaranteed loss
due to inflation

Irrevocable Trust



Sustainable
solution



GFOA best
practice



Lower long-
term
spending



Appealing
to credit
raters



Addressing
inflation



Access funds
for benefit
payments



GASB
reporting
benefits

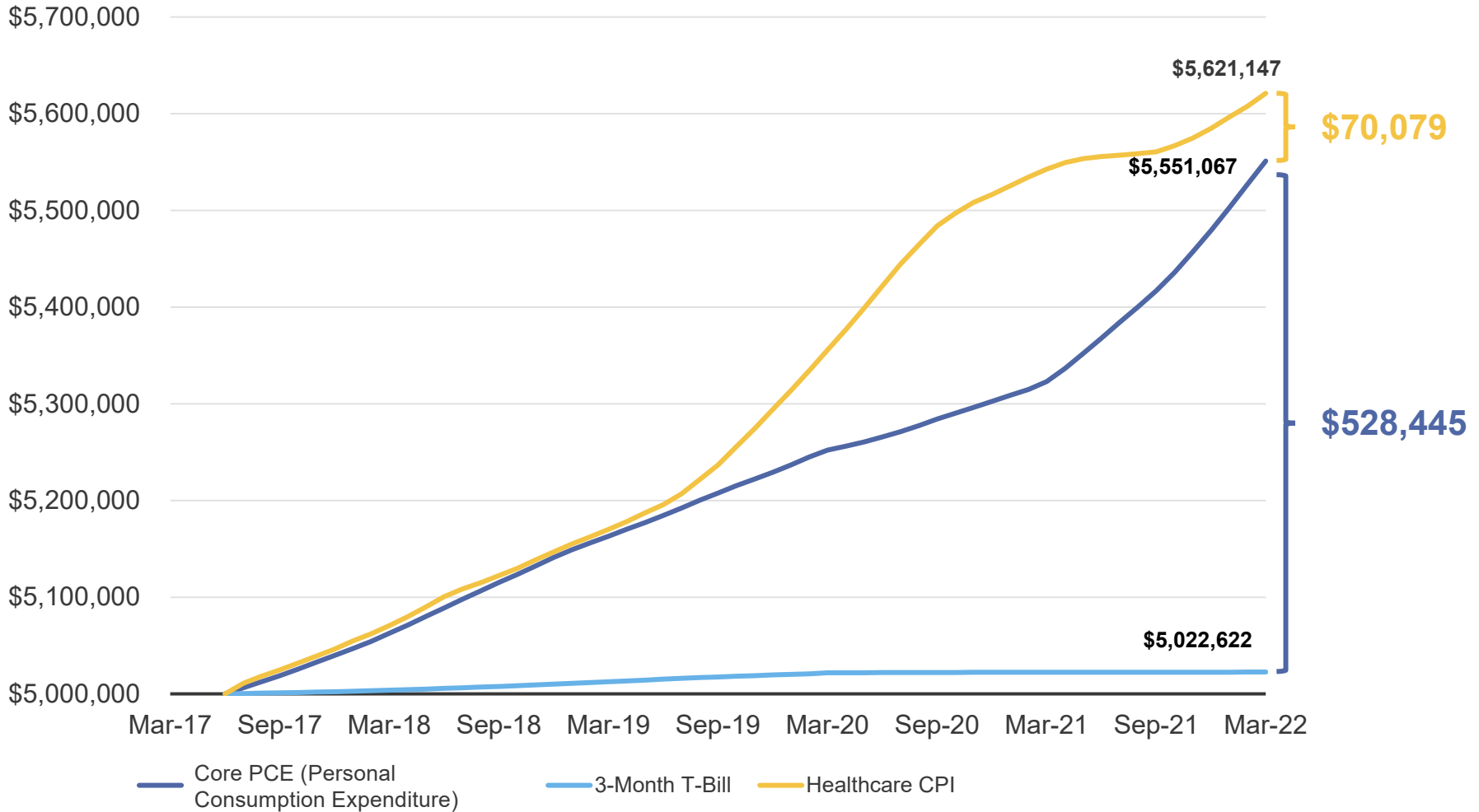


Budget
commitment
upfront

* <http://www.gfoa.org/establishing-and-administering-opeb-trust>

OPEB Liabilities Grow at a Faster Rate than General Funds

Growth of \$5 mm at Various Investment Rates



Source: Bloomberg, as of 3/31/2022 for Core PCE and 3-Month T-Bill. Bureau of Labor Statistics, as of 3/31/2022 for Healthcare CPI. For illustrative purposes only. Calculations are based on an initial investment of \$5,000,000.



Investment Funding Options and Implementation

Our Strategic Partnership Approach



Strategic Portfolio Planning & Design

- ▶ Establish **goals**
- ▶ Identify risk/return **parameters**
- ▶ Assess **liquidity** needs
- ▶ Build custom asset allocation
- ▶ Develop investment policy

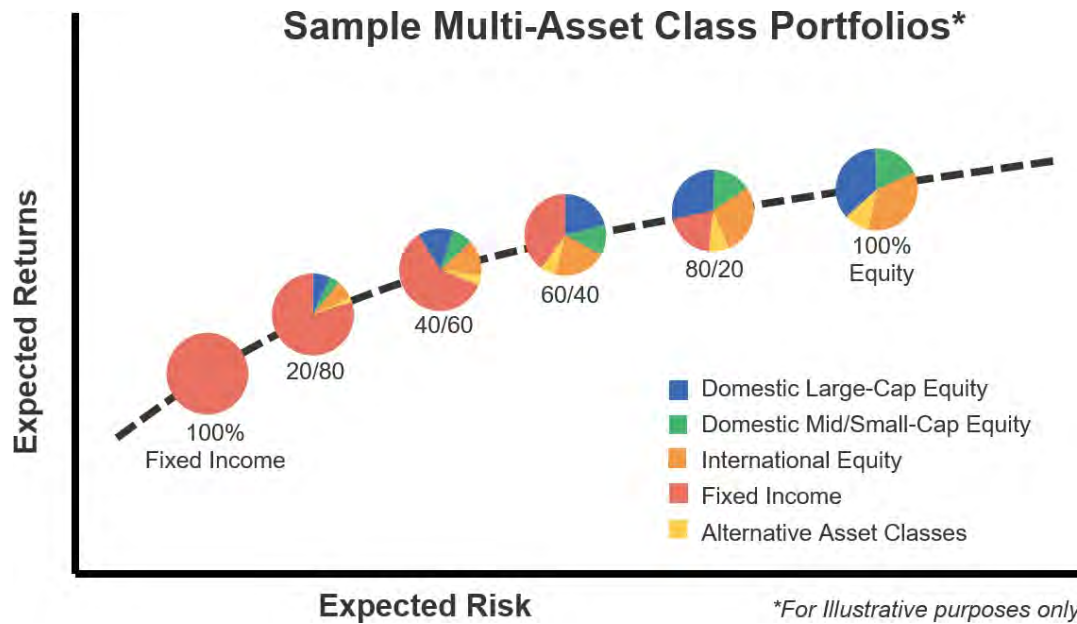
Portfolio Management

- ▶ Determine portfolio **positioning**
- ▶ Decide on **active/passive** exposure
- ▶ Select **managers** or **funds**
- ▶ Implement dynamic/tactical **shifts**

Strategic Portfolio Review

- ▶ **Performance** reporting
- ▶ Transaction reporting
- ▶ **Attribution** analysis
- ▶ Active **rebalancing**
- ▶ Client engagement

Building a Custom Asset Allocation



- ▶ Equities – Also known as stocks
 - Security that represents the ownership of a fraction of the issuing corporation
 - Typically, publicly traded companies
 - Both International and U.S. domiciled companies

- ▶ Why Invest – Equities provide long-term return potential to meet benefit obligations

- ▶ Approaches
 - Passive: mirror an index – S&P 500, MSCI ACWI ex US, Russell 3000
 - Active: manager selects stocks with a goal of outperforming the index

What is Fixed Income?

- ▶ Fixed Income – Also known as bonds
 - ▶ Represent a loan made by a borrower to an investor
 - ▶ Used by companies, municipalities, states, sovereign governments to finance projects or operations
- ▶ Why Invest?
 - ▶ Fixed Income creates the backbone of the portfolio, lower volatility coupled with lower expected returns
- ▶ Approaches
 - ▶ Passive: mirror an index (i.e. Barclays Agg)
 - ▶ Active: manager selects bonds with a goal of outperforming the index



Asset Allocation Summary

| | PFMAM 50/50 Model | Current 60/40 Portfolio | PFMAM 70/30 Model |
|--------------------------------|----------------------|----------------------------|----------------------|
| Equity | 50.0% | 60.0% | 70.0% |
| Domestic Equity | 33.0% | 39.0% | 46.0% |
| International Developed Equity | 12.0% | 15.0% | 16.5% |
| Emerging Markets Equity | 5.0% | 6.0% | 7.5% |
| Fixed Income | 50.0% | 40.0% | 30.0% |
| Core Fixed Income | 25.0% | 20.0% | 15.0% |
| Investment Grade Corporate | 12.5% | 10.0% | 7.5% |
| Emerging Markets Debt | 6.3% | 5.0% | 3.8% |
| High Yield | 6.3% | 5.0% | 3.8% |

Intermediate-Term Assump. (5 Years)

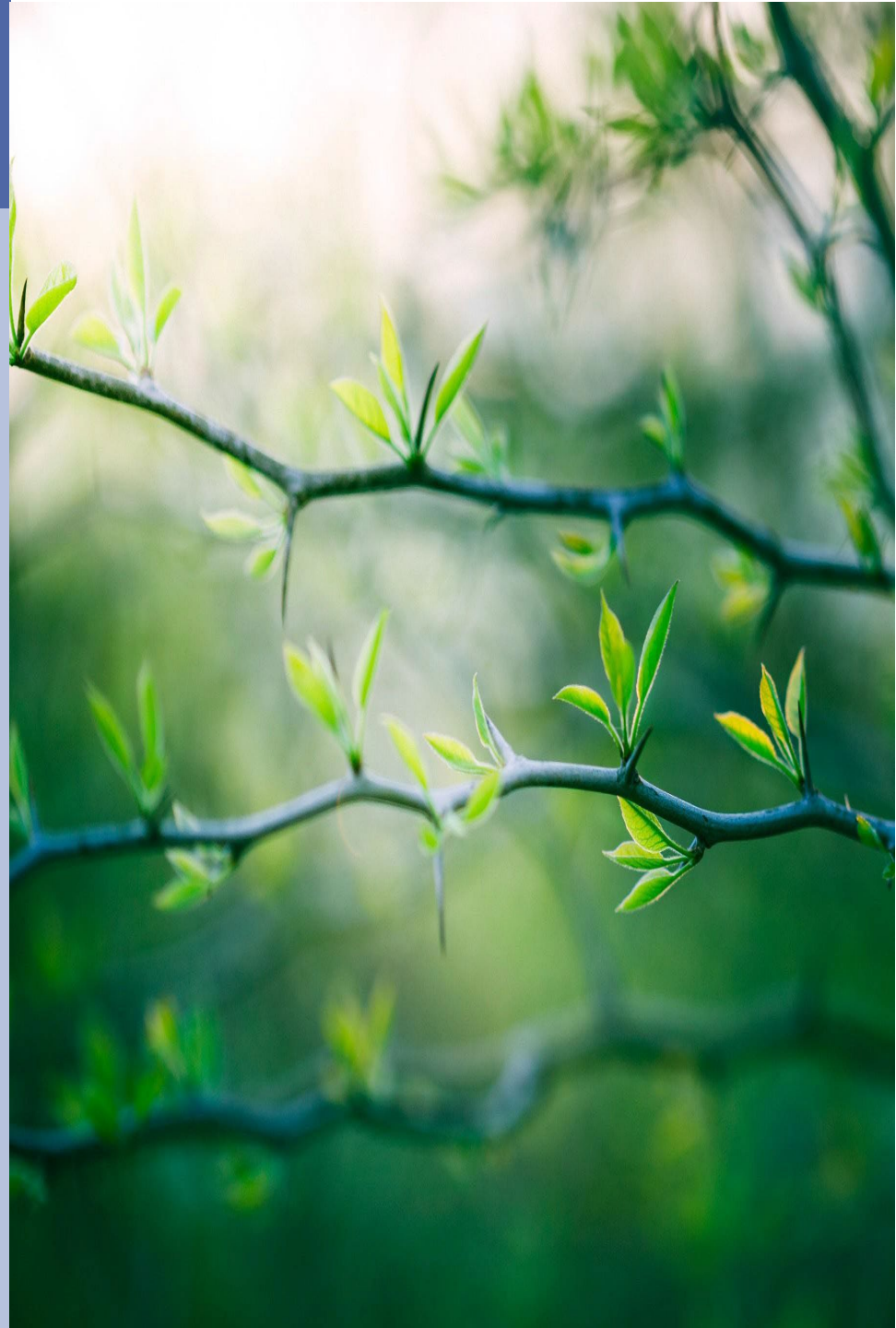
| | | | |
|-----------------------------|-------|-------|-------|
| Expected Return | 7.0% | 7.3% | 7.4% |
| Standard Deviation | 9.4% | 10.6% | 11.8% |
| Return / Standard Deviation | 0.74 | 0.69 | 0.63 |
| Probability of 6.5% Return | 55.0% | 55.2% | 55.8% |
| Probability of 6.75% Return | 52.8% | 53.4% | 53.7% |
| Probability of 7.0% Return | 50.6% | 51.6% | 52.0% |

Long-Term Assump. (30 Years)

| | | | |
|-----------------------------|-------|-------|-------|
| Expected Return | 6.5% | 6.9% | 7.1% |
| Standard Deviation | 9.4% | 10.6% | 11.8% |
| Return / Standard Deviation | 0.70 | 0.65 | 0.61 |
| Probability of 6.5% Return | 50.7% | 57.8% | 61.5% |
| Probability of 6.75% Return | 45.8% | 52.0% | 57.4% |
| Probability of 7.0% Return | 39.7% | 46.7% | 52.9% |

A Philosophy Designed for You

We believe **consistent** risk-adjusted **outperformance** requires a combination of both **active** and **passive** strategies, portfolio **diversification** and **dynamic** asset allocation.



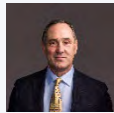
Multi-Asset Investment Committee



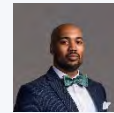
Biagio Manieri, PH.D, CFA
Chief Multi-Asset Strategist
37 years of industry experience



Alex Gurvich, PH.D
Director of Investment Research
29 years of industry experience



John Spagnola
Multi-Asset Practice Co-Leader
39 years of industry experience



Floyd Simpson III, CFA, CAIA, CFP
Multi-Asset Portfolio Strategist
21 years of industry experience



Ken Schiebel, CFA
Chief Investment Officer
42 years of industry experience



Surya Pisapati, CFA
Director of Global Equity Research and Strategy
16 years of industry experience



Marc Ammaturo
Multi-Asset Practice Co-Leader
27 years of industry experience

Ex-Officio Members

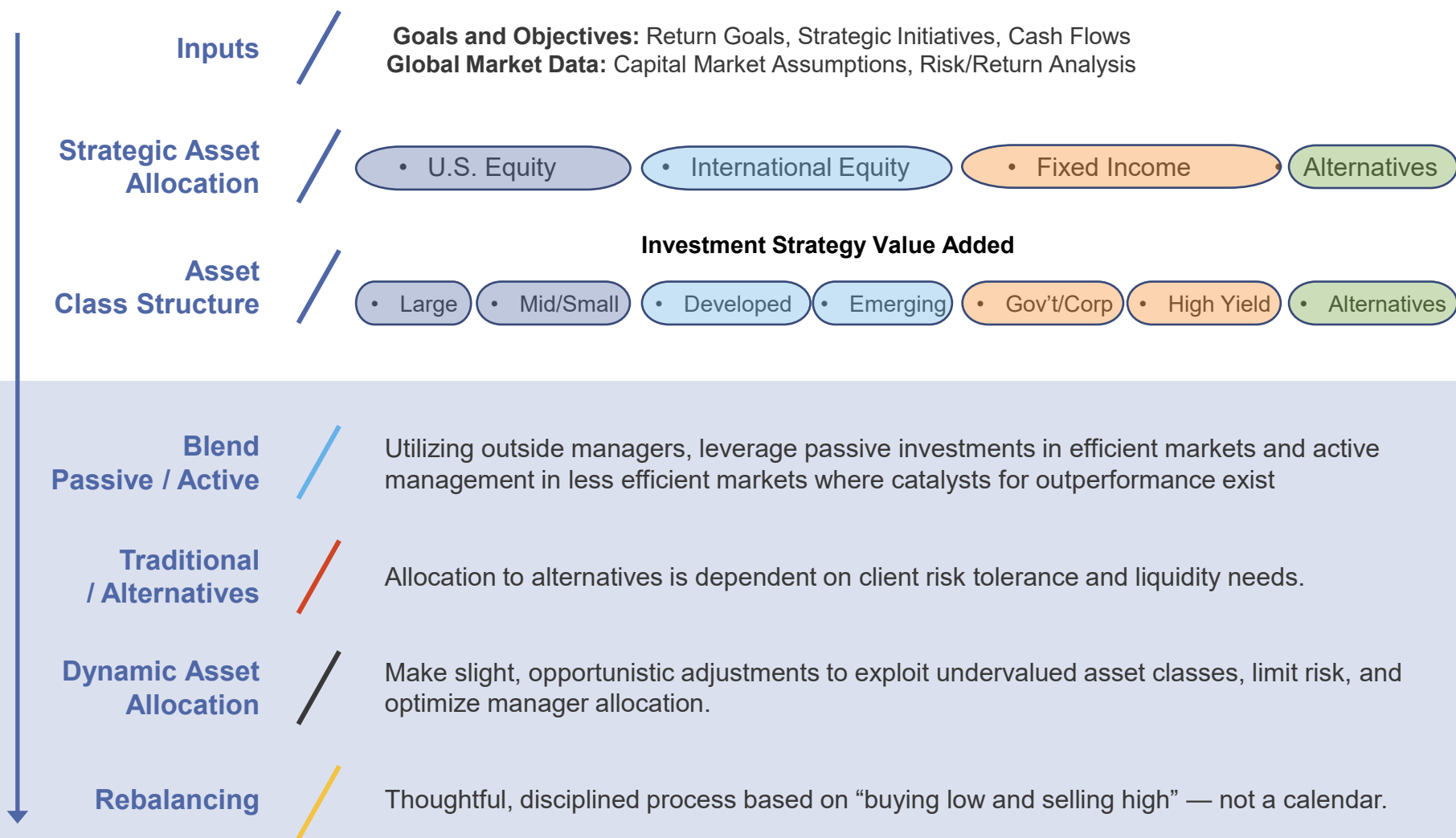


Jim Link, CEBS
Head of Institutional OCIO



Leo Karwejna
Chief Compliance Officer

The Elements to Our Process



Two Consulting Models – Two Approaches

➤ Traditional

- ✓ Provides Strategic Advice
- ✓ Investment Policy Development
- ✓ Manager Search & Evaluation
- ✓ Portfolio Reporting
- ✓ Performance and Attribution Analysis

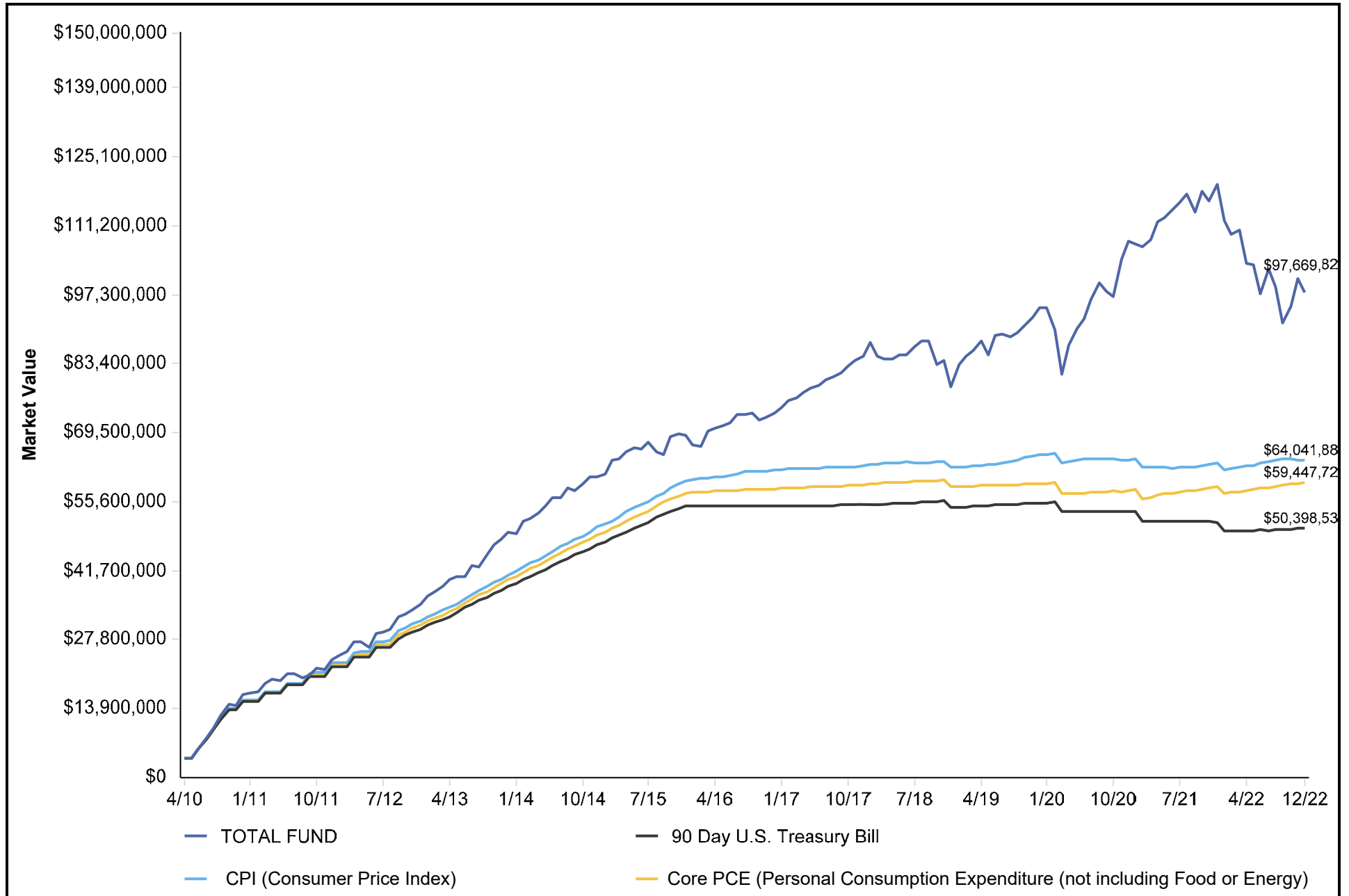
Recommends Only



➤ Discretionary OCIO

- ✓ Provides Strategic Advice
- ✓ Investment Policy Development
- ✓ Manager Search and Evaluation
- ✓ Portfolio Reporting
- ✓ Performance and Attribution Analysis
- ✓ Investment Manager Hire/Fire
- ✓ Tactical Allocations
- ✓ Portfolio Structure and Positioning
- ✓ Active vs Passive Allocation
- ✓ Rebalancing/Cash Flow Management
- ✓ Works Directly with Custodian

Schedule of Investable Assets



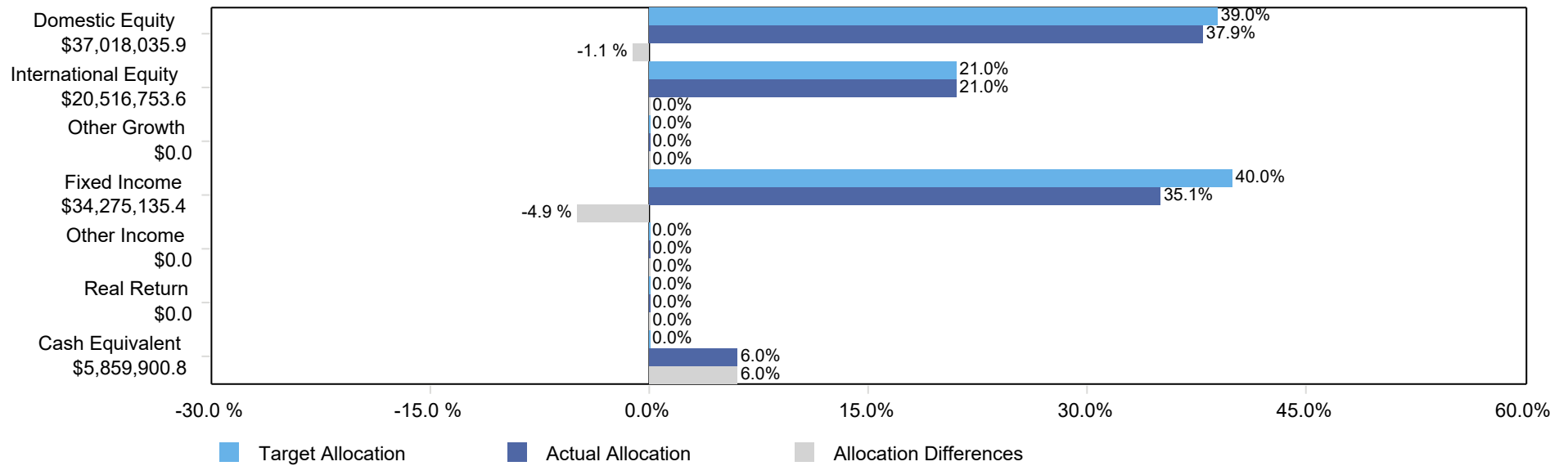
Investment Strategy Review & Plan Performance Summary

| | QTD | YTD | 1 Year | 3 Years | 5 Years | 7 Years | 10 Years |
|--|--------|---------|---------|---------|---------|---------|----------|
| DOMESTIC EQUITY | | | | | | | |
| S&P 500 | 7.56% | -18.11% | -18.11% | 7.66% | 9.42% | 11.48% | 12.56% |
| Russell 3000 Index | 7.18% | -19.21% | -19.21% | 7.07% | 8.79% | 11.04% | 12.13% |
| Russell 1000 Value Index | 12.42% | -7.54% | -7.54% | 5.96% | 6.67% | 9.12% | 10.29% |
| Russell 1000 Growth Index | 2.20% | -29.14% | -29.14% | 7.79% | 10.96% | 12.95% | 14.10% |
| Russell Midcap Index | 9.18% | -17.32% | -17.32% | 5.88% | 7.10% | 9.61% | 10.96% |
| Russell 2500 Index | 7.43% | -18.37% | -18.37% | 5.00% | 5.89% | 9.00% | 10.03% |
| Russell 2000 Value Index | 8.42% | -14.48% | -14.48% | 4.70% | 4.13% | 8.23% | 8.48% |
| Russell 2000 Index | 6.23% | -20.44% | -20.44% | 3.10% | 4.13% | 7.90% | 9.01% |
| Russell 2000 Growth Index | 4.13% | -26.36% | -26.36% | 0.65% | 3.51% | 7.09% | 9.20% |
| INTERNATIONAL EQUITY | | | | | | | |
| MSCI EAFE (Net) | 17.34% | -14.45% | -14.45% | 0.87% | 1.54% | 4.53% | 4.67% |
| MSCI AC World Index (Net) | 9.76% | -18.36% | -18.36% | 4.00% | 5.23% | 8.10% | 7.98% |
| MSCI AC World ex USA (Net) | 14.28% | -16.00% | -16.00% | 0.07% | 0.88% | 4.80% | 3.80% |
| MSCI AC World ex USA Small Cap (Net) | 13.31% | -19.97% | -19.97% | 1.07% | 0.67% | 5.08% | 5.24% |
| MSCI EM (Net) | 9.70% | -20.09% | -20.09% | -2.69% | -1.40% | 5.17% | 1.44% |
| ALTERNATIVES | | | | | | | |
| FTSE NAREIT Equity REIT Index | 5.24% | -24.37% | -24.37% | -0.11% | 3.68% | 4.58% | 6.53% |
| FTSE EPRA/NAREIT Developed Index | 7.11% | -24.39% | -24.39% | -4.06% | 0.70% | 2.77% | 3.90% |
| Bloomberg Commodity Index Total Return | 2.22% | 16.09% | 16.09% | 12.65% | 6.44% | 6.49% | -1.29% |
| FIXED INCOME | | | | | | | |
| Blmbg. Barc. U.S. Aggregate | 1.87% | -13.01% | -13.01% | -2.71% | 0.02% | 0.89% | 1.06% |
| Blmbg. Barc. U.S. Government/Credit | 1.80% | -13.58% | -13.58% | -2.57% | 0.21% | 1.14% | 1.16% |
| Blmbg. Barc. Intermed. U.S. Government/Credit | 1.54% | -8.24% | -8.24% | -1.26% | 0.73% | 1.12% | 1.12% |
| Blmbg. Barc. U.S. Treasury: 1-3 Year | 0.73% | -3.82% | -3.82% | -0.46% | 0.74% | 0.71% | 0.65% |
| Blmbg. Barc. U.S. Corp: High Yield | 4.17% | -11.19% | -11.19% | 0.05% | 2.31% | 5.05% | 4.03% |
| Credit Suisse Leveraged Loan index | 2.33% | -1.06% | -1.06% | 2.34% | 3.24% | 4.31% | 3.78% |
| ICE BofAML Global High Yield Constrained (USD) | 6.95% | -13.26% | -13.26% | -1.74% | 0.84% | 4.03% | 3.14% |
| Blmbg. Barc. Global Aggregate Ex USD | 6.81% | -18.70% | -18.70% | -5.95% | -3.07% | -0.59% | -1.64% |
| JPM EMBI Global Diversified | 8.11% | -17.78% | -17.78% | -5.28% | -1.31% | 1.85% | 1.59% |
| CASH EQUIVALENT | | | | | | | |
| 90 Day U.S. Treasury Bill | 0.84% | 1.46% | 1.46% | 0.72% | 1.26% | 1.06% | 0.75% |

Source: Investment Metrics. Returns are expressed as percentages. Please refer to the last page of this document for important disclosures relating to this material.

Asset Allocation Compliance - TOTAL FUND

| | Asset Allocation (%) | Target Allocation (%) | Minimum Allocation (%) | Maximum Allocation (%) | Differences (%) |
|----------------------|----------------------|-----------------------|------------------------|------------------------|-----------------|
| TOTAL FUND | 100.0 | 100.0 | N/A | N/A | 0.0 |
| Domestic Equity | 37.9 | 39.0 | 19.0 | 59.0 | -1.1 |
| International Equity | 21.0 | 21.0 | 1.0 | 41.0 | 0.0 |
| Other Growth | 0.0 | 0.0 | 0.0 | 20.0 | 0.0 |
| Fixed Income | 35.1 | 40.0 | 20.0 | 60.0 | -4.9 |
| Other Income | 0.0 | 0.0 | 0.0 | 20.0 | 0.0 |
| Real Return | 0.0 | 0.0 | 0.0 | 20.0 | 0.0 |
| Cash Equivalent | 6.0 | 0.0 | 0.0 | 20.0 | 6.0 |



Historical Hybrid Composition - Blended Benchmark

| Allocation Mandate | Weight (%) |
|--|------------|
| May-2010 | |
| Russell 3000 Index | 33.0 |
| MSCI EAFE (net) | 21.0 |
| FTSE NAREIT Equity REIT Index | 6.0 |
| Blmbg. U.S. Aggregate | 40.0 |
| Jan-2011 | |
| Russell 3000 Index | 33.0 |
| MSCI AC World ex USA (Net) | 21.0 |
| FTSE NAREIT Equity REIT Index | 6.0 |
| Blmbg. U.S. Aggregate | 40.0 |
| Mar-2018 | |
| Russell 3000 Index - <i>U.S. Equity</i> | 39.0 |
| MSCI AC World ex USA (Net) - <i>Non. U.S. Equity</i> | 21.0 |
| Blmbg. U.S. Aggregate - <i>Fixed Inc</i> | 40.0 |

Capital Market Assumptions

What are Capital Market Assumptions?

- ▶ Expected future return, associated risk, and correlation for various asset classes over a specified period
 - ▶ Return: Expected average annual growth rate of the asset class for the period
 - 5% annualized over the next 30 years
 - ▶ Risk (Standard Deviation): Expected range of annual returns based on a normal distribution
 - 5% expected return with a 10% standard deviation has a 68% certainty of a return between -5% and 15% in any one year

2023 Capital Market Assumptions

| | Intermediate: Next 5 Years | | Long Term Projections | |
|-------------------------------|----------------------------|---------------|-----------------------|---------------|
| | Expected Return | Expected Risk | Expected Return | Expected Risk |
| US Equity | 7.2% | 16% | 7.7% | 16% |
| U.S. Small-Cap | 8.6% | 19% | 8.5% | 19% |
| Int'l Developed Equity | 8.5% | 17% | 7.5% | 17% |
| EM Equity | 7.9% | 20% | 7.5% | 20% |
| Non-US Small-Cap | 8.6% | 20% | 7.9% | 20% |
| Short-Term Bonds | 3.9% | 3% | 3.3% | 3% |
| Core Bonds | 4.5% | 5% | 4.0% | 5% |
| Global Core | 3.6% | 5% | 3.0% | 5% |
| Int. IG Corp | 5.5% | 7% | 5.0% | 7% |
| Long IG Corp | 6.2% | 8% | 5.2% | 8% |
| EM Debt | 6.9% | 10% | 5.2% | 10% |
| High Yield | 7.5% | 9% | 5.7% | 9% |
| Bank Loans | 6.5% | 6% | 5.1% | 6% |
| Private Debt | 7.5% | 13% | 7.2% | 13% |
| REITs | 6.6% | 12% | 6.6% | 12% |
| Private Real Estate | 6.1% | 15% | 6.1% | 15% |
| Infrastructure | 6.2% | 18% | 6.2% | 18% |
| Commodities | 4.6% | 16% | 5.2% | 16% |
| Hedge Funds | 8.3% | 15% | 7.0% | 15% |
| Private Equity | 10.4% | 25% | 9.6% | 25% |
| Cash | 3.2% | 1% | 2.6% | 1% |

For the intermediate term (up to 5 years), our capital market assumptions derive from our assessment of current economic conditions, including corporate profits, balance sheets, etc., and current valuations for various asset classes. Our long-term assumptions are derived using an economic building block approach that projects economic and corporate profit growth and takes into consideration the fundamental factors driving long-term real economic growth, our expectation for inflation, productivity and labor force growth.

What is the Role of Correlation?

- ▶ An estimate of how asset classes will behave relative to one another
- ▶ The measure is standardized and ranges between -1 (perfectly negatively correlated) to +1 (perfectly correlated)
- ▶ Considering how asset classes are correlated as part of the portfolio construction process is important to ensure diversification—a fundamental principle of modern portfolio theory

2023 Capital Market Assumptions, Cont.

| | U.S. Equity | U.S. Small-Cap | Int'l Developed Equity | EM Equity | Non-US Small-Cap | Short Bonds | Core Bonds | Global Core | Intermediate IG Corp | Long IG Corp | EM Debt | High Yield | Bank Loans | Private Debt | REITs | PE RE | Infrastructure | Commodities | Hedge Funds | Private Equity | Cash | |
|------------------------|-------------|----------------|------------------------|-----------|------------------|-------------|------------|-------------|----------------------|--------------|---------|------------|------------|--------------|-------|-------|----------------|-------------|-------------|----------------|------|-----|
| U.S. Equity | 1.0 | | | | | | | | | | | | | | | | | | | | | |
| U.S. Small-Cap | 0.9 | 1.0 | | | | | | | | | | | | | | | | | | | | |
| Int'l Developed Equity | 0.8 | 0.8 | 1.0 | | | | | | | | | | | | | | | | | | | |
| EM Equity | 0.7 | 0.7 | 0.7 | 1.0 | | | | | | | | | | | | | | | | | | |
| Non-US Small-Cap | 0.8 | 0.8 | 0.9 | 0.8 | 1.0 | | | | | | | | | | | | | | | | | |
| Short Bonds | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 1.0 | | | | | | | | | | | | | | | | |
| Core Bonds | 0.3 | 0.3 | 0.2 | 0.2 | 0.2 | 0.5 | 1.0 | | | | | | | | | | | | | | | |
| Global Core | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.4 | 0.4 | 1.0 | | | | | | | | | | | | | | |
| Intermediate IG Corp | 0.3 | 0.3 | 0.2 | 0.2 | 0.2 | 0.7 | 0.9 | 0.9 | 1.0 | | | | | | | | | | | | | |
| Long IG Corp | 0.3 | 0.3 | 0.2 | 0.2 | 0.2 | 0.7 | 0.9 | 0.9 | 0.9 | 1.0 | | | | | | | | | | | | |
| EM Debt | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.3 | 0.4 | 0.4 | 0.4 | 0.4 | 1.0 | | | | | | | | | | | |
| High Yield | 0.7 | 0.7 | 0.5 | 0.5 | 0.5 | 0.3 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 1.0 | | | | | | | | | | |
| Bank Loans | 0.4 | 0.4 | 0.3 | 0.3 | 0.3 | 0.4 | 0.3 | 0.3 | 0.3 | 0.3 | 0.7 | 0.7 | 1.0 | | | | | | | | | |
| Private Debt | 0.6 | 0.6 | 0.4 | 0.4 | 0.4 | 0.3 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.8 | 0.7 | 1.0 | | | | | | | | |
| REITs | 0.5 | 0.5 | 0.4 | 0.4 | 0.4 | 0.2 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.4 | 0.4 | 0.4 | 1.0 | | | | | | | |
| PE RE | 0.4 | 0.4 | 0.3 | 0.3 | 0.3 | 0.2 | 0.3 | 0.3 | 0.3 | 0.2 | 0.2 | 0.4 | 0.2 | 0.4 | 0.8 | 1.0 | | | | | | |
| Infrastructure | 0.3 | 0.3 | 0.3 | 0.2 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.2 | 0.2 | 0.3 | 0.2 | 0.3 | 0.4 | 0.5 | 1.0 | | | | | |
| Commodities | 0.1 | 0.1 | 0.1 | 0.2 | 0.1 | 0.4 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 1.0 | | | | |
| Hedge Funds | 0.6 | 0.6 | 0.5 | 0.5 | 0.5 | 0.3 | 0.4 | 0.4 | 0.4 | 0.3 | 0.3 | 0.4 | 0.4 | 0.4 | 0.4 | 0.3 | 0.3 | 0.2 | 1.0 | | | |
| Private Equity | 0.7 | 0.7 | 0.6 | 0.6 | 0.6 | 0.2 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.5 | 0.2 | 0.5 | 0.4 | 0.4 | 0.4 | 0.1 | 0.5 | 1.0 | | |
| Cash | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.5 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 1.0 |



Our Outsourced Chief Investment Officer (OCIO) Business

- ▶ Fiduciary standards
- ▶ Open architecture approach to portfolio construction
- ▶ Strong absolute and relative performance across all OCIO composites
- ▶ High client retention
- ▶ Focus on exclusively serving institutional investors

22 years of OCIO experience

More than 245 professionals dedicated to all aspects of asset management

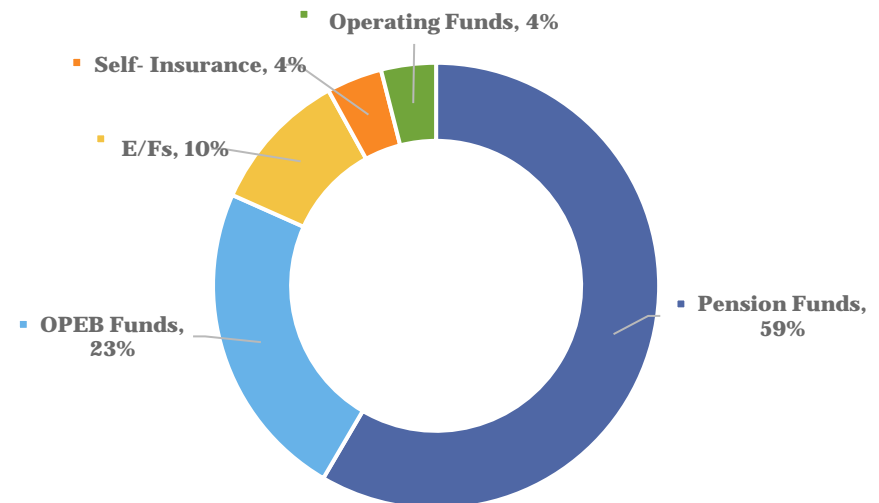
Client customization capabilities

As of December 31, 2022. First discretionary OCIO client dates back to August 2000. Multi-Asset Class experience includes legacy organizations

\$16.9b

OCIO Mandates

OCIO Asset Composition by Fund Type



The returns presented in this simulation are not actual returns experienced by a real investor, but rather simulated returns that we believe could have been achieved under controlled circumstances using a number of assumptions. No representation or warranty is made to the reasonableness of the assumptions made or that all assumptions used in achieving the returns have been stated or fully considered.

No assurance can be given as to whether the information and/or assumptions upon which this hypothetical performance is based reflect present market conditions or future market performance. Actual performance results may differ from this hypothetical performance presented. Changes in the assumptions may have a material impact on the hypothetical performance presented. Past performance is no guarantee of future results.

The material is provided to you on the understanding that, as a sophisticated investor, you will understand and accept its inherent limitations.



Disclaimer

Investment advisory services are provided by PFM Asset Management LLC (“PFMAM”), an investment adviser registered with the U.S. Securities and Exchange Commission and a subsidiary of U.S. Bancorp Asset Management, Inc. (“USBAM”). USBAM is a subsidiary of U.S. Bank National Association (“U.S. Bank”). U.S. Bank is a separate entity and subsidiary of U.S. Bancorp. U.S. Bank is not responsible for and does not guarantee the products, services or performance of PFMAM. The information contained is not an offer to purchase or sell any securities. Additional applicable regulatory information is available upon request.

For more information regarding PFMAM’s services please visit www.pfmam.com.

