# State Board of Administration

## FRS Pension Plan Review

### Actuarial Assumptions Estimating Conference

### October 17, 2024

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# Executive Summary

- Current performance and markets remain resilient
  - Strong performance in public markets, however weaker performance in private markets notably, real estate and private equity
  - While real estate will likely experience a boost as interest rates decline, outlook for further rate cuts and ultimate level where rates will settle unclear
  - Geopolitical risk has amplified presenting significant uncertainties for markets
  - Near-term economic condition is stable
- Longer term – we remain at the dividing line between two secular regimes
  - The next 15 years are not likely to look like the past 15 years
    - "Higher for longer" is the new normal
      - Higher average inflation
      - Higher interest rates
      - Higher geopolitical risk
      - Higher volatility
- These views have been taken into account in current capital market assumptions and expected returns
- SBA supports keeping current Assumed Rate of Return at 6.70% until more clarity regarding markets and implementation of revised asset allocation
- Additionally Consider: Increasing contributions, reducing UAL amortization period, and level dollar amortization

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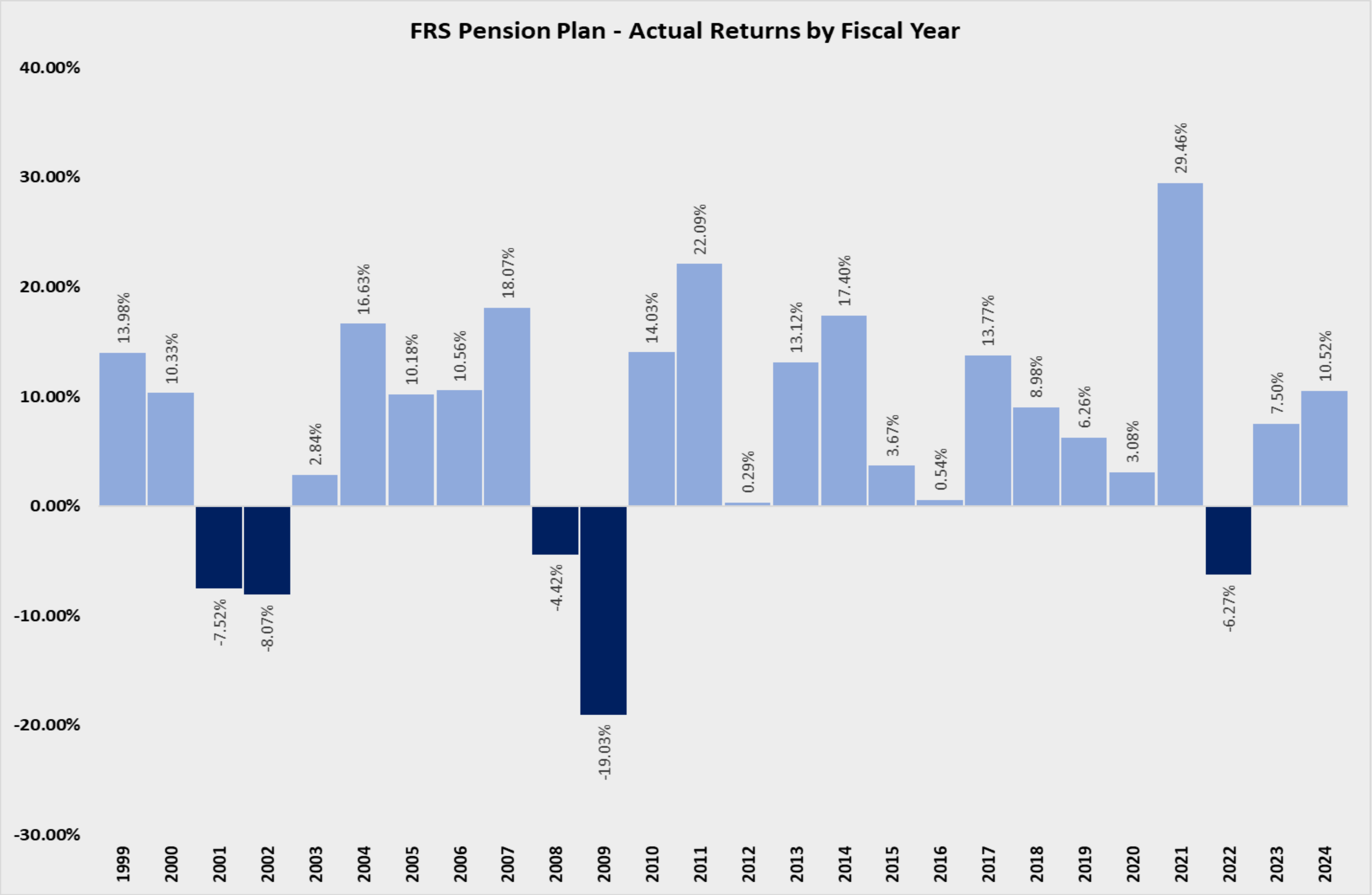
# FRS Pension Plan Return Performance 2024

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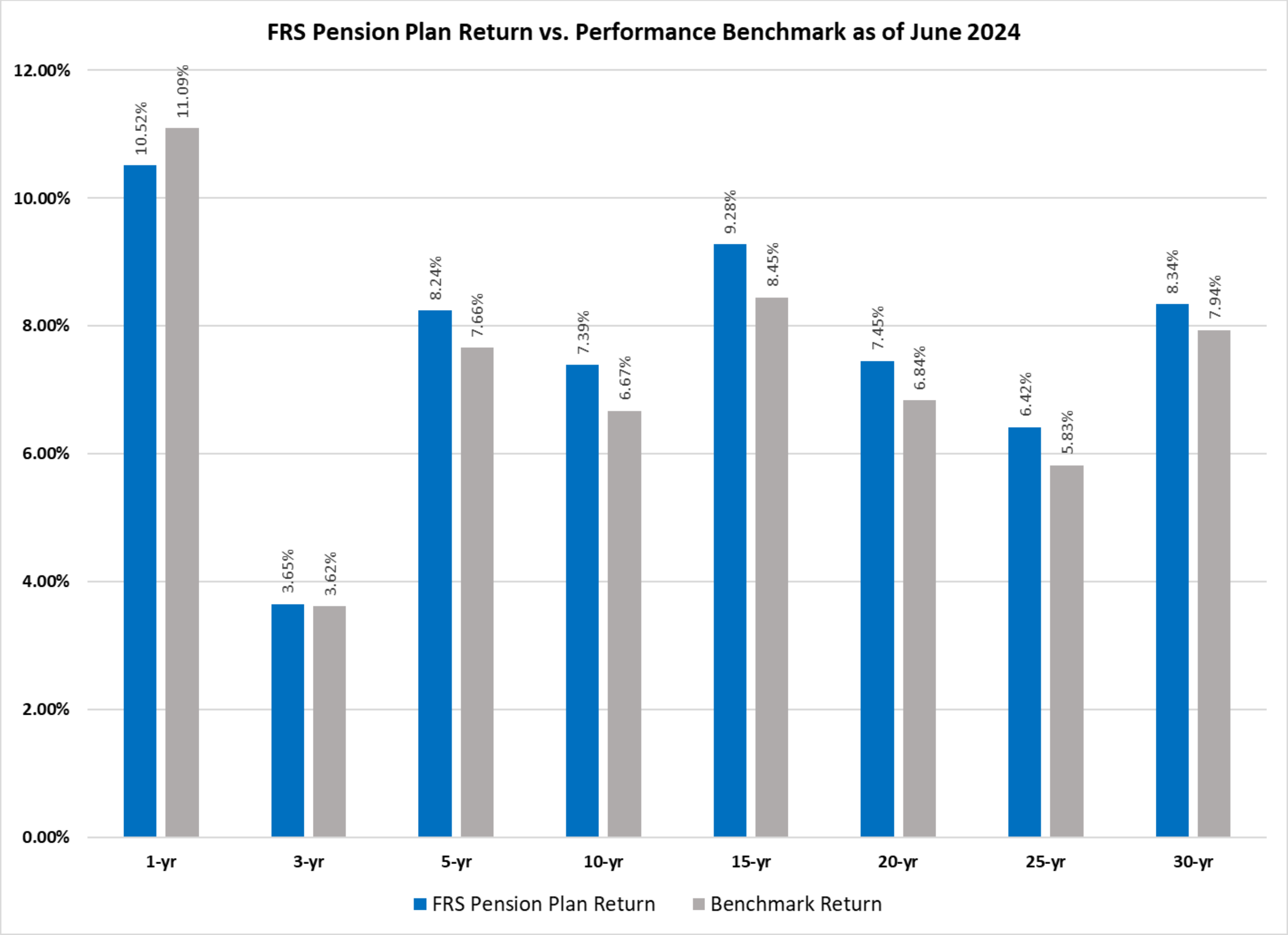
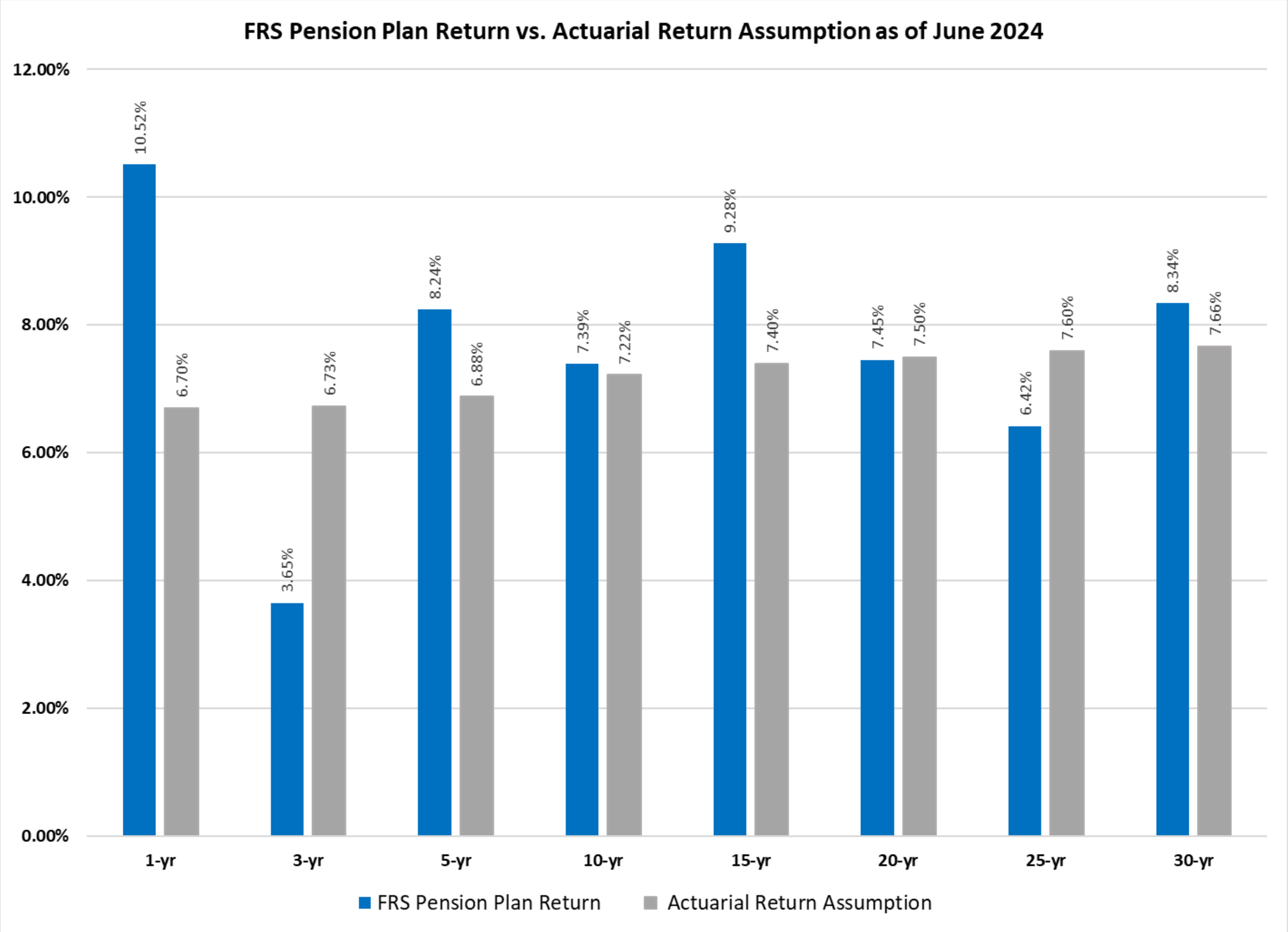
# FRS Pension Plan Return vs. Performance Benchmark 2024




- The FRS Pension Plan has outperformed its performance benchmark over all but the most recent time period

- Underperformance in 2024 driven by lags in private market valuations in the face of significant public equity gains during the year

# FRS Pension Plan Return vs. Actuarial Return Assumptions




- The FRS Pension Plan has exceeded actuarial return assumptions for all but the 3-yr, 20-yr, and 25-yr time periods

- SBA is projecting a long-term nominal return assumption of 6.32% based on current equity risk premia and capital market assumptions

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# Public Markets – Steady Over The Last Year

Bloomberg

MXWD Index (MSCI ACWI Index)
MXWD Index (MSCI ACWI Index)
LBUSTRUU Index (Bloomberg US Agg Total Return Value Unhedged USD)




Bloomberg ®Charts 1 - 1

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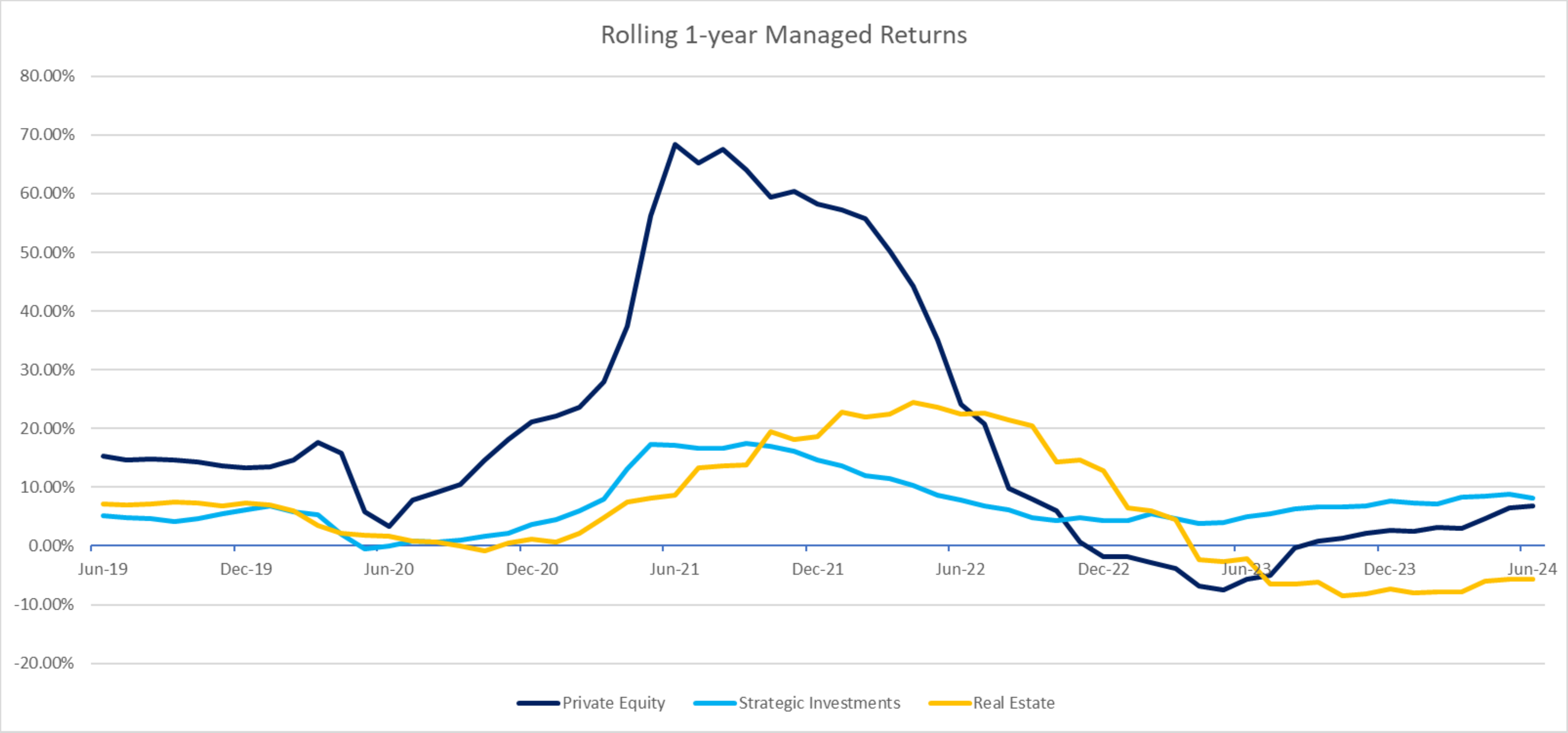
# Private Markets – Challenged But Recovering

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# Economy – Generally Stable, But . . .

Generally Stable

- Inflation continuing to moderate
  - As of August 31, 2.5% year over year, down from peak of 9.1% in 2022 and 3.7% this time last year
- Unemployment slightly up from last year at 4.3%, up from 3.8%
  - But job numbers continue to surprise on the upside
- Just under 1.2 jobs per job seeker
- Real wages holding steady
- Consumer spending as measured by personal consumption expenditures remains elevated

But . . .

- Consumer delinquencies are up slightly compared to last year
  - Delinquency rates on all consumer loans at 2.74%, higher than pre-pandemic levels and higher than last year's number of 2.38%

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# Continuation of the New Normal

- The New Normal - “Higher for longer”
  - Inflation tamer but remaining at high level
    - Tight Labor Market *(slides 20-21)
    - Increased federal spending in the aggregate year over year *(slide 19)
    - Under-investment in fossil fuel energy, but continued demand, will also be inflationary *(slide 22)
    - Decoupling/de-globalization and reconfiguration of supply chains will be inflationary
  - Interest rates beginning to come down
    - Continues to have an impact on US debt burden *(slides 23-25)
      - Higher rates especially in a “higher for longer” environment *(Slide 26)
      - Increased supply of US Treasuries
      - Incentive to inflate away rather than pay off
      - Increase in national debt year over year
      - Debt service payments are 17% of federal budget year over year
    - Increased term premia *(slide 27)
  - Lower growth/equity risk premia
    - Aging demographics, slowing population growth *(slides 28-29)
  - Higher volatility
    - Re-emergence of business cycle
    - Geopolitics

* Indicates corresponding chart(s) is(are) included in the appendix

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# The New Normal – Reflected in CMAs and Risk Premia

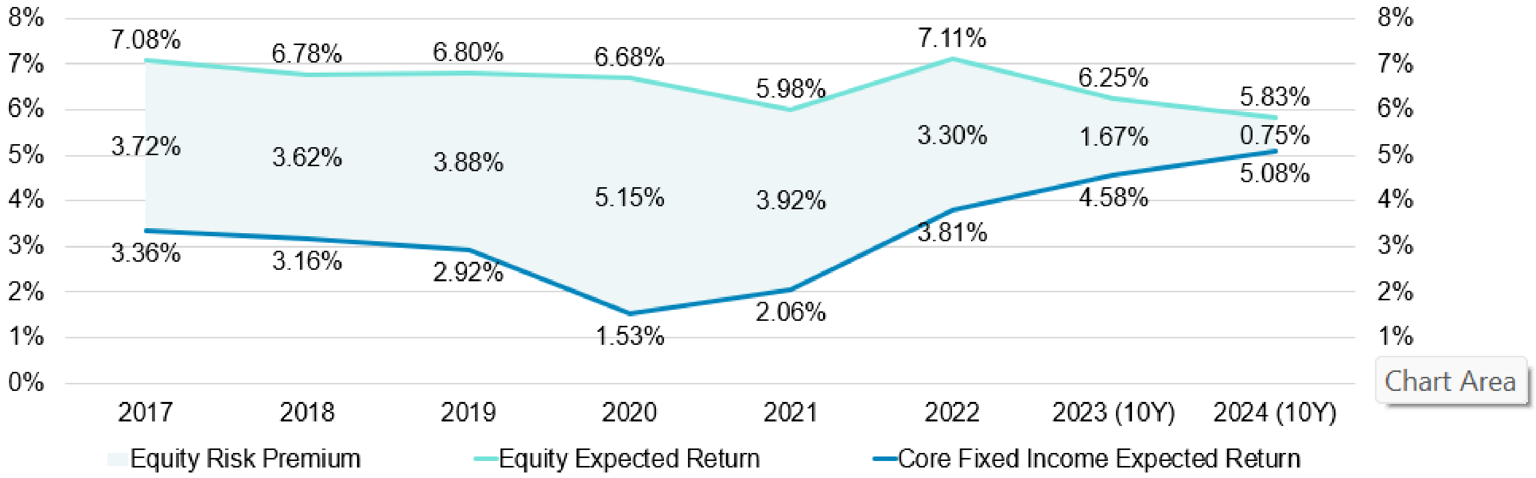
## Assumptions – Development

Breakdown of equity risk premium assumption

**The decrease in the 2024 equity risk premium[1] was driven by the combination of increases in projected fixed income returns and decreasing projected equity returns**

- Below is a 8-year historical look at the breakdown of the global equity risk premium

**Breakdown of Global Equity Risk Premium**




[1] Equity Risk Premium is defined as the excess return earned over bonds that compensates investors for taking on higher risk; all returns are 15-year (Pre-2023) / 10-year (Post-2023) geometric average (compounded) expected returns

Capital market adjustments and risk premium adjustments take the New Normal into consideration

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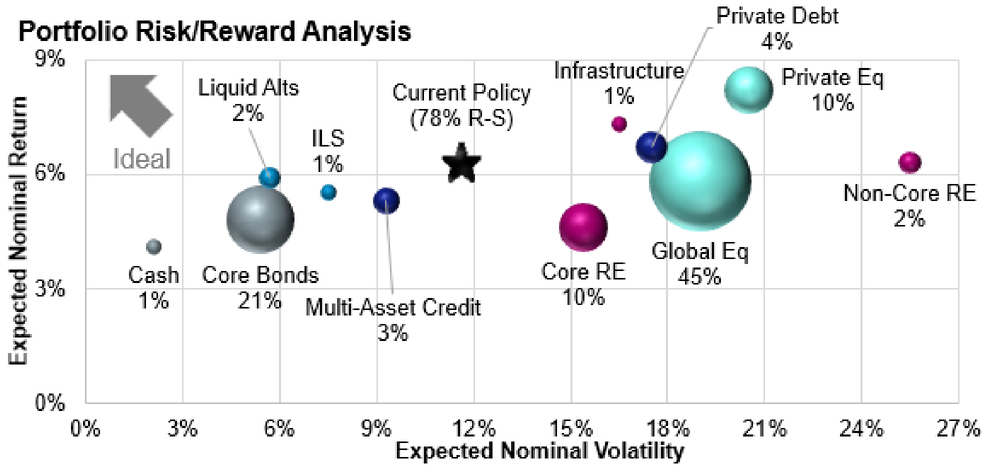
# The New Normal – Also Reflected in Return Expectation

## SBA Portfolio Analysis – Current Portfolio

Current diversification results in an expected return of 6.32%[1]




| Asset Class – Target % | Expected Real Return[1] | Expected Nominal Return[1] | Expected Nominal Volatility |
|---|---|---|---|
| **Equity** | | | |
| Global Equity IMI – 45% | 3.4% | 5.8% | 19.0% |
| **Fixed Income** | | | |
| Cash (Gov't) – 1% | 1.8% | 4.1% | 2.1% |
| Core Fixed Income – 21% | 2.4% | 4.8% | 5.4% |
| Multi-Asset Credit – 3% | 2.9% | 5.3% | 9.3% |
| **Alternatives** | | | |
| Direct Hedge Funds[2,3] – 2% | 3.5% | 5.9% | 5.7% |
| Core Real Estate – 10% | 2.2% | 4.6% | 15.4% |
| Non-Core Real Estate – 2% | 3.9% | 6.3% | 25.5% |
| Private Equity – 10% | 5.8% | 8.2% | 20.5% |
| Infrastructure - 1% | 4.9% | 7.3% | 16.5% |
| Private Debt – 4% | 4.3% | 6.7% | 17.5% |
| Insurance Linked Securities – 1% | 3.1% | 5.5% | 7.5% |
| **Portfolio Metrics (30-Year Assumptions)** | | | |
| **Total Fund[1,2]** | **3.95%** | **6.32%** | **11.63%** |

**Legend:**

Bubble size proportional to current asset allocation (i.e., larger bubbles = larger allocations); Asset classes are color coded:

- Equities (teal), Liquid Alternatives (blue), Return-Seeking Fixed Income (navy blue), Real Assets (purple), Safety (grey)

[1] Expected returns are using Aon's Q3 2024 10/30-Year Capital Market Assumptions (CMAs) as of June 30, 2024 adjusted for the delta in average Global Equity Risk Premium (ERP) among three investment advisors: Aon, Mercer, and Wilshire (-125bps adjustment), which are projections about the future returns of asset classes. For asset classes that can be implemented passively, which includes most public assets, alpha and active management fees are not included in the return expectations. For asset classes that can only be implemented actively, such as hedge funds and private assets, we assume alpha and higher active manager fees. Expected returns are geometric (long-term compounded). Expected returns presented are models and do not represent the returns of an actual client account. Your actual returns may differ from the model expected returns presented based on your plan's individual fees/expenses. AIUSA's advisory fees are described in Part 2A of AIUSA's Form ADV. Not a guarantee of future results. See appendix for capital market assumptions disclosure pages.

[2] The portfolio's expected return of 6.32% is based upon current policy target weights for each asset class and the asset classes' expected returns and correlations. The portfolio's expected return is subject to change should the current policy targets change and/or the investment objective of an asset class change.

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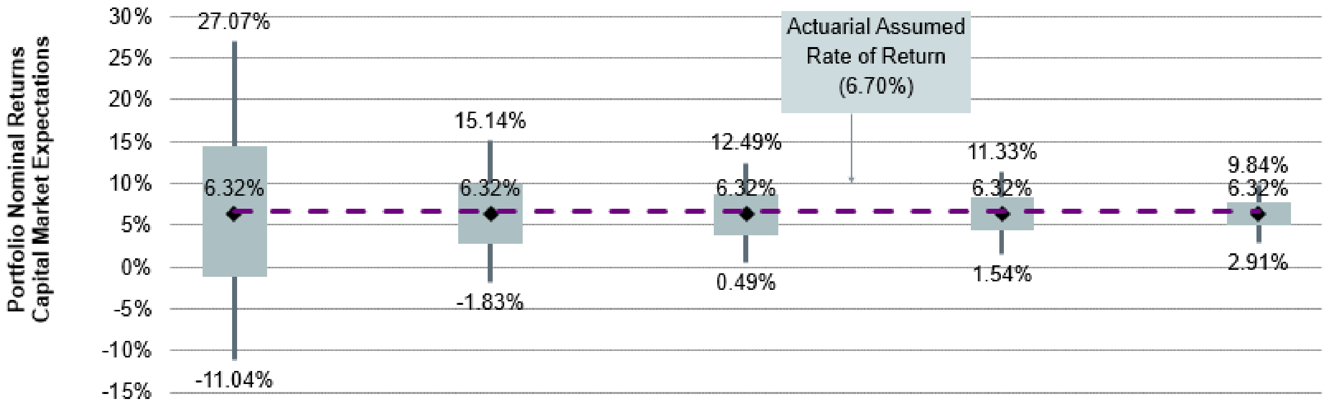
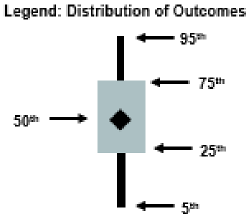
# The New Normal – Actual Returns Will Not Match Expected Every Year

## SBA Portfolio Analysis

Range of nominal returns by time horizon[1,2]




| Percentile | Current Policy: 1-Year | Current Policy: 5-Year | Current Policy: 10-Year | Current Policy: 15-Year | Current Policy: 30-Year |
|---|---|---|---|---|---|
| 5th | -11.04% | -1.83% | 0.49% | 1.54% | 2.91% |
| 25th | -1.18% | 2.90% | 3.89% | 4.33% | 4.91% |
| 50th | 6.32% | 6.32% | 6.32% | 6.32% | 6.32% |
| 75th | 14.38% | 9.85% | 8.81% | 8.35% | 7.75% |
| 95th | 27.07% | 15.14% | 12.49% | 11.33% | 9.84% |




- In fact, near term risks are significantly to the downside given increased geopolitical risk and significant lag effect of Federal Reserve tightening
- And large drawdowns have an outsized effect on achieving assumed rate over time

[1] Expected returns are using Aon's Q3 2024 10/30-Year Capital Market Assumptions (CMAs) as of June 30, 2024 adjusted for the delta in average Global Equity Risk Premium (ERP) among three investment advisors: Aon, Mercer, and Wilshire (-125bps adjustment), which are projections about the future returns of asset classes. For asset classes that can be implemented passively, which includes most public assets, alpha and active management fees are not included in the return expectations. For asset classes that can only be implemented actively, such as hedge funds and private assets, we assume alpha and higher active manager fees. Expected returns are geometric (long-term compounded). Expected returns presented are models and do not represent the returns of an actual client account. Your actual returns may differ from the model expected returns presented based on your plan's individual fees/expenses. AIUSA's advisory fees are described in Part 2A of AIUSA's Form ADV. Not a guarantee of future results. See appendix for capital market assumptions disclosure pages.

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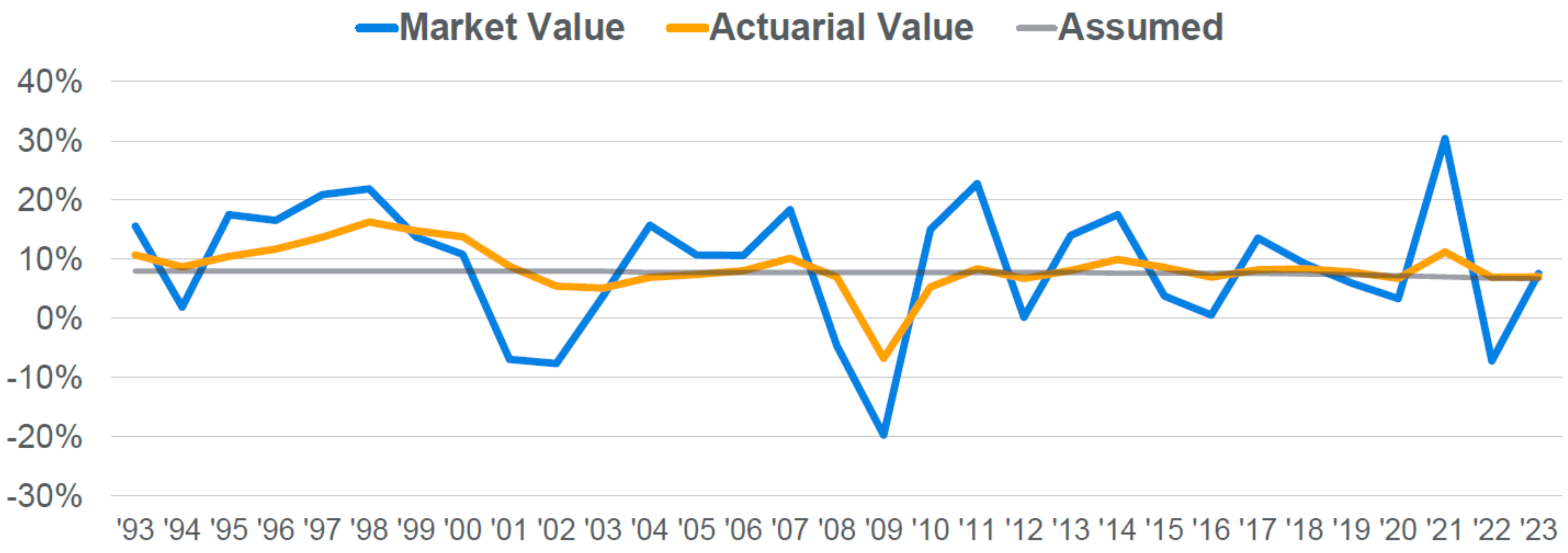
# Long Term Comparison To Assumed Rate of Return

## Historic Asset Returns




- The 2022-23 return was **+7.6%** on a market value of assets (MVA) basis and +7.0% on a smoothed actuarial value of assets (AVA) basis
  - AVA return is determined by market value returns over the prior five years



Milliman

- This shows SBA's year-over-year actual or actuarial performance compared to the assumed rate of return then in effect for the year in question.
- The impact of large drawdowns is muted as year-over-year returns can recover quickly compared to the annual assumed rate of return.

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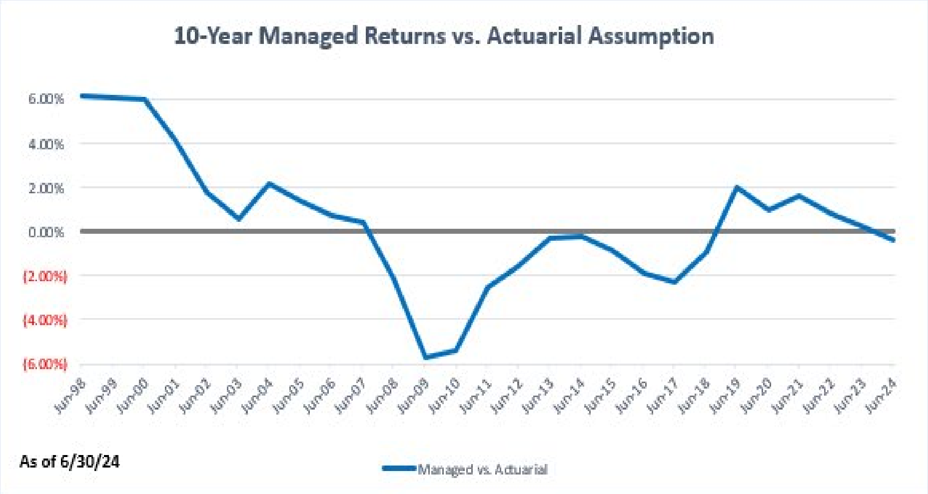
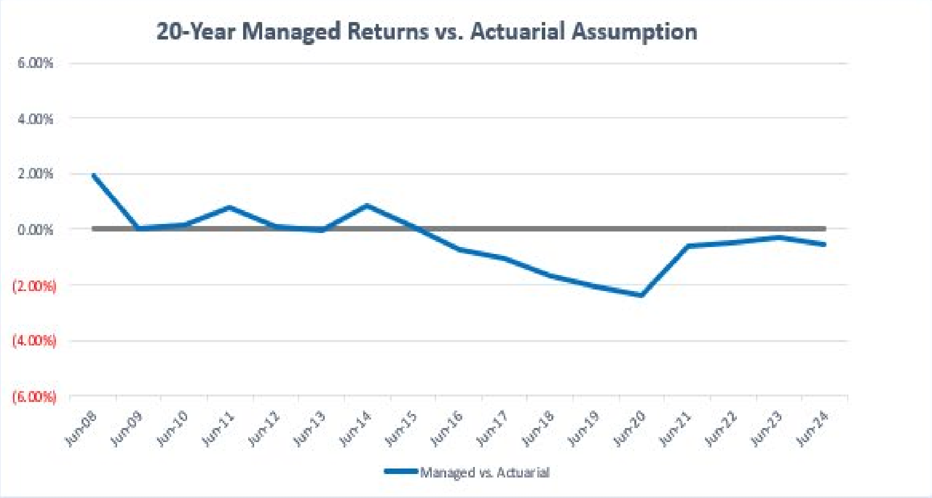
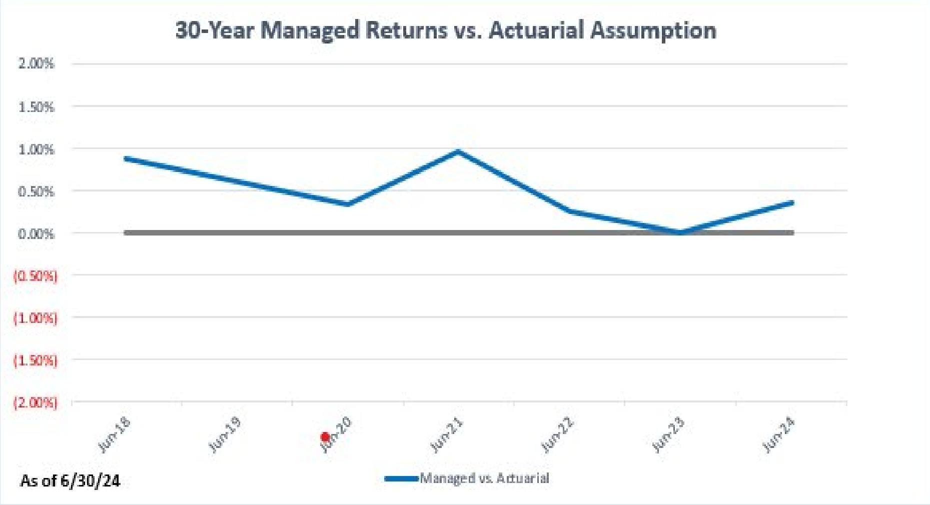
# Long Term Comparison To Assumed Rate of Return








- This chart shows SBA's over or under performance in hitting a *projected* return 10, 15, 20 and 30 years out
- For example, if the assumed rate of return was 8.0% in 1999, was the SBA's actual performance over the *ensuing* 10, 15, 20 and 30 years above or below that return target?
- Here the impact of large draw downs is more pronounced as it has taken years to smooth out the impact of the Dot-Com and GFC events.

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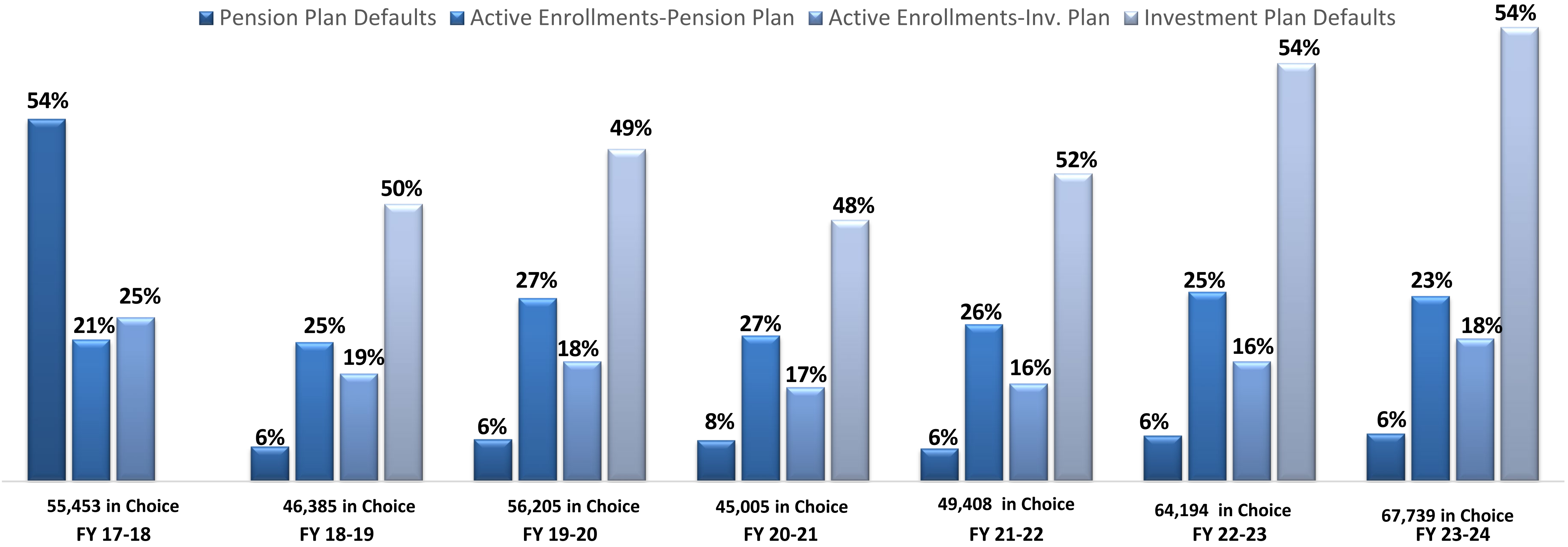
# PLAN CHOICE STATISTICS

(as of June 30, 2024)

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# PLAN CHOICE STATISTICS

(as of June 30, 2024)

| Fiscal Year | Total Number in Choice | Enrolled in Investment Plan | % IP | IP SR | % IP SR | IP Non-SR | % IP Non-SR | Enrolled in the Pension Plan | % PP | PP SR | % PP SR | PP Non-SR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **FY 2017-18** | 55,453 | 13,617 | 24.56% | N/A | N/A | N/A | N/A | 41,836 | 75.44% | N/A | N/A | N/A |
| **FY 2018-19** | 46,385 | 31,941 | 68.86% | 559 | 1.75% | 31,382 | 98.25% | 14,444 | 31.14% | 4,601 | 31.85% | 9,843 |
| **FY 2019-20** | 56,205 | 37,532 | 66.78% | 504 | 1.34% | 37,028 | 98.66% | 18,673 | 33.22% | 5,705 | 30.55% | 12,968 |
| **FY 2020-21** | 45,005 | 29,503 | 65.55% | 385 | 1.30% | 29,118 | 98.70% | 15,502 | 34.45% | 5,293 | 34.14% | 10,209 |
| **FY 2021-22** | 49,408 | 33,653 | 68.11% | 386 | 1.15% | 33,267 | 98.85% | 15,755 | 31.89% | 4,493 | 28.52% | 11,262 |
| **FY 2022-23** | 64,194 | 44,656 | 69.56% | 419 | 0.94% | 44,237 | 99.06% | 19,538 | 30.44% | 6,032 | 30.87% | 13,506 |
| **FY 2023-24** | 67,739 | 48,456 | 71.53% | 413 | 0.85% | 48,043 | 99.15% | 19,283 | 28.47% | 6,207 | 32.19% | 13,076 |

IP = Investment Plan
PP = Pension Plan
SR = Special Risk Class

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# Considerations

- **Keep assumed rate of return constant at 6.70%**

- Increase funding to the Plan
  - Switch amortizing unfunded liabilities (UAL) from level percentage of payroll to level dollar method. Reduces underfunding risk if actual payroll is less than projected payroll.
  - Reduce further the amortization period for UAL. The professional staff of the SBA recommend a reduction of the amortization period of the UAL to not greater than 15 years.
  - Increase employer and employee contribution rates.

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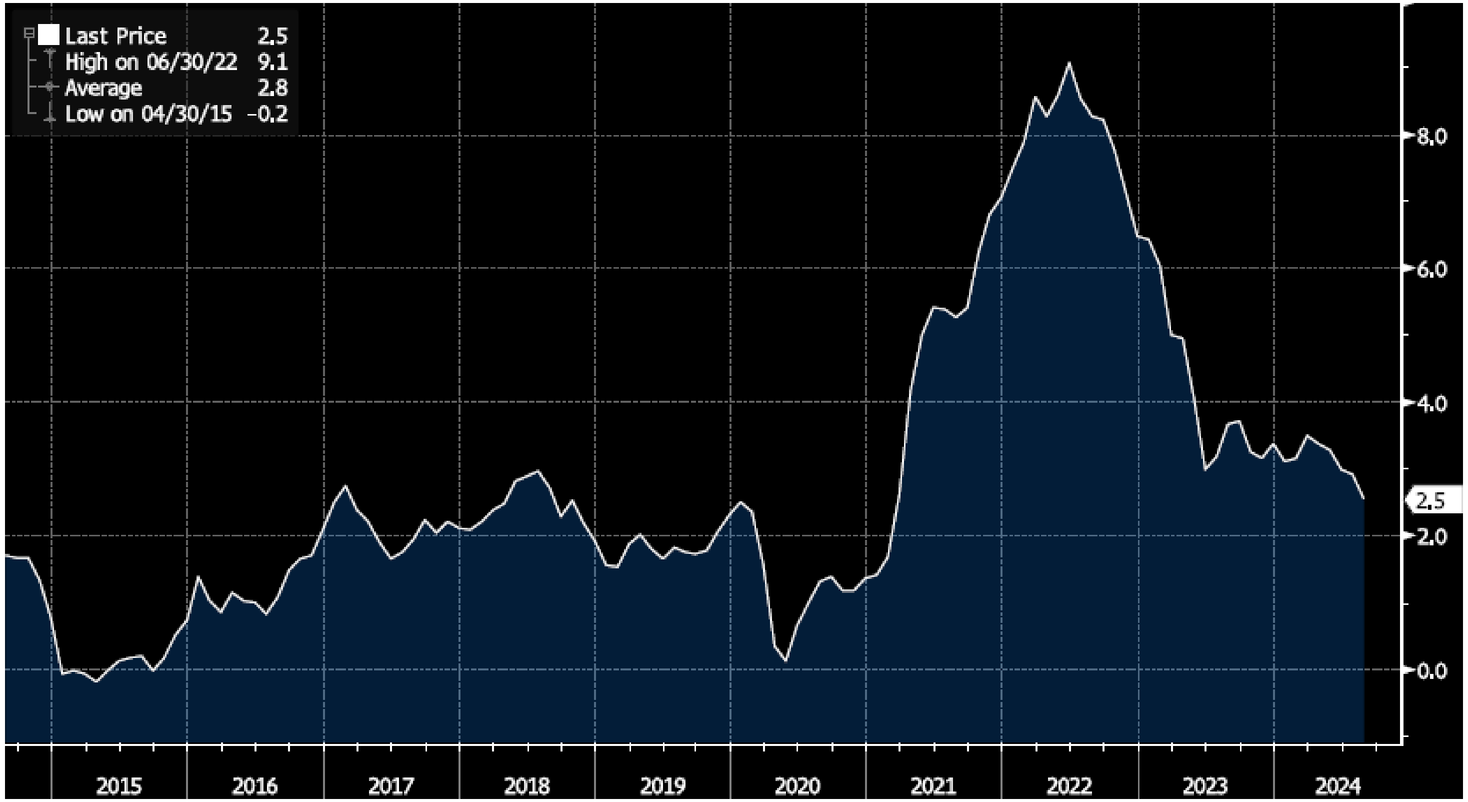
[1]Conference of Consulting Actuaries, Public Plans Community (CCA PPC), Actuarial Funding Policies and Practices for Public Pension Plans, October 2014

# Appendix

# The New Normal – Higher Inflation

Bloomberg

CPI YOY Index (US CPI Urban Consumers YoY NSA)




- From 1/1/2000 – 12/31/2008, Core CPI averaged 2.41%
- From 1/1/2009 – 12/31/2020, Core CPI Averaged 1.35%



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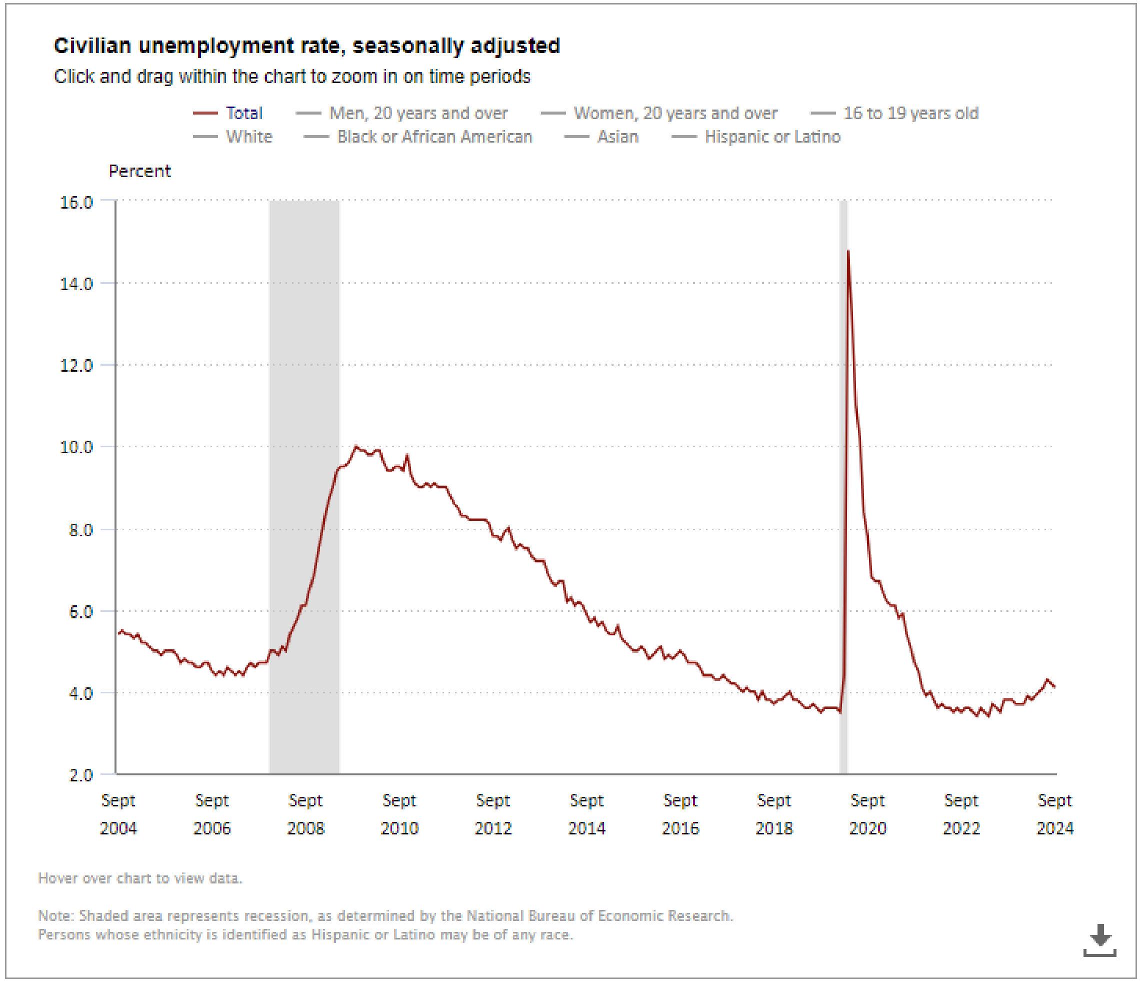
# The New Normal – Tighter Labor

Post pandemic, labor participation rate has been slow to recover


Source: Bureau of Labor and Statistics

# The New Normal – Tighter Labor

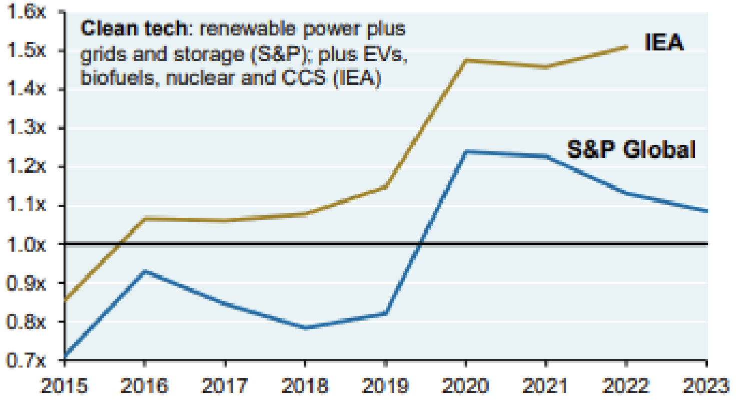
Lower participation rates and unemployment could lead to prolonged tight labor market, with elevated wages . . . But then there is always AI




Source: Bureau of Labor and Statistics

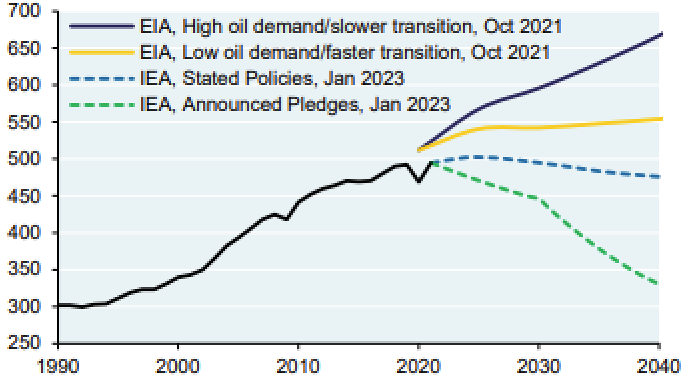
# The New Normal – Underinvestment In Fossil Fuels

**Clean tech spending outpacing fossil fuels**
Ratio, clean tech / fossil fuel capital spending by year



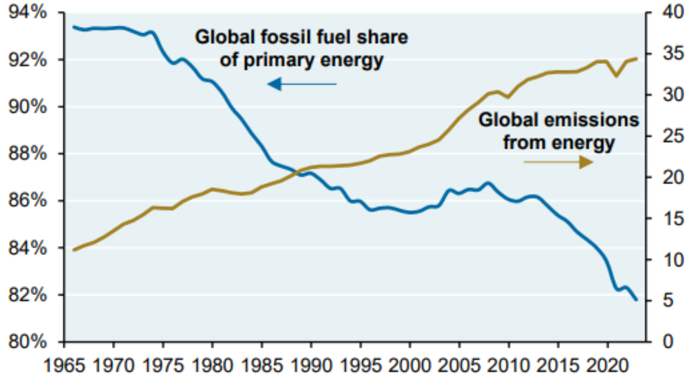

Source: S&P Global, IEA, JPMAM. 2023.

**Future global fossil fuel demand: depends who you ask**
Exajoules

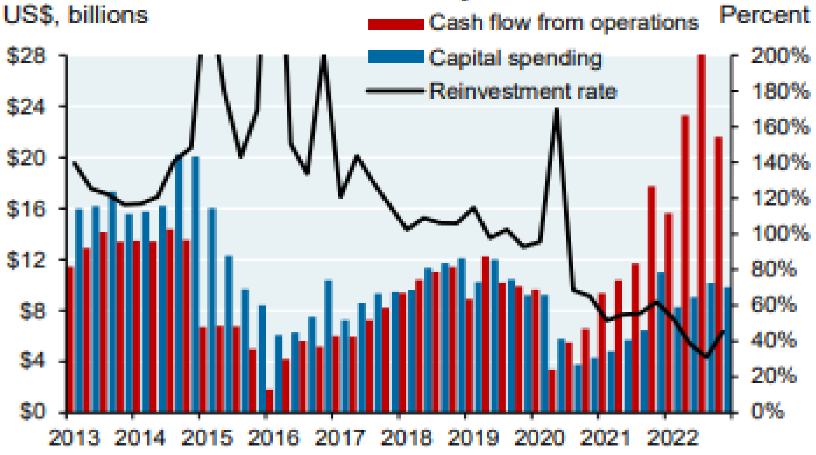



Source: Energy Information Admin., Int'l Energy Agency, JPMAM. 2022

**Falling fossil fuel shares mask reality of rising emissions**
Percent
Billion tonnes of $CO_2$




**US shale reinvestment rate at 10-year low**
US$, billions




Source: Bloomberg, JPMAM. Q4 2022.

Source: Growing Pains: Renewable Transition in Adolescence (jpmorgan.com); electravision (jpmprivatebank.com)

# The New Normal – Higher Debt Burden

## ☆ Gross Federal Debt as Percent of Gross Domestic Product (GFDGDPA188S)

DOWNLOAD

**Observation:**
2023: **119.00489**
(+ more)
Updated: Sep 26, 2024 7:59 AM CDT

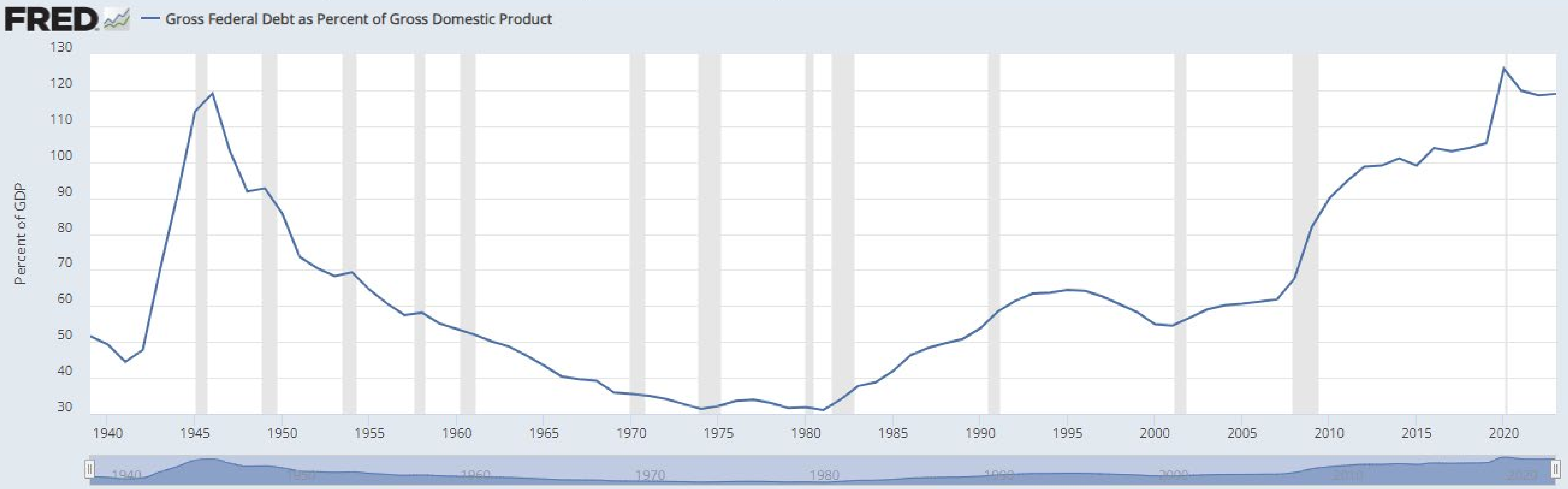
**Units:**
Percent of GDP,
Not Seasonally Adjusted

**Frequency:**
Annual

1Y | 5Y | 10Y | Max

1939-01-01 to 2023-01-01

EDIT GRAPH

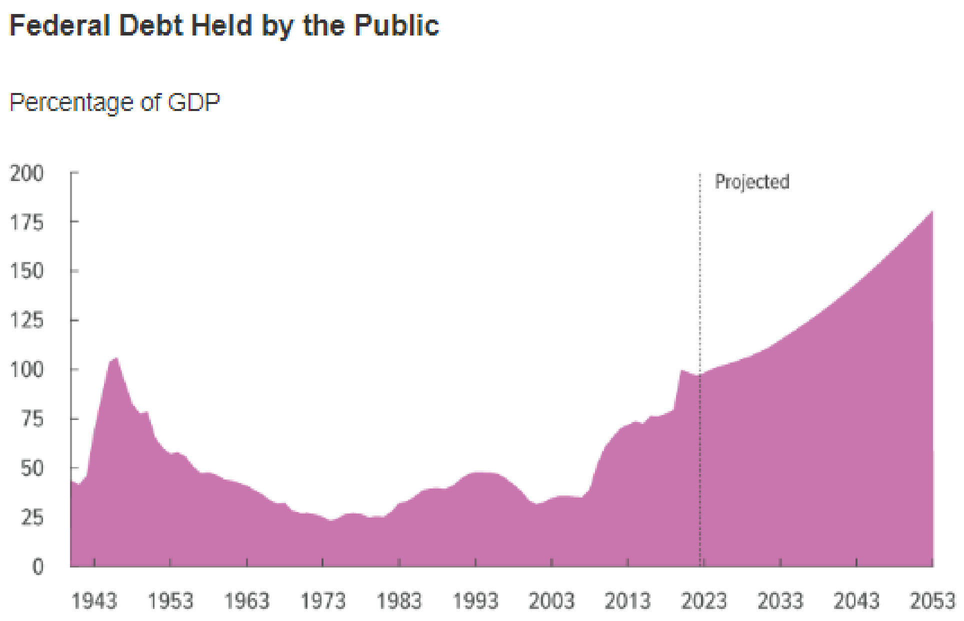



*Shaded areas indicate U.S. recessions.*

Sources: OMB; St. Louis Fed

fred.stlouisfed.org

# The New Normal – Higher Debt Burden




Debt rises in relation to GDP over the next three decades, exceeding any previously recorded level—and it is on track to continue growing after 2053.

"Such high and rising debt would have significant economic and financial consequences. It would, among other things, slow economic growth, drive up interest payments to foreign holders of U.S. debt, elevate the risk of a fiscal crisis, increase the likelihood of other adverse effects that could occur more gradually, and make the nation's fiscal position more vulnerable to an increase in interest rates. In addition, it could cause lawmakers to feel more constrained in their policy choices.." Congressional Budget Office.

Source: Congressional Budget Office, available at [The 2023 Long-Term Budget Outlook | Congressional Budget Office (cbo.gov)]

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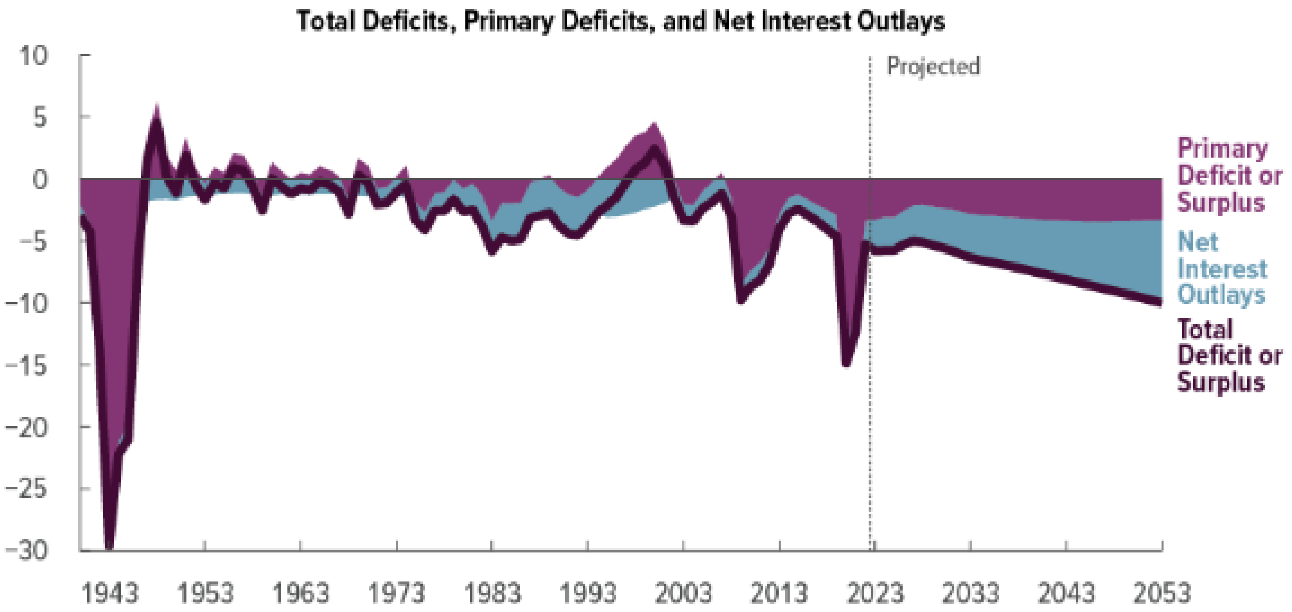
# The New Normal – Higher Debt Burden




"In CBO's projections, primary deficits exceed their historical 50-year average of 1.5 percent of GDP throughout the projection period. In 2053, the primary deficit equals 3.3 percent of GDP. Driven up by large and sustained primary deficits and by rising interest rates, net interest outlays reach 6.7 percent of GDP in 2053." Congressional Budget Office.

Source: Congressional Budget Office, available at [The 2023 Long-Term Budget Outlook | Congressional Budget Office (cbo.gov)]

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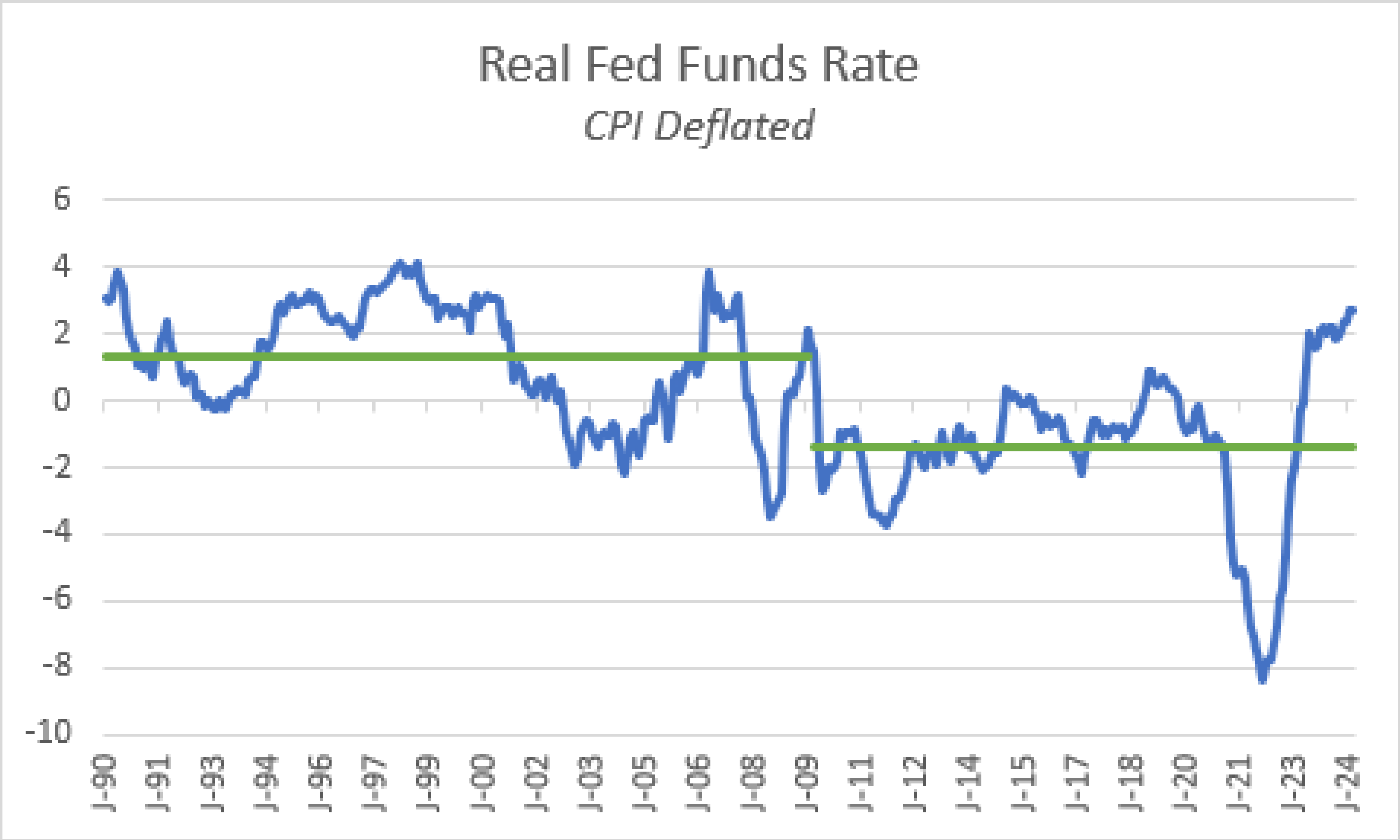
# The New Normal – Higher Real Yields




- Post GFC, Fed's Ample Reserve Model and disinflationary fight kept nominal rates low and real rates lower
- Post pandemic trends will push nominal and real rates higher
- Pre GFC mean real Fed Funds Rate was just under 2%

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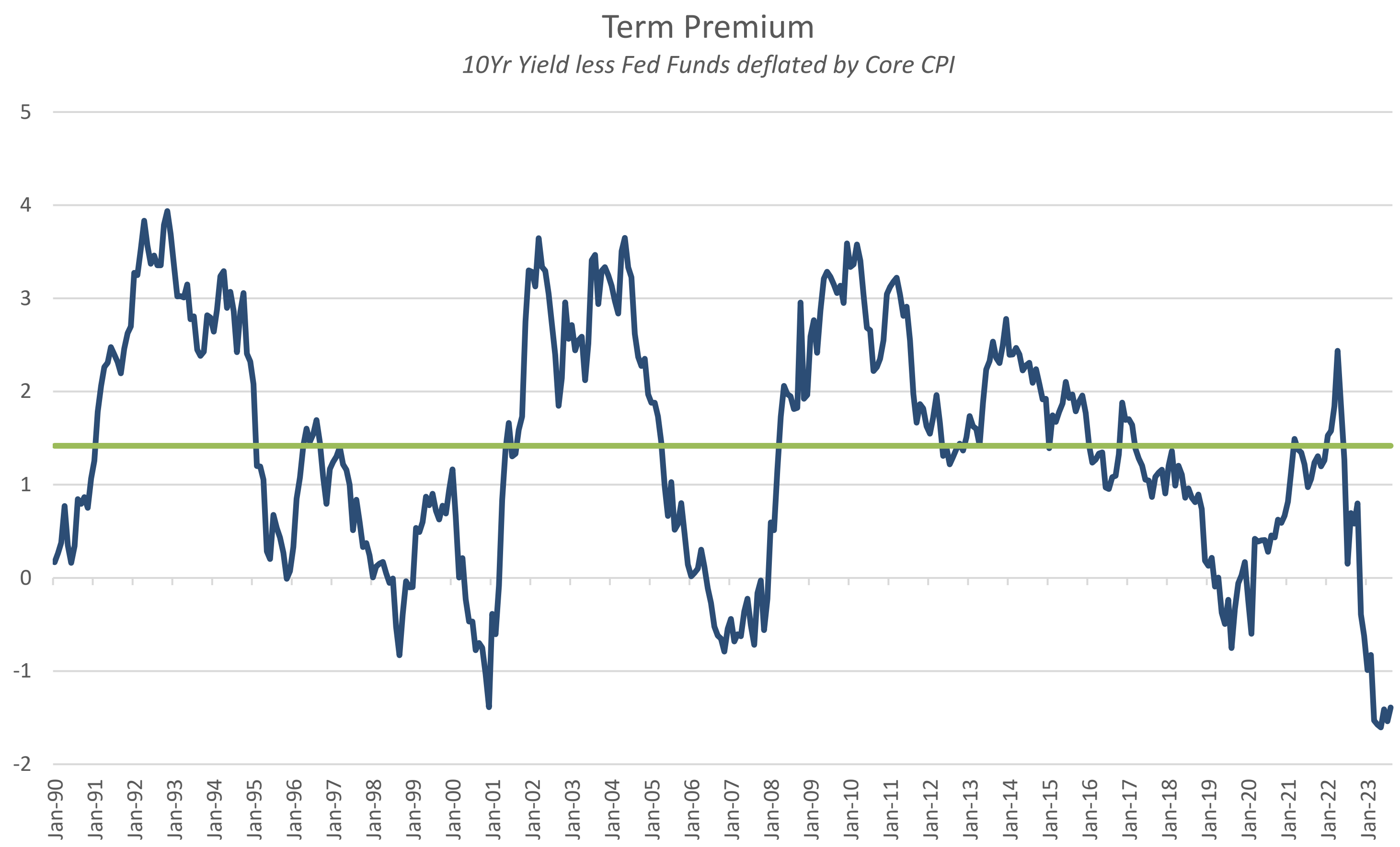
# The New Normal – Higher Real Term Premia




- Higher real Fed Funds Rate will result in higher rates across a normal curve due to term premium
- Real term premium is currently negative, but longer term average has been approximately 1.4%

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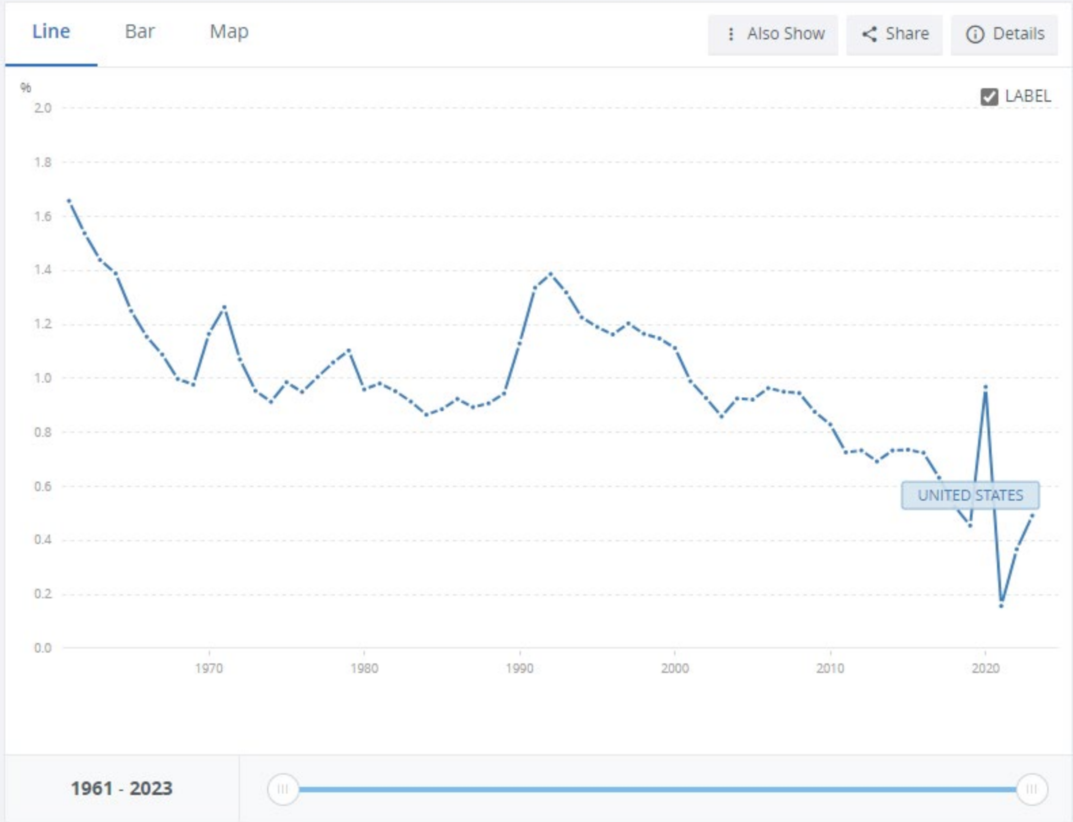
# The New Normal – Slowing Population Growth

## Population growth (annual %) - United States

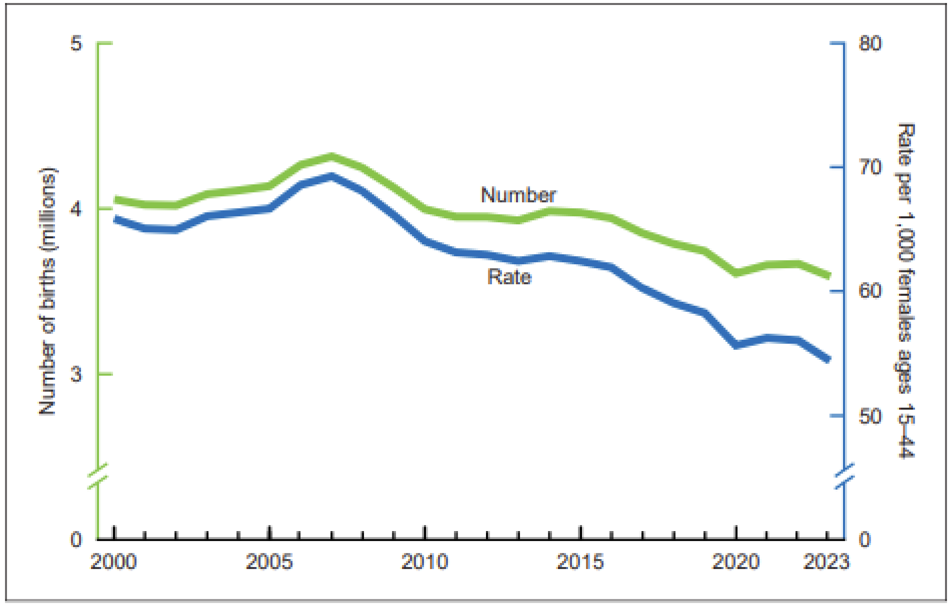
Derived from total population. Population source: ( 1 ) United Nations Population Division. World Population Prospects: 2022 Revision; ( 2 ) Statistical databases and publications from national statistical offices; ( 3 ) Eurostat: Demographic Statistics; ( 4 ) United Nations Statistics Division. Population and Vital Statistics Reprot ( various years ).






[Population growth (annual %) - United States | Data (worldbank.org)]()

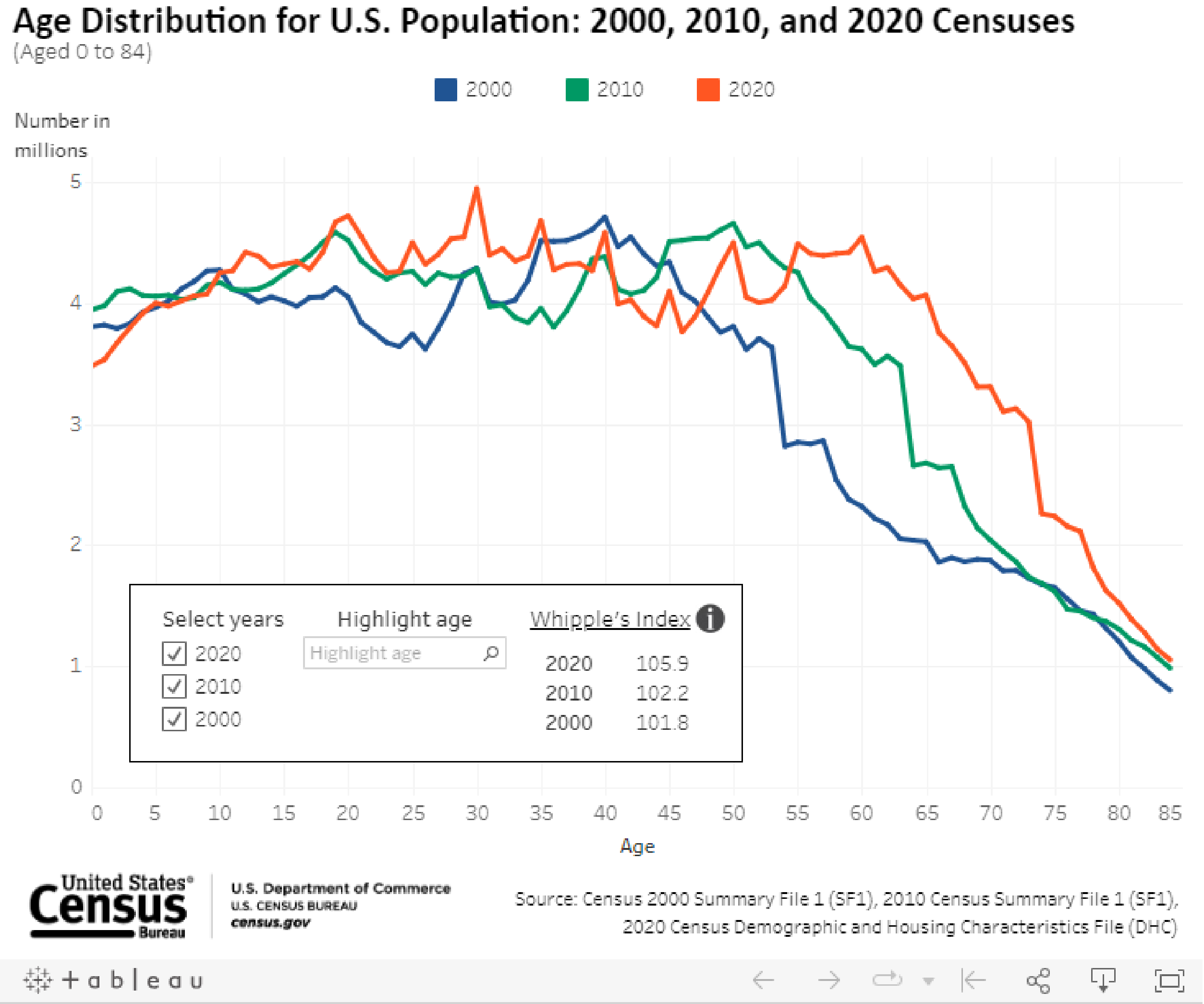
**Figure 1. Number of live births and general fertility rates: United States, final 2000–2022 and provisional 2023**

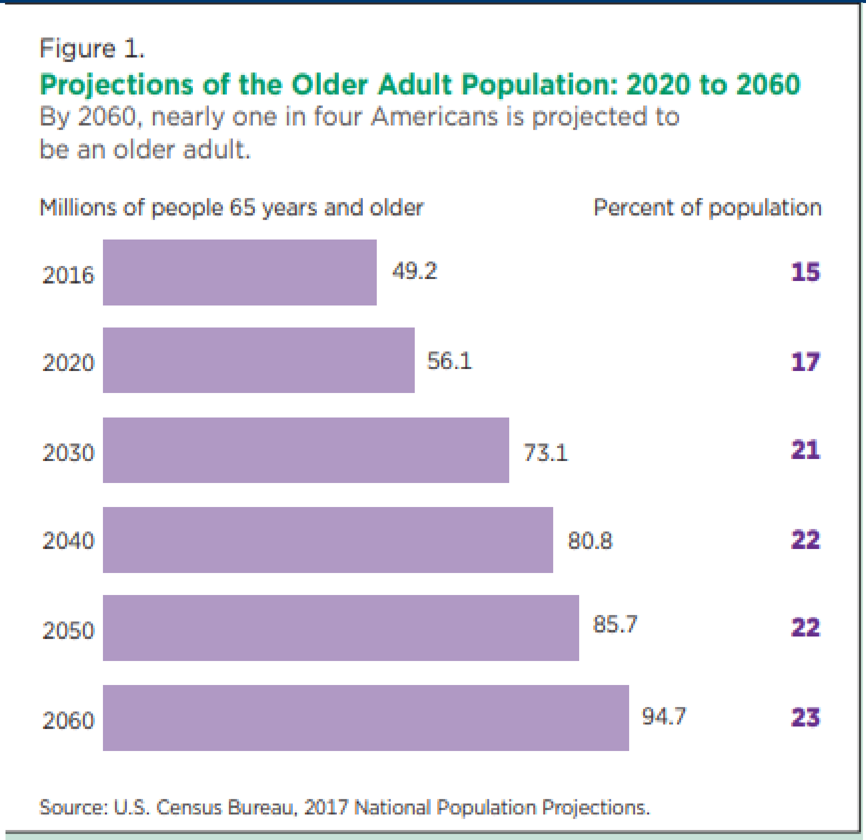



SOURCE: National Center for Health Statistics, National Vital Statistics System, natality data file.

“The general fertility rate in the United States decreased by 3% from 2022, reaching a historic low. This marks the second consecutive year of decline, following a brief 1% increase from 2020 to 2021. From 2014 to 2020, the rate consistently decreased by 2% annually.” [U.S. Fertility Rate Drops to Another Historic Low (cdc.gov)]()

# The New Normal – Aging Population



# Appendix: Investment Policy and Investment Objective

- The FRS Pension Plan's investment objectives:

To achieve this, a long-term real return approximating 4.8% per annum (compounded and net of investment expenses) should be attained -

a. A real return objective instead of a nominal return objective.
b. An investment objective defined as a nominal amount will force risk levels to change as inflation ebbs and flows. To illustrate:

| | High Inflation | Low Inflation |
|---|---|---|
| Nominal Return Objective | 8.0% | 8.0% |
| Inflation | 5.5% | 3.5% |
| Real Return Objective | 2.5% | 4.5% |

c. Ever changing levels of risk will constantly alter (not so long-term) asset allocation mix.
d. A real return objective will target a consistent long-term asset allocation mix and risk level.

SBA FLORIDA STATE BOARD OF ADMINISTRATION

Sources: Public Plans Data (publicplansdata.org) as of July 2022
[1]Peers defined as public funds published within publicplansdata.org as of July 2022; Number of plans per year are shown in parentheses