

Callan

February 2026

**Senate and House Finance
Committees
Alaska State Legislature**

Permanent Fund Performance
Review, Asset Allocation Review,
and Annual Draw Analysis

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Outline

- Performance Review for Quarter ended December 31, 2025.
- Capital Markets Projection and Asset Allocation
- Perspectives on Draw Rates.
 - Historical Simulation.
 - Future Projection.
 - Two Account Model vs Endowment Model.



**Alaska Permanent Fund
Corporation**

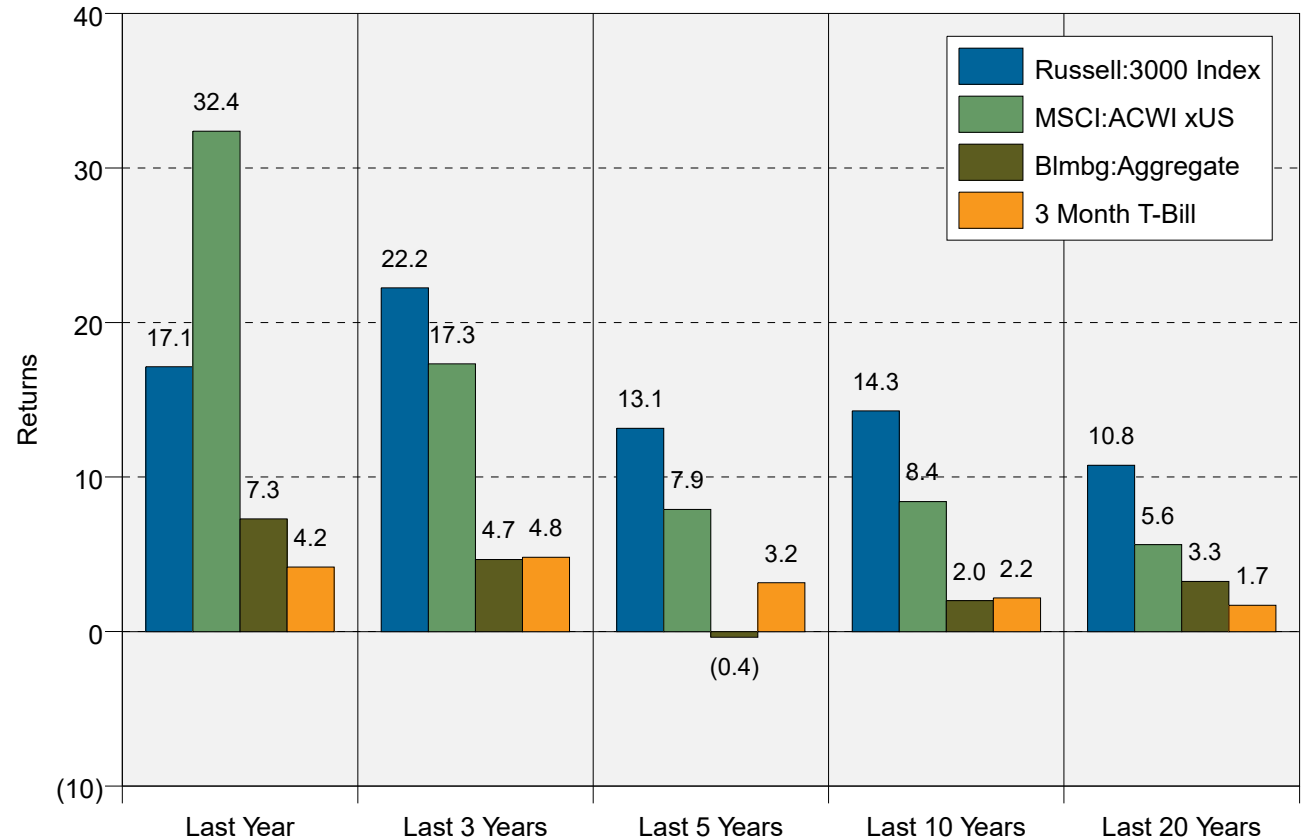
Performance Review for Quarter
ended December 31, 2025

Public Market Returns

Periods Ending December 31, 2025

- 2025 was a very strong year for non-US equities (MSCI:ACWI xUS).
- Performance was helped by a weak dollar which increases the return for non-US investments.
- Over longer periods US equities have significantly outperformed all other asset classes.
- US Bonds (Aggregate Index) produced a negative return for the 5-year period

Returns for Periods Ending December 31, 2025

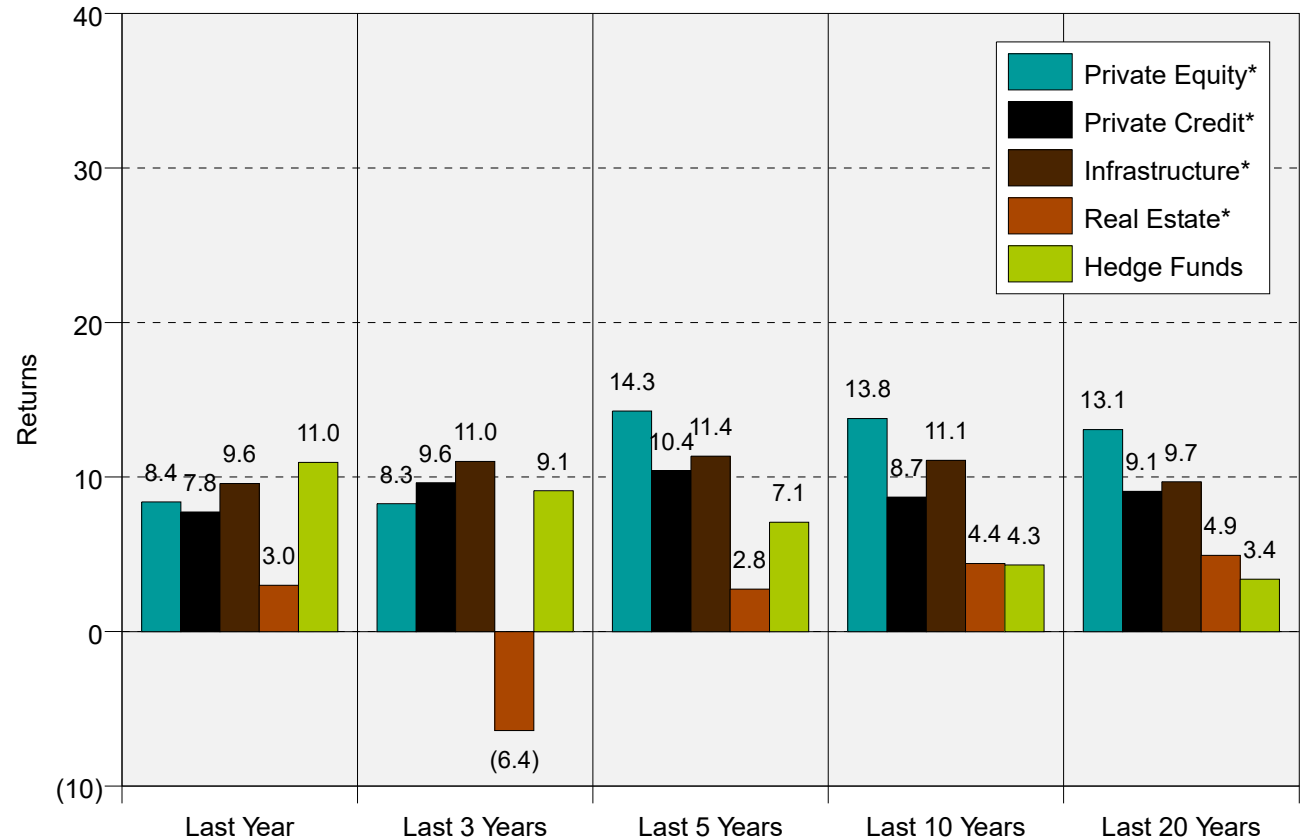


Private Market Returns

Periods Ending December 31, 2025

- Private market returns were more muted in 2025 relative to public equities.
- Over the 20-year period private equity has outperformed public equity.
- Long term returns for real estate still lagging due to recent impacts of COVID on office and retail.
- Strong recent performance in infrastructure from energy transition, logistics, and data centers.

Returns for Periods Ending December 31, 2025



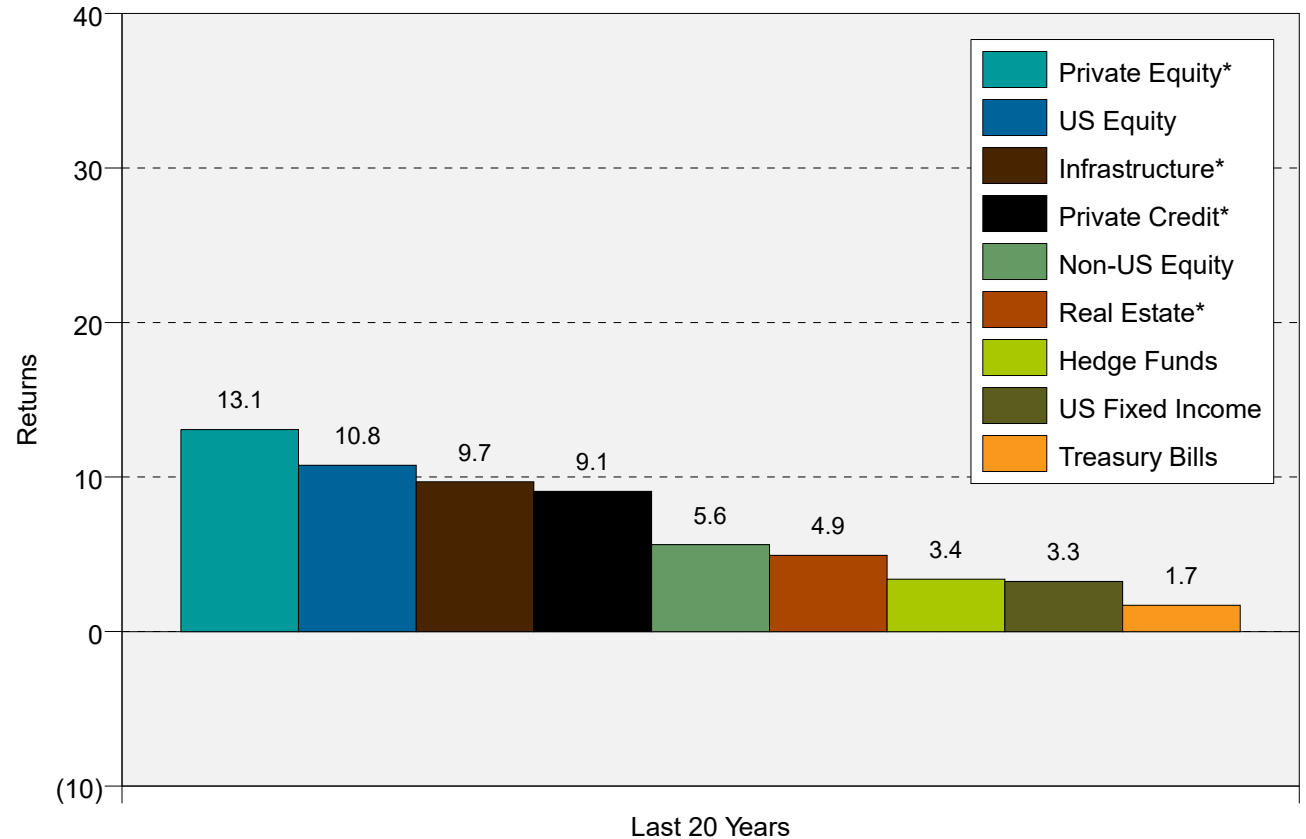
*Return series lagged one quarter

Twenty-Year Returns

Periods Ending December 31, 2025

- Over the 20-year period returns have largely been in line with long-term expectations.
- Private equity outperformed public equity.
- Private credit outperformed public credit.
- Market neutral hedge funds have outperformed fixed income.
- Real estate and non-US equity have lagged expectations.

Returns for Periods Ending December 31, 2025



*Return series lagged one quarter

Periodic Table of Market Returns

Ranking of Asset Class Returns over Last Ten Calendar Years

2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Infrastructure*	Non-US Equity	Private Equity*	US Equity	US Equity	Private Equity*	Real Estate*	US Equity	US Equity	Non-US Equity
13.8%	27.2%	18.8%	31.0%	20.9%	49.6%	21.7%	26.0%	23.8%	32.4%
US Equity	US Equity	Infrastructure*	Non-US Equity	Private Equity*	US Equity	Infrastructure*	Non-US Equity	Infrastructure*	US Equity
12.7%	21.1%	10.0%	21.5%	13.2%	25.7%	8.7%	15.6%	12.6%	17.1%
Real Estate*	Private Equity*	Private Credit*	Infrastructure*	Non-US Equity	Private Credit*	Private Credit*	Infrastructure*	Private Credit*	Hedge Funds
9.7%	17.7%	9.9%	9.3%	10.7%	20.8%	3.1%	10.8%	10.6%	11.0%
Private Equity*	Infrastructure*	Real Estate*	US Fixed Income	US Fixed Income	Infrastructure*	Private Equity*	Private Credit*	Hedge Funds	Infrastructure*
9.3%	14.4%	7.9%	8.7%	7.5%	15.1%	2.6%	10.6%	10.5%	9.6%
Private Credit*	Private Credit*	Treasury Bills	Private Equity*	Infrastructure*	Real Estate*	Treasury Bills	Private Equity*	Private Equity*	Private Equity*
6.9%	12.2%	1.9%	8.0%	6.8%	14.8%	1.5%	7.4%	9.1%	8.4%
Non-US Equity	Real Estate*	US Fixed Income	Real Estate*	Private Credit*	Non-US Equity	Hedge Funds	Hedge Funds	Non-US Equity	Private Credit*
4.5%	6.9%	0.0%	5.3%	3.3%	7.8%	1.2%	6.0%	5.5%	7.8%
US Fixed Income	Hedge Funds	Hedge Funds	Private Credit*	Real Estate*	Hedge Funds	US Fixed Income	US Fixed Income	Treasury Bills	US Fixed Income
2.6%	4.9%	(1.0%)	3.2%	0.9%	7.1%	(13.0%)	5.5%	5.3%	7.3%
Hedge Funds	US Fixed Income	US Equity	Hedge Funds	Treasury Bills	Treasury Bills	Non-US Equity	Treasury Bills	US Fixed Income	Treasury Bills
2.2%	3.5%	(5.2%)	2.3%	0.7%	0.0%	(16.0%)	5.0%	1.3%	4.2%
Treasury Bills	Treasury Bills	Non-US Equity	Treasury Bills	Hedge Funds	US Fixed Income	US Equity	Real Estate*	Real Estate*	Real Estate*
0.3%	0.9%	(14.2%)	2.3%	(0.1%)	(1.5%)	(19.2%)	(13.1%)	(8.4%)	3.0%

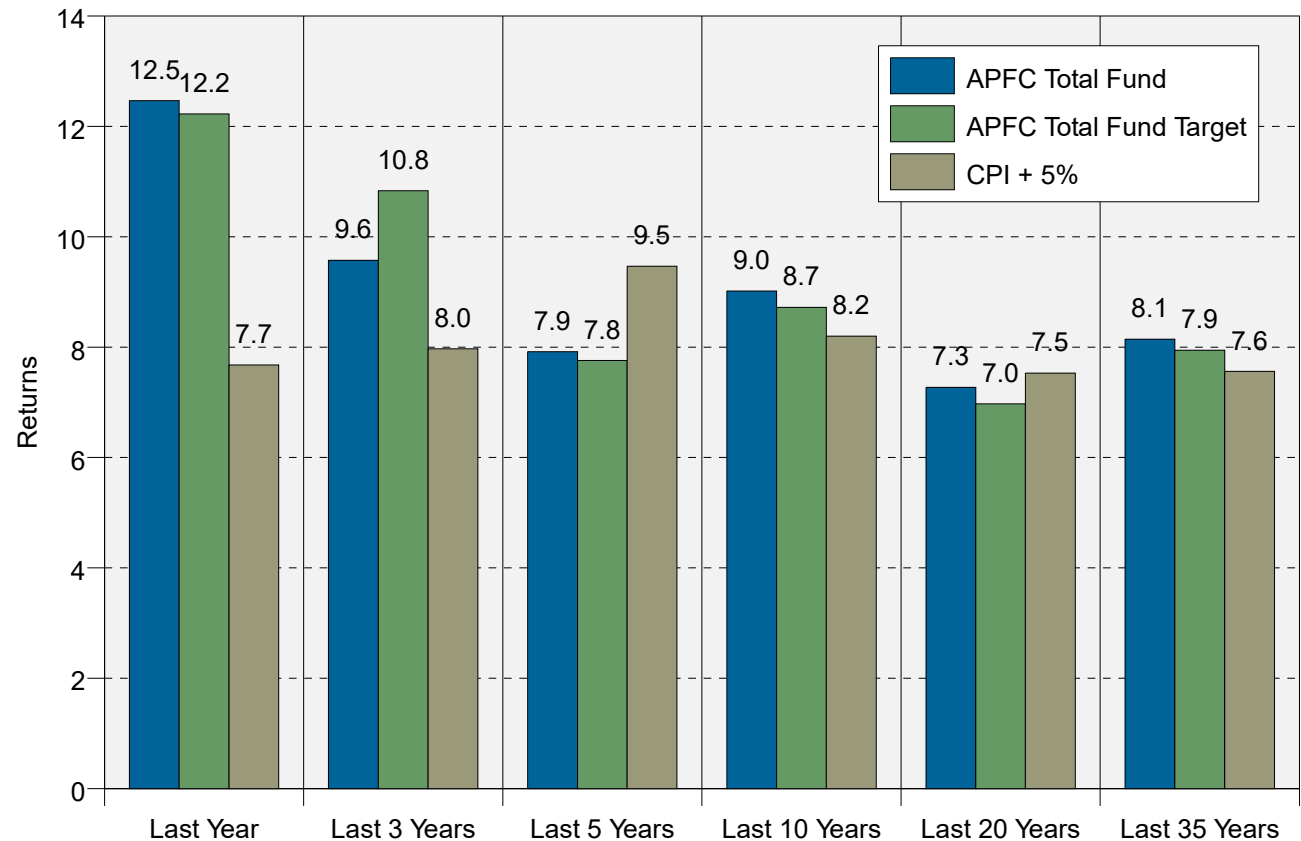
*Return series lagged one quarter

APFC Total Fund Historical Returns

Total Fund versus Total Fund Targets

- The Permanent Fund experienced strong absolute performance in 2025.
- Total Fund is ahead of the performance benchmark for the 1, 5, 10, and 20-year periods, only trailing for the 3-year period.
- Total Fund is ahead of CPI + 5% for 1, 3, and 10-year periods, trails for the 5-year and 20-year periods.
- Total Fund is ahead of both benchmarks for the 35-year period since 1990.

Net of Fee Returns for Periods Ending December 31, 2025

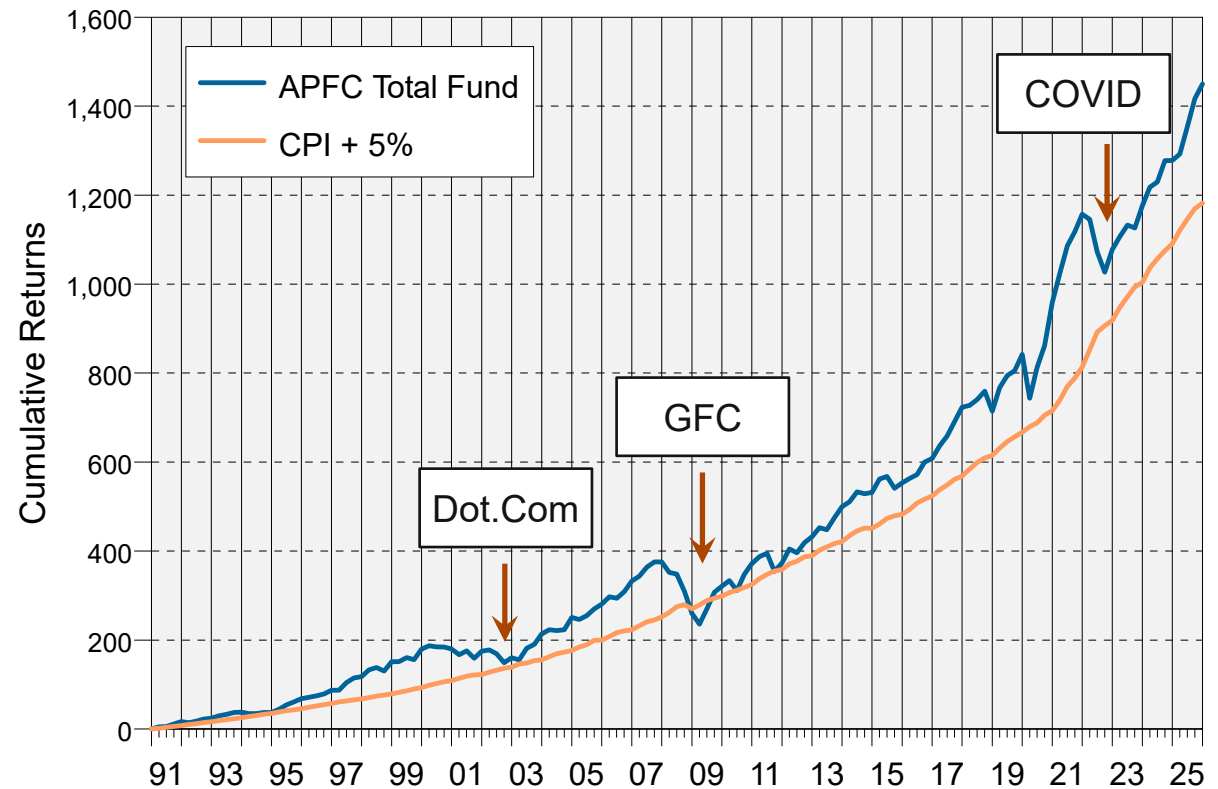


APFC Total Fund Cumulative Return vs CPI + 5%

Total Fund versus Return Objective

- Chart shows the path of Total Fund returns versus the long-term return objective of CPI + 5%.
- Over the long term the Total Fund has kept pace with the objective.
- The volatility of an investment strategy that can keep pace with this objective over the long term will result in periods underperformance.

**Net of Fee Cumulative Returns
for 35 Years Ended December 31, 2025**

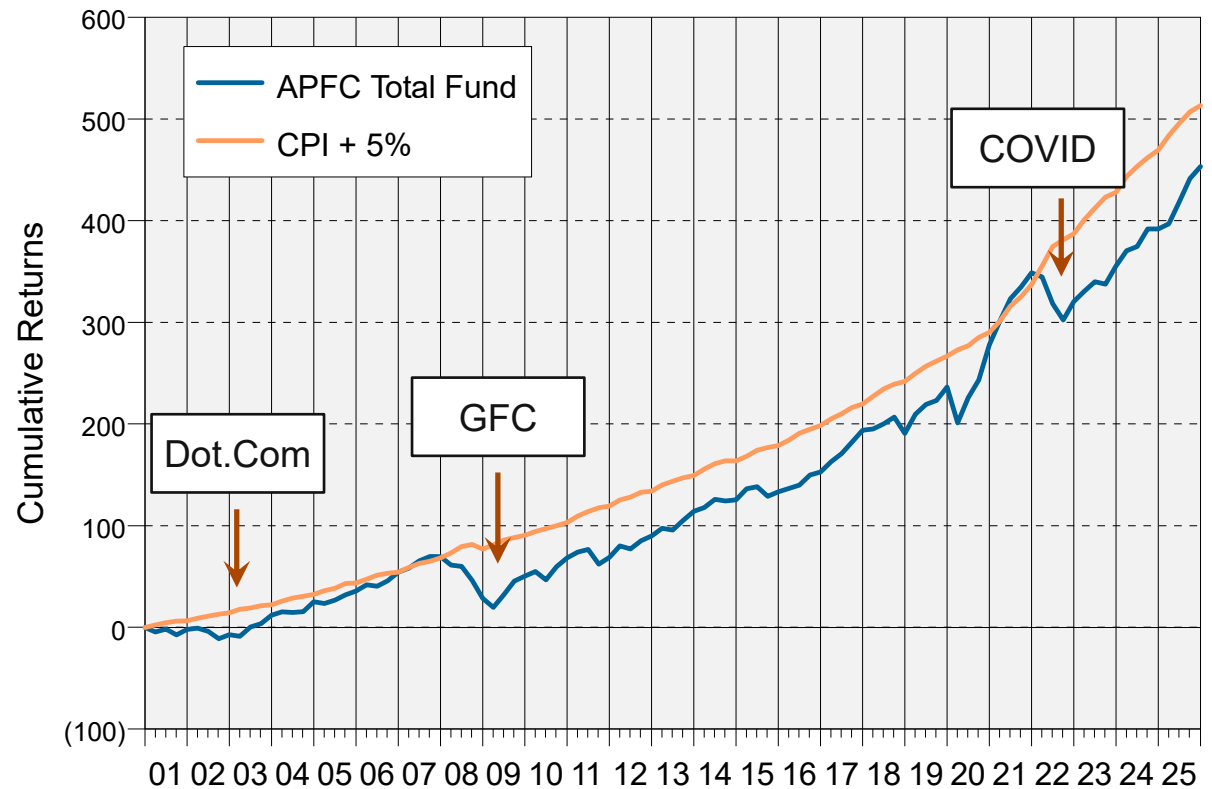


APFC Total Fund Cumulative Return vs CPI + 5%

The Impact of Changing Time Periods

- Looking at the 25-year time period, the Fund has spent most of its history behind the CPI+5% target.
- This stems from the starting point, the Dot.Com bubble burst happening right at the beginning of the period.
- A 25-year period with three major market dislocations, one right at the beginning, makes the CPI+5% target challenging.
- This also illustrates the power of “cherry picking” time periods when using performance to make your point.

**Net of Fee Cumulative Returns
for 25 Years Ended December 31, 2025**

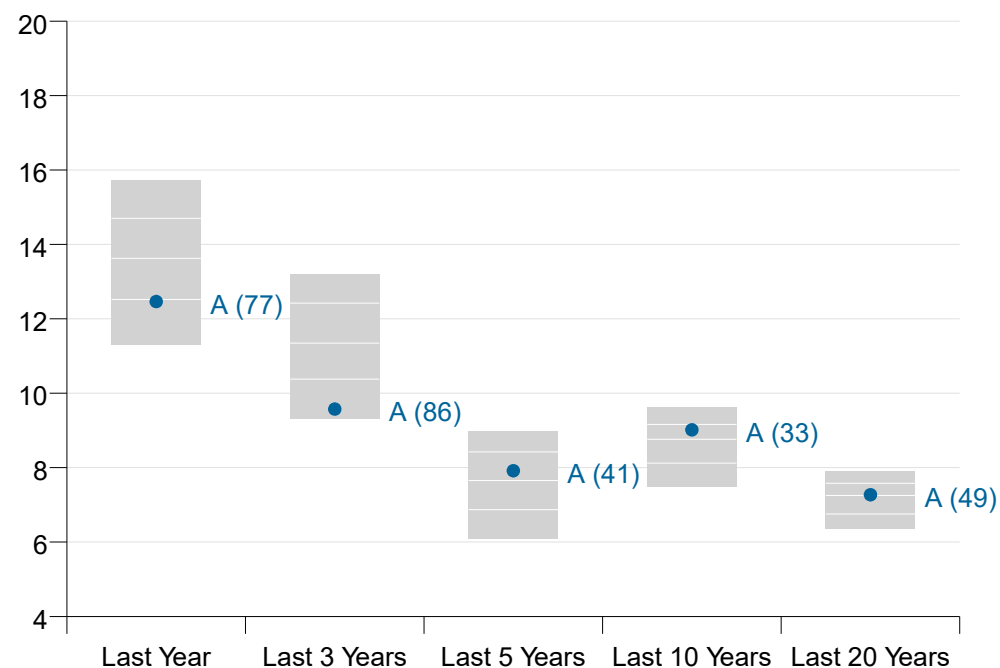


APFC Total Fund Ranking versus Large Public Funds

Total Fund versus Large Public Fund Peer Group

- Total Fund ranks competitively versus large public funds over 5, 10, and 20-year time periods.
- Over the 1 and 3-year periods large public funds have primarily benefited from a greater weight to US equities.
- The Fund's equity portfolio has maintained a modest underweight to the Magnificent Seven relative to the index.

Returns for Periods Ended December 31, 2025
Group: Callan Public Fund Sponsor - Large (>1B)



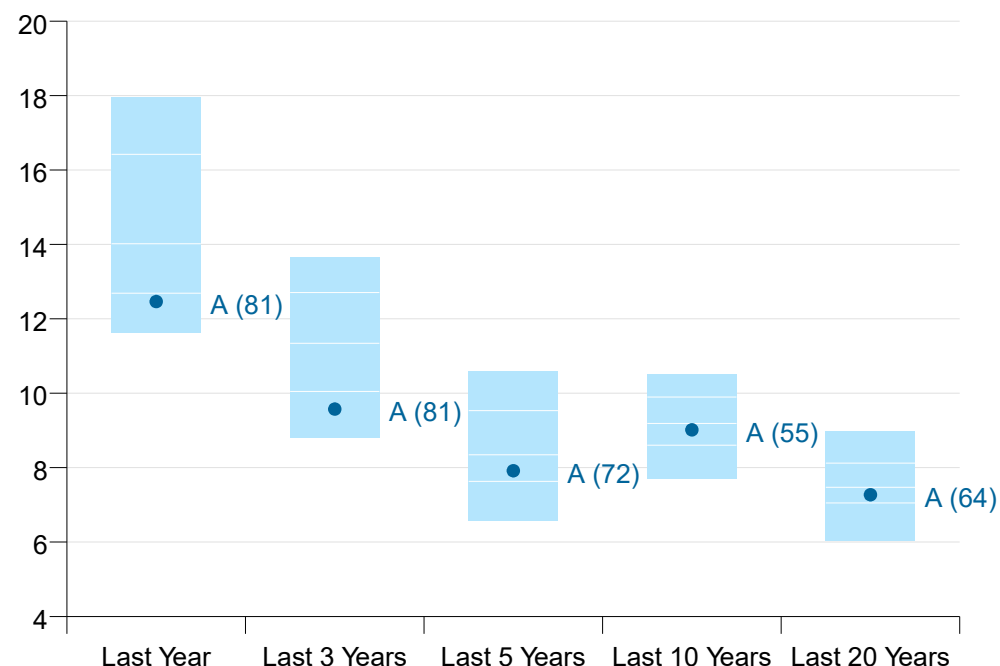
	Last Year	Last 3 Years	Last 5 Years	Last 10 Years	Last 20 Years
10th Percentile	15.74	13.20	8.98	9.62	7.91
25th Percentile	14.70	12.42	8.43	9.16	7.58
Median	13.63	11.35	7.66	8.77	7.25
75th Percentile	12.52	10.38	6.87	8.12	6.76
90th Percentile	11.32	9.31	6.09	7.49	6.36
APFC Total Fund ● A	12.47	9.58	7.92	9.02	7.27

APFC Total Fund Ranking versus Large Endowments

Total Fund versus Large Endowment and Foundation Group

- The Fund has a higher allocation to fixed income (20%) than the typical Large Endowment which largely explains the low rankings over the last 3 years.
- Total Fund ranks closer to median for 10 years.
- This is due to the fact that APFC asset allocation has evolved to look increasingly like that of a large endowment.

Returns for Periods Ended December 31, 2025
Group: Callan Endow/Foundation - Large (>1B)



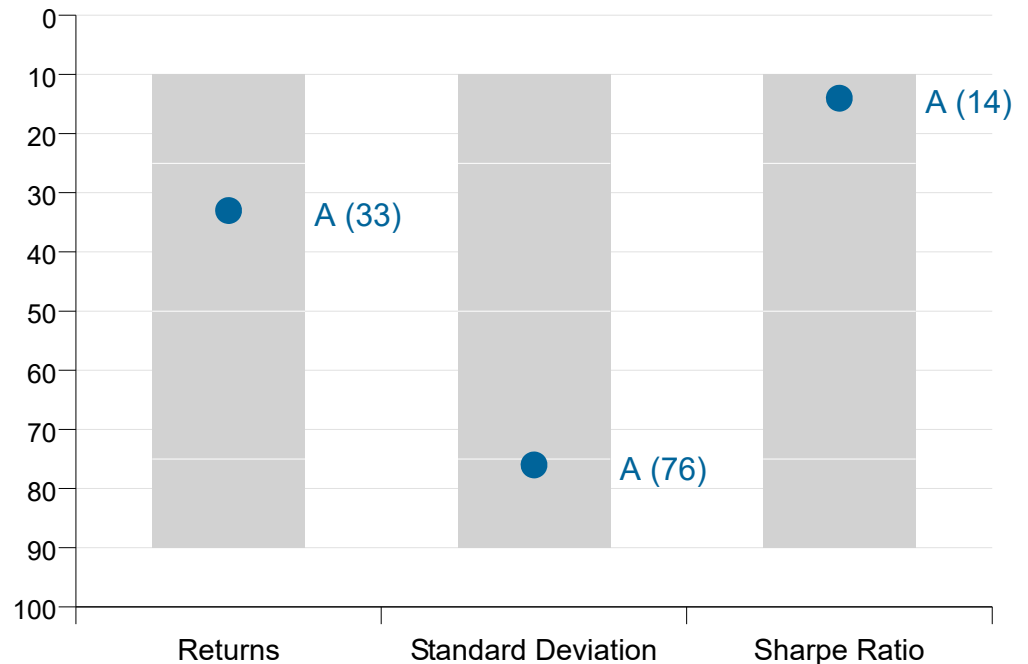
	Last Year	Last 3 Years	Last 5 Years	Last 10 Years	Last 20 Years
10th Percentile	17.96	13.67	10.60	10.51	8.99
25th Percentile	16.42	12.71	9.53	9.90	8.13
Median	14.02	11.35	8.35	9.19	7.47
75th Percentile	12.69	10.05	7.63	8.61	7.05
90th Percentile	11.64	8.82	6.57	7.69	6.04
APFC Total Fund ● A	12.47	9.58	7.92	9.02	7.27

APFC Total Fund Risk Ranking versus Large Public Funds

Total Fund Risk versus Large Public Fund Peer Group

- Chart shows rankings versus Large Public Funds for 10-years ended December 31, 2025.
- Standard Deviation is a measure of return volatility or risk experienced over the time period (lower is better).
- Sharpe Ratio is a measure of risk-adjusted return or return per unit of risk.
- The Fund's Sharpe Ratio ranks in the 14th percentile over this period versus large public funds.

Return and Risk Statistic Rankings for 10-Years Ended December 31, 2025
Group: Callan Public Fund Sponsor - Large (>1B)



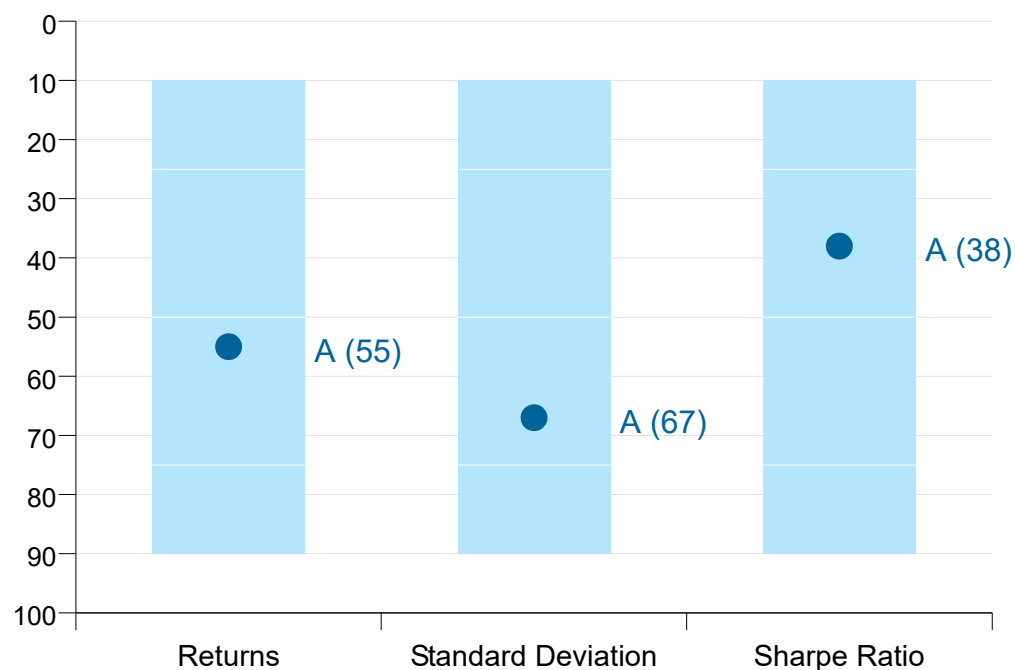
	Returns	Standard Deviation	Sharpe Ratio
10th Percentile	9.62	10.73	0.96
25th Percentile	9.16	9.99	0.85
Median	8.77	8.96	0.71
75th Percentile	8.12	7.54	0.62
90th Percentile	7.49	6.75	0.58
APFC Total Fund ● A	9.02	7.38	0.93

APFC Total Fund Ranking versus Large Endowments

Total Fund versus Large Endowment and Foundation Group

- Total Fund's return ranks close to median versus Large Endowment and Foundation universe for 10-years ended December 31, 2025.
- Standard deviation ranks in the lower third of the universe (67th percentile).
- The Fund's Sharpe Ratio over this period was superior to 62% of the Large Endowments and Foundations in this universe.

Return and Risk Statistic Rankings for 10-Years Ended December 31, 2025
Group: Callan Endow/Foundation - Large (>1B)



	Returns	Standard Deviation	Sharpe Ratio
10th Percentile	10.51	10.85	1.20
25th Percentile	9.90	10.08	1.04
Median	9.19	8.27	0.82
75th Percentile	8.61	7.01	0.66
90th Percentile	7.69	5.97	0.57
APFC Total Fund ● A	9.02	7.38	0.93



**Alaska Permanent Fund
Corporation**

Capital Market Projections and
Permanent Fund Asset Allocation

Callan Capital Market Projection Process

Long Term Capital Market Projections

- Callan updates long term capital market projections each year in January and uses them for the full year with all clients for strategic planning purposes.
- Projections take into account long term relationships balanced with current market conditions.
- Consensus expectations (central banks, economists, asset managers, consultants, etc.) are carefully considered as an integral part of the process.
- Each number – **return, risk, correlation** – for every asset class must be individually defensible, and the numbers collectively need to work together as a set to generate reasonable portfolios during strategic planning exercises.
- Projections change slowly over time and are not designed to provide tactical insights.
- Process is executed by Callan's capital markets research group and projections are peer reviewed by Client Policy Review Committee as well as the hundreds of the clients that use them every year.
- Process is battle proven – it has evolved and improved, but hasn't fundamentally changed over the last four decades.

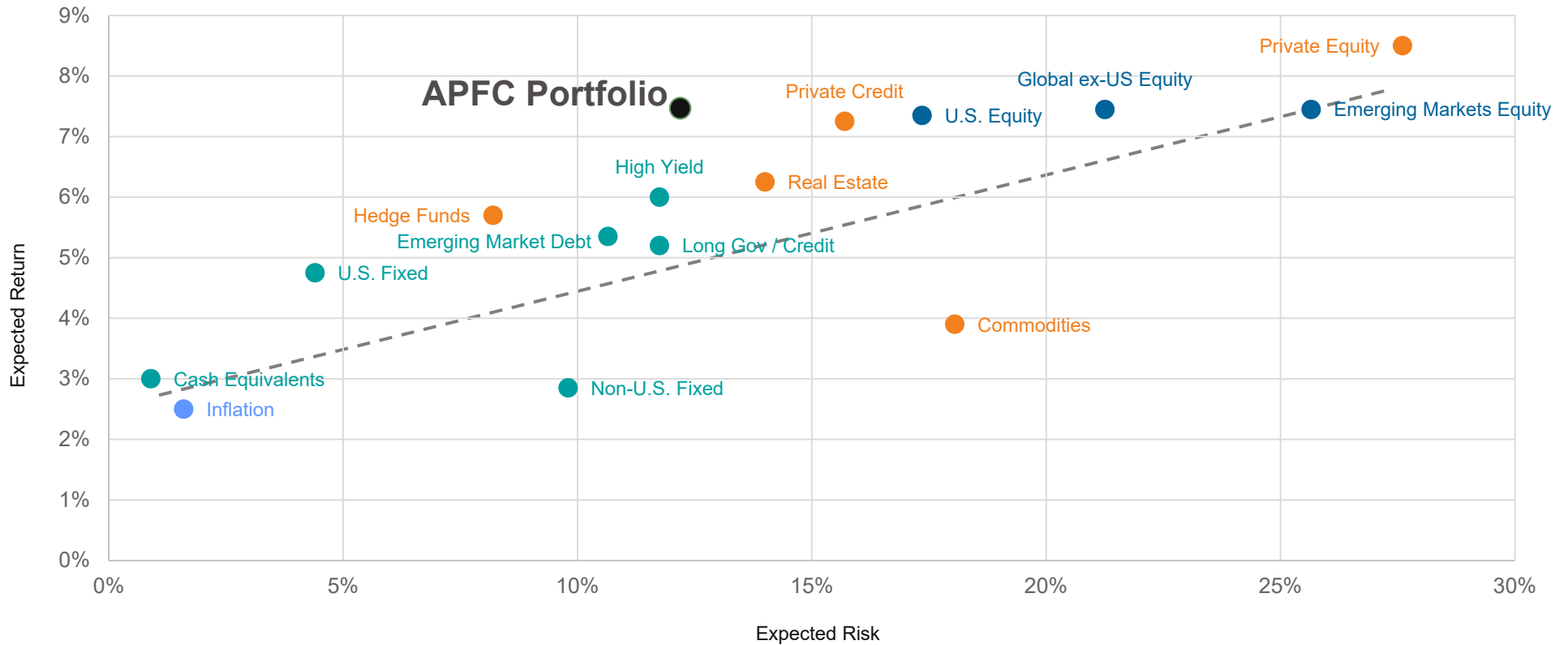
Callan Capital Market Projections 2026 – 2035

Summary of Callan's Long-Term Capital Market Projections for APFC Asset Allocation Model (FY 2026 - 2035)

Asset Class	Performance Index	PROJECTED RETURN		PROJECTED RISK	
		1-Year Arithmetic	10-Year Geometric Return	Annualized Standard Deviation	Projected Yield
APFC Public Equities		8.90%	7.55%	17.45%	2.10%
Global Equity	MSCI ACWI - IMI	8.90%	7.55%	17.45%	2.10%
APFC Public Fixed Income		4.75%	4.70%	4.35%	4.60%
Cash Equivalents	90-Day T-Bill	3.00%	3.00%	0.90%	3.00%
TIPS	Bloomberg TIPS	4.65%	4.50%	5.40%	4.20%
US Fixed Income	Bloomberg Aggregate	4.85%	4.75%	4.45%	4.55%
US Investment Grade Credit	Bloomberg Credit	5.00%	4.95%	4.80%	4.80%
Non-US Fixed Income	Bloomberg Global Treasury ex-US Hedged	3.35%	2.90%	9.80%	2.85%
High Yield	Bloomberg US High Yield 2% Issuer Cap	6.55%	5.90%	11.75%	8.05%
US Securitized	Bloomberg US Securitized	5.10%	5.05%	3.00%	4.45%
Private Equity		11.80%	8.50%	27.60%	0.00%
Private Equity	Cambridge Private Equity (lag)	11.80%	8.50%	27.60%	0.00%
Private Real Estate		7.15%	6.25%	14.00%	4.00%
Real Estate	NCREIF Total Index (lag)	7.15%	6.25%	14.00%	4.00%
Private Infrastructure/Credit		7.80%	7.10%	12.40%	5.85%
Private Infrastructure	Cambridge Global Private Infra (lag)	7.40%	6.35%	15.20%	4.90%
Private Credit	Bloomberg US High Yield (lag)	8.35%	7.25%	15.70%	7.25%
Absolute Return		6.00%	5.70%	8.20%	0.00%
Hedge Funds	HFRI Total HFOF Universe	6.00%	5.70%	8.20%	0.00%
Tactical Opportunities		8.50%	7.25%	17.00%	1.50%
Tactical Opportunities	S&P 500	8.50%	7.25%	17.00%	1.50%
Cash Equivalents		3.00%	3.00%	0.90%	3.00%
Cash Equivalents	90-Day T-Bill	3.00%	3.00%	0.90%	3.00%
Total Fund	APFC Total Fund Target	8.00%	7.30%	12.65%	2.65%
Inflation	CPI-U		2.50%	1.60%	

Relationship Between Expected Return and Economic Risk

Visualizing Callan's Capital Markets Assumptions



Expected Return Increases with Increased Economic Risk

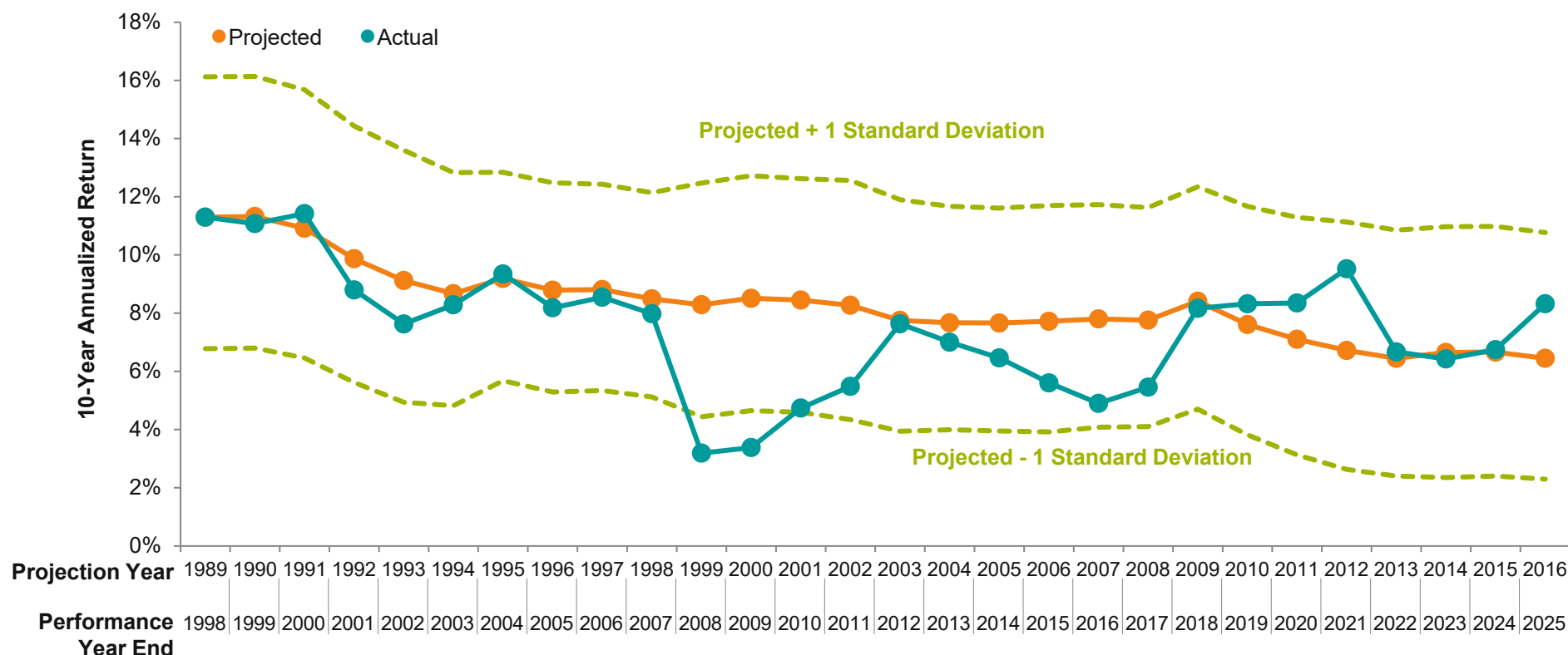
- For example, investors demand a greater return from private equity than public equity as compensation for higher implementation risk, greater leverage, and less liquidity
- Lower correlation asset classes can fall below the capital markets line and still be efficient components of a diversified portfolio (e.g. Non-US Fixed income)

Actual Returns versus Callan Projections

Projection Years 1989 - 2016

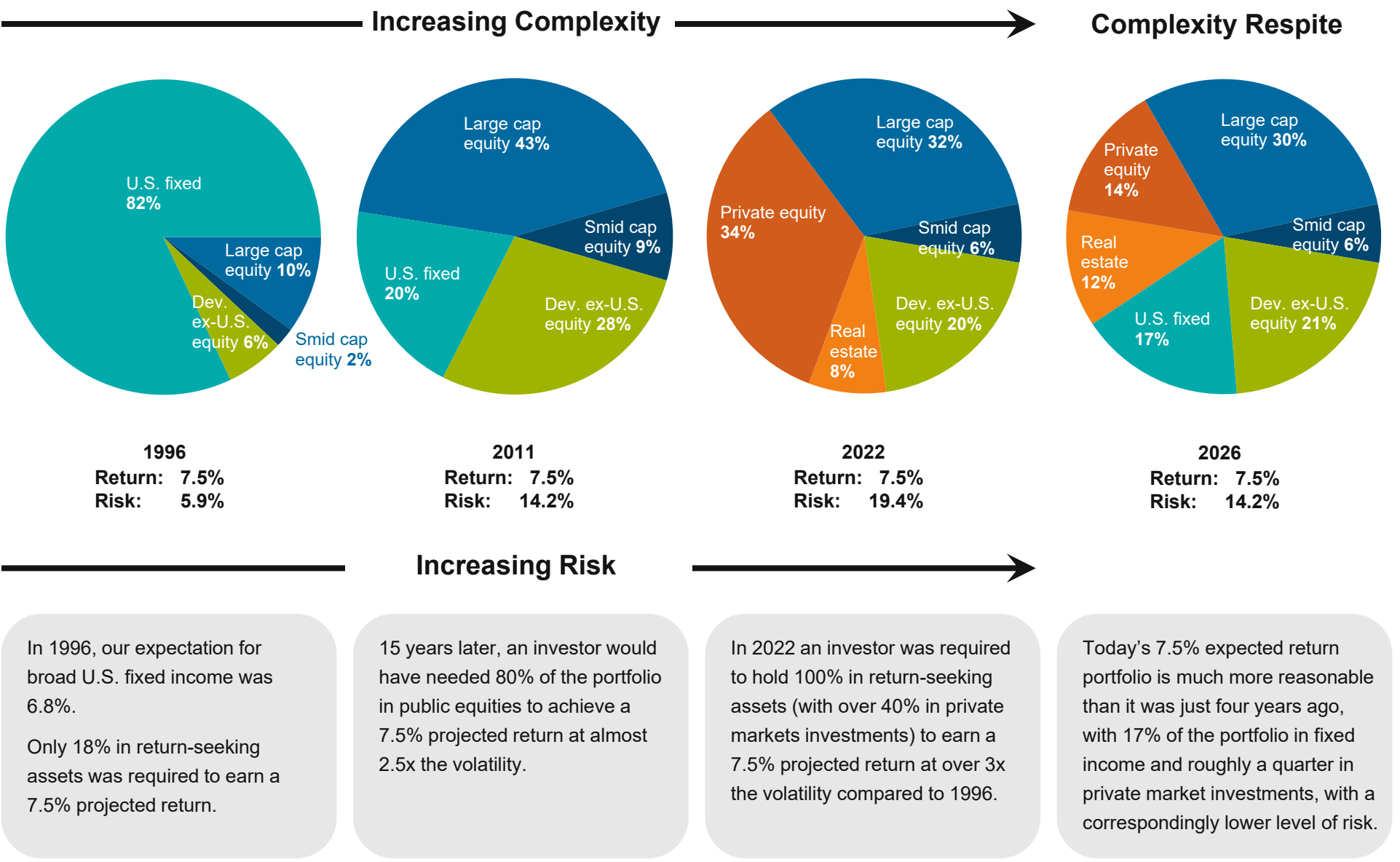
Historical Comparison: Actual Returns vs. Callan Capital Markets Projections

Portfolio (60% Equity, 30% Fixed, 10% Real Estate)



- Our projections for a diversified portfolio have generally been within one standard deviation of the future actual return
- The glaring exceptions are the 10-year periods ended in 2008 and 2009 which contained two major collapses in the equity market: the Dot-Com Bubble in 2001-02 and the Global Financial Crisis in 2008

7.5% Expected Returns over Last 30 Years

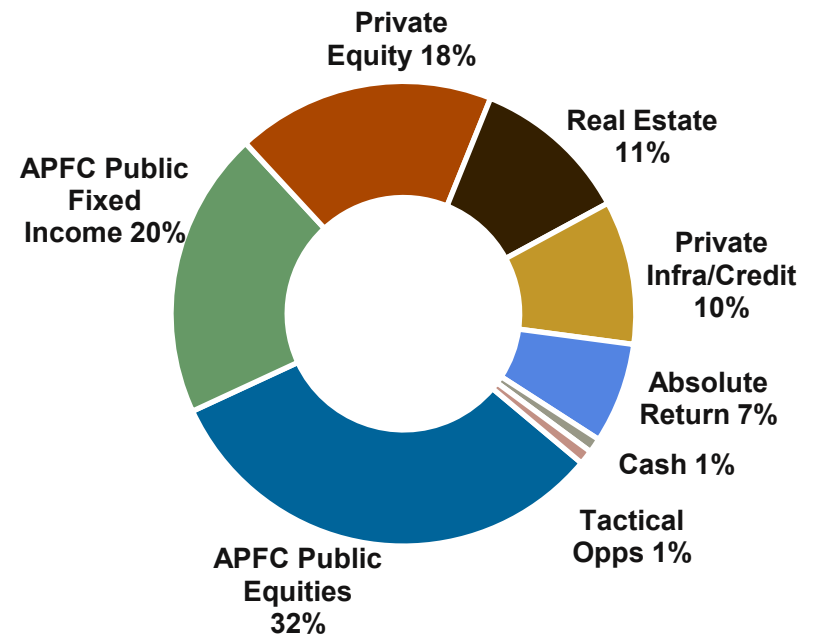


APFC FY 2026 Total Fund Policy Target

Projected Return and Standard Deviation

- Projected median 10-year annualized return of **7.30%** is the same as last year.
- Inflation expectation remained the same at **2.50%**.
- Projected median 10-year annualized real return of **4.8%** is the same as last year.
- Projected standard deviation of **12.65%** is 5 basis points lower than last year.
- Percent probability of exceeding 7.5% annualized return over 10-year horizon is estimated to be **47.4%**.
- Percent probability of exceeding 7.1% (median effective payout) is estimated to be roughly **52%**.

FY 2026 Total Fund Target

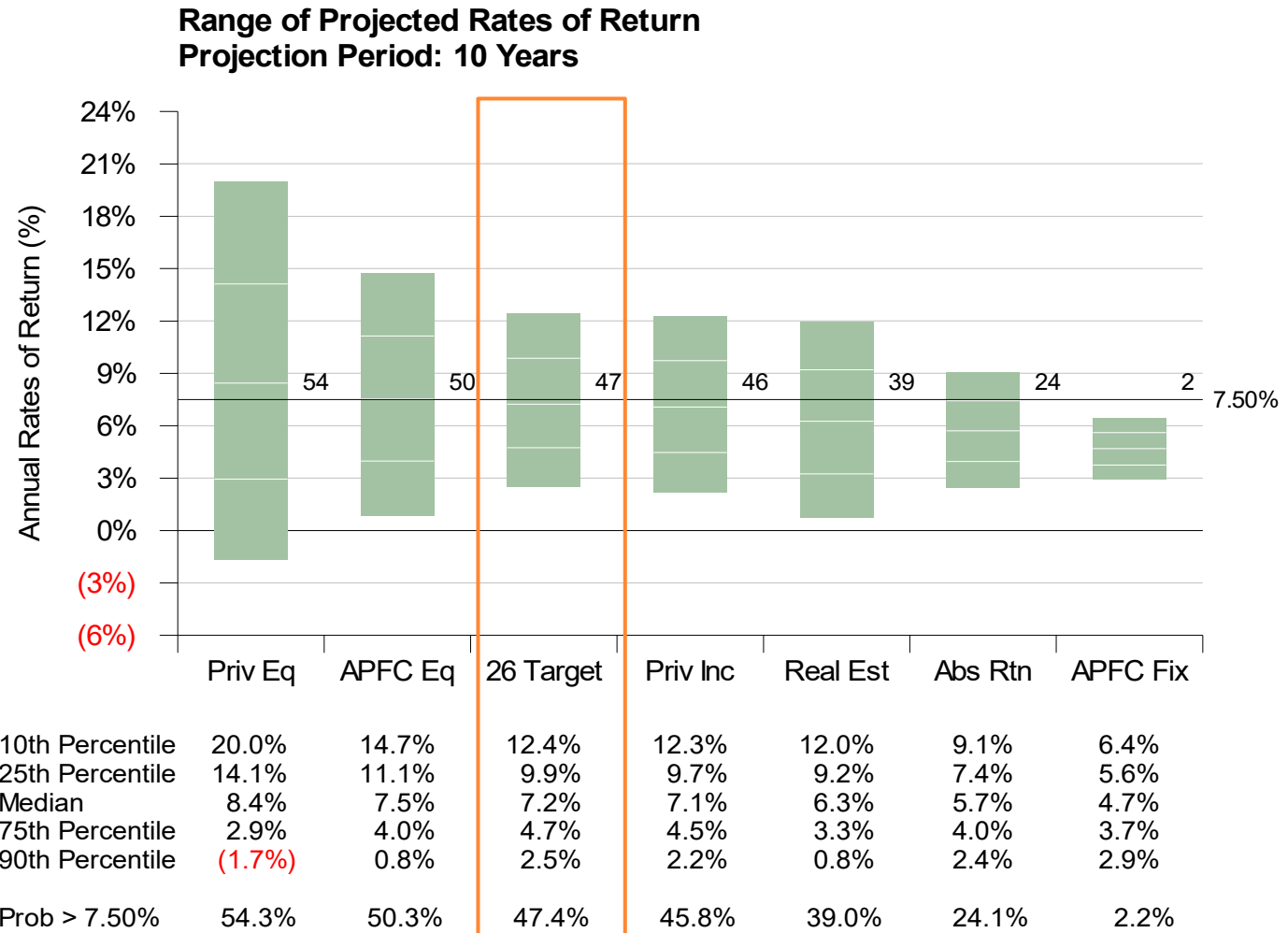


Expected 10-year Geometric Return:	7.30%
Expected Standard Deviation:	12.65%
Expected Inflation:	2.50%
Expected Real Return:	4.80%

Range of Projected Returns

10th through 90th Percentile

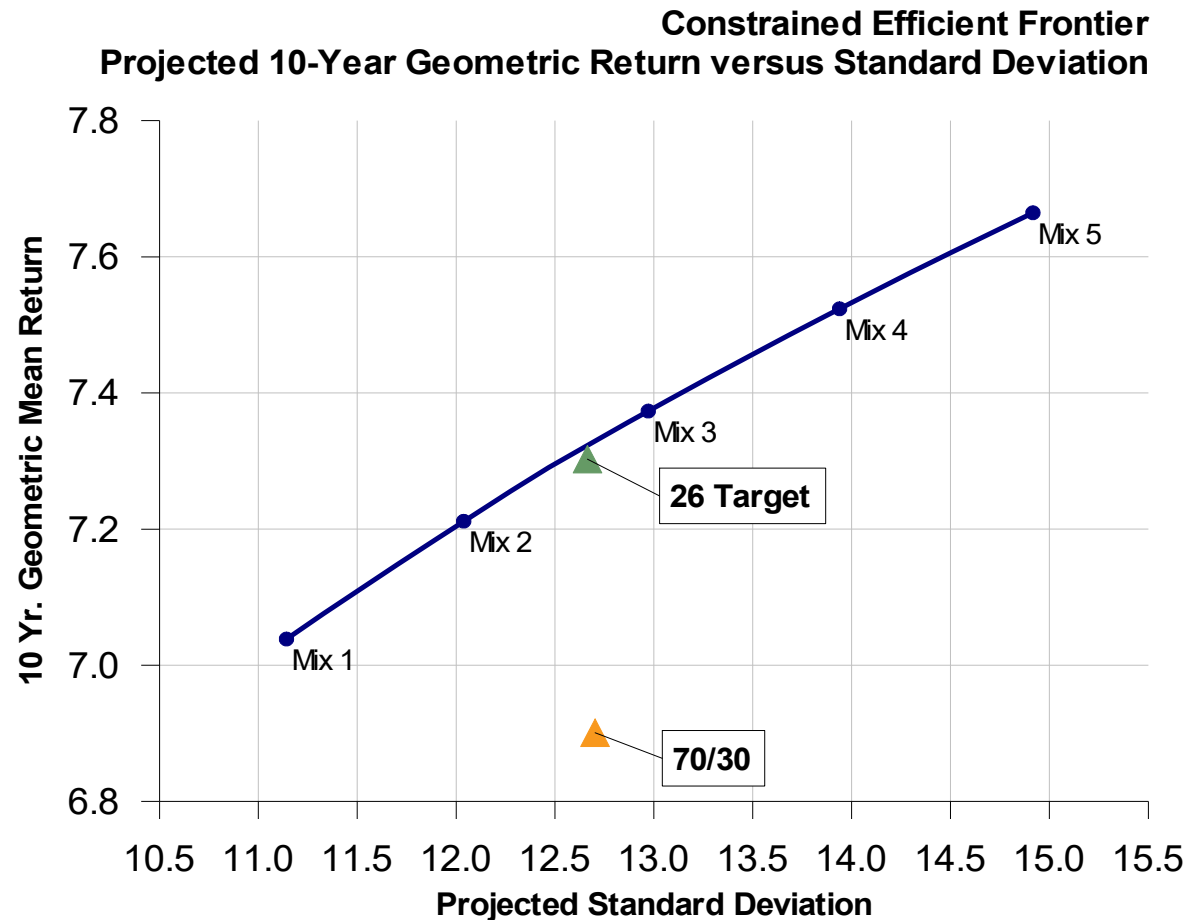
- Projected probability of FY26 Target Mix exceeding 7.5% annualized real return over 10 years is roughly 47.5%
- Only Public and Private equity have 50% or greater probability of achieving 7.5% return.
- The projected 90th percentile worse-case ten-year annualized return for the FY26 target is 2.5%.
- This is better than for any of the individual asset classes except fixed income, illustrating the power of diversification.



Constrained Efficient Frontier Analysis (50% Private Assets)

FY 26 Target Portfolio Close to Constrained Efficient Frontier

- Efficient frontier with 50% private markets constraint.
- FY26 Target portfolio is essentially on the constrained efficient frontier hindered modestly by 1% cash allocation and private markets allocation of 48%.
- 70/30 Equity/Fixed portfolio is pure public markets portfolio with same risk as FY26 Target, and roughly 40 basis points lower return.



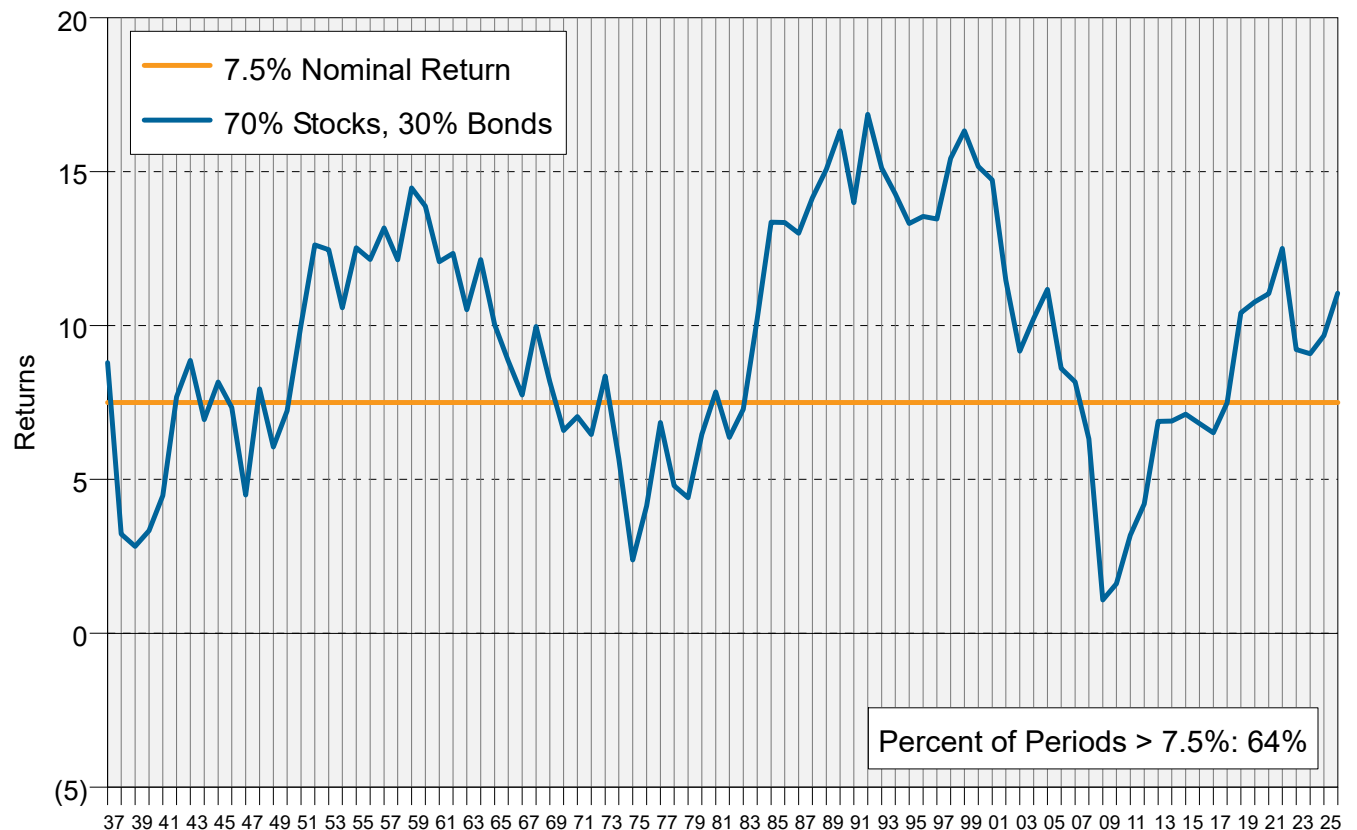
*70/30 Equity/Fixed portfolio assumes 70% allocation to APFC Public Equity benchmark and 30% allocation to APFC Fixed Income benchmark

Rolling 10-Year Nominal Returns

70% US Stocks (S&P 500), 30% US Bonds (Aggregate)

- Historically a 70/30 mix generated a **nominal** 10-year annualized return above **7.5%** in **64%** of periods.
- Periods that did not meet the mark included at least one of the following:
 - The Great Depression
 - The 73-64 Oil Crisis
 - The Dot.com Bubble
 - The 2008 GFC
- Average inflation over this period was 3.3%

Rolling 10-Year Nominal Return
for 89 Years Ended December 31, 2025

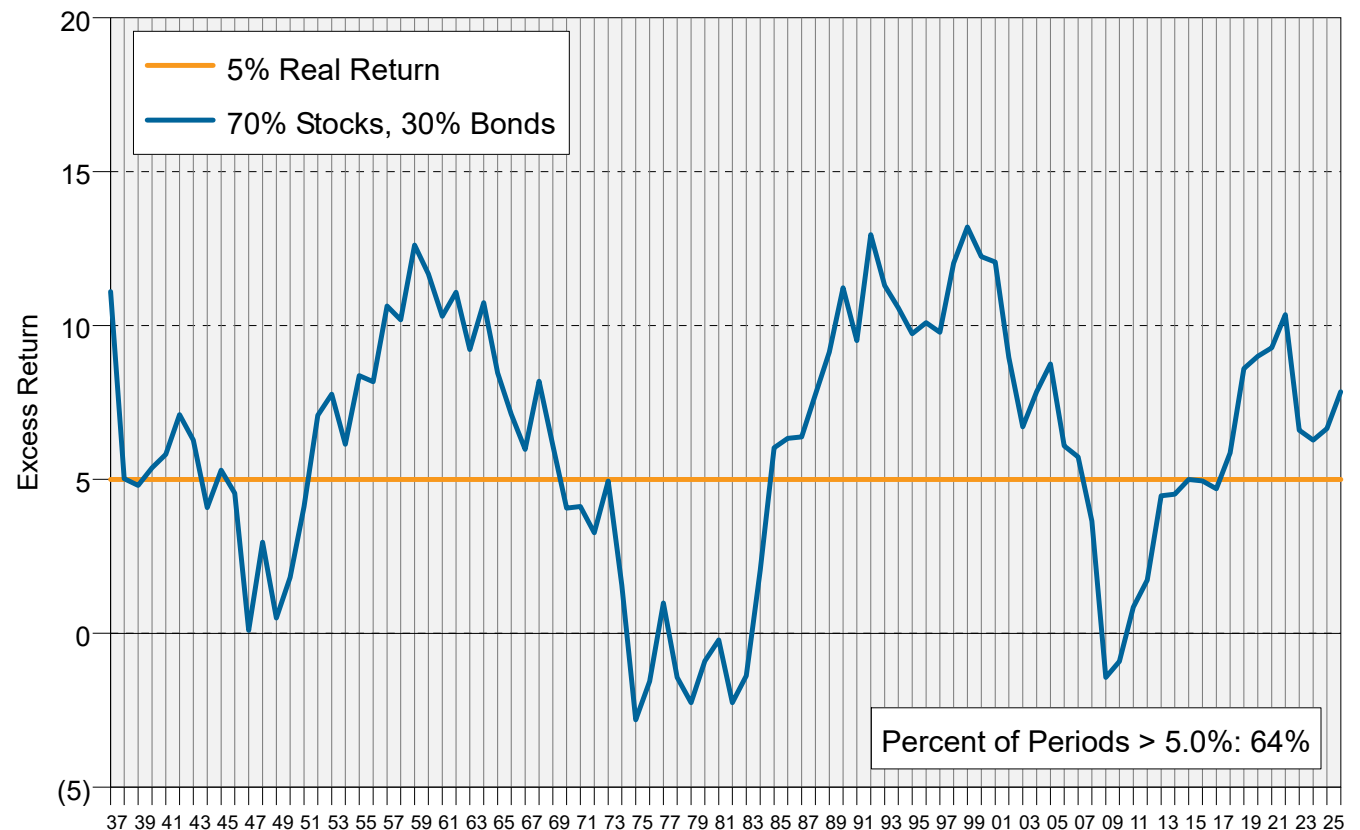


Rolling 10-Year Real Returns

70% US Stocks (S&P 500), 30% US Bonds (Aggregate)

- Historically a 70/30 mix generated a **real** 10-year annualized return above **5%** in **64%** of periods.
- While the top-line number looks the same the pattern is different.
- High inflation periods made it more challenging to meet the bogey:
 - WW II
 - 70's Stagflation
- Deflation during the Depression helped real return in early rolling periods.

Rolling 10-Year Real Return
for 89 Years Ended December 31, 2025

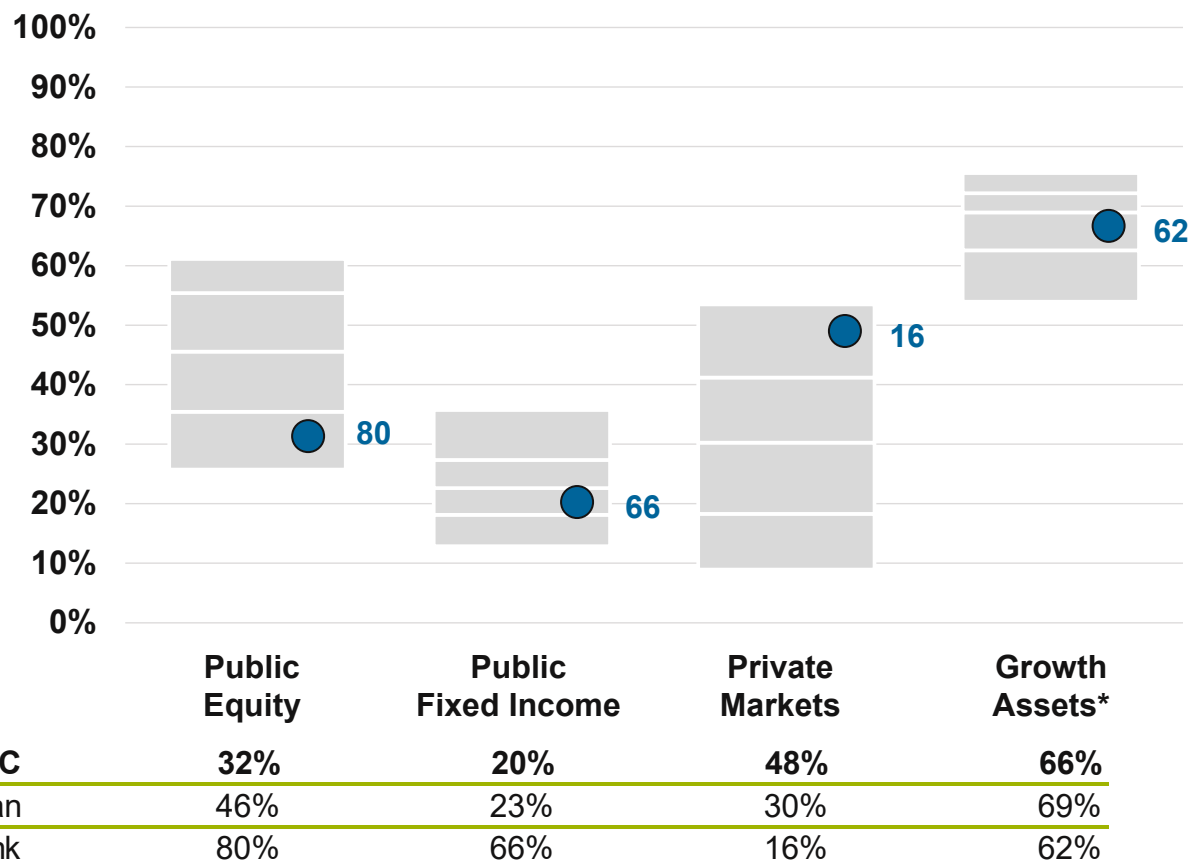


APFC FY 2026 Target versus Large Public Funds

Target Asset Allocation Comparison

- Low Public Equity
 - Lower allocation to public equities than 80% of Public Funds.
 - Median is 46%, APFC is 32%.
- Below Median Public Fixed Income
 - Slightly below median allocation to public fixed income.
 - Median is 23%, APFC is 20%.
- High Private Markets
 - Higher allocation to private markets than 76% of Public Funds.
 - Median is 30%, APFC is 48%
- Below Median Growth Assets
 - Slightly below median allocation to Growth Assets
 - Median is 69%, APFC is 66%

Asset Allocation Distribution as of September 30, 2025
Callan Large Public Fund (> \$1 billion)



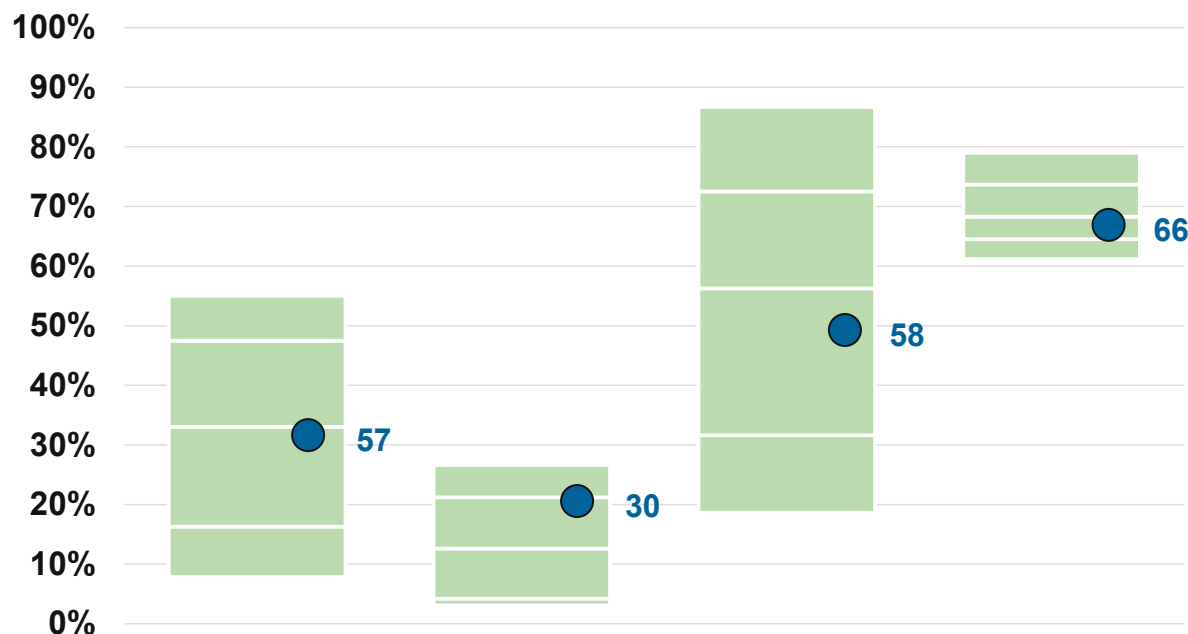
*Growth Assets include public equity, private equity, tactical opportunities, 70% of private real estate, 70% of private infrastructure/credit.

APFC FY 2026 Target versus Large Endowment/Foundation

Target Asset Allocation Comparison

- Median Public Equity
 - Roughly median allocation to public equities.
 - Median is 33%, APFC is 32%.
- High Public Fixed Income
 - Higher allocation to public fixed income than 70% of E&F's.
 - Median is 13%, APFC is 20%.
- Below Median Private Markets
 - Lower allocation to private markets than 58% of E&F's.
 - Median is 56%, APFC is 48%
- Median Growth Assets
 - Roughly median allocation to Growth Assets
 - Median is 68%, APFC is 66%

Asset Allocation Distribution as of September 30, 2025
Callan Large Endowment/Foundation (> \$1 billion)



	Public Equity	Public Fixed Income	Private Markets	Growth Assets
APFC	32%	20%	48%	66%
Median	33%	13%	56%	68%
Rank	57%	30%	58%	66%

*Growth Assets include public equity, private equity, tactical opportunities, 70% of private real estate, 70% of private infrastructure/credit.



**Alaska Permanent Fund
Corporation**

Historical and Projected Draw
Analysis

Outline

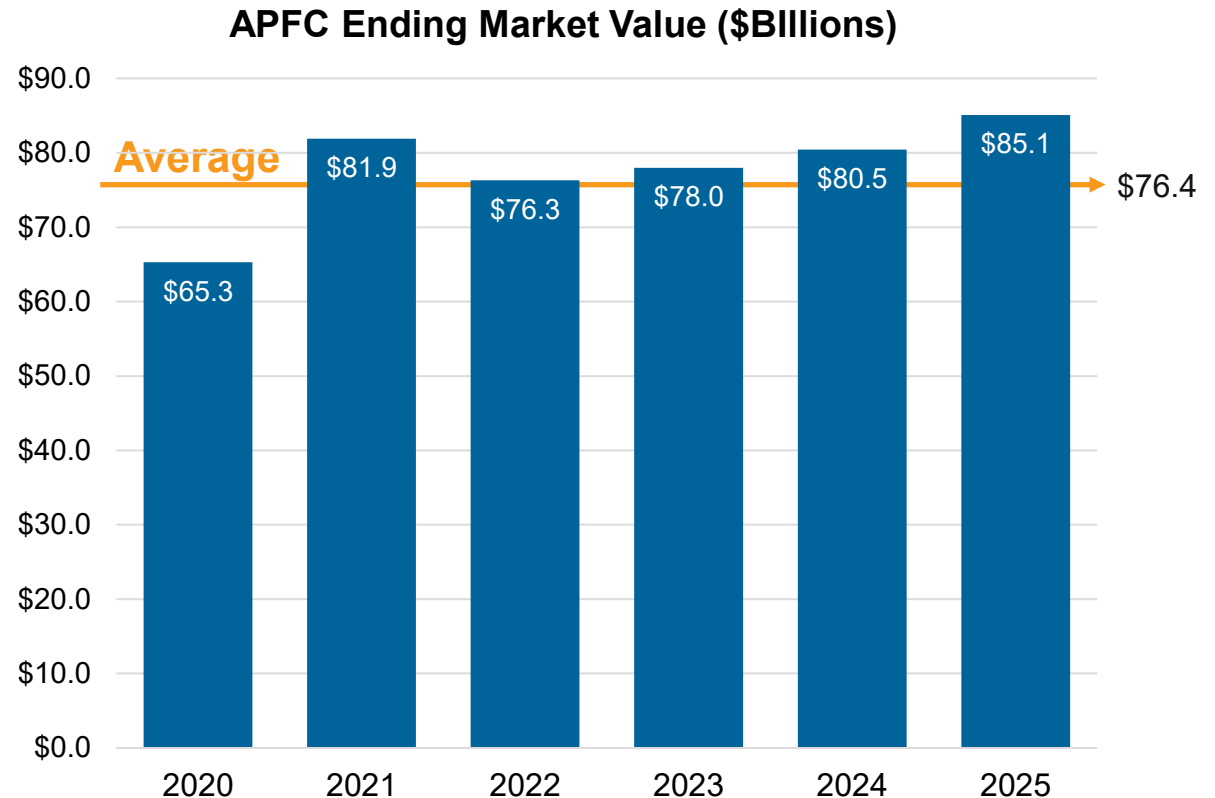
Analysis of Draw Rate

- Current Draw Formula
- Historical Draw
- Overlaying Different Draw Rates and Current Formula on History of Fund
- Projected Simulations of Future Results
- Impact of Draw Limitation Rules

Current 5% Draw Formula

Converting Formula to Average Draw Rate

- Current formula uses the average market value for the first five of the previous six fiscal year-ends.
- Payout, or “Draw” is equal to 5% of that average.
- For 2026 Draw this translates to \$3.8B, or 4.5% of beginning market value of 85.1B.
- On average given a 7.3% expected return, this translates to an average draw of **4.6%** of BMV.
- In years with large negative returns, the relationship is reversed resulting in a larger draw than 5% relative to beginning value.



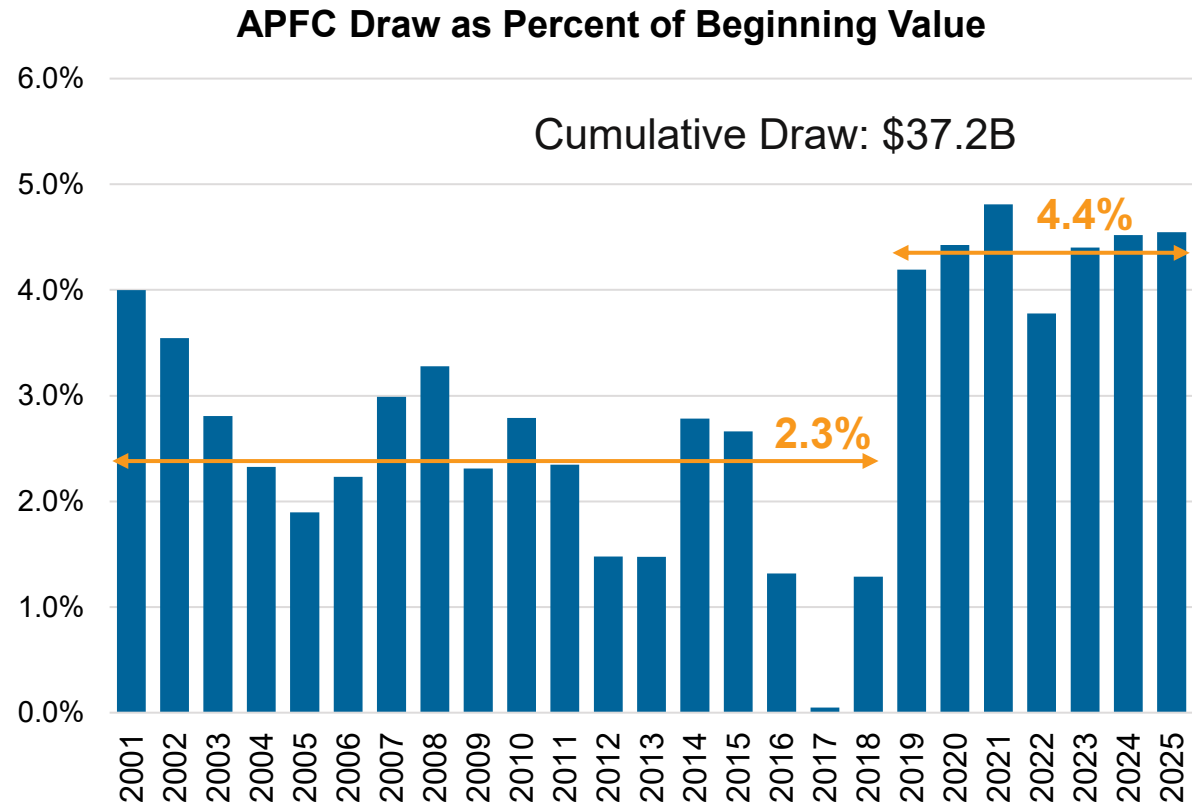
A) $5\% * \$76.4\text{B Average} = \3.8B Draw

B) $\$3.8\text{B Draw} / \$85.1\text{B Ending Value} = 4.5\%$ Draw Rate

Historical Draw

History of Permanent Fund Draw

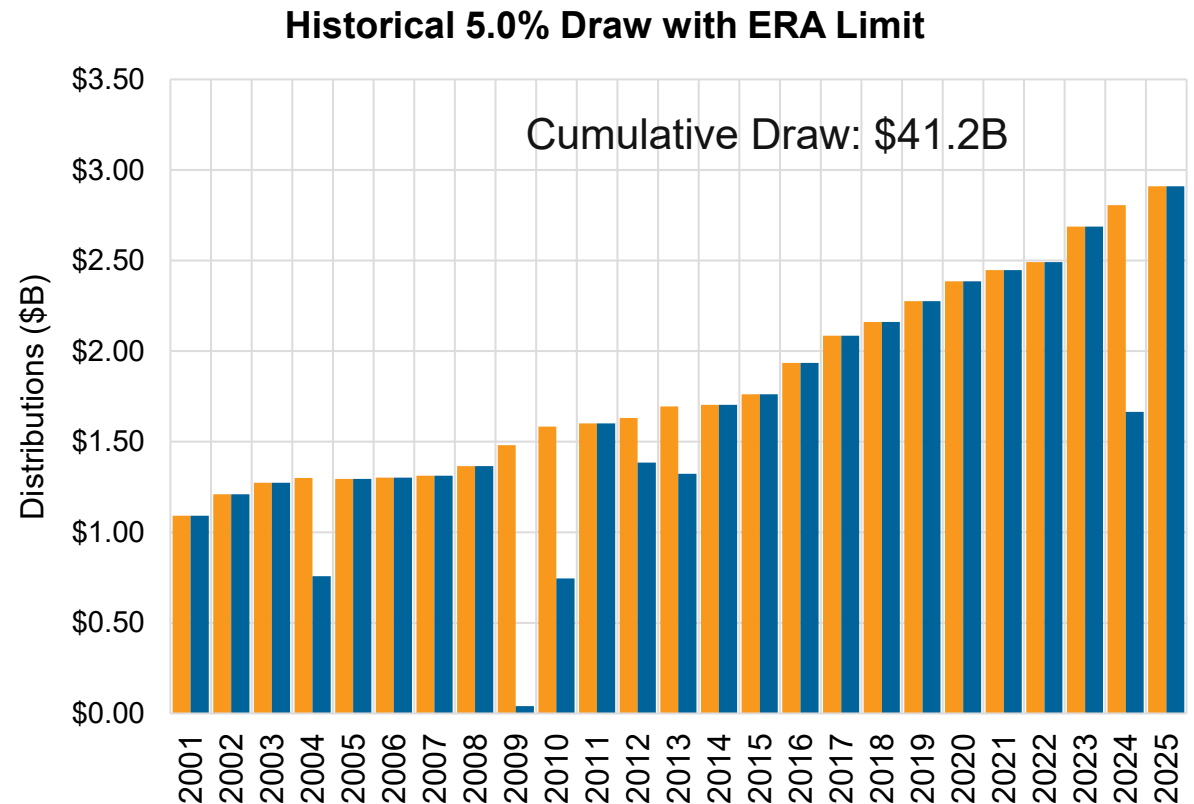
- 2001-2018, the average annual draw from the Permanent Fund was 2.3% of beginning value.
- 2019-2025, the average annual draw has been 4.4% of beginning value.
- The formula during both regimes was based on an average of the previous five years (SNI and EMV) which smooths year-to-year volatility.
- Predictably this results in higher percentage payouts after negative return years ('01, '02, '08, etc.).



Historical Simulation – 5.0% Draw Rule with ERA Limits

History versus 5.0% Rule

- Orange bars show what the historical draw would have been using a 5.0% draw formula without the ERA limit.
- Blue bars show draws under the 5.0% rule with the ERA limit.
- ERA would have limited draw in multiple years ('04, '09, '10, '12, '13, '14, and '24).
- In 2009, the ERA limit would have wiped out almost the entire draw.
- This was due to a low starting ERA and realized losses resulting in negative SNI.
- Inflation proofing is zero in years where draw is limited.



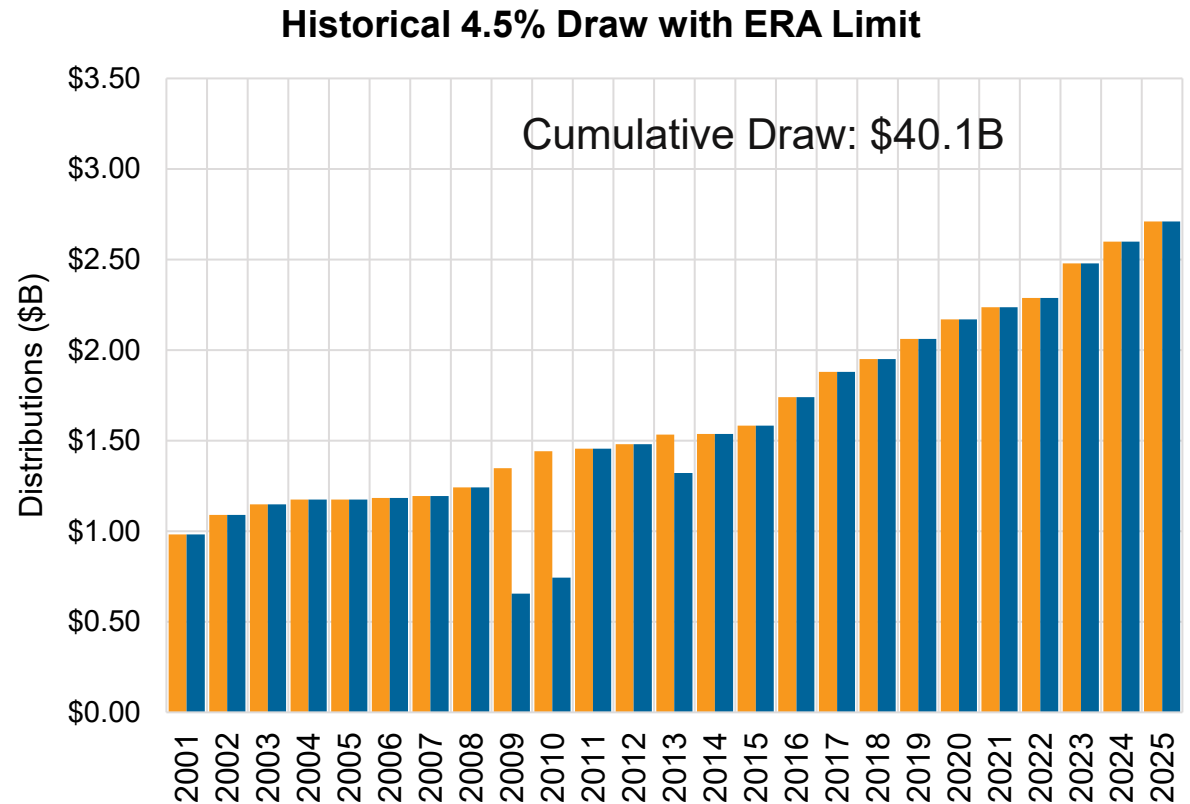
What happened in 2009?

- A) Beginning ERA balance was low.
- B) Statutory Net Income was negative due to the realization of losses from 2008.

Historical Simulation – 4.5% Draw Rule with ERA Limits

History versus 4.5% Rule

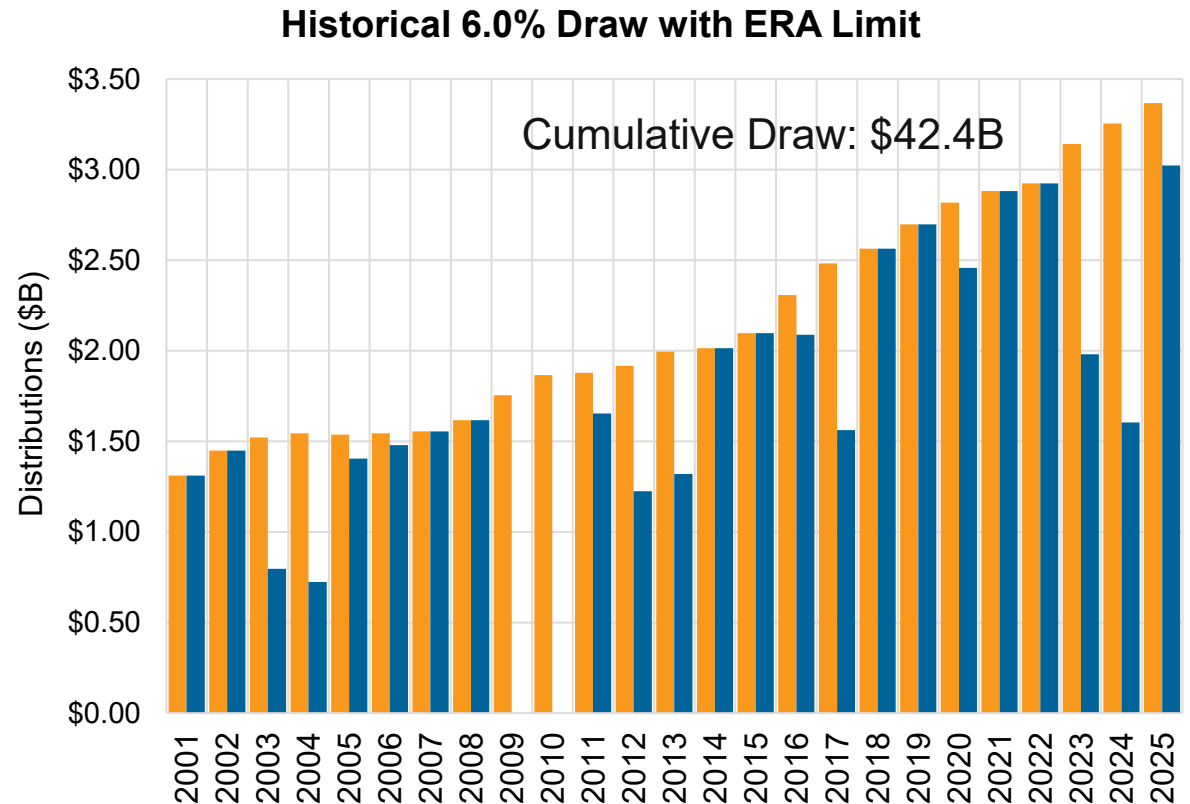
- Orange bars show what the historical draw would have been using a 4.5% draw formula without the ERA limit.
- Blue bars show draws under a 4.5% rule with the ERA limit.
- The ERA would have reduced the draw in '09, '10, and '13.
- The draw target would have been met in all other years.
- Cumulative draw was \$1.1B less than 5% rule.
- Draw was less volatile relative to 5% rule.



Historical Simulation – 6.0% Draw Rule with ERA Limits

History versus 6.0% Rule

- Orange bars show what the historical draw would have been using a 6.0% draw formula without the ERA limit.
- Blue bars show draws under a 6.0% rule with the ERA limit.
- The ERA limit would have been binding for the 6% draw in 12 of the 25 years.
- The draw would have been zero in '09 and '10.
- The cumulative draw was \$1.2B higher than under the 5% rule with more volatility.



Historical Simulation Comparing Draw Rates

Output for Key Financial Variables

- Table compares actual historical financial variables to simulated values under various assumed draw rates.
- Higher draw rates result in lower market values, lower inflation proofing appropriations, and lower ending principal balance.
- All of the formulas generate higher historical draws which reduces current market value relative to history.
- This results in a lower draw in 2025 relative to the current draw for all of the draw rates.

Draw	Historical	4.50%	5.00%	6.00%
2025 Ending Market Value	\$85,099,871	\$71,280,573	\$68,988,253	\$66,304,580
2025 Ending ERA Balance	\$10,231,525	\$3,891,336	\$1,212,601	\$970,535
2025 Ending Principal Balance	\$58,854,467	\$54,417,531	\$53,483,828	\$51,124,181
2025 Distribution	\$3,657,263	\$2,709,418	\$2,910,669	\$3,023,737
2025 Inflation Proofing	\$0	\$1,402,455	\$1,378,173	\$1,316,809
Cumulative Draw	\$37,195,397	\$40,085,355	\$41,211,972	\$42,428,860
Cumulative Inflation Proofing	\$25,332,327	\$21,216,804	\$20,283,101	\$17,923,454

Monte Carlo Simulation

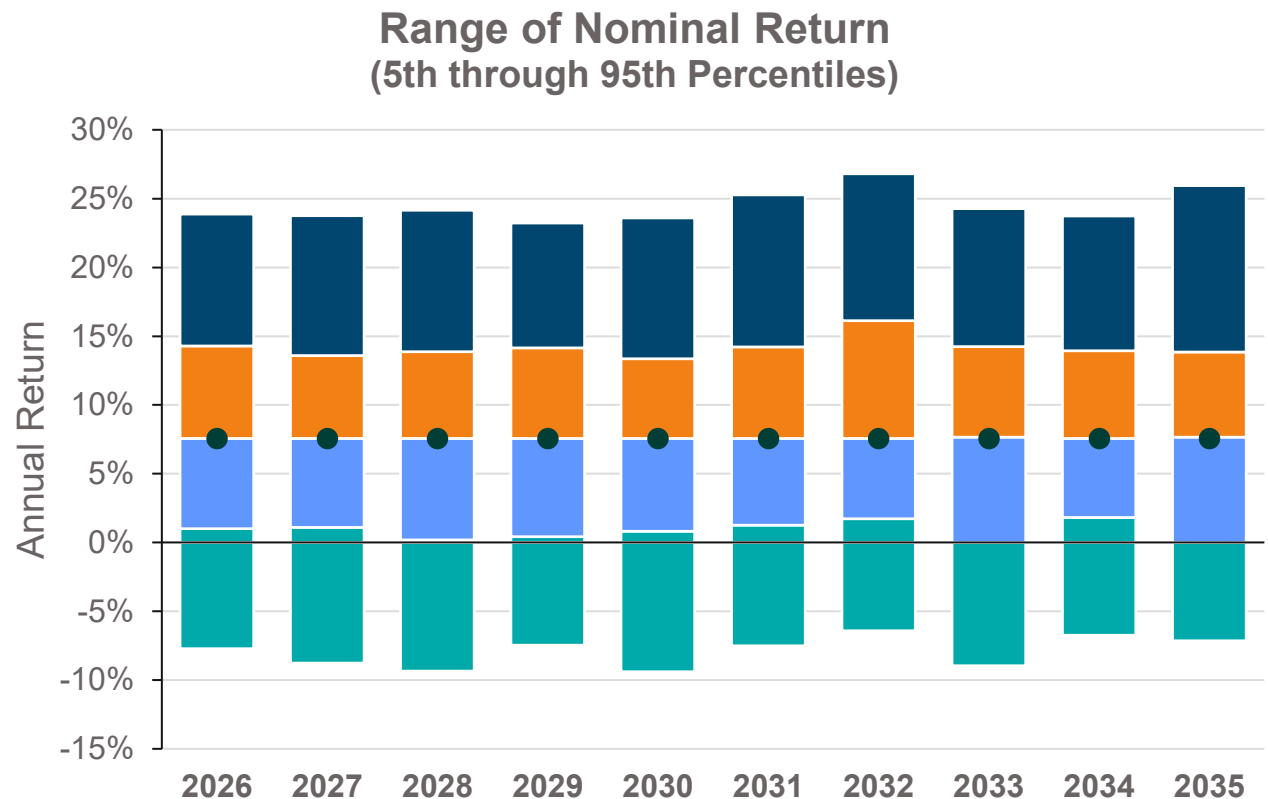
Projecting a Range of Potential Future Outcomes

- Uses Callan's 2026 Capital Market Projections.
- Assumes 2026 Target Asset Allocation.
- Uses July 1, 2025, starting values for all key Permanent Fund financial variables.
 - Market Value.
 - Distribution.
 - ERA balance.
 - Principal balance.
- Simulates 2,000 different 10-year capital market scenarios ranging from 5th percentile best case (fabulous equity markets) to 95th percentile worst case (multiple market dislocations).
- Examines range of outcomes for key financial variables under 5% draw and 4.5% draw.
- Key Assumptions
 - Draw rate subject to ERA limitation.
 - Inflation proofing zero in FY26, follows standard formula thereafter.
 - Draw takes precedence over inflation proofing.
 - No inflation proofing deficit account.
 - First three quarters of current year SNI can be used to fund distribution.
- Examined projections for 5% (baseline), and 4.5% assumed draw rates.

Simulation Output – 5% Draw

Range of Projected Returns

- This first chart shows the range of projected returns for each year in the projection.
- The model is tuned so that 10-year return (7.30%) matches Callan's capital market expectations.
- This range of returns drives the behavior of all of the other financial variables for the Fund.
- In any given year there is approximately 25% chance of a negative return.

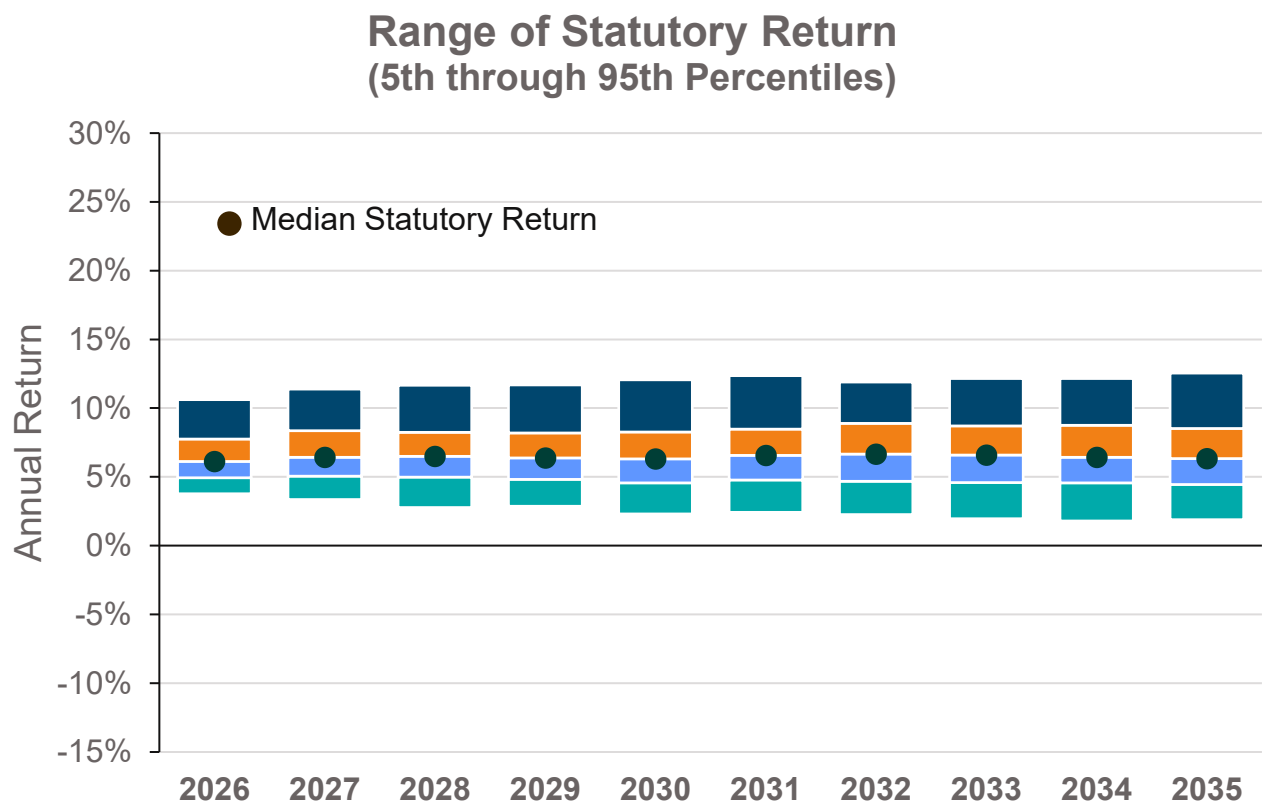


5th Percentile	23.89%	23.77%	24.17%	23.23%	23.61%	25.28%	26.82%	24.19%	23.75%	25.87%
25th Percentile	14.28%	13.59%	13.88%	14.16%	13.36%	14.22%	16.14%	14.15%	13.93%	13.75%
50th Percentile	7.57%	7.57%	7.57%	7.57%	7.57%	7.57%	7.56%	7.57%	7.57%	7.57%
75th Percentile	1.01%	1.10%	0.19%	0.43%	0.82%	1.26%	1.73%	-0.09%	1.81%	-0.09%
95th Percentile	-7.72%	-8.78%	-9.35%	-7.46%	-9.40%	-7.51%	-6.43%	-8.98%	-6.75%	-7.17%

Simulation Output – 5% Draw

Range of Statutory Return

- The range of Statutory Return is much narrower than the range of Total Return for the Fund.
- Statutory Return is driven by income (bond yields, dividends, etc.) and realized capital gains.
- 95th percentile outcomes are associated with multiple negative or low return years in a row which erode unrealized gains.
- Low-interest-rate scenarios also contribute to lower statutory returns

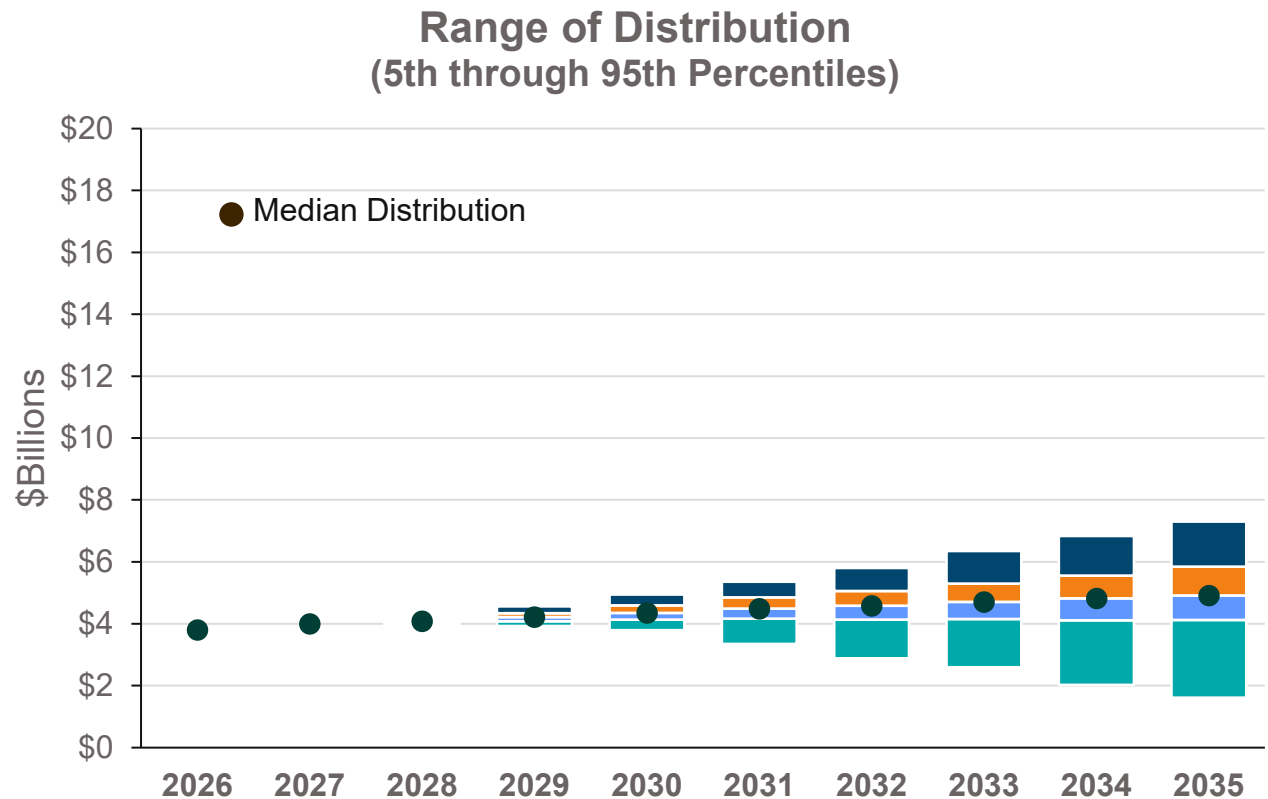


5th Percentile	10.62%	11.38%	11.66%	11.68%	12.05%	12.37%	11.91%	12.16%	12.16%	12.56%
25th Percentile	7.74%	8.37%	8.23%	8.21%	8.25%	8.48%	8.88%	8.70%	8.75%	8.52%
50th Percentile	6.13%	6.42%	6.49%	6.38%	6.31%	6.56%	6.65%	6.60%	6.43%	6.32%
75th Percentile	4.94%	5.06%	4.99%	4.83%	4.56%	4.77%	4.69%	4.59%	4.57%	4.44%
95th Percentile	3.78%	3.37%	2.77%	2.86%	2.31%	2.42%	2.26%	1.96%	1.79%	1.89%

Simulation Output – 5% Draw

Range of Projected Distributions

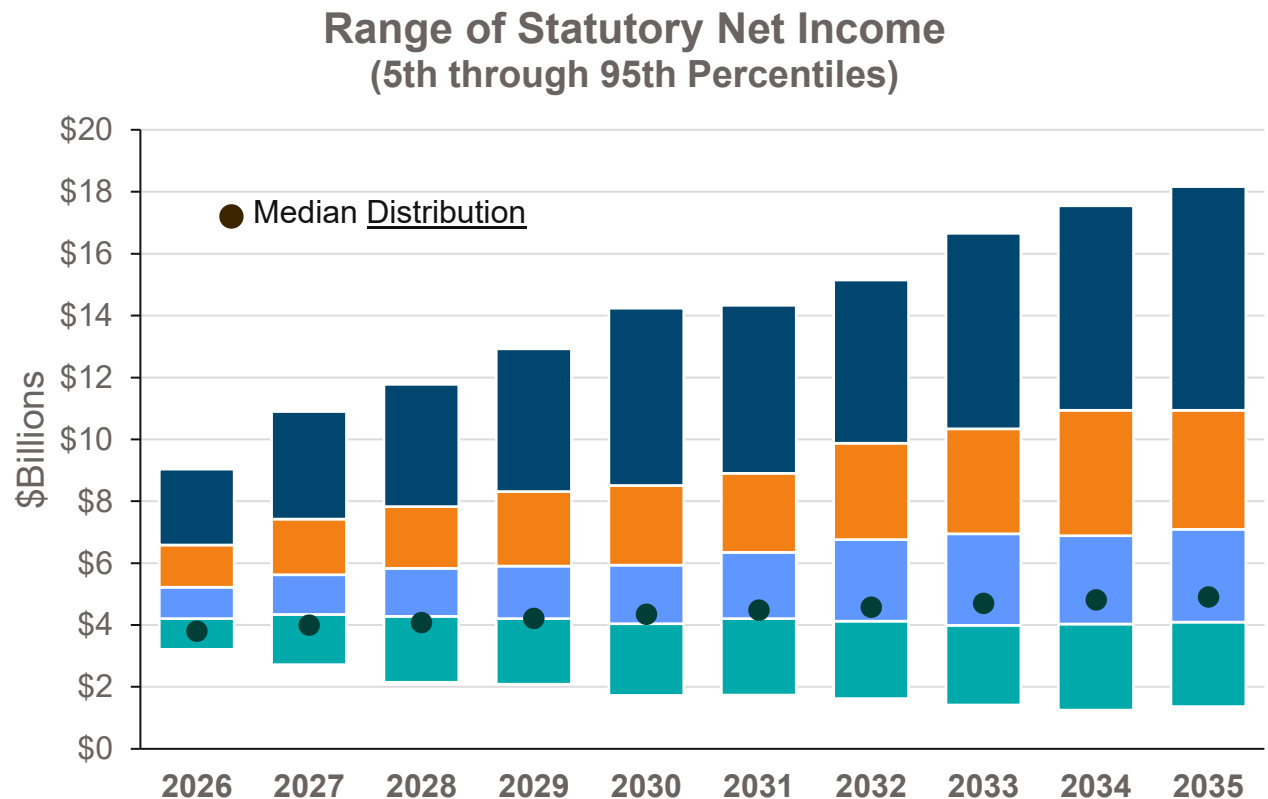
- This chart shows the range of distributions for each year under the 5.0% draw.
- The first two years are known based on the formula and there is less than a 5% chance of an ERA limitation.
- Beginning in 2030 there is a 5% chance that the ERA limitation will limit the draw.
- The magnitude of the 5th percentile limitation increases each year thereafter.
- By 2034 there is a 10% chance the limitation kicks in.



Simulation Output – 5% Draw

Range of Projected Statutory Net Income

- This chart shows the range of statutory net income in each year of the projection.
- The dots show the median projected distribution in each year.
- SNI exceeds the median distribution in 70-75% of outcomes each year across the projection period.
- If the distribution is first call on SNI (before inflation proofing) the fund should be able to meet the draw in most scenarios.

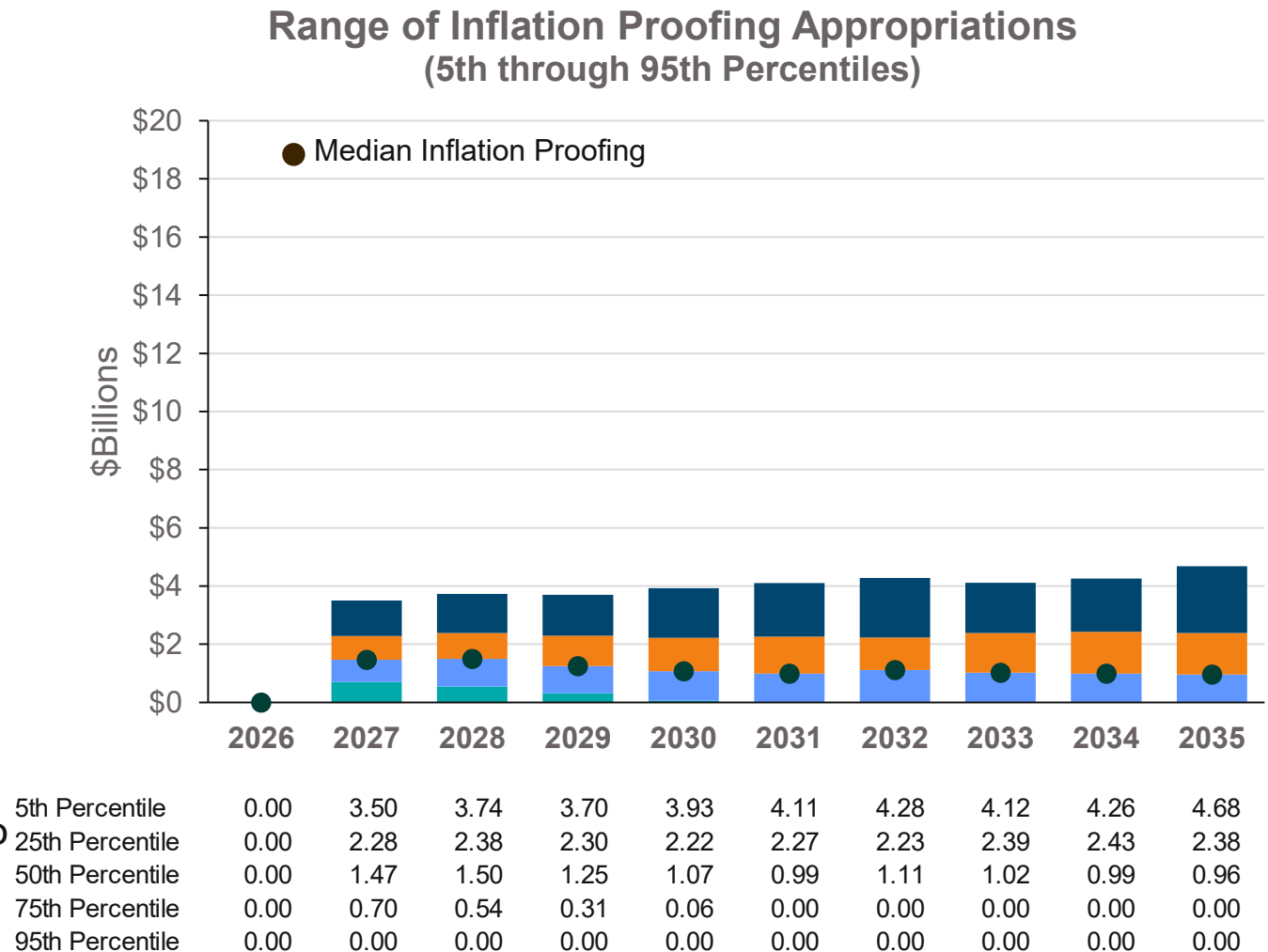


5th Percentile	9.03	10.89	11.78	12.92	14.24	14.33	15.15	16.66	17.55	18.17
25th Percentile	6.59	7.42	7.82	8.31	8.51	8.90	9.87	10.34	10.94	10.94
50th Percentile	5.22	5.63	5.84	5.90	5.93	6.35	6.76	6.95	6.89	7.09
75th Percentile	4.20	4.34	4.28	4.20	4.04	4.21	4.12	3.99	4.03	4.09
95th Percentile	3.21	2.71	2.15	2.09	1.72	1.73	1.62	1.41	1.25	1.37

Simulation Output – 5% Draw

Range of Projected Inflation Proofing Appropriations

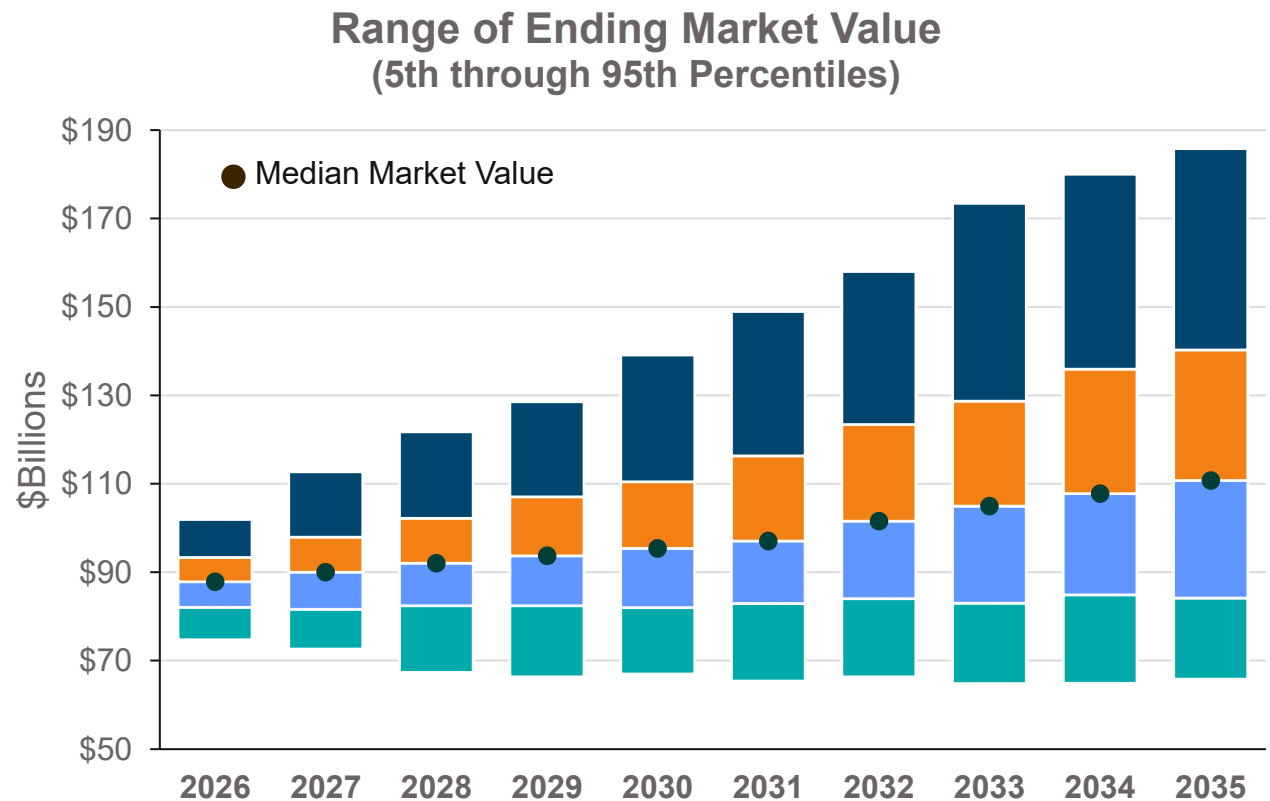
- This chart shows the range of inflation proofing appropriations for each year.
- No inflation proofing appropriation assumed in 2026.
- Model assumes distributions have priority over inflation proofing.
- It assumes no inflation proofing “catch-up” after years of shortfalls.
- By 2031 there is at least a 25% chance that the ERA will limit inflation proofing to zero.



Simulation Output – 5% Draw

Range of Projected Ending Market Value

- This chart shows the range of ending market value for each year.
- The median grows steadily over time, projected to eclipse \$100B in 2032.
- 5th percentile results are associated with strong cumulative returns in equity markets.
- 95th percentile returns are associated with weak cumulative returns in equity markets.



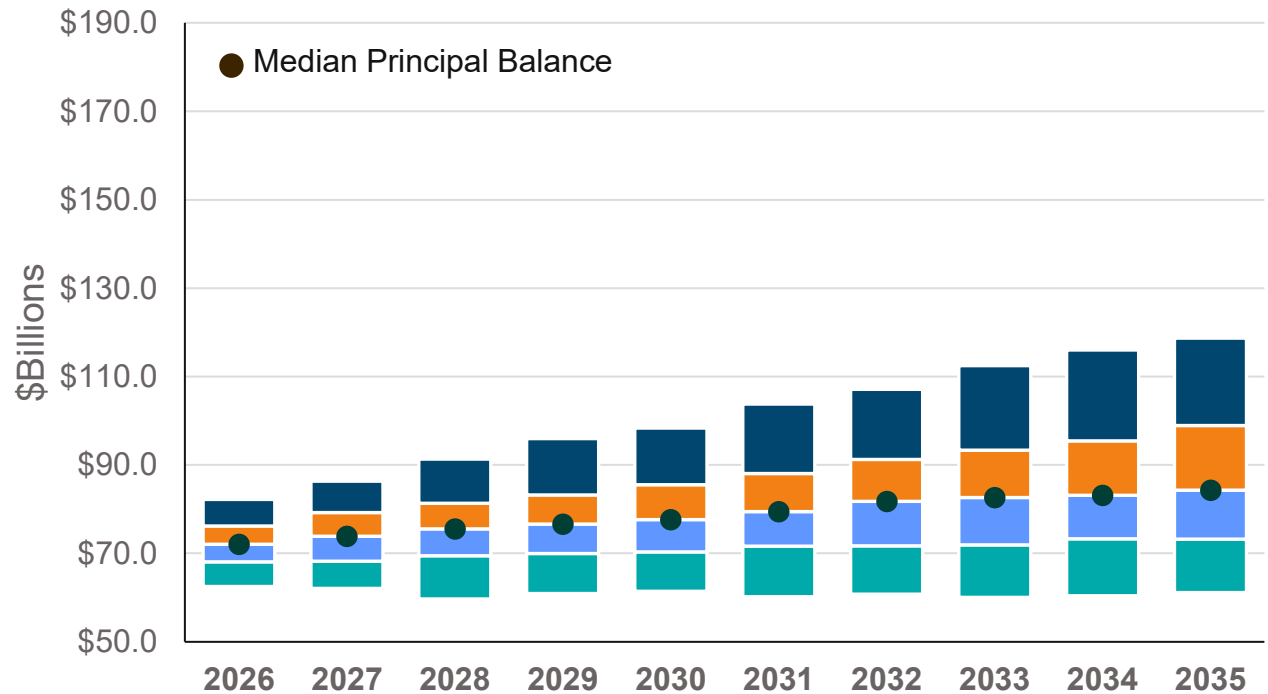
5th Percentile	101.9	112.7	121.7	128.5	139.1	148.9	158.0	173.4	180.0	185.8
25th Percentile	93.3	97.9	102.2	107.0	110.4	116.3	123.4	128.7	135.9	140.2
50th Percentile	87.9	90.0	92.0	93.7	95.4	97.1	101.5	104.9	107.8	110.7
75th Percentile	82.1	81.6	82.4	82.4	82.0	82.9	84.0	83.0	84.9	84.2
95th Percentile	74.7	72.6	67.3	66.3	67.0	65.4	66.3	64.8	64.9	65.8

Simulation Output – 5% Draw

Range of Projected Ending Principal Balance

- This chart shows the range of ending principal balance for each year.
- Model assumes no inflation proofing appropriation in 2026.
- Model assumes statutory formula is followed in future years.
- Model assumes distributions have priority over inflation proofing.
- It assumes no inflation proofing “catch-up” after years of shortfalls.

**Range of Principal Balance
(5th through 95th Percentiles)**

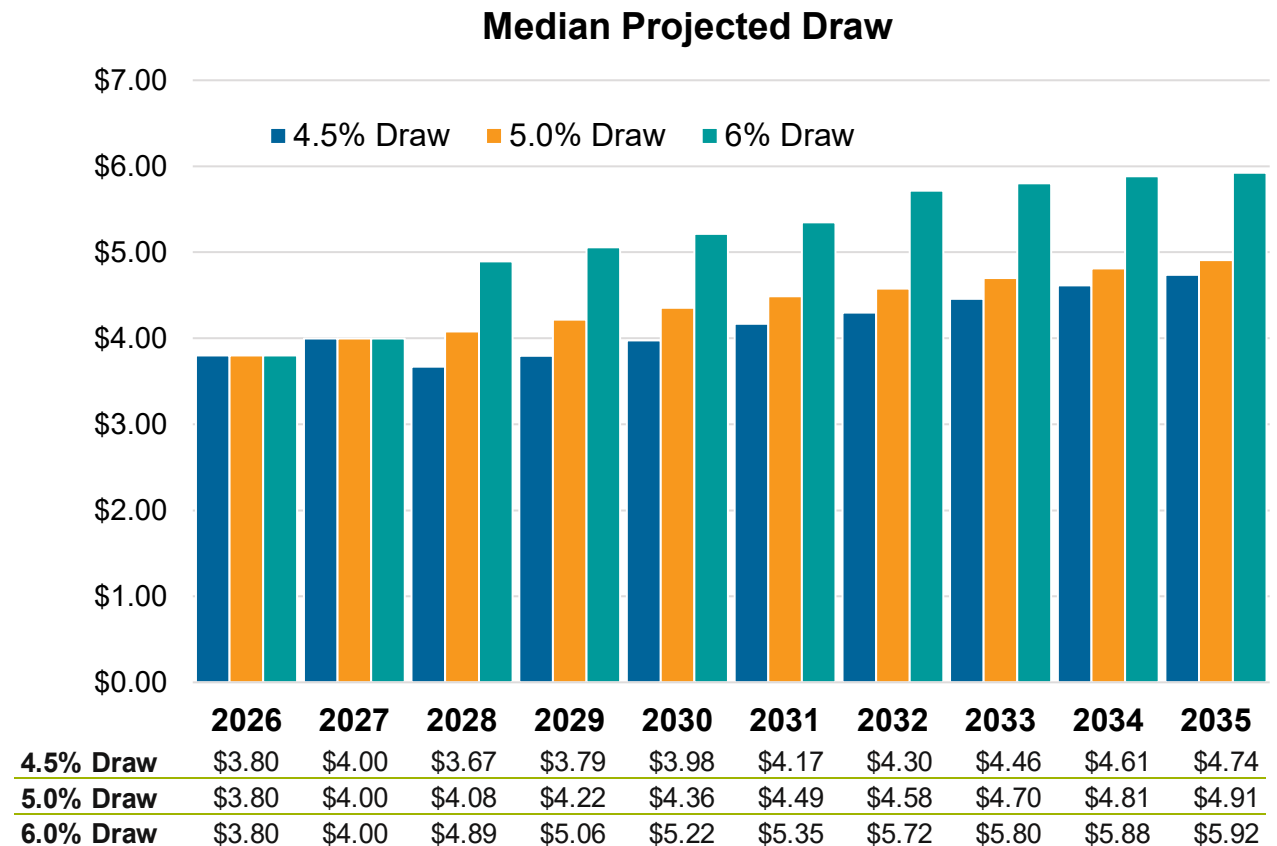


5th Percentile	82.19	86.29	91.35	95.96	98.32	103.78	107.11	112.44	115.99	118.68
25th Percentile	76.16	79.20	81.32	83.20	85.56	88.08	91.25	93.38	95.47	98.92
50th Percentile	72.06	73.87	75.52	76.63	77.64	79.44	81.79	82.64	83.13	84.31
75th Percentile	68.11	68.22	69.42	69.98	70.31	71.60	71.72	71.90	73.28	73.23
95th Percentile	62.48	62.04	59.67	60.91	61.41	60.22	60.78	60.04	60.41	61.10

Simulation Output – Comparing Draw Rates

Median Projected Distributions under 4.5%, 5.0%, and 6.0% Draw Assumptions

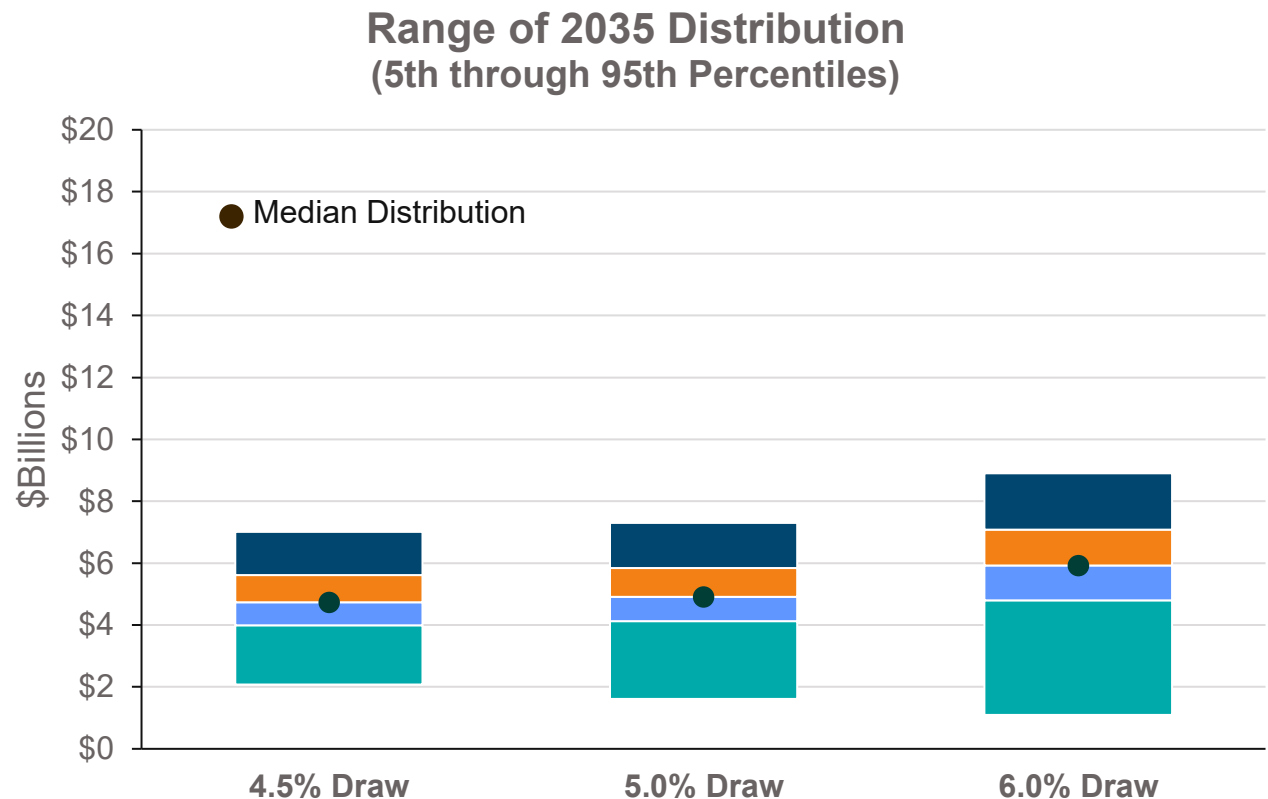
- This chart compares the median projected distributions under the three draw rates.
- The first two years were assumed to be the same.
- The 4.5% draw starts out lower than the 5.0% draw but eventually begins to catch up.
- Catch up accelerates after 2032 when EMV's in 5-year average diverge.
- 6% draw growth decelerates faster as EMV is eroded due to higher draw rate.



Simulation Output – 2035 Distributions

Range of 2035 Distribution under 4.5%, 5.0%, and 6.0% Draw Assumptions

- This chart compares the range of projected distributions in FY 2035 based on 4.5%, 5.0% and 6.0% draw assumptions.
- The median distribution increases as the draw rate increases.
- The range of outcomes also increases.
- The 95th percentile worst-case distribution is lowest under the 6% draw rate.

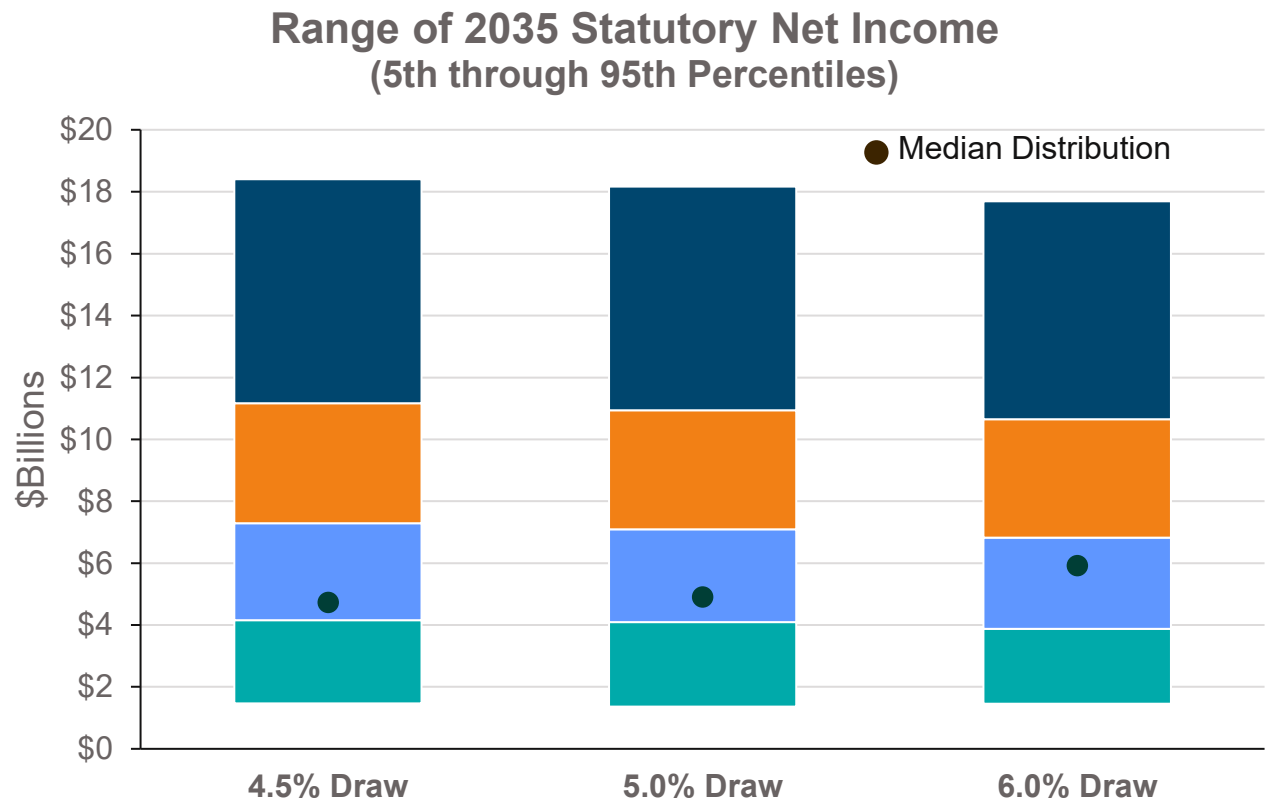


5th Percentile	7.0	7.3	8.9
25th Percentile	5.6	5.8	7.1
50th Percentile	4.7	4.9	5.9
75th Percentile	4.0	4.1	4.8
95th Percentile	2.1	1.6	1.1

Simulation Output – 2035 Statutory Net Income

Range of 2035 SNI under 4.5%, 5.0%, and 6.0% Draw Assumptions

- This chart compares the range of projected SNI in FY 2035 based on 4.5%, 5.0% and 6.0% draw assumptions.
- The median SNI decreases as the draw rate increases.
- The range of outcomes also decreases modestly.
- The 95th percentile worst-case is approximately the same across the three draw rates.

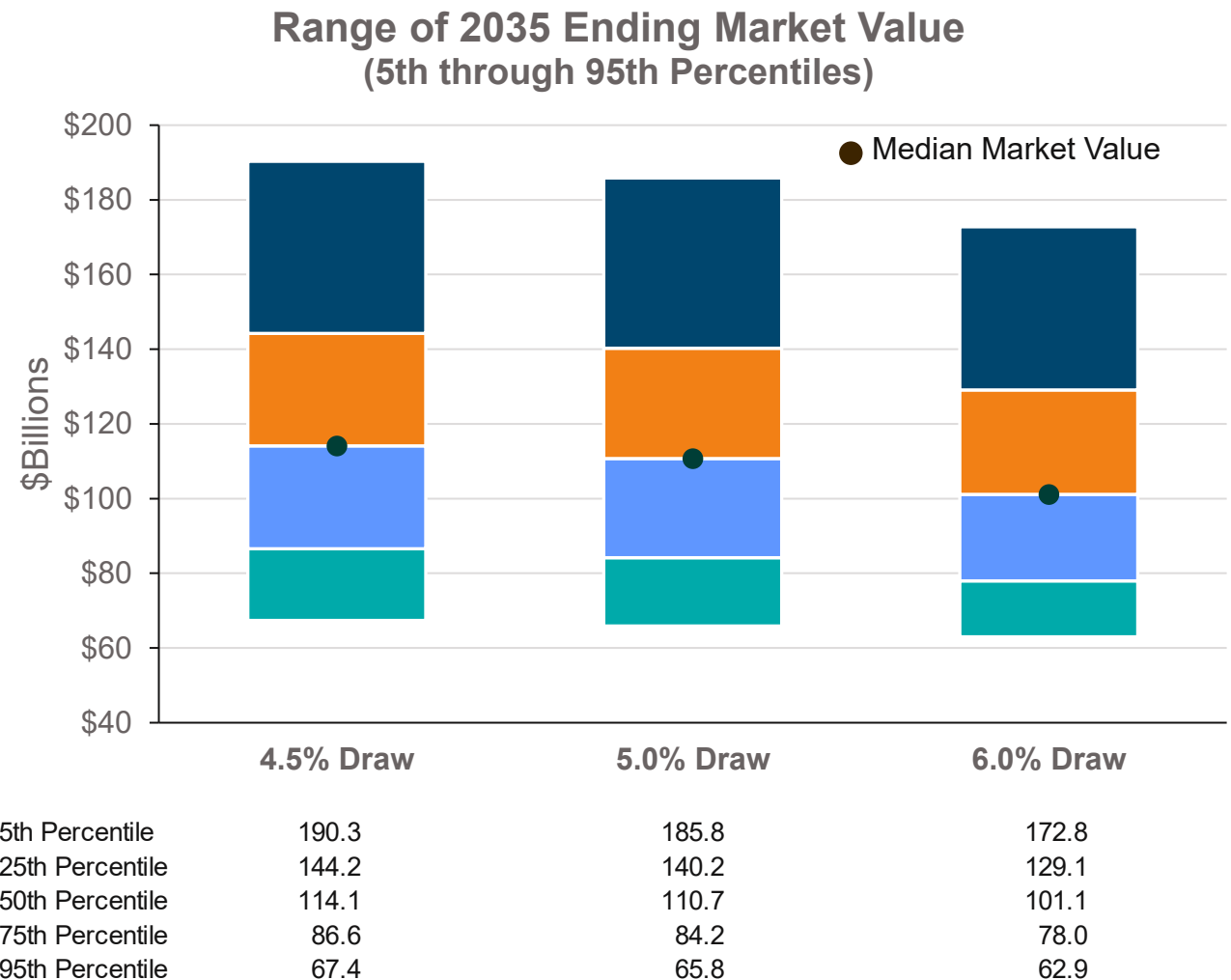


5th Percentile	18.4	18.2	17.7
25th Percentile	11.2	10.9	10.6
50th Percentile	7.3	7.1	6.8
75th Percentile	4.2	4.1	3.9
95th Percentile	1.5	1.4	1.5

Simulation Output – 2035 Ending Market Value

Range of 2035 Market Value under 4.5%, 5.0%, and 6.0% Draw Assumptions

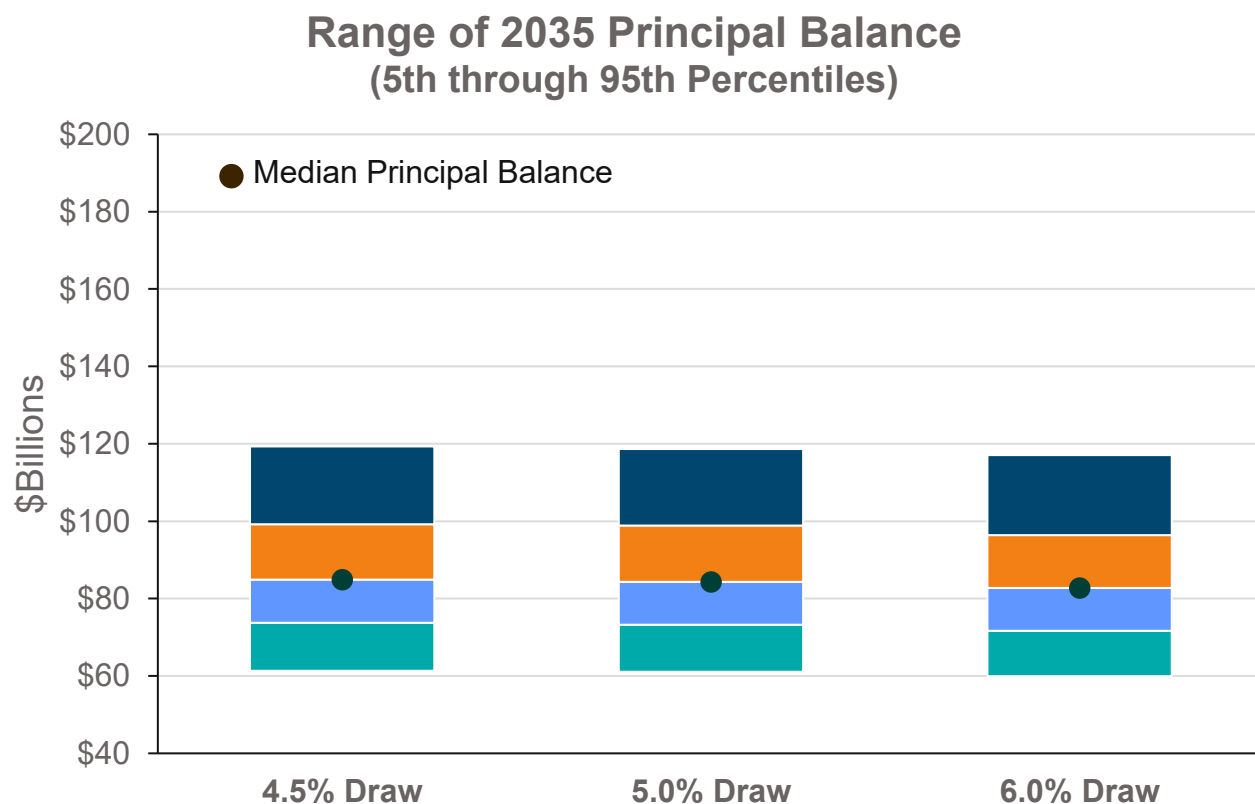
- This chart compares the range of projected market values at the end of FY 2035 based on 4.5%, 5.0% and 6.0% draw assumptions.
- The reduced draw rate results in higher market values across all scenarios.
- The median difference is roughly \$13 billion between the 4.5% draw and the 6% draw.
- The differences are larger at the top of the distribution and smaller at the bottom.



Simulation Output – 2035 Principal Balance

Range of 2035 Market Value under 4.5%, 5.0%, and 6.0% Draw Assumptions

- This chart compares the range of projected principal balance at the end of FY 2035 based on 4.5%, 5.0% and 6.0% draw assumptions.
- A higher draw reduces the projected principal balance.
- Most of the variation in principal balance is caused by the variation in inflation.
- High balances are associated with high inflation regimes.
- Higher draw balances are also reduced by a higher incidence of inflation proofing shortfalls.



5th Percentile	119.3	118.7	117.1
25th Percentile	99.2	98.9	96.4
50th Percentile	84.9	84.3	82.8
75th Percentile	73.7	73.2	71.7
95th Percentile	61.3	61.1	59.9

Simulation Output – Probability of Shortfalls

Probability of Shortfalls 4.5%, 5.0%, and 6.0% Draw Assumptions

- Tables show the projected probability of distribution and inflation shortfalls.
- Shortfalls occur when ERA cannot support spending or appropriations to principal.
- Model assumes distributions have priority call on ERA and SNI.
- The higher the draw rate the higher the probability of shortfalls in both variables.

Probability of Distribution Shortfall

Year	4.5% Draw	5.0% Draw	6.0% Draw
2026	0%	0%	0%
2027	0%	0%	0%
2028	0%	0%	0%
2029	0%	0%	0%
2030	0%	0%	5%
2031	0%	5%	10%
2032	5%	5%	10%
2033	5%	5%	15%
2034	5%	10%	15%
2035	5%	10%	20%

Probability of Inflation Proofing Shortfall

Year	4.5% Draw	5.0% Draw	6.0% Draw
2026	0%	0%	0%
2027	0%	0%	0%
2028	0%	0%	5%
2029	5%	10%	15%
2030	15%	15%	25%
2031	15%	20%	30%
2032	15%	20%	35%
2033	15%	20%	35%
2034	20%	25%	35%
2035	20%	25%	35%

Draw Limitation Rules – Historical Analysis

5.0% Nominal Return Limitation – Various Roll Lengths

- This chart shows the historical nominal returns for the Fund over the last 30 years for the 1, 3, 5 and 10-year periods ended June 30 (fiscal year).
- The objective is to understand the potential impact of various rules to limit the draw during periods of low returns.
- The red cells indicate periods where the trailing return is less than 5.0%.
- The longer the roll the less frequently the limitation rule is binding.
- The longer the roll the smaller the impact on the draw when the limitation rule becomes binding.

Roll	1 Year	3 Year	5 Year	10 Year
Periods < 5%:	9	7	8	2
6/30/1995	14.49	9.41	9.75	10.54
6/30/1996	13.43	9.63	10.61	9.65
6/30/1997	17.03	14.97	11.69	10.57
6/30/1998	16.37	15.60	12.41	11.67
6/30/1999	9.48	14.24	14.13	11.39
6/30/2000	9.20	11.63	13.05	11.39
6/30/2001	-3.26	4.97	9.51	10.06
6/30/2002	-2.24	1.08	5.64	8.63
6/30/2003	4.45	-0.41	3.38	7.80
6/30/2004	14.23	5.26	4.26	9.09
6/30/2005	10.43	9.63	4.50	8.69
6/30/2006	10.99	11.87	7.41	8.46
6/30/2007	17.74	13.00	11.48	8.52
6/30/2008	-3.38	8.08	9.76	6.52
6/30/2009	-17.49	-2.09	2.84	3.55
6/30/2010	11.18	-3.94	2.98	3.74
6/30/2011	20.40	3.37	4.67	6.03
6/30/2012	0.27	10.31	1.36	6.30
6/30/2013	10.43	10.06	4.11	6.89
6/30/2014	15.52	8.55	11.35	7.01
6/30/2015	5.44	10.39	10.18	6.52
6/30/2016	0.65	7.03	6.30	5.48
6/30/2017	12.89	6.21	8.85	5.04
6/30/2018	10.84	7.99	8.93	6.49
6/30/2019	6.34	9.99	7.15	9.23
6/30/2020	2.06	6.36	6.45	8.30
6/30/2021	29.93	12.14	12.03	9.13
6/30/2022	-1.17	9.44	9.09	8.97
6/30/2023	5.17	10.53	7.95	8.44
6/30/2024	7.87	3.89	8.26	7.70
6/30/2025	9.31	7.43	9.75	8.09

Draw Limitation Rules – Historical Analysis

5.0% Real Return Limitation – Various Roll Lengths

- This chart shows the historical real returns for the Fund over the last 30 years for the 1, 3, 5 and 10-year periods ended June 30 (fiscal year).
- A 5.0% real return limitation would be significantly more binding than a nominal limitation.
- This reinforces the observation that achieving a 5% real return is difficult more than 50% of the time.
- Even under the 10-year roll the limitation would have been binding in 11 of the last 30 years.
- A real return limitation model would place significant emphasis on beating inflation.
- High inflation periods would significantly impact the draw.

Roll	1 Year	3 Year	5 Year	10 Year
Periods < 5%:	12	13	14	11
6/30/1995	11.44	6.57	6.49	6.99
6/30/1996	10.68	6.87	7.73	6.00
6/30/1997	14.73	12.27	8.98	7.06
6/30/1998	14.69	13.35	9.95	8.38
6/30/1999	7.52	12.26	11.78	8.43
6/30/2000	5.47	9.18	10.57	8.52
6/30/2001	-6.50	1.99	6.93	7.33
6/30/2002	-3.31	-1.59	3.31	6.10
6/30/2003	2.34	-2.55	0.96	5.36
6/30/2004	10.96	3.12	1.58	6.57
6/30/2005	7.90	6.99	2.06	6.23
6/30/2006	6.67	8.50	4.76	5.84
6/30/2007	15.05	9.83	8.50	5.87
6/30/2008	-8.40	4.08	6.20	3.53
6/30/2009	-16.06	-4.15	0.24	0.91
6/30/2010	10.13	-5.46	0.68	1.37
6/30/2011	16.84	2.33	2.52	3.63
6/30/2012	-1.39	8.22	-0.59	3.84
6/30/2013	8.67	7.74	2.80	4.47
6/30/2014	13.44	6.72	9.34	4.71
6/30/2015	5.32	9.07	8.35	4.45
6/30/2016	-0.49	5.92	4.95	3.73
6/30/2017	11.26	5.25	7.51	3.40
6/30/2018	7.97	6.11	7.37	5.06
6/30/2019	4.69	7.94	5.67	7.48
6/30/2020	1.42	4.64	4.87	6.59
6/30/2021	24.54	9.60	9.60	7.24
6/30/2022	-10.23	4.46	5.21	6.37
6/30/2023	2.20	4.76	4.05	5.71
6/30/2024	4.89	-1.08	4.09	4.88
6/30/2025	6.64	4.56	5.17	5.01

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