



CREWCIAL[®]

PARTNERS

INVESTMENT EXPERTISE TO HELP YOU MAKE A DIFFERENCE

April 2024

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Why Do Spending Policies Matter?

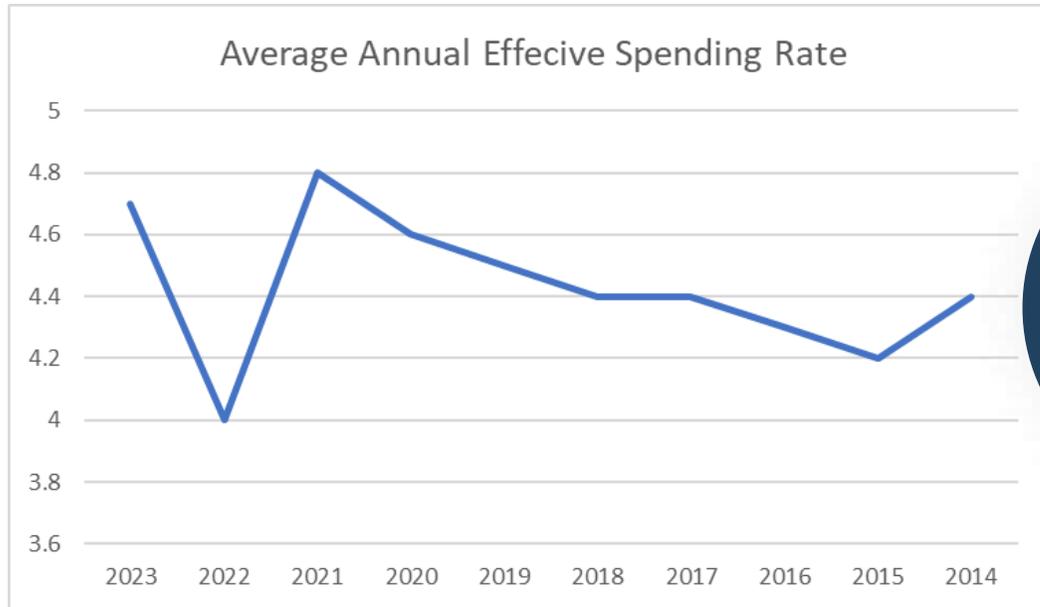
- Ensure intergenerational equity while maintaining stability
- Define risk appetite and portfolio structure

“The trustees of an endowment are the guardians of the future against the claims of the present. Their task is to preserve equity among generations.”

- James Tobin , Sterling Professor of Economics at Yale University

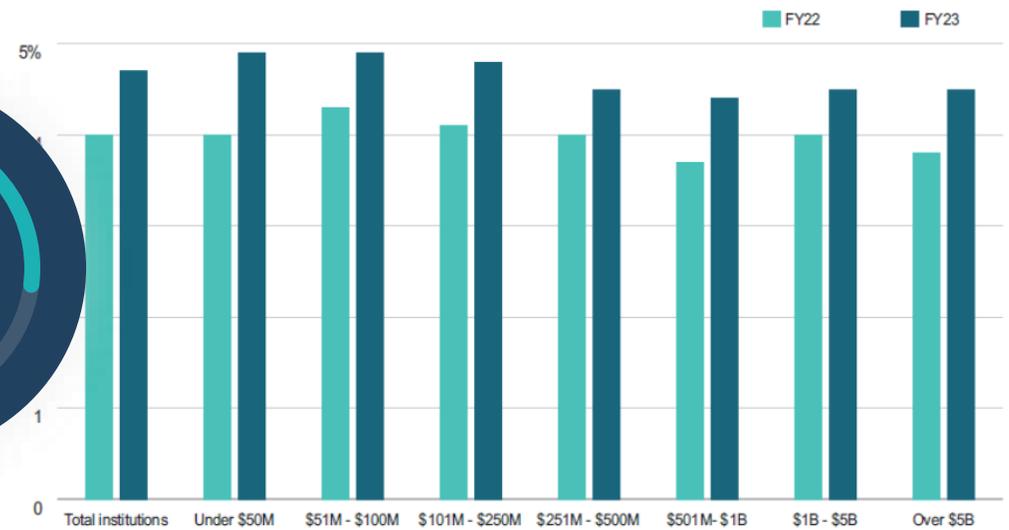


2023 NACUBO-COMMONFUND STUDY OF ENDOWMENTS



All cohorts increased effective spending

AVERAGE ANNUAL EFFECTIVE SPENDING RATES BY SIZE FOR FY22-FY23

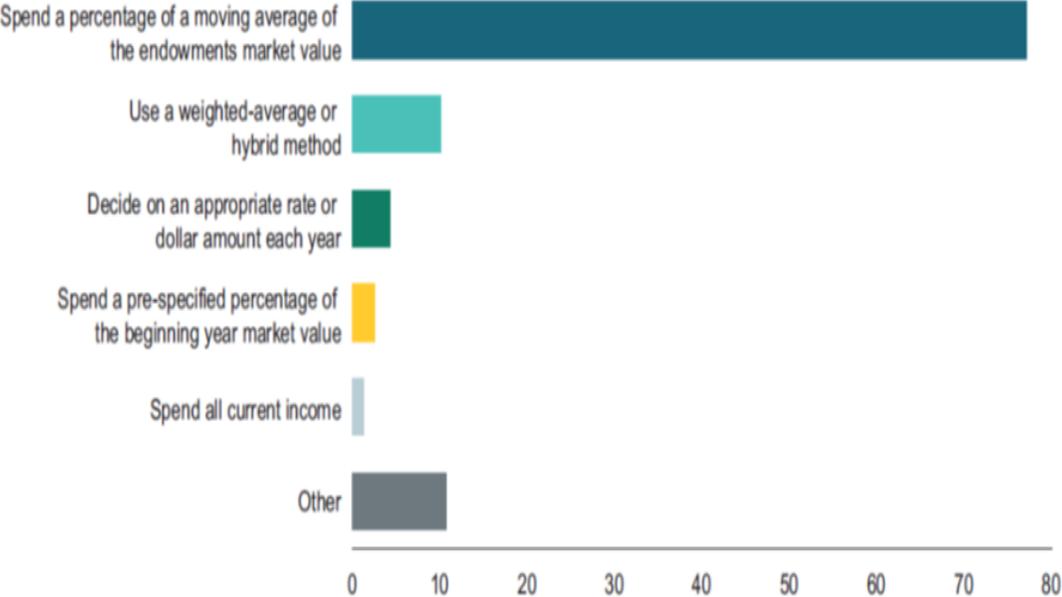


Spending Methodologies

77% of participating schools reported using the “moving average” methodology.

SPENDING METHODOLOGY FOR TOTAL INSTITUTIONS FOR FY23

Multiple responses allowed | Numbers in percent (%)



Why Is The Moving Average Model Most Common?

Provides a solid middle ground between “inflation-inked” and “simple” spending models.

Facilitates more stable distribution as a percentage of the Endowment relative to the simple and inflation-linked models.

During extreme downdrafts in equity markets, the moving-average approach provides fewer dollars to spend; this less obviously suggests a notable advantage re: the corpus protection provided during an extended market downturn.

Source: 2023 NACUBO-COMMONFUND STUDY OF ENDOWMENTS



Spending Methodologies

Simple – 5% of a portfolio's 12/31 value

Compared to nearly all other spending-policy models, this simple approach leads to the most volatility in dollars distributed from the Endowment year to year.

Inflation Linked

Current-year spending based on last year's dollar spending plus last year's inflation rate (may include caps and floors).

Hybrid Model

Combines features of the inflation-linked and moving-average policies. Can provide the smoothest flow of dollar distributions as well as the most stable distribution patterns as a percentage of the Endowment. The most significant draw-back to the hybrid model is its complexity and potential concerns around donor confusion.

Spending Policy – Long-Term Impact

Return and Portfolio Assumptions

- Crewcial's 10-year forward return estimates
- Endowment size: \$100 million
- Return estimates are net of investment manager fees and include alpha estimates
- Two asset allocations are used through the analysis:
 1. Global equity with alternatives
 2. 60/40 MSCI ACWI / Bloomberg Aggregate

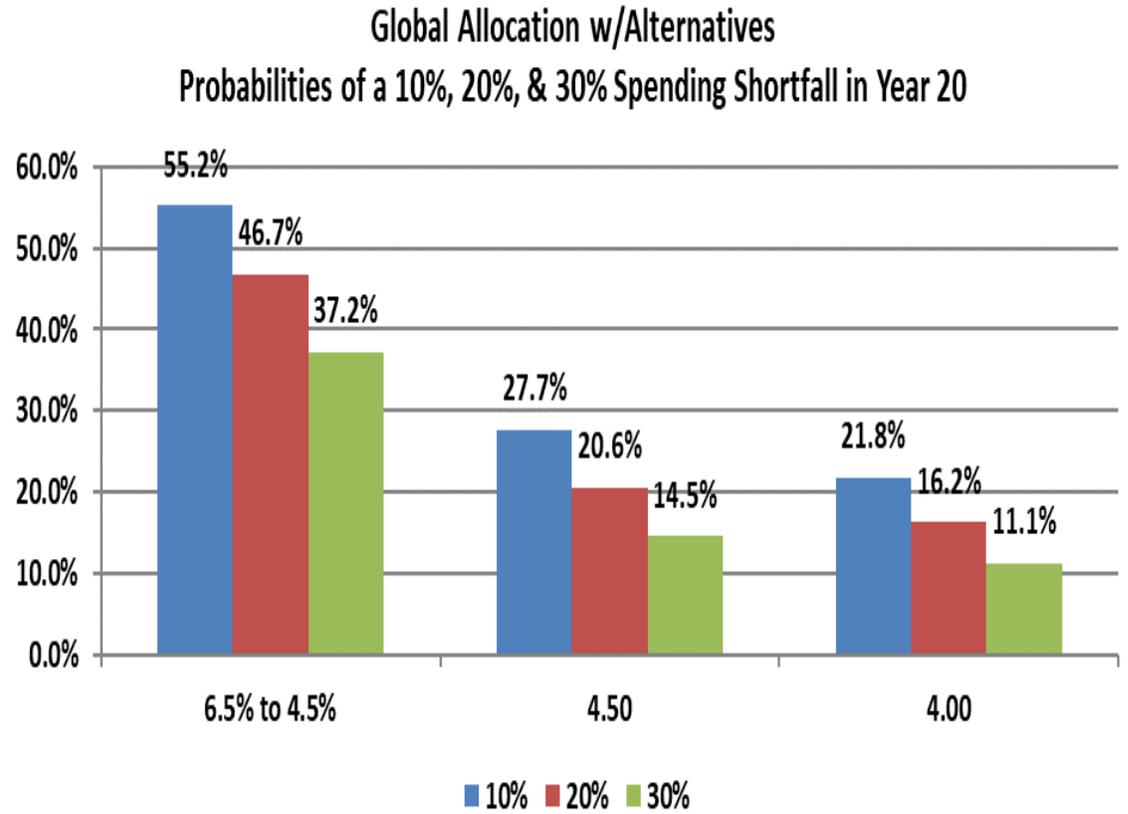
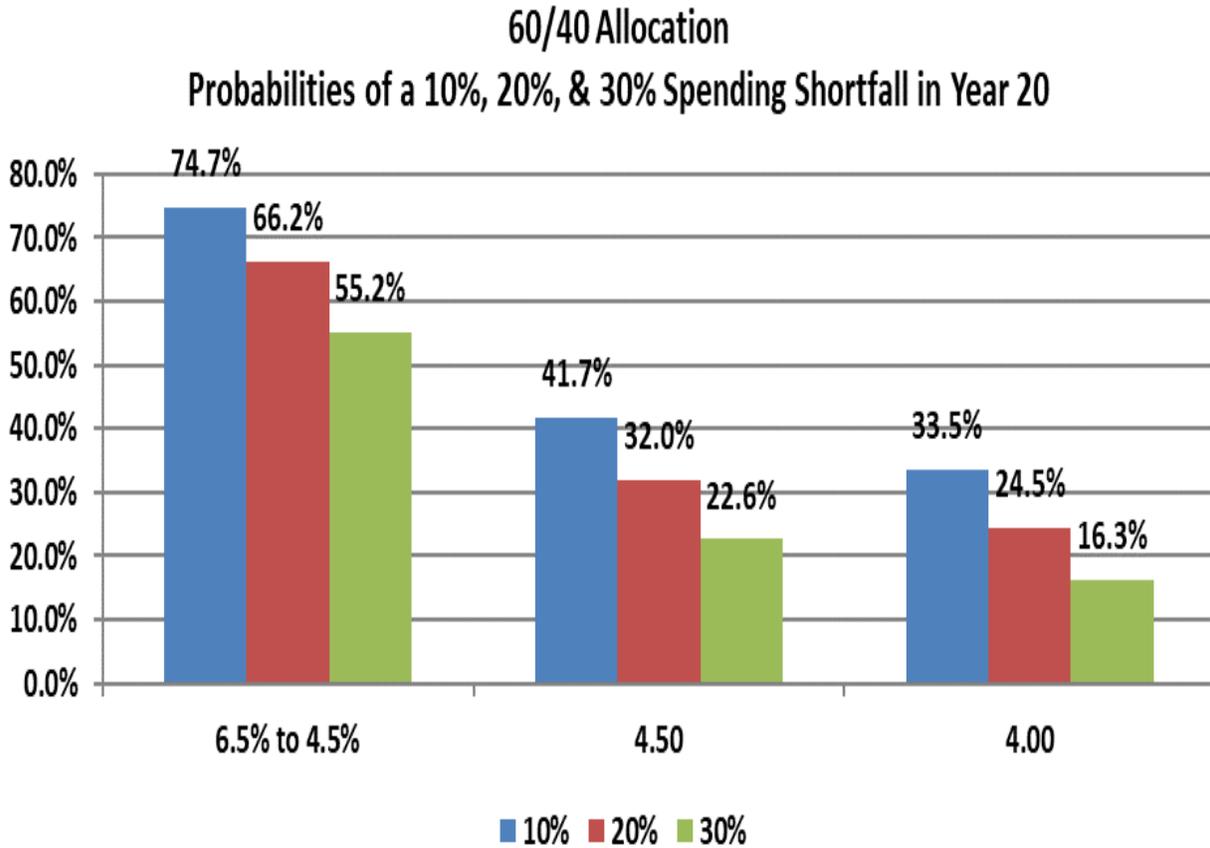
Spending Policy Parameters and Key Factors

- Spending policies included in analysis:
 1. 4.0% of a 12-quarter moving average
 2. 4.5% of a 12-quarter moving average
 3. High to low rate over 5 years (8% to 4.5%)
- 3% inflation
- No new donations

Source: 2023 NACUBO-COMMONFUND STUDY OF ENDOWMENTS



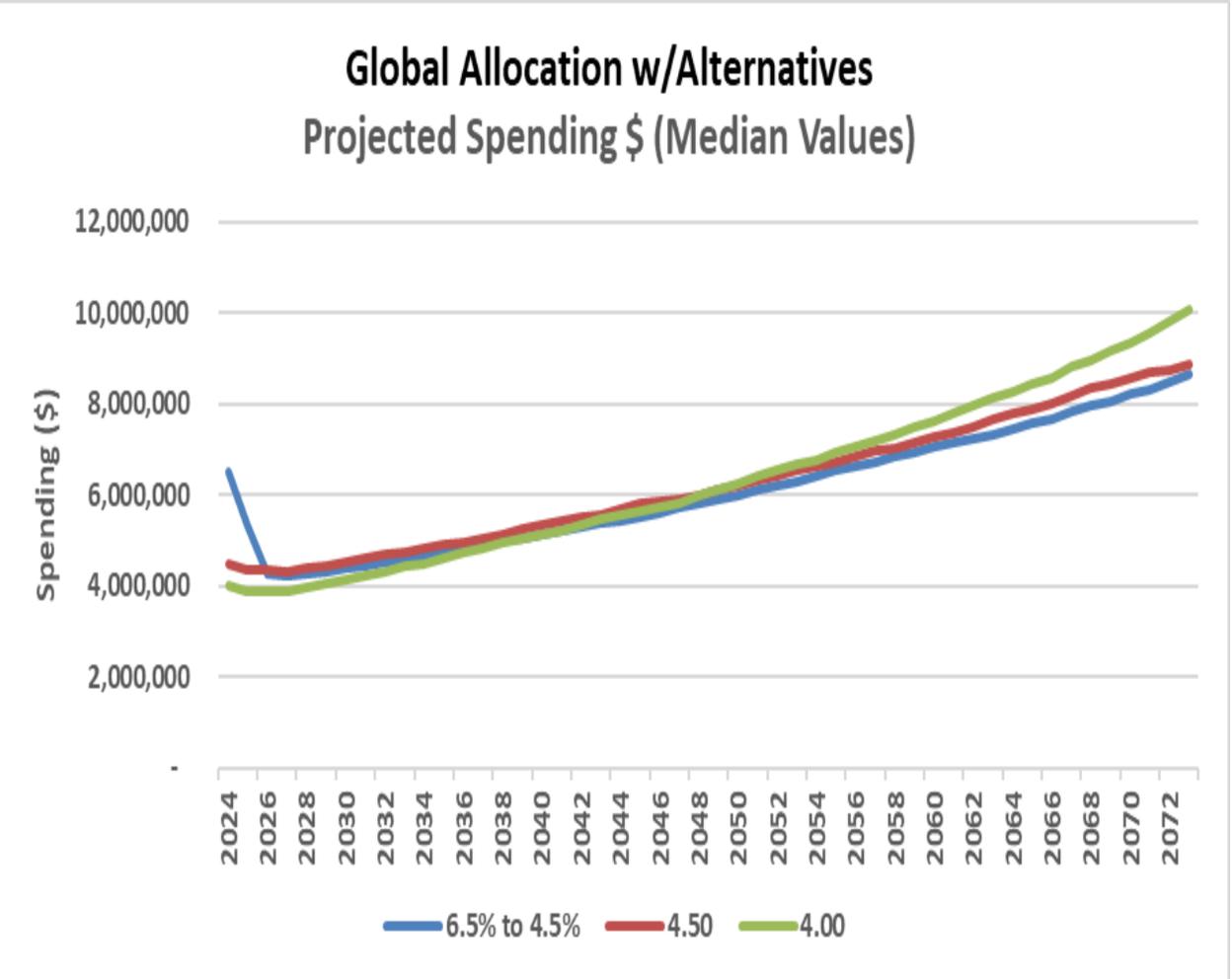
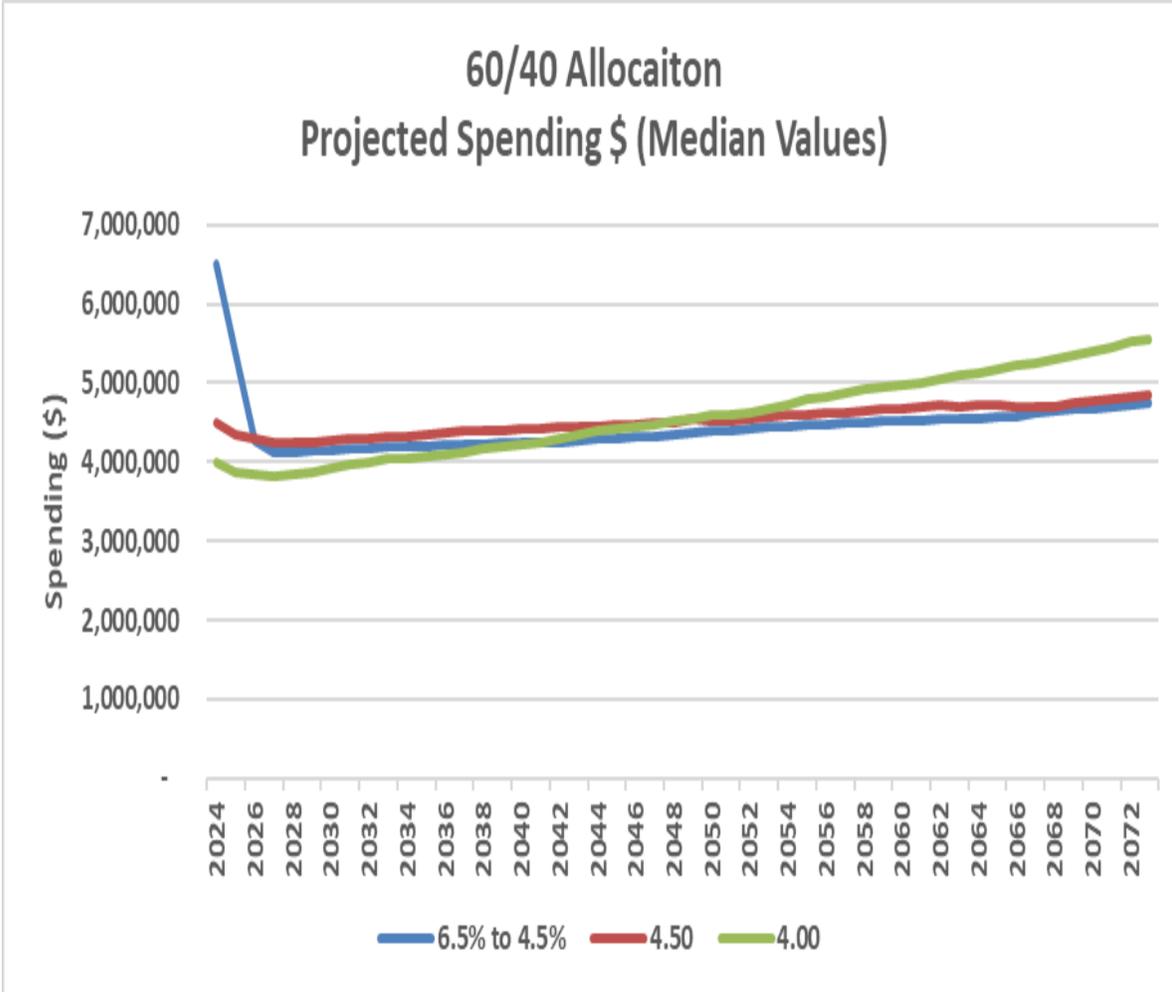
Spending Shortfall Probabilities



Source: 2023 NACUBO-COMMONFUND STUDY OF ENDOWMENTS

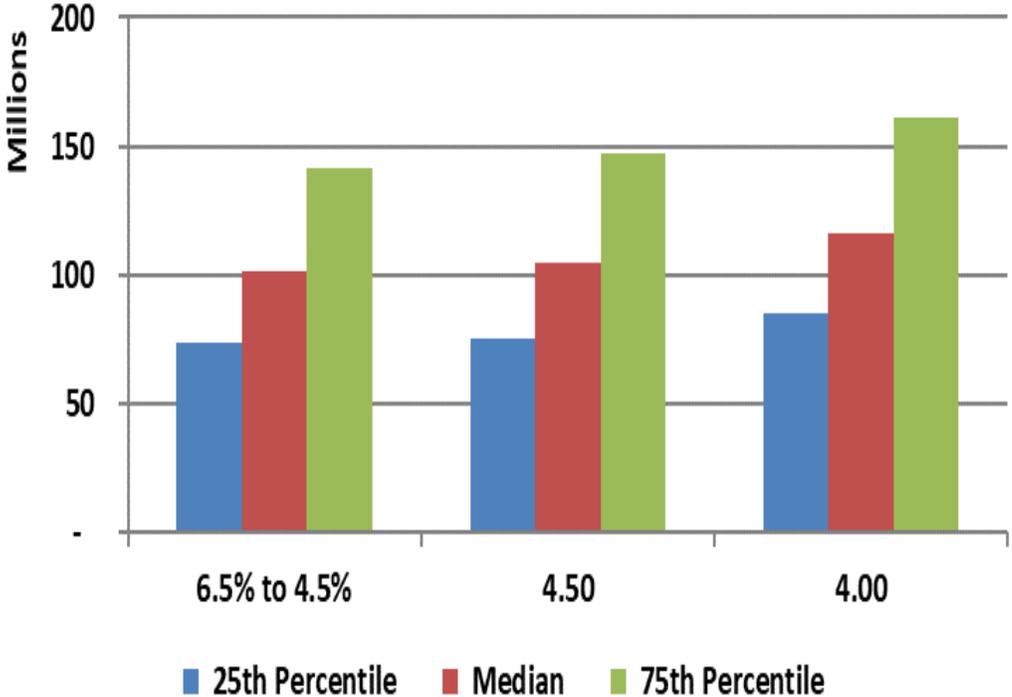


Projected Spending

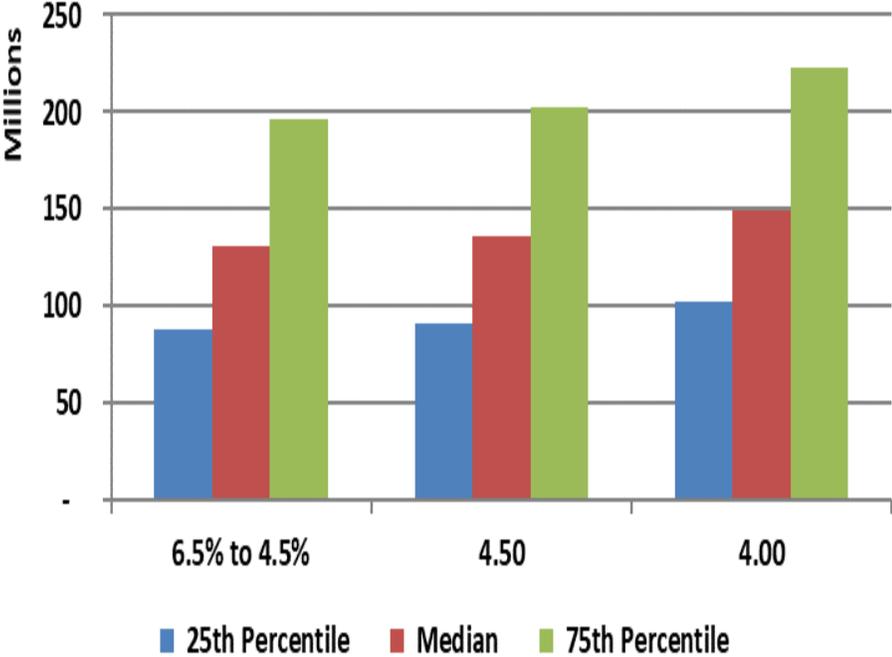


Projected Endowment Assets

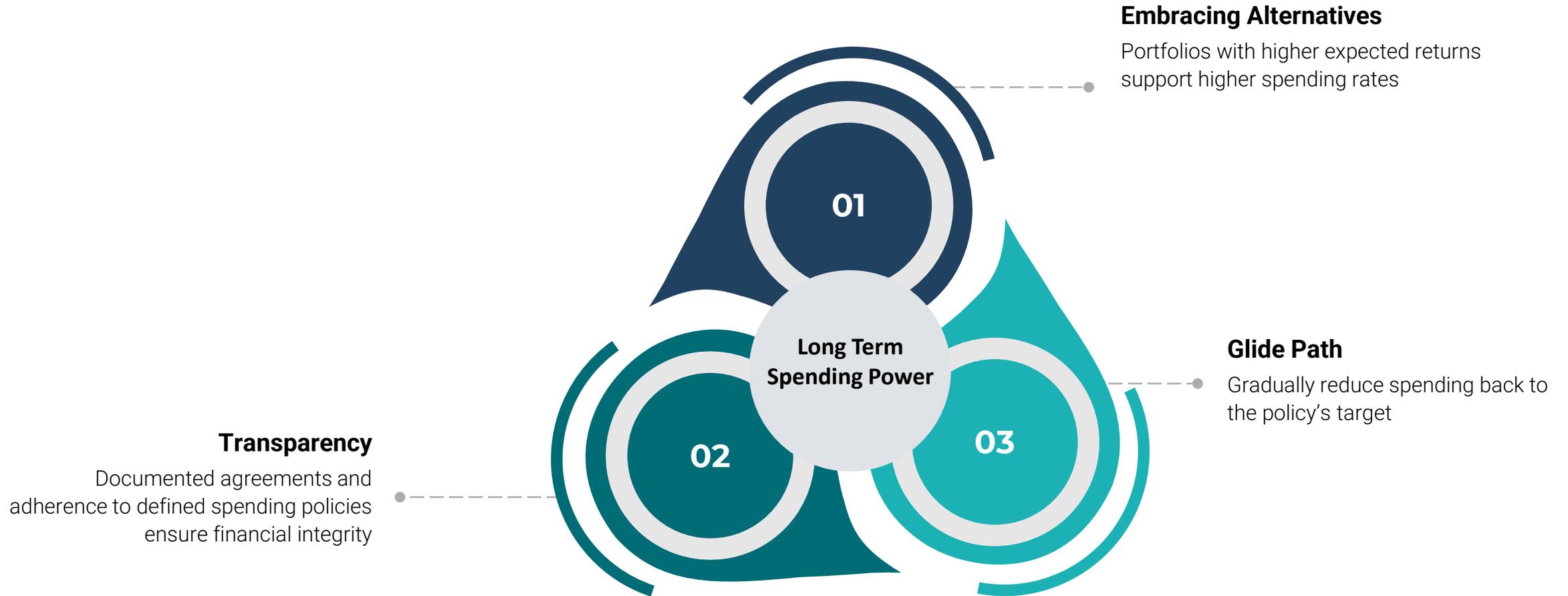
60/40 Allocation Projected Wealth in 20 Years (\$)



Global Allocation w/Alternatives Projected Wealth in 20 Years (\$)



Closing the Gap



Two Portfolio Allocations Used in Study

	Global w/Alts	60 ACWI/40 Aaa Bond
Global Equity	53.0	60.0
Total Equity	53.0	60.0
US Investment Grade Fixed	9.0	40.0
Global Bonds	2.0	0.0
Total Fixed Income	11.0	40.0
Private Real Estate	5.0	0.0
US Private Equity	17.0	0.0
Hedged Credit (1)	5.0	0.0
Hedged Equity (1)	9.0	0.0
Total Alternatives	36.0	0.0
Cash & Equivalents	0.0	0.0
Ten Year Projections		
Median Expected Return (%)	8.7	7.5
Expected Standard Deviation (%)	13.6	10.1
Sharpe Ratio (2)	0.38	0.40
Spending Rate Supported (%) (3)		
	5.7	4.5
Worst Case Returns (99% Probabil		
Lowest One Year Return (%)	-18.5	-13.6
Lowest Three Year Return (%)	-7.9	-5.2
Lowest Five Year Return (%)	-4.4	-2.5
Lowest Ten Year Return (%)	-0.7	0.3

Return difference of 120 basis points!



Crewcial's Ten-Year Forward-Looking Market Estimates

2024 10 Year Expected Returns and Volatilities

Asset Class	Expected Market Return	+ Expected Manager Alpha	= Expected Total Return	Expected Standard Deviation
US Large Cap Equity	6.25	1.50	7.75	15.9
US Mid Cap Equity	7.75	2.00	9.75	18.6
US Small Cap Equity	8.75	2.25	11.00	21.9
Non-US Developed Large/Mid Cap Equity	10.25	1.75	12.00	18.5
Non-US Developed Small Cap Equity	11.00	2.50	13.50	19.2
Emerging Markets Equity	11.75	2.50	14.25	25.1
Global Equity	7.96	1.68	9.64	16.7
US Aggregate Bonds	5.25	0.25	5.50	6.2
US TIPS	4.75	0.00	4.75	5.8
US Short Duration Gov./Credit	4.25	0.00	4.25	3.4
US High Yield	6.50	0.50	7.00	8.8
US Bank Loans	7.00	0.50	7.50	7.4
Global Bonds	4.75	1.50	6.25	10.5
Emerging Markets Debt	7.75	1.00	8.75	12.0
US Cash & Equivalents	3.75	0.00	3.75	2.0
US REITS	4.25	0.75	5.00	17.7
Private Real Estate	5.75	5.50	11.25	17.7
Private Credit	9.25	1.75	11.00	15.0
Private Equity	7.00	6.25	13.25	21.0
Private Resources	6.50	5.00	11.50	20.8
Hedge Fund of Funds	3.00	2.50	5.50	7.5
Hedged Credit/Multi-Strat	3.75	3.25	7.00	8.6
Hedged Equity	4.00	3.50	7.50	10.5
Liquid Commodities/Resources	5.75	0.50	6.25	20.8

Inflation Expectations: 3%



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P A R T N E R S

Thank You

