SAN BERNADINO COUNTY EMPLOYEE RETIREMENT SYSTEM

IMPUTED COST ANALYSIS

Russell Investments

Assumptions and methods

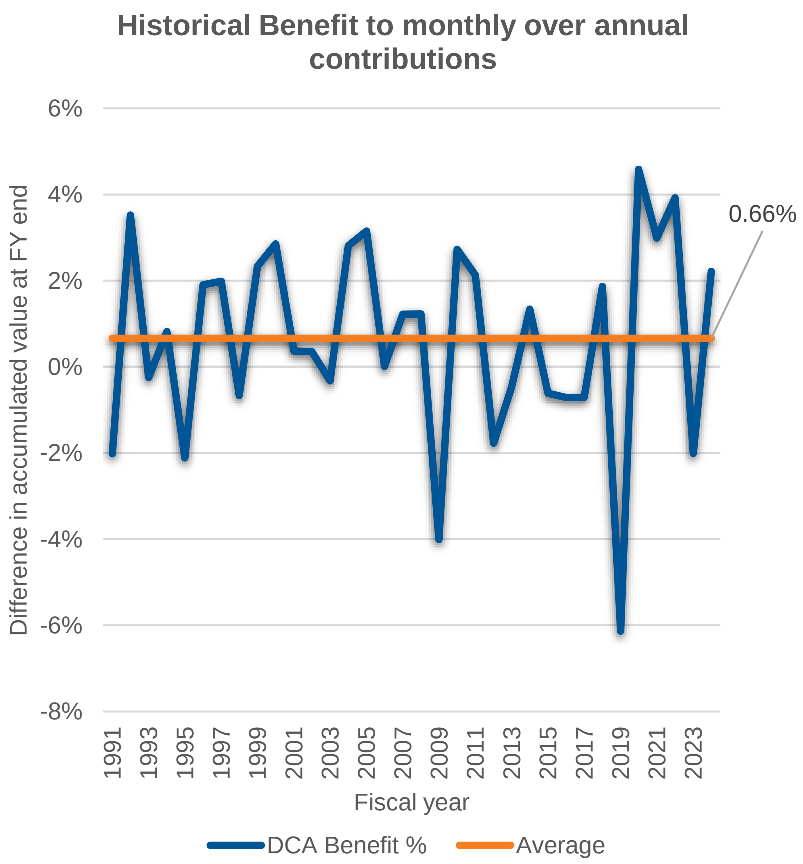
- Historical monthly portfolio returns proxied with benchmark returns since 1990
- Current strategic asset allocation policy targets assumed (constant allocation, shown below)
- Accumulated value of contributions paid monthly were compared to the accumulated value of contributions paid annually
- Annual contributions assumed to be paid at the middle of each fiscal year to control for average time invested
- The difference of the two accumulated values represents the value of dollar cost averaging, or imputed cost of a single contribution versus monthly contributions

Strategic Asset Allocation

Asset Class	Benchmark Index	Policy Target
Domestic Equities	Russell 3000	17%
International Equities	MSCI ACWI ex USA	13%
US Fixed Income	Bloomberg Barclays US Aggregate Bond	15%
Global Fixed Income	Bloomberg Barclays Global Aggregate Bond ex US	17%
Real estate	NCREIF Property	5%
Real assets	67% S&P GSCI; 33% BBG US TIPS	6%
Private equity	Russell 3000	18%
Absolute return	Bloomberg Barclays US Aggregate Bond	7%
Cash	91 Day T-Bill	2%
Total		**100%**

Effective July 1, 2024

Summary of observations



- The improvement from monthly contributions versus annual contributions is not constant but occurs most of the time
- Since 1990, monthly contributions will have benefitted the portfolio return over annual contributions 62% of the time
- On average, the benefit to monthly contributions is 0.66% (66 bps)
- While the timing of monthly returns matters in this calculation, historical data suggests that monthly contributions are a more consistent method to higher portfolio returns
- Though the current policy of 50 bps for imputed cost of annual contributions is within a reasonable range of outcome variance, the actual observed cost over this sampling period was a bit higher at 66 bps

Source: index returns, Russell Investments calculations