

# Target date insights: Delivering outcomes through strategic asset allocation

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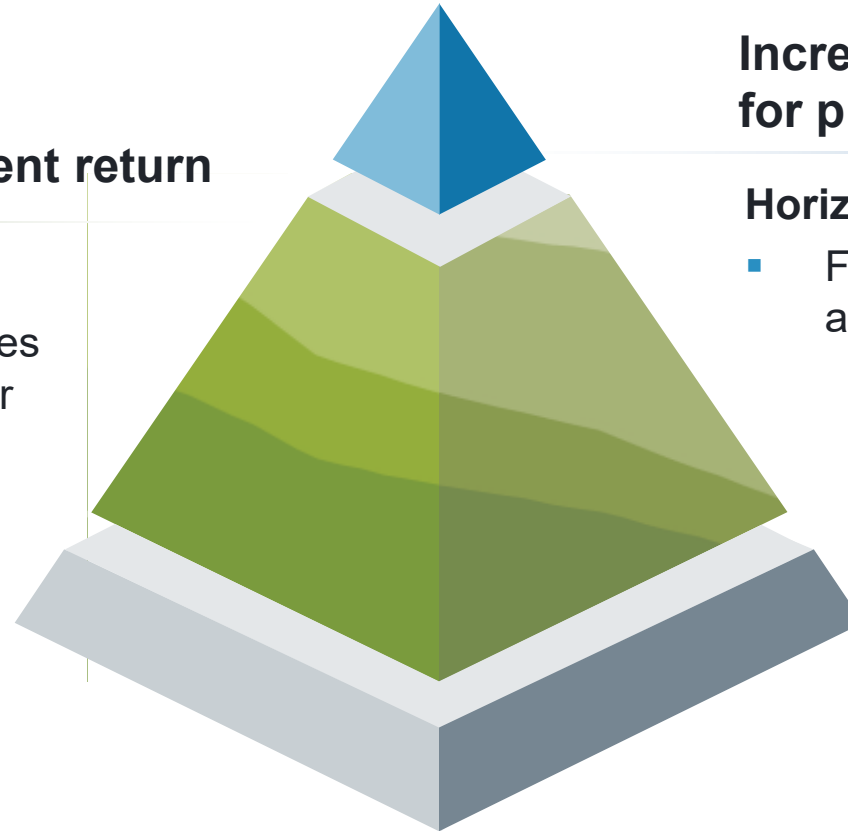
# Generating investment returns

## Glide Path

Drives the majority of investment return

### Horizon: Long Term

- Strategic mix of assets that evolves for plan members throughout their lifetime



## Active Asset Allocation

## Active Security Selection

Incremental ways to improve outcomes for plan members

### Horizon: Intermediate

- Focus on inefficiencies across asset classes and securities

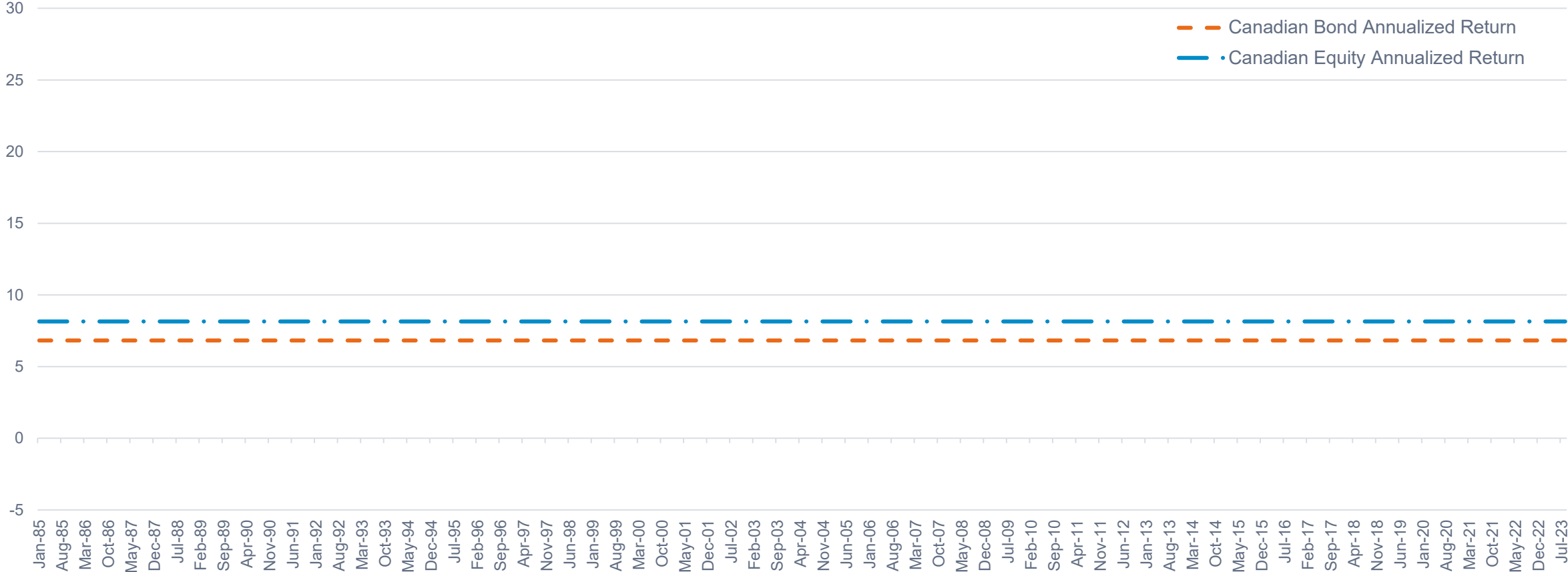
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# Benchmark decisions drive investment outcomes



Source: Does Asset Allocation Policy Explain 40, 90, 100 Percent of Performance? Roger G. Ibbotson and Paul D. Kaplan

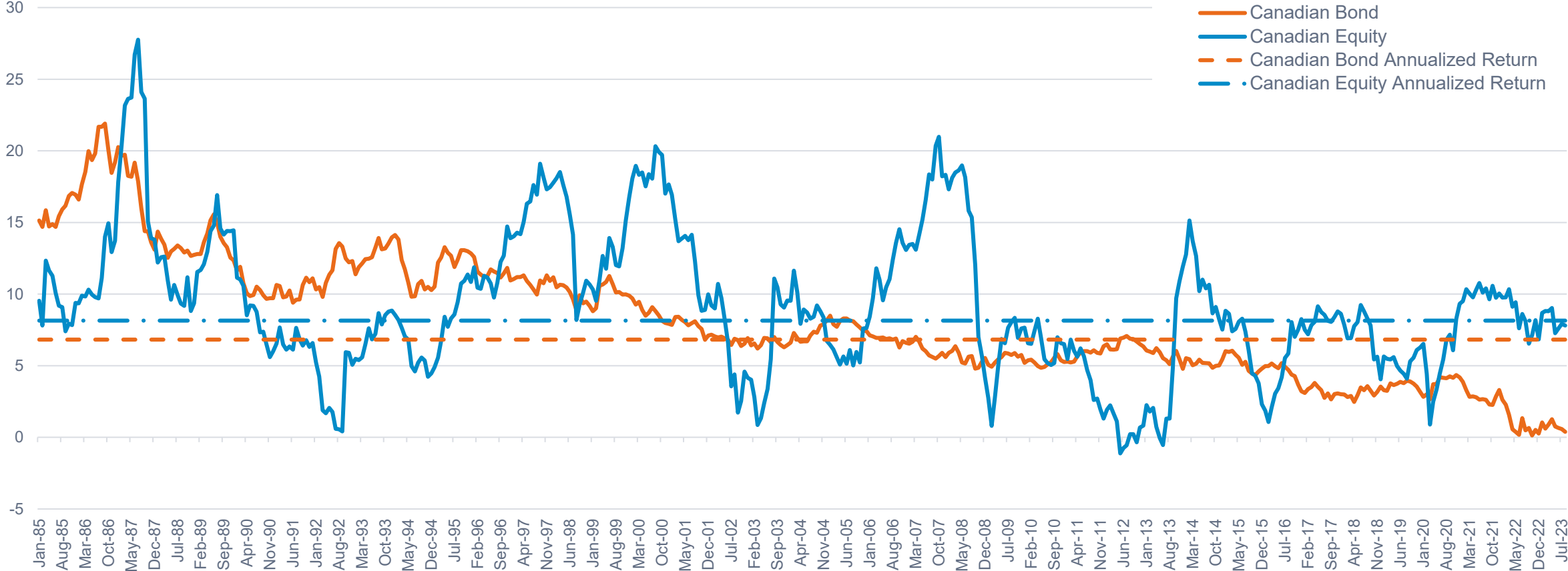
# Long-term returns are a useful starting point



Source: Fidelity Investments, Bloomberg, Morningstar. Data shown is the annualized total return experienced over from January 1980 to August 2023. For illustrative purposes only. Canadian Bonds represents FTSE Canada Universe Bond Index, Canadian Equities represents S&P/TSX Capped Composite Index. Data ending August 31, 2023.

# Long-term returns smooth the unique experiences of markets

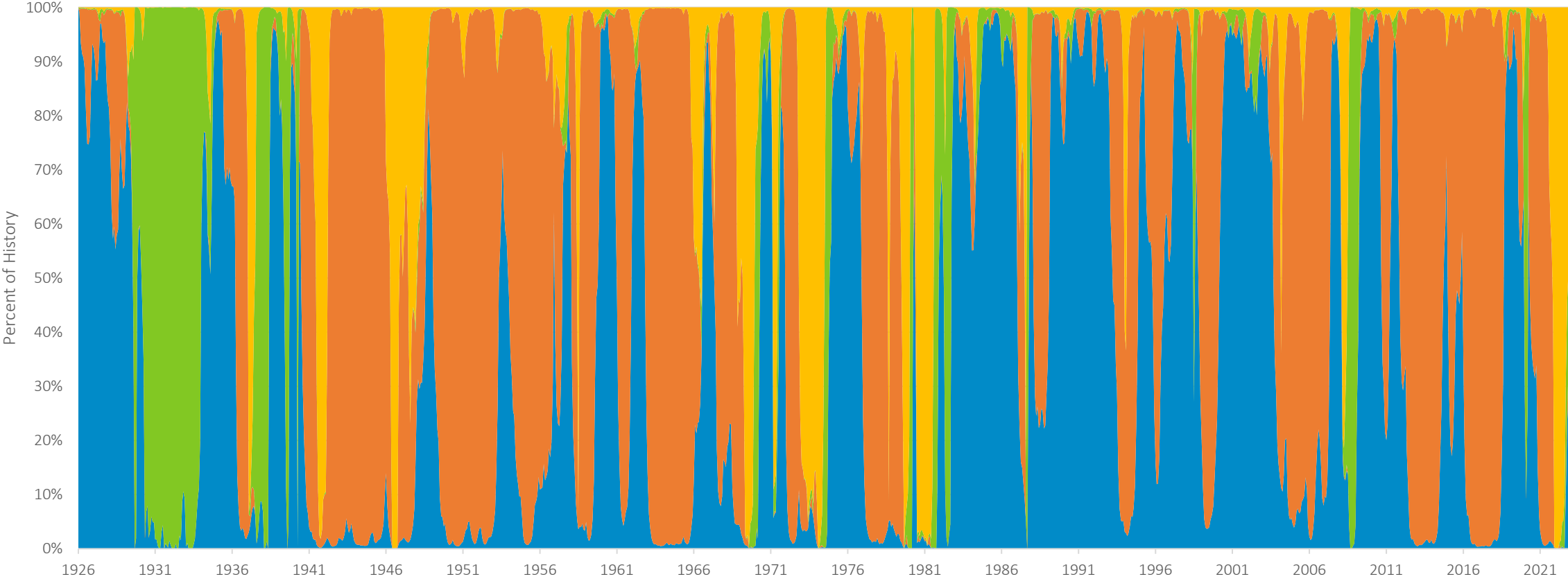
## Rolling 5-year returns



Source: Fidelity Investments, Bloomberg, Morningstar. Data shown is the annualized total return experienced over from January 1980 to August 2023. For illustrative purposes only. Canadian Bonds represents FTSE Canada Universe Bond Index, Canadian Equities represents S&P/TSX Capped Composite Index. Data ending August 31, 2023.

# Markets have experienced recurring regimes

History represents only one path

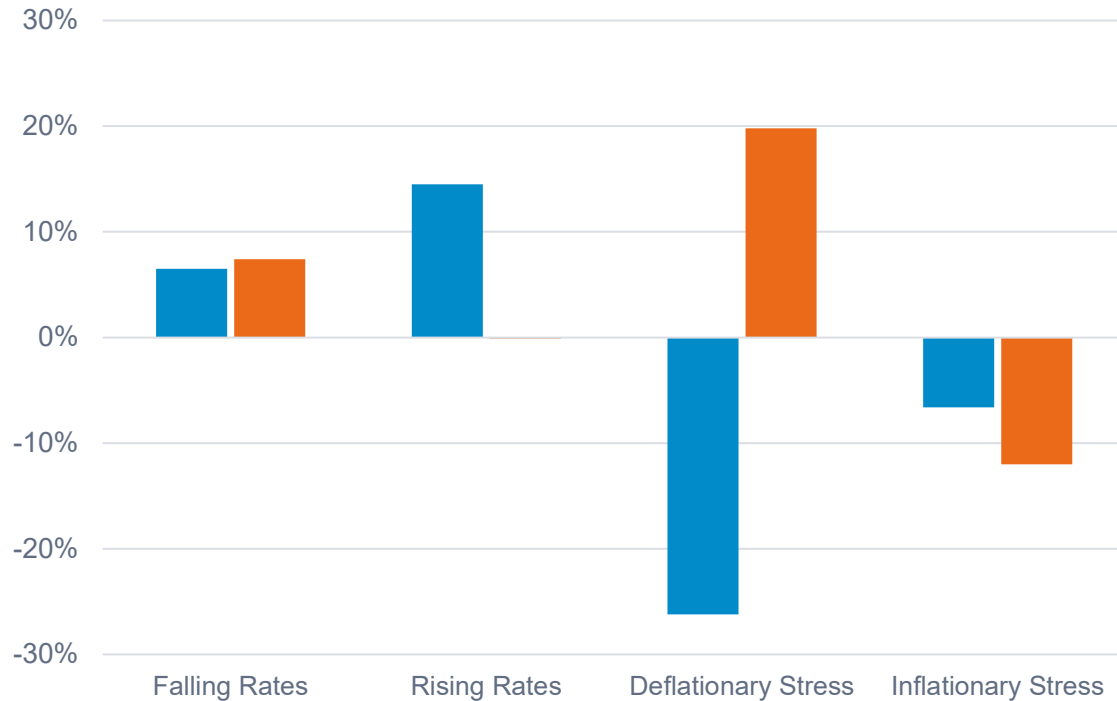


**S1 – Falling rates | S2 – Rising rates | S3 – Deflationary stress | S4 – Inflationary stress**

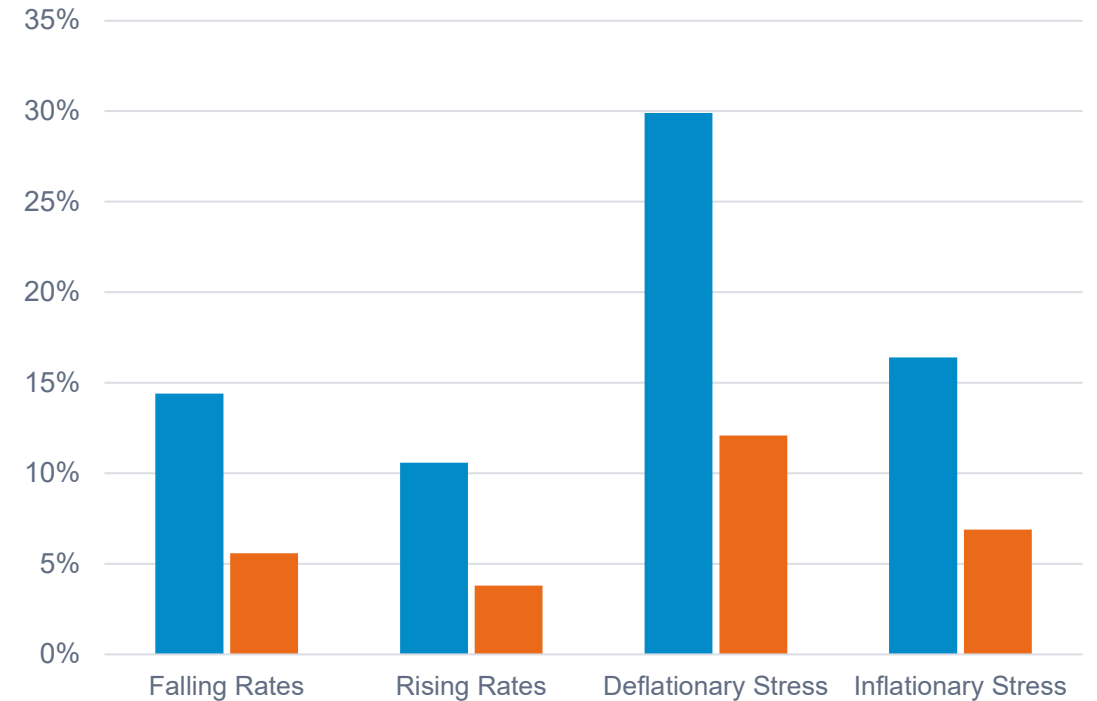
Past performance is no guarantee of future results. Duration percentages have been rounded to the nearest percentage and are through December 31, 2022. Research utilizes a Hidden Markov Model (HMM) with Gaussian Mixtures framework (part of Fidelity's proprietary artificial intelligence and machine learning methodology for identification of data-driven market regimes), which assumes there are four structural states or market environments, that are more consistent given historical realized asset class returns data. Returns represent real returns. Please see Important Information for methodology. See endnote on page 15 for more information.

# Asset classes display distinct attributes in each regime

## Average annualized return



## Average annualized volatility



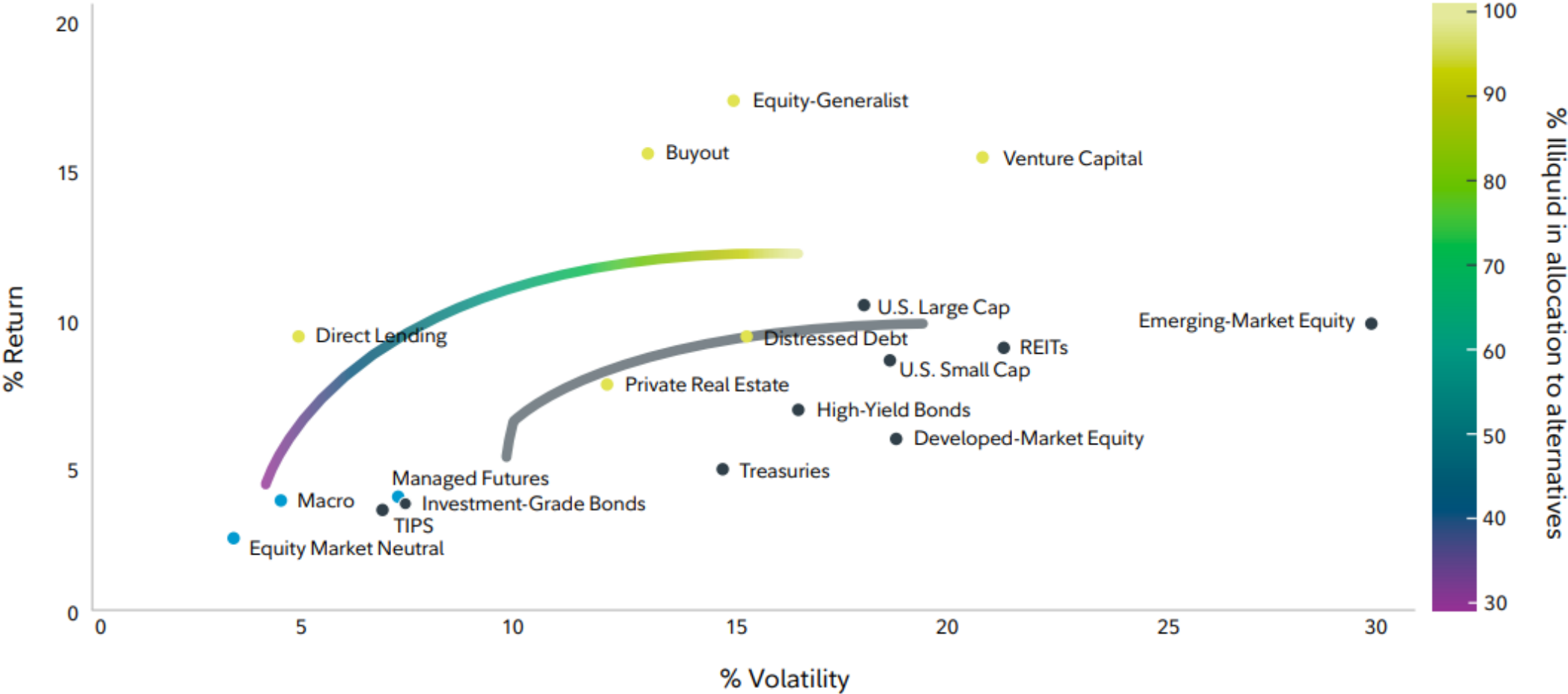
■ Canadian Bond ■ Canadian Equity

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# Alternatives may enhance risk-adjusted returns

Efficient Frontiers with constraints (periods 2005-2022)



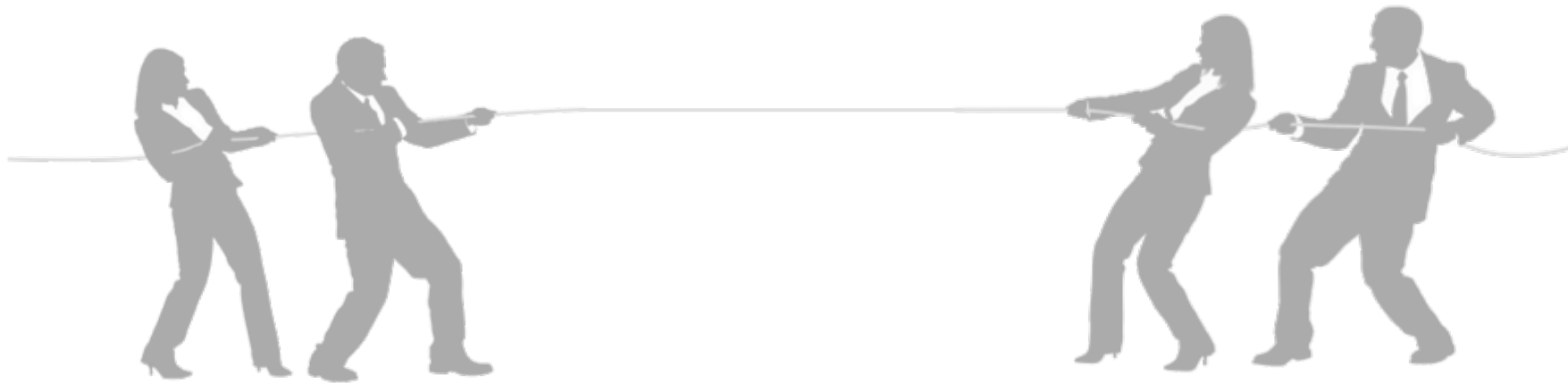
Source: Fidelity Investments, as of Dec. 31, 2022. See endnote on page 15 for more information.



# Alternatives asset classes require balancing trade-offs

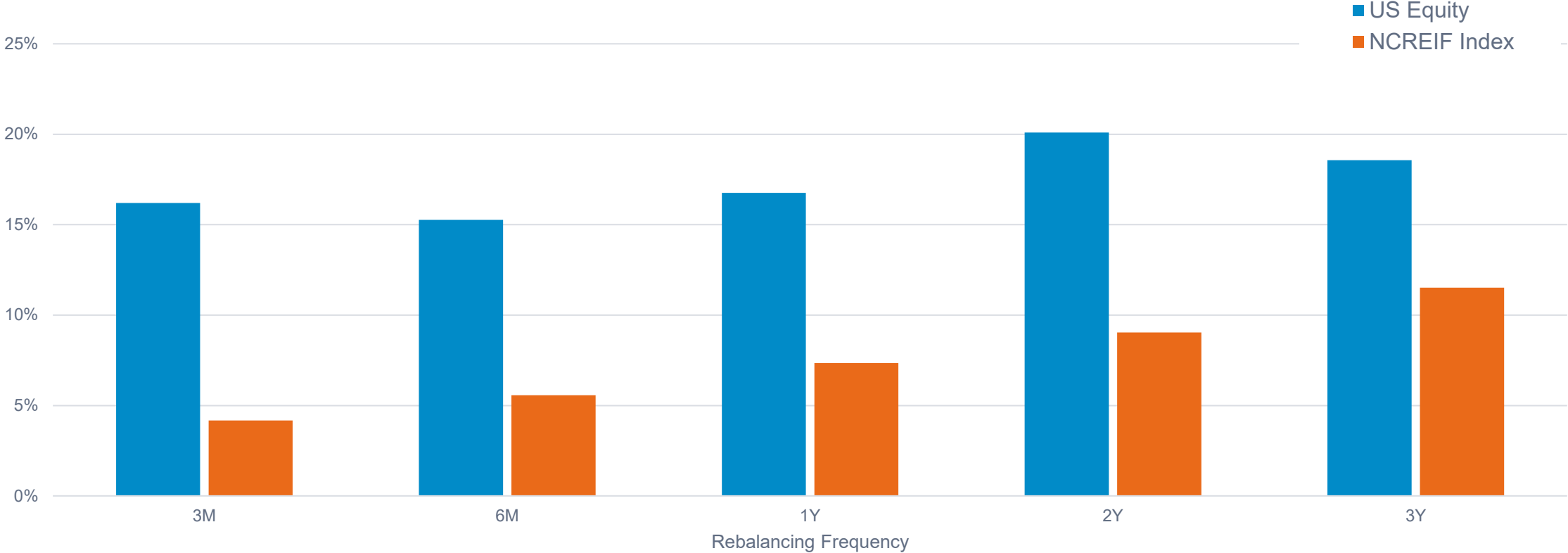
**Risk-adjusted  
returns**

**Liquidity  
dynamics**



# Autocorrelation of returns evident

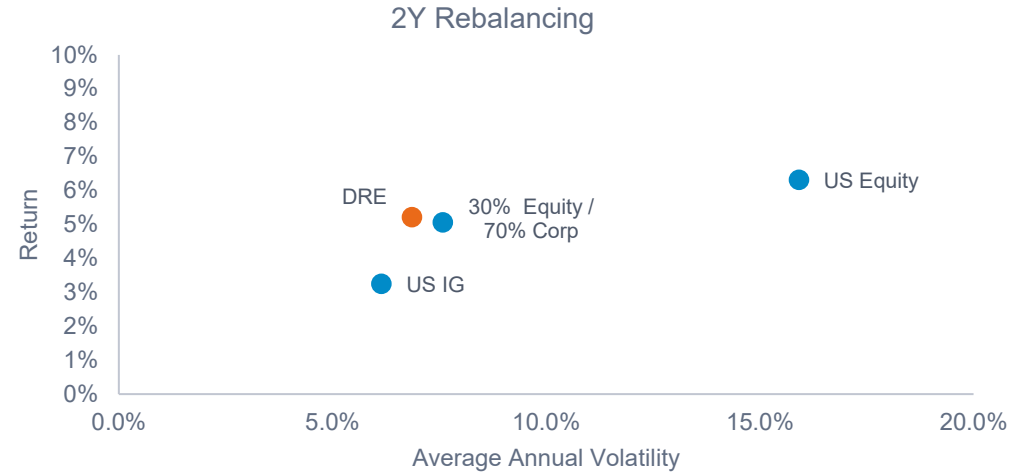
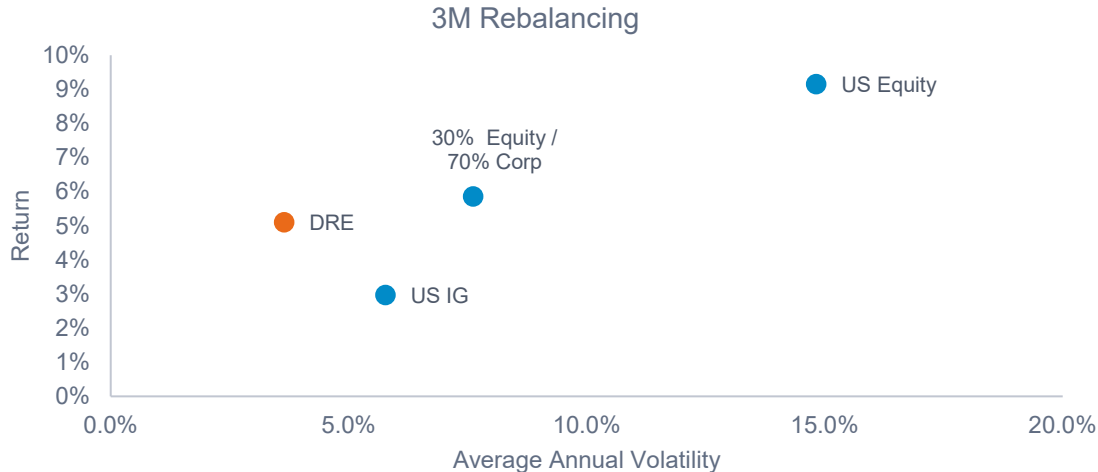
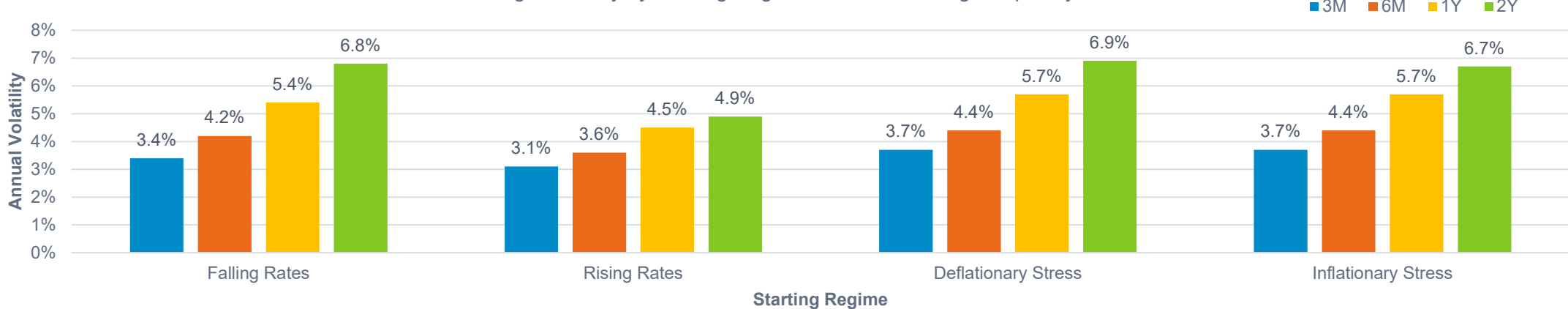
Annualized volatility



Diversification does not ensure a profit or guarantee against a loss. For illustrative purposes only. Volatility shown is for the period from 1978 to 2022.

# Rebalancing frequency illuminates economic sensitivity




Average Volatility by Starting Regime and Rebalancing Frequency



Past performance is no guarantee of future results. Index performance is not meant to represent that of any Fidelity fund. You can not invest directly in an index. Research utilizes a Hidden Markov Model (HMM) with Gaussian Mixtures framework (part of Fidelity's proprietary artificial intelligence and machine learning methodology for identification of data-driven market regimes), which assumes there are four structural states or market environments, that are more consistent given historical realized asset class returns data. Returns represent real returns. Please see Important Information for methodology. See endnote on page 15 for more information.

# Diversifying investors' risk across their planning horizon

Balancing distinct risks at each stage in the life cycle

Risk	Concerns and sensitivities	Younger investors	Investors near retirement	Investors in retirement
 <b>Inflation</b>	Loss of purchasing power	Lower	Higher	Higher
 <b>Market drawdown</b>	Loss of savings	Lower	Medium	Higher
 <b>Longevity</b>	Need for returns to fund a lifetime	Higher	Medium	Lower
<b>Strategic Asset Allocation Emphasis</b>		Total return	Risk-adjusted returns	Capital preservation

For illustrative purposes only.

**“The key is not to predict the future but to prepare for it” - Perciles**

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Page 6/7/11: Structural state/market environment analysis: Financial market behavior can change abruptly. Although some changes may be transitory, the new behavior often persists for several periods after a change. Such structural shifts lead to adjustments in asset pricing via changes in means, volatilities, and serial correlations over time that may remain stable within that structural state until markets transition to a different state. We have lived through only “one sample” of realized history. Embedded within this one window of history is a mix of different structural states (as well as state-conditional financial market regimes). The structural “states” could be thought of as referring to “secular” phenomena. However, within any such structural state, financial markets could transition between different “regimes,” which could be considered as “cyclical” trends that are reflected in asset pricing conditioned on the secular state. Markov chains (and models) have increasingly become a useful way of capturing the stochastic nature of many time series (the sequence of the four structural “states” as depicted, could be thought of as representing a four-state Markov chain). Markov models are used to train and recognize sequential data, such as speech utterances, temperature variations, biological sequences and, more recently, financial time-series data. In a Markov model, each observation in the data sequence depends on previous elements in the sequence. A Hidden Markov Model (HMM) not only accommodates a Markov chain, but also considers the uncertainty in which state the system may be in at any given time. The word “hidden” in Hidden Markov Models means that market members do not know with certainty which structural state the financial system may be in at any point in time, and have only some probabilistic insight on where it could be along the continuum of state transitions, given the observed behavior of (multi-class) asset returns. Hidden Markov processes have been widely employed in many engineering applications, and their effectiveness has been well-recognized in modeling financial data. In an HMM, one does not know anything about what generates the observation sequence. The number of states, the state transition probabilities, and from which state an observation is generated are all unknown and all simultaneously estimated from data. Four states as described provided a robust (statistically significant) mathematical expression of the asset returns data. Data shown on slide 6 is from 1926 to 2022, slide 7 is from 1950 to 2022 and slide 11 utilizes data from 1978 to 2019.

Page 8: Returns reflect mean annual returns over the period, which were used to construct the efficient frontiers. Left efficient frontier: Every point represents a hypothetical portfolio containing a mix of traditional asset classes, liquid alternatives, and illiquid alternatives, with the right Y-axis representing the percentage of illiquid alternatives, in the overall allocation to alternatives, shifting in color to yellow as that percentage increases to a maximum of 60% as outlined in the portfolio constraints. Volatility reflects standard deviation of the annual returns over the period. Traditional asset categories: U.S. large cap equity—Russell 1000 Index; U.S. small cap equity—Russell 2000 Index; developed-market equity—MSCI EAFE Index; emerging-market equity—MSCI Emerging-Market Index; Treasuries—Bloomberg US Long Treasury Index; Treasury inflation-protected securities—Bloomberg US Treasury Inflation Linked Bond Index; investment-grade bonds—Bloomberg US Credit Index; high-yield bonds—ICE BofA US High Yield Index; REITs—FTSE NAREIT All Equity REIT Index. Alternative asset categories: liquid alternatives—HFRI Macro Total Index and HFRI EH Equity Market Neutral Index; managed futures: SG CTA Index (note, there may be managed futures strategies in both the HFR and SG indexes); private equity—equity-generalist, buyout, and venture capital reflect annual return data from Burgiss; private credit—direct lending represented by the Cliffwater Direct Lending Index, distressed debt reflects annual return data from Burgiss; real assets—private real estate represented by the NFI ODCE Index. Burgiss Data used in this research reflects returns of U.S. private capital funds and funds of funds. Sources: Bloomberg Finance L.P., HFR Inc., www.HFR.com, © 2023 HFR, Inc. All rights reserved, Morningstar, Burgiss, Cliffwater LLC, NCREIF, Societe Generale.