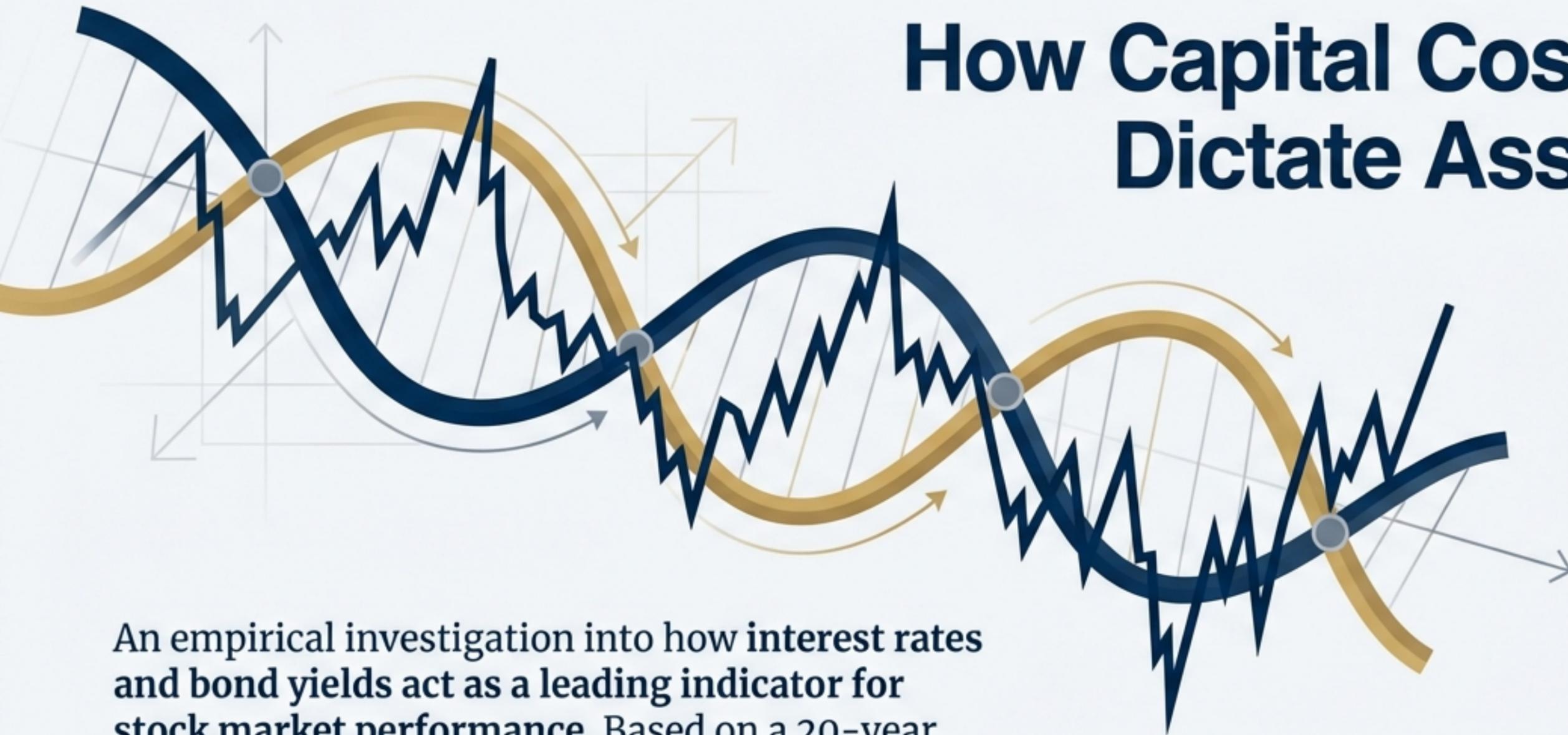


The Bond-Equity Signal

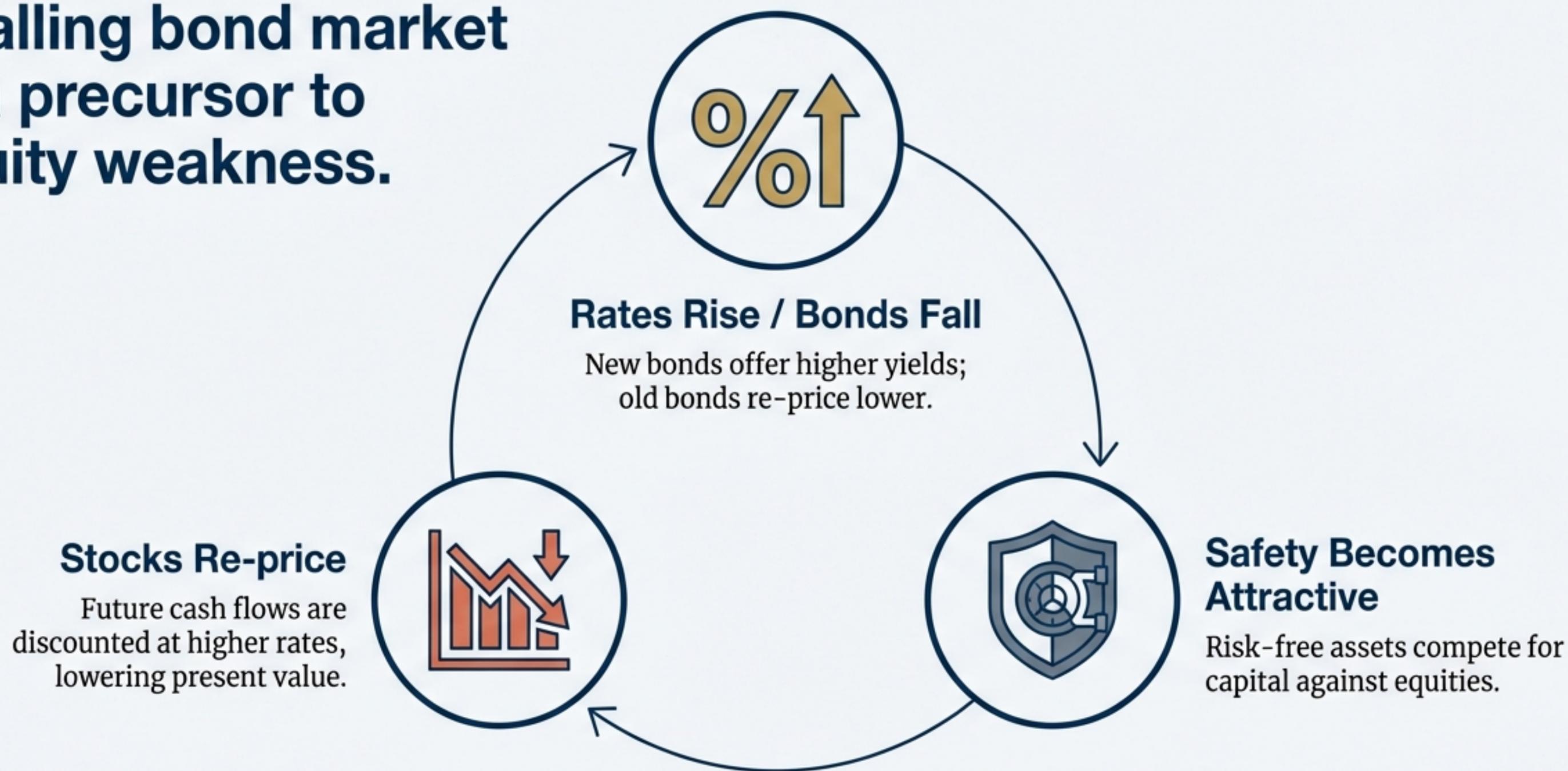
How Capital Costs Dictate Dictate Asset Prices.



An empirical investigation into how interest rates and bond yields act as a leading indicator for stock market performance. Based on a 20-year historical backtest of SPY and TLT data.

Prepared for Portfolio Managers & Investors

A falling bond market is a precursor to equity weakness.



The Thesis: Stocks typically perform poorly when bond prices fall (yields rise).
We validate this through a 20-year backtest.

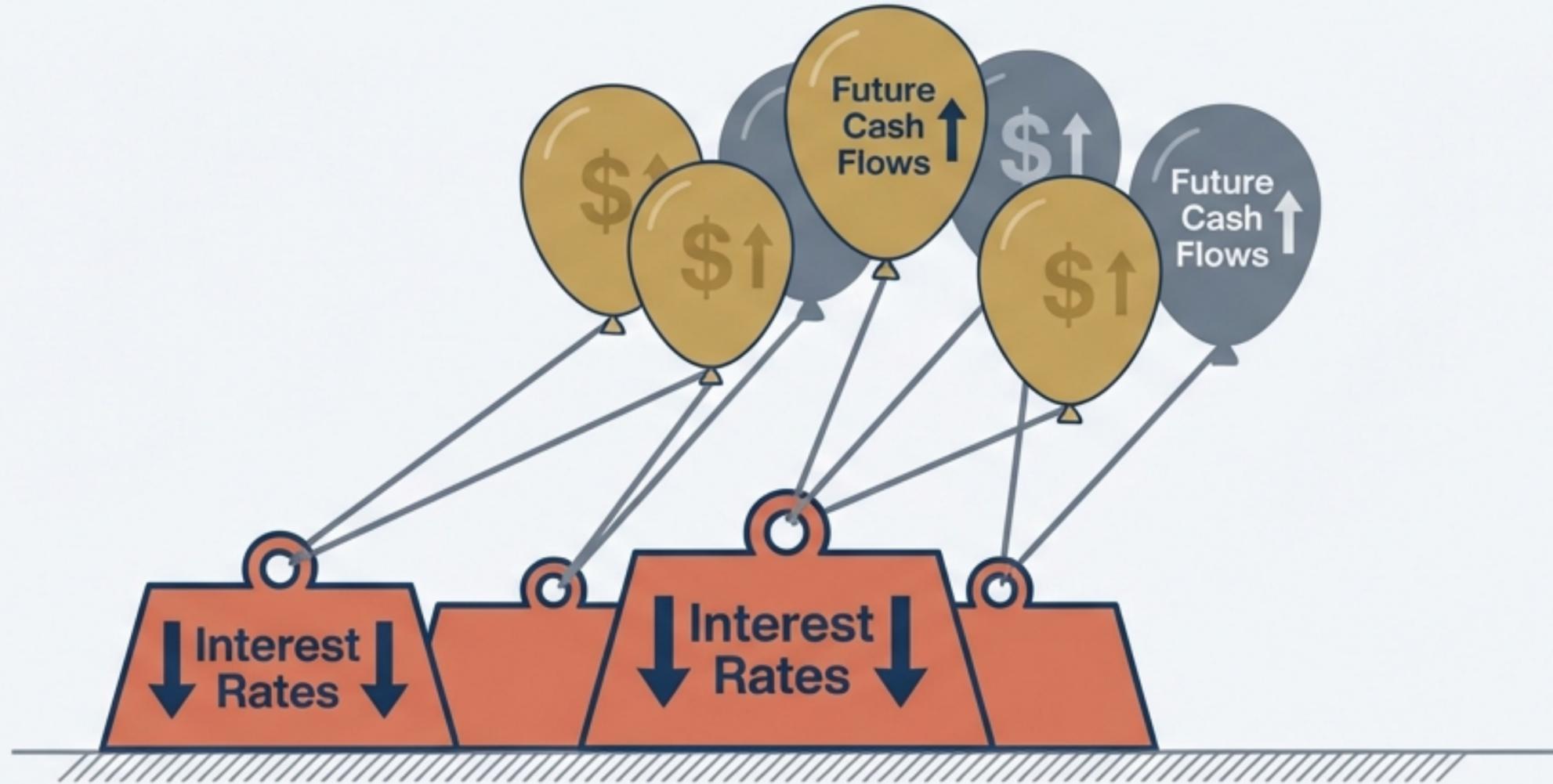
Bond prices and yields are mathematically inverse.

The Mechanism

A bond pays a fixed fixed coupon until maturity. If new bonds are issued at higher rates, old bonds with lower coupons must discount their price to compete for investors.



Higher rates exert gravity on equity valuations.



The Discount Rate

The value of a stock is the present value of its future cash flows.

The Mechanism

When the **risk-free rate** (bonds) rises, the denominator in the valuation model increases. **Future earnings** are worth less in today's dollars.

Investor Behavior

High rates reduce the appetite for risky assets. Investors demand higher compensation (returns) to hold stocks over safe bonds.

In the capital structure, bondholders are paid first.



U.S. Treasuries / Bonds

Priority in Bankruptcy



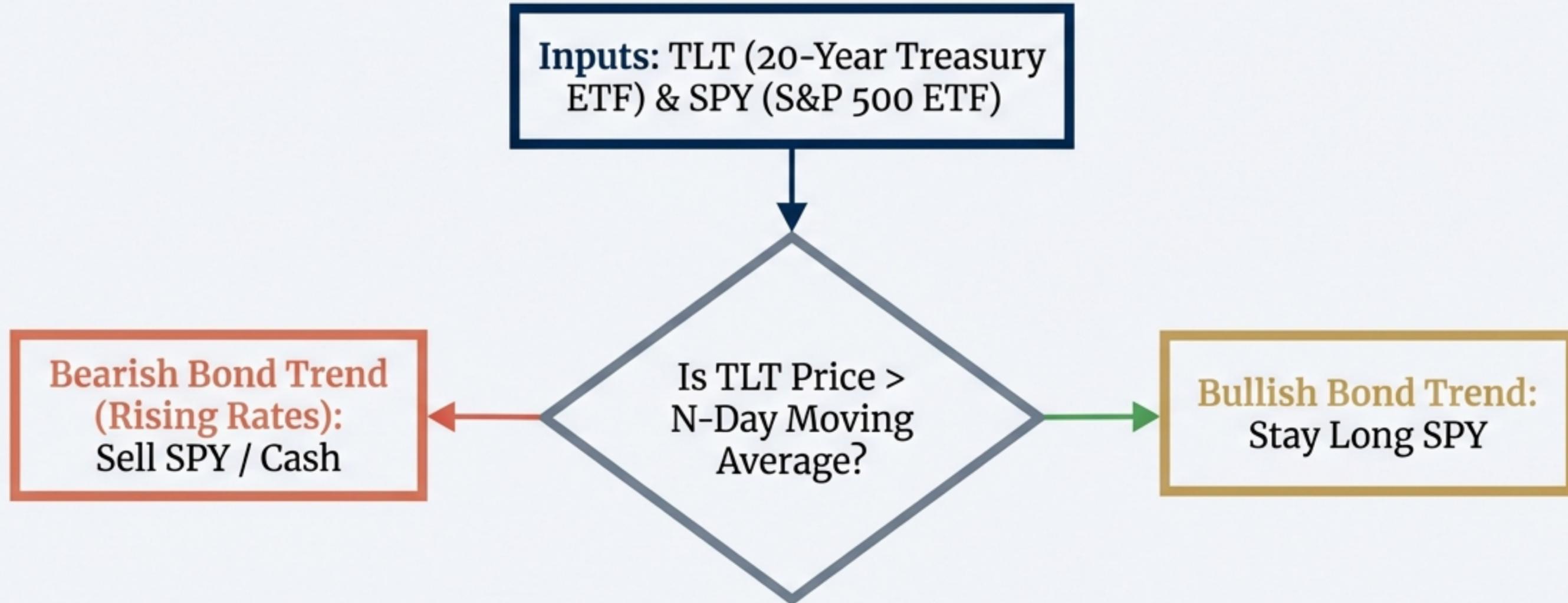
Equities / SPY

Residual Claim

Stocks are inherently riskier. In a bankruptcy event, bondholders are **fully repaid before equity holders receive a cent.**

This hierarchy turns bonds into a 'Safe Haven' during uncertainty, while stocks are sold off.

The Experiment: Testing the breakdown of the bond trend.



Parameter Optimization: Moving averages tested from 5 days to 100 days (5-day intervals). Total 20 backtests performed.

When bonds break trend, equity returns collapse.

15-Day Moving Average Breakdown Results

0.13%

Average Gain per Trade

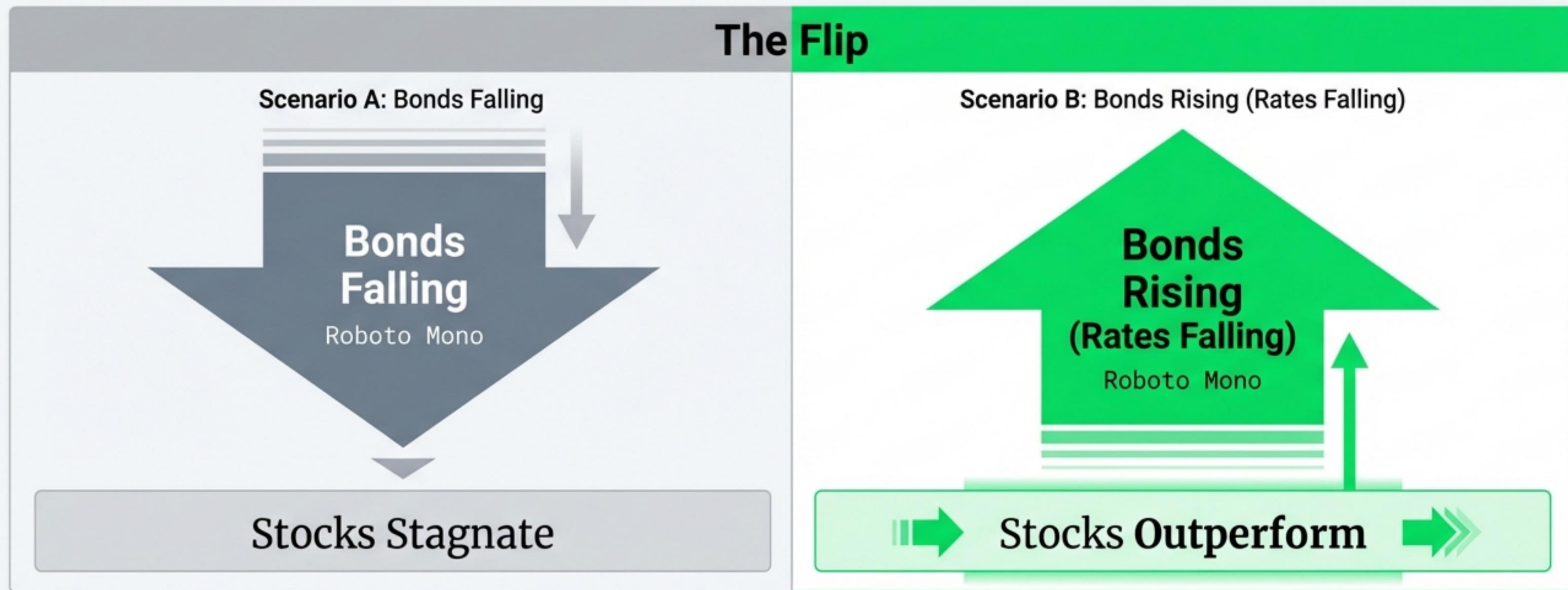
1.69%

CAGR

This return is significantly lower than a random holding period.

The data confirms the hypothesis: It is undesirable to own risky assets when the **safe asset (bonds)** is in a **downtrend**.

Falling rates push investors out the risk curve



Key Takeaway: When we flip the signal (buying Stocks when Bonds are *up*), results improve **dramatically**. Lower yields force capital into equities, driving up prices.

Historically, falling rates act as a tailwind for valuations.

Bonds have historically acted as a portfolio buffer.



Data: 421 Trades. Roboto Mono

The inverse relationship dampens volatility during major economic shocks.

Diversification: The Sword and The Shield



Stocks

Growth & Volatility. Used for capital appreciation during expansion.

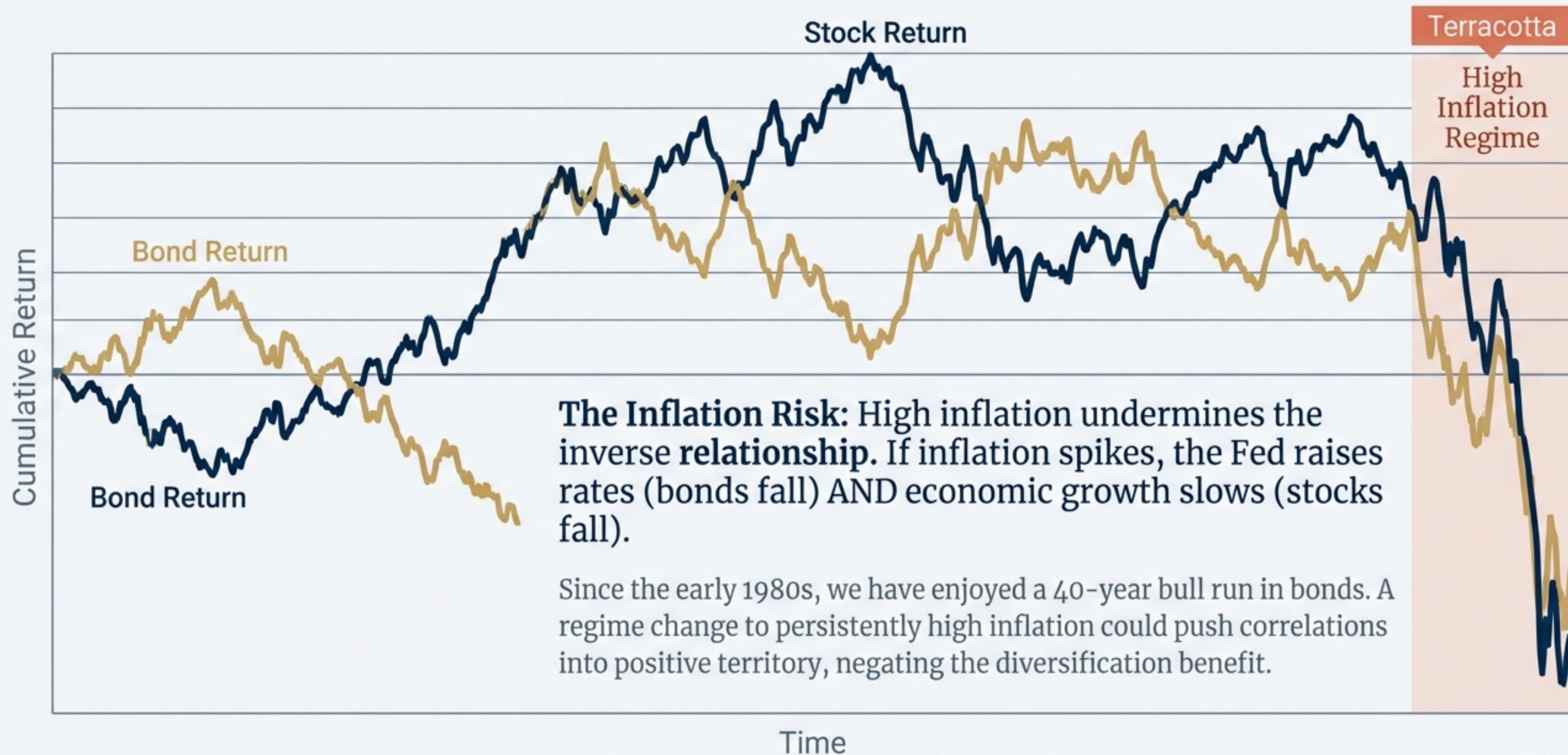


Bonds

Protection & Income. Used to preserve capital during downturns.

Most investors cannot trade unmanaged indices directly; they use ETFs. A negative correlation between assets is the "Holy Grail" of risk management, smoothing out the equity curve.

The Inflation Exception: When correlations break

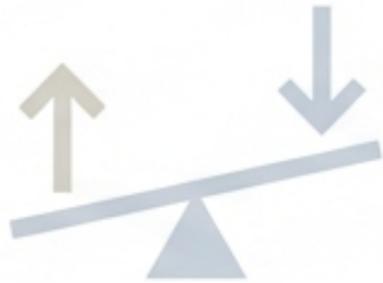


The Policy Maker and The Menu



The Fed

Sets the baseline. Monetary policy moves the “Seesaw.”
Rate hikes lower bond prices;
cuts raise them.



Treasuries

The Benchmark.
U.S. Govt debt.
High safety, lower yield.



Corporates

Higher Risk.
Issued by companies.
Yields must be higher than
Treasuries to attract capital.

Fed policy decisions ripple through all fixed income instruments, ultimately dictating the discount rate for equities.

Summary of Findings



Inverse Mechanics: Bond prices and yields move in opposites.

As yields rise, bond prices fall, and vice-versa. This fundamental relationship drives fixed-income dynamics.



Valuation: Falling bonds (rising rates) increase the discount rate, hurting stock valuations.

Higher interest rates increase the present value discount applied to future cash flows, reducing the intrinsic value of equities.



Empirical Evidence: Backtests confirm stocks significantly underperform when bonds are in a downtrend (below 15-day MA). Data: 20-Year Backtest, S&P 500 vs. 10-Year Treasury

Analysis shows market environments where bonds are in a technical downtrend are associated with weaker equity performance.



Safety: Bonds are senior in the capital structure, making them a preferred haven during stress.

In the event of bankruptcy, bondholders are paid before stockholders, providing a crucial layer of risk protection.

Structural relationships persist, even if cycles change.

Past performance is not a guarantee, but the mechanical relationship between the **cost of capital (rates)** and **asset prices (stocks)** is **foundational to finance**.

Monitoring the bond market provides a critical signal for **equity risk management**.