FIRST EAGLE CASE STUDY

Dylan Sturdevant

QUESTION 1

How do you create a simple and reasonable measure of investment success for the First Eagle Global Fund given its mandate and historical track record?

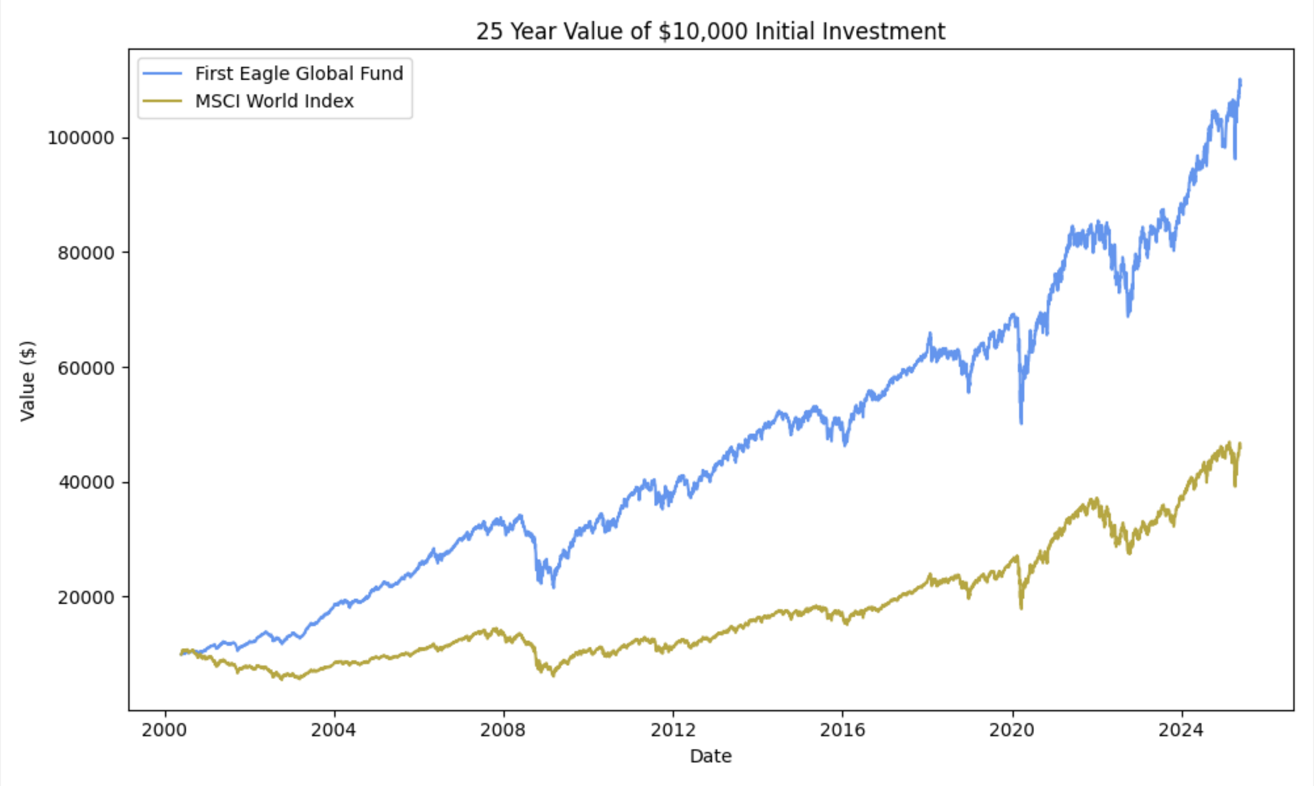
FIRST EAGLE GLOBAL FUND'S MANDATE

First Eagle's Global Fund's Mandate covers three areas:

1. Focus on Absolute Returns
   - Generate positive returns across market cycles, not just beat the benchmark
2. Flexible, Benchmark-Agnostic Approach
   - Invest wherever value is found; across various asset classes, regions, sectors, unconstrained by an index
3. Seeks to Provide Downside Mitigation
   - Emphasizes capital preservation by avoiding permanent loss and investing within a margin-of-safety

LONG-TERM ABSOLUTE RETURN PERSPECTIVE

- First Eagle's goal is to deliver positive long-term returns across market cycles
- MSCI World is shown as a benchmark to contextualize market conditions over time
- Emphasis remains on the Fund's ability to preserve capital and compound steadily, not beat an index
- Visualization helps clients understand how the Fund performs through both bull and bear markets
- The fund really shines from a risk-adjusted standpoint

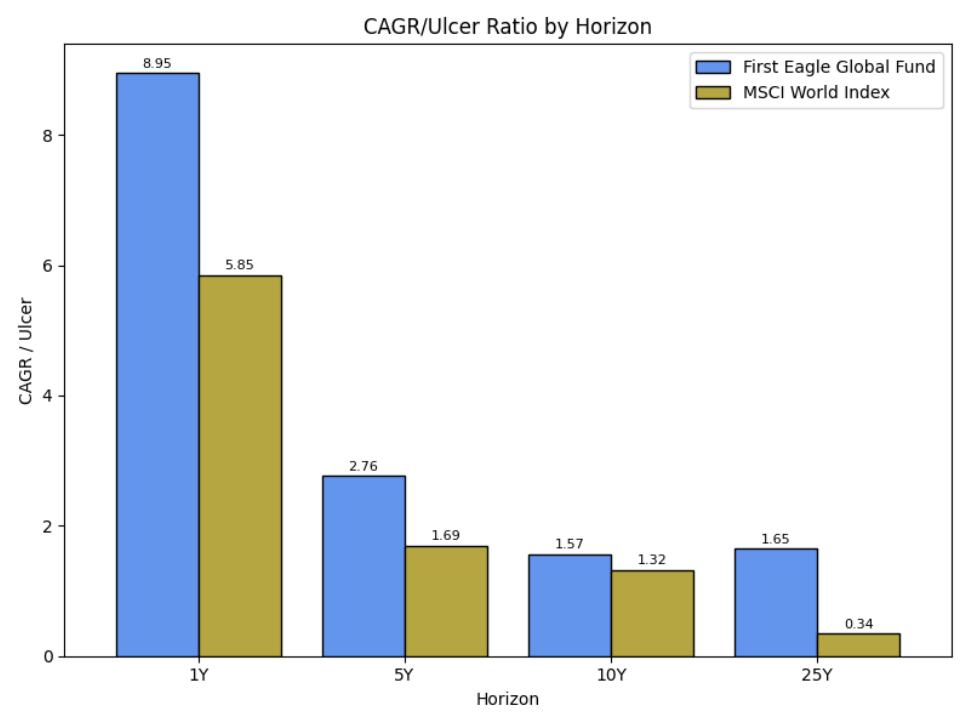


RISK METRICS: CAGR/ULCER

- **Why look at Compound Annual Growth Rate/Ulcer Index?**
- Captures both performance and risk in a single metric.
- The ratio rewards steady compounding with low average drawdown magnitude, which aligns with first Eagle's goals of:
  - Generate long-term absolute returns
  - Avoid permanent capital loss
  - Maintain downside discipline through cycles

How It Was Calculated:

- CAGR: Measures the compound annual growth rate of an investment
- CAGR = ((End Value / Start Value) ^ (1/years)) -1
- Ulcer Index: Measures how far and how long an investment falls below its previous peaks
- Ulcer Index = (averaged squared peak to trough drawdown)^(1/2)
- A lower Ulcer Index means shallower average drawdowns, which reflects better downside protection and capital preservation
- CAGR/Ulcer lets investors know how much they're earning for every unit of downside pain, the higher the ratio, the more efficiently the fund compounds without exposing investors to large losses especially due to geometric averaging of returns
- First Eagle consistently outperforms MSCI World on a downside-adjusted basis, especially over longer horizons, while shorter horizons may be overstated



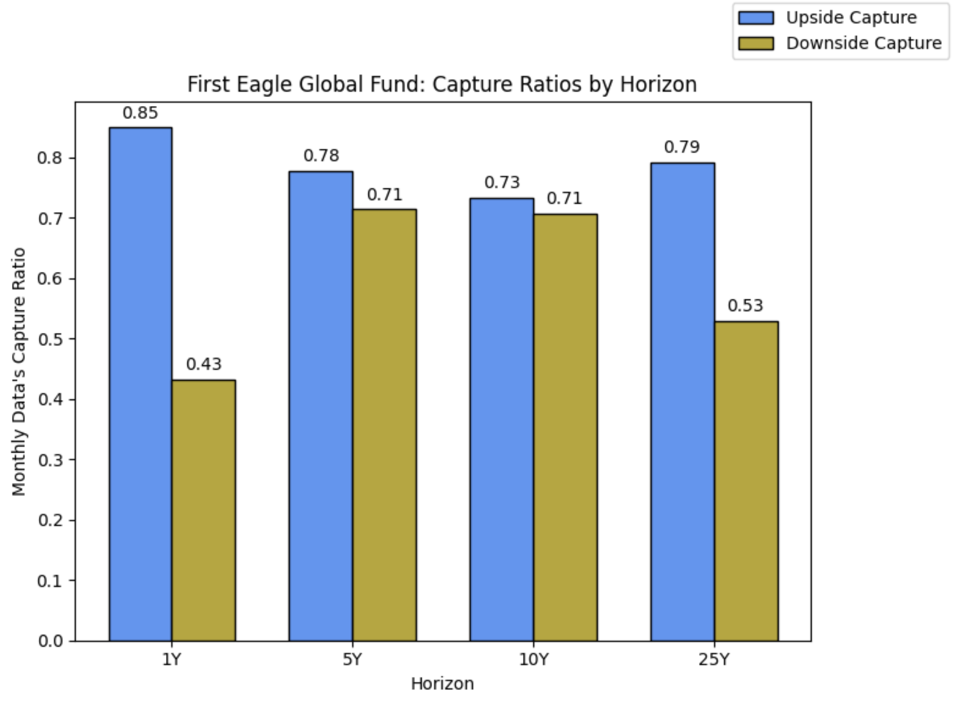
RISK METRICS:
UP & DOWN CAPTURE RATIOS

Why look at Upside & Downside Capture Ratios?

- Evaluates how the fund behaves in rising and falling markets
- Captures the fund's risk managed return profile, adhering to its downside-oriented mandate

How Capture Ratios are Calculated:

- Upside Capture: Adds up every monthly return of SGENX during months when MSCI generates positive returns / MSCI's return during those same months
- Downside Capture: Adds up every monthly return of SGENX during months when MSCI generates negative returns / MSCI's return during those same months
- **How this Metric applies to First Eagle:**
- First Eagle consistently shows asymmetric behavior where they capture more upside than downside, especially over long horizons
- This balance supports compounding with protection



QUESTION 2

A client reached out with a request to perform a review of their 65% Equity, 35% Fixed Income model portfolio. Below is a table of their current allocations.

Would you suggest any changes to their current allocation given current market conditions/outlook? If so, how would allocations change and what data/visualizations would you use to support your changes?

INITIAL OBSERVATIONS ON CLIENT'S PORTFOLIO

Client Profile:

- Moderate Risk Tolerance (65% Equity / 35% Fixed Income)
- Passively Managed Portfolio
- Notable Exposure to Intermediate-Term Credit (PTIAX)

Portfolio Characteristics:

- Heavy U.S. Growth Tilt (LSGRX = 29%), likely high exposure to tech and long-duration equities
- Limited Non-U.S. Equity Allocation (15% combined), underweight international diversification
- Low Cash and Balanced Exposure, limited flexibility and downside optionality

Data Considerations:

- FESCX has limited price history (~4 years)
- Extended FESCX history by splicing with Russell 2000 Index (^RUT: 0.96 correlation) on the first date where they both had data, the ratio was calculated as: FESCX close / ^RUT close.
- Applied this ratio to prior ^RUT adjusted closes to backfill FESCX history where the spliced FESCX = ^RUT close × initial ratio
- Common start date for portfolio simulation is now ~ 15 years ago

ASSET GROUP	CURRENT ALLOCATIONS	FUND IDENTIFIER	FUND NAME
US Large Cap	29%	LSGRX	Loomis Sayles Growth Y
US Small Mid	14%	FESCX	First Eagle Small Cap Opportunity I
Non-US Large Cap	8%	MQGIX	MFS International Growth I
Non-US EM/Small Global	7%	NFFFX	American Funds New World F2
Bonds (Interm IG)	31%	PTIAX	Performance Trust Total Return Bd Inst
Balanced	9%	SGIIX	First Eagle Global I
Cash (1-3M TBill)	2%	U.S. Dollar	1-3 Month T-Bill

PORTFOLIO’S PERFORMANCE OVER A 15-YEAR HORIZON

Performance Setup:

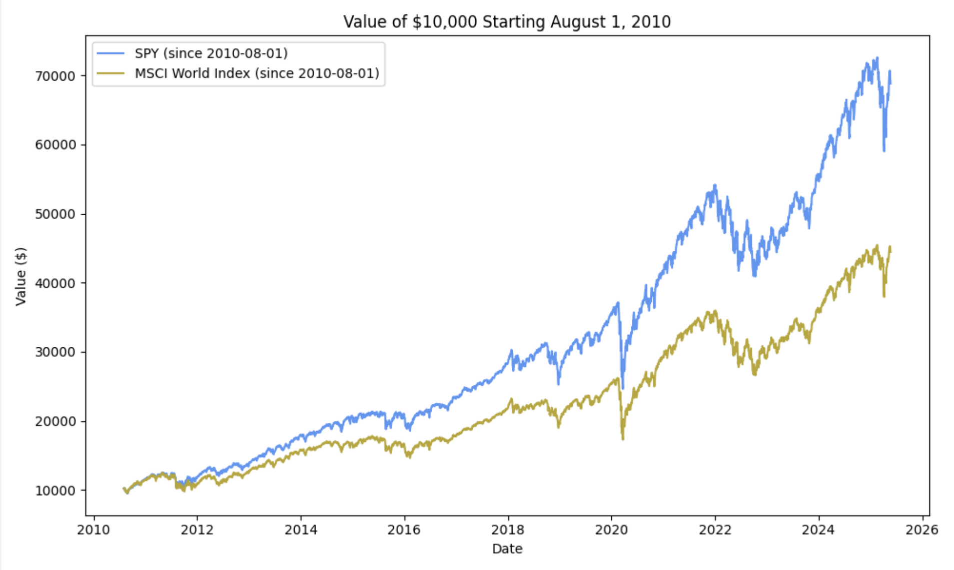
- Ran a 15-year backtest using daily returns for each asset and rebalanced to their fixed weights quarterly

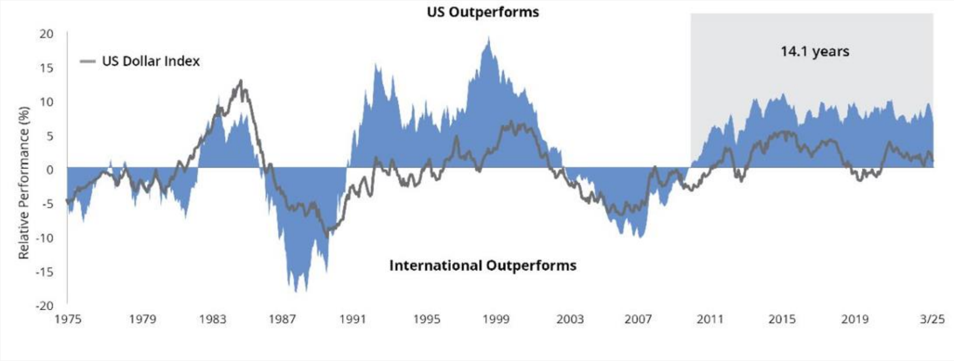
Results:

- When compared to SPY over the same horizon, SPY had a CAGR of 13.83% whereas the portfolio’s CAGR was 9.52%
- These results reflect strong U.S. equity performance relative to international assets over the last 15 years

Supporting Context:

- U.S. outperformance is supported by trailing SPY vs. MSCI World Index comparison
- As shown in the chart, U.S. equities have meaningfully outpaced global peers over the last 15 years
- Hartford Funds data shows that while U.S. equities have led recently, we’re now 14 years into a U.S. outperformance cycle (nearly double the historical average) suggesting a mean reversion may favor international equities going forward





EXTENDING THE PORTFOLIO'S HISTORY FOR LONG-TERM ANALYSIS

- **Given recent U.S. equity dominance, the analysis was expanded to include full market cycles:**
  - Spliced each fund with a long-term index or proxy to extend history back to 1987, the earliest common date across all assets
  - Splicing was based on highly correlated and related benchmarks
  - Highly correlated benchmarks ensure representative return behavior while maintaining asset class characteristics
  - For the 2% cash allocation, I used the 13-week Treasury bill yield (^IRX) as a proxy for short-term U.S. cash-like exposure as its data goes back to 1985
  - This 35+ year dataset allows us to assess portfolio behavior across different regimes, not just the recent decade

Correlations	LSGRX	FESCX	MQGIX	NFFFX	PTIAX	SGIIX
FDGRX	**0.910**	0.715	0.770	0.819	0.397	0.651
^RUT	0.796	**0.963**	0.767	0.790	0.360	0.785
FOSFX	0.762	0.745	**0.959**	0.929	0.485	0.872
AEPGX	0.777	0.756	0.961	**0.973**	0.487	0.876
PTTRX	0.200	0.544	0.296	0.494	**0.862**	0.327
SGENX	0.691	0.787	0.886	0.905	0.439	**0.992**

RETURN OPTIMIZATION ACROSS RISK LEVELS

- Constructed efficient portfolios across a range of target volatilities (4.8%–19.2%)
- For each level, returns were maximized using historical returns and covariance matrices
- Results highlight how time horizon selection influences portfolio construction

15-Year Lookback (Post-GFC to Present):

- Represents a period dominated by U.S. large-cap outperformance, especially in tech
- Optimization heavily favored LSGRX, with supporting weight in PTIAX to meet risk constraints
- Does not capture full market cycles, limiting its robustness

35-Year Lookback (1990–2025):

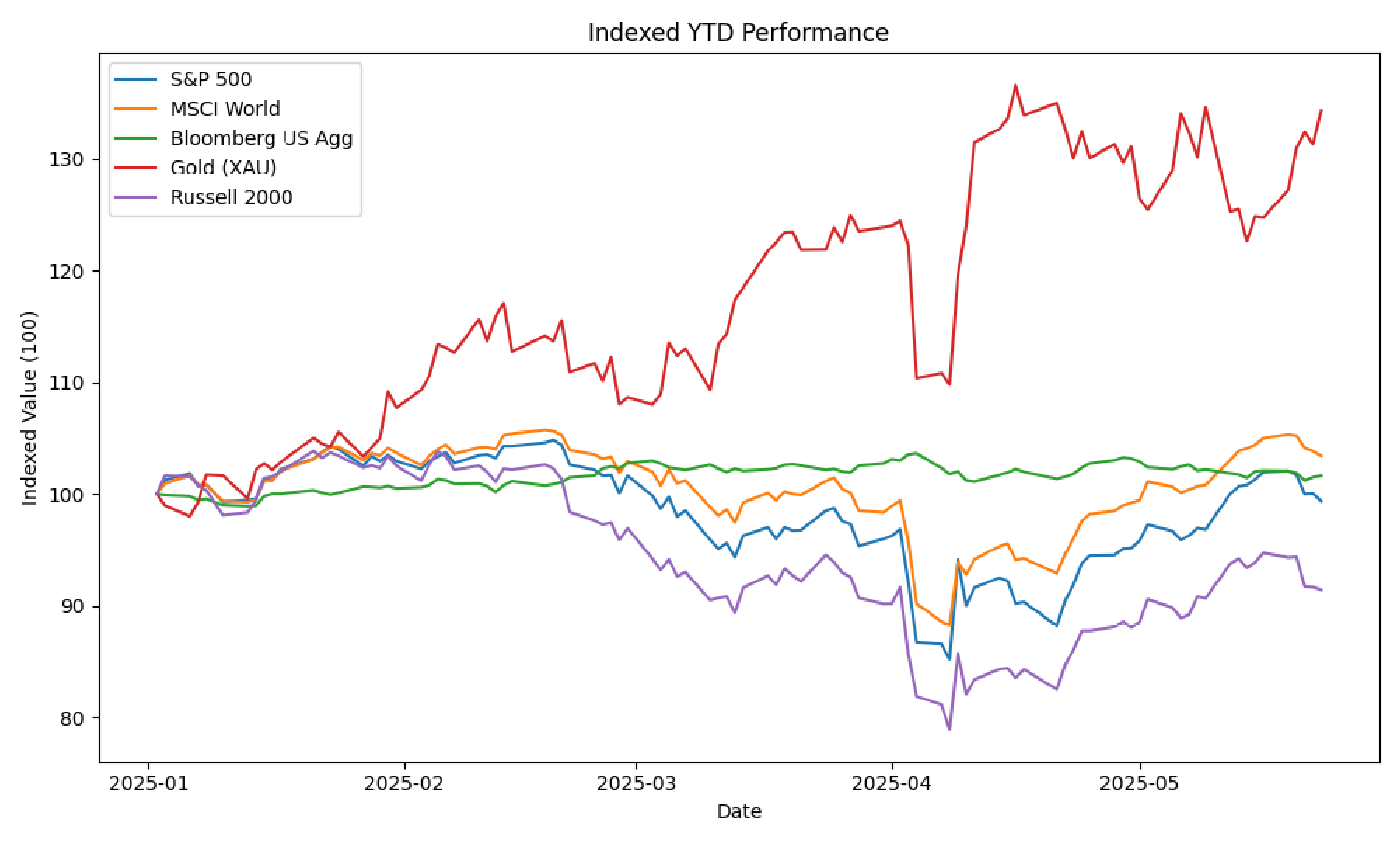
- Spans multiple macro and market regimes (tech bubble, GFC, post-COVID, etc.)
- Allocations skewed toward SGIIX, reflecting the strength of diversified global equity exposure across cycles
- At the client's estimated portfolio volatility (~10.7%–11.6%), the optimizer allocated over 90% to SGIIX which suggests it's the most risk-efficient core holding over full-cycle horizons
- When volatility > 15%, it needs to allocate most of the portfolio to LSGRX to meet the risk level, without even earning a higher return
- Reinforces the need to avoid recency bias in strategic portfolio construction

Volatility	Return	TBIL	FESCX	MQGIX	NFFFX	PTIAX	SGIIX	LSGRX
4.84%	6.71%	0.00	0.00	0.00	0.00	0.79	0.00	0.21
7.37%	8.71%	0.00	0.00	0.00	0.00	0.63	0.00	0.37
8.21%	9.32%	0.00	0.00	0.00	0.00	0.58	0.00	0.42
9.05%	9.91%	0.00	0.00	0.00	0.00	0.54	0.00	0.46
9.89%	10.50%	0.00	0.00	0.00	0.00	0.49	0.00	0.51
10.74%	**11.08%**	**0.00**	**0.00**	**0.00**	**0.00**	**0.44**	**0.00**	**0.56**
11.58%	**11.66%**	**0.00**	**0.00**	**0.00**	**0.00**	**0.40**	**0.00**	**0.60**
12.42%	12.23%	0.00	0.00	0.00	0.00	0.35	0.00	0.65
15.79%	14.49%	0.00	0.00	0.00	0.00	0.18	0.00	0.82
16.63%	15.05%	0.00	0.00	0.00	0.00	0.13	0.00	0.87
19.15%	16.72%	0.00	0.00	0.00	0.00	0.00	0.00	1.00

Volatility	Return	TBIL	FESCX	MQGIX	NFFFX	PTIAX	SGIIX	LSGRX
4.84%	7.62%	0.00	0.00	0.00	0.00	0.63	0.37	0.00
7.37%	8.88%	0.00	0.00	0.00	0.00	0.31	0.69	0.00
8.21%	9.23%	0.00	0.00	0.00	0.00	0.22	0.77	0.01
9.05%	9.58%	0.00	0.00	0.00	0.00	0.14	0.86	0.00
9.89%	9.91%	0.00	0.00	0.00	0.00	0.05	0.94	0.01
10.74%	**10.22%**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.93**	**0.07**
11.58%	**10.42%**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.80**	**0.20**
12.42%	10.58%	0.00	0.00	0.00	0.00	0.00	0.70	0.30
15.79%	11.07%	0.00	0.00	0.00	0.00	0.00	0.39	0.61
16.63%	11.18%	0.00	0.00	0.00	0.00	0.00	0.33	0.67
19.16%	11.49%	0.00	0.00	0.00	0.00	0.00	0.13	0.87

CURRENT MARKET CONDITIONS

- U.S. debt has reached 123% of GDP, prompting Moody's to join S&P and Fitch in downgrading the U.S. credit rating
- Fiscal policy remains expansionary, with deficit reduction efforts focused on growth rather than spending cuts
- Soft data (surveys, sentiment) remains resilient, while hard data (output, employment) continues to lag
- The Ukraine war persists, adding to geopolitical and commodity market uncertainty
- New tariffs are currently boosting revenue but may act as a consumption tax, risking slower growth and higher inflation
- While headline inflation has moderated YoY, both breakevens and Truflation readings have shown a mild reacceleration
- Despite macro uncertainty, credit spreads remain firm, signaling risk-on sentiment but also limited cushion if volatility returns
- While the U.S. is steady, Europe and China are easing, creating dispersion in growth, inflation, and FX risk
- Gold and international stocks have been outperforming the US market



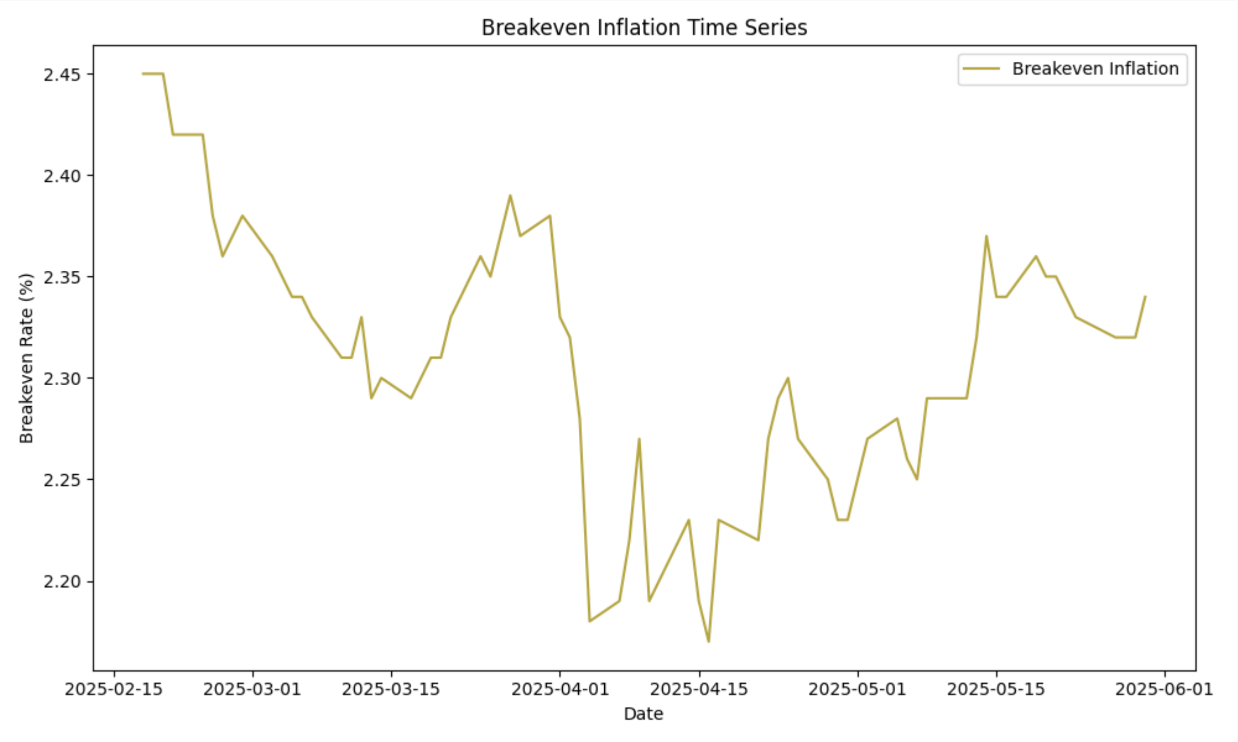
SHORT-TERM OUTLOOK

Growth and inflation are expected to reaccelerate modestly:

- Supported by rising ISM Manufacturing momentum and Atlanta Fed's Q2 GDP forecast at 3.8%
- Market-based inflation gauges like breakevens and Truflation are also trending higher

Artificial Intelligence remains a key macro driver:

- Recent Nobel Prizes in Physics and Chemistry were awarded through the application of AI and Machine Learning
- Secretary Bessent estimates AI could boost GDP by ~1% over the next 1–2 years
- Policy uncertainty remains elevated, but tech-driven growth tailwinds may help offset fiscal imbalances in the near term



ADJUSTED PORTFOLIO ALLOCATIONS WITHOUT ADDITIONAL ASSETS

Increased SGIIX from 9% → 35% to prioritize global flexibility and long-term outperformance:

- Broadened its role from a complementary position to a core holding, capitalizing on its risk-adjusted strength across market regimes
- At our ~11% target volatility, the optimizer concentrated nearly the entire portfolio into SGIIX which reinforces its role as a global all-weather core holding

Decreased LSGRX from 29% → 25% (net decrease, but still tilted towards growth):

- Although the allocation has been slightly reduced, we still have exposure to U.S. growth
- AI-driven innovation and large-cap leadership justify the overweight

Decreased FESCX from 14% → 5% to streamline small/micro-cap exposure:

- Retains some allocation to smaller domestic equities but shifts emphasis toward more flexible and scalable strategies

Eliminated MQGIX and NFFFX (15% combined → 0%) to consolidate international exposure under SGIIX:

- SGIIX's mandate includes both developed and emerging markets, reducing the need for separate line-item exposures, especially as they weren't allocated to in backtests

Increased PTIAX to 33%, slightly up from 31%, to preserve core credit exposure:

- Continues to offer better relative value than Treasuries amid deficit-driven supply pressure

Maintained BIL at 2% as it provides short-term liquidity and tactical flexibility:

- Supports ongoing adaptability in a changing macro environment

ASSET GROUP	ADJUSTED ALLOCATION	FUND IDENTIFIER	FUND NAME
Balanced	35%	SGIIX	First Eagle Global I
US Large Cap	25%	LSGRX	Loomis Sayles Growth Y
US Small Mid	5%	FESCX	First Eagle Small Cap Opportunity I
Bonds (Interm IG)	33%	PTIAX	Performance Trust Total Return Bd Inst
Cash (1-3M TBill)	2%	BIL	1-3 Month T-Bill

ADJUSTED ALLOCATIONS WITH ADDITIONS

Increased SGIIX's allocation to 35%, which has consistently outperformed other holdings over the past 35 years on both an absolute and risk-adjusted basis:

- Its global flexibility positions it well if the U.S. outperformance cycle begins to reverse

Reduced LSGRX's allocation to 20% to retain exposure to U.S. growth and AI-driven expansion

- Reflects the short-term expectation of a growth pickup led by tech

Reduced FESCX's 5% allocation to keep some exposure to U.S. small/micro caps:

- As investors rotate away from mega caps, smaller domestic names may benefit from relative valuation tailwinds

Slightly increased PTIAX's allocation to 33%, under the expectation that credit spreads continue to tighten and the relative attractiveness of credit over duration to improve in a deficit-heavy environment

2% in BIL provides short-duration fixed income exposure and liquidity flexibility

- Acts as a tactical buffer to adjust allocations as needed

Added FEGIX (5%) to introduce direct gold exposure as a hedge against deficits, inflation, and geopolitical uncertainty:

- Combined with SGIIX's existing gold exposure (~16.5% * 35% weighting), this brings total gold allocation to ~11%

ASSET GROUP	ADJUSTED ALLOCATION	FUND IDENTIFIER	FUND NAME
Balanced	35%	SGIIX	First Eagle Global I
US Large Cap	20%	LSGRX	Loomis Sayles Growth Y
US Small Mid	5%	FESCX	First Eagle Small Cap Opportunity I
Bonds (Interm IG)	33%	PTIAX	Performance Trust Total Return Bd Inst
Cash (1-3M TBill)	2%	BIL	1-3 Month T-Bill
Gold/Silver	5%	FEGIX	First Eagle Gold I