

Idiosyncratic Risk Premium

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DOES IDIOSYNCRATIC RISK CARRY A POSITIVE PREMIUM?

Theoretical Context:

- Traditional view: Idiosyncratic risk should not be priced (CAPM)
- Behavioral/Merton view: Under-diversification requires compensation
- Recent evidence: Mixed results in empirical literature

This Study:

Tests Han & Xu (2022) finding of positive idiosyncratic risk premium using alternative methodology and extended sample period

METHODOLOGY

Data Sources:

- CRSP/Compustat (1970-2024)
- Standard Carhart-4 factor construction protocols

Idiosyncratic risk is measured by: $\sigma_{idiosyncratic} = std(\varepsilon)$

Where ε is the residual of our factor model in the equation:

$$r_i - r_f = \alpha + \beta_m (r_m - r_f) + \varepsilon$$

- Rolling 12-month estimation window

PORTFOLIO CONSTRUCTION

- Decile sorts on idiosyncratic volatility
- Value-weighted and equal-weighted implementations
- Long-short: Q10 - Q1
- Monthly rebalancing

RESULTS - VALUE WEIGHTED PORTFOLIOS

In Sample (1970-2010)

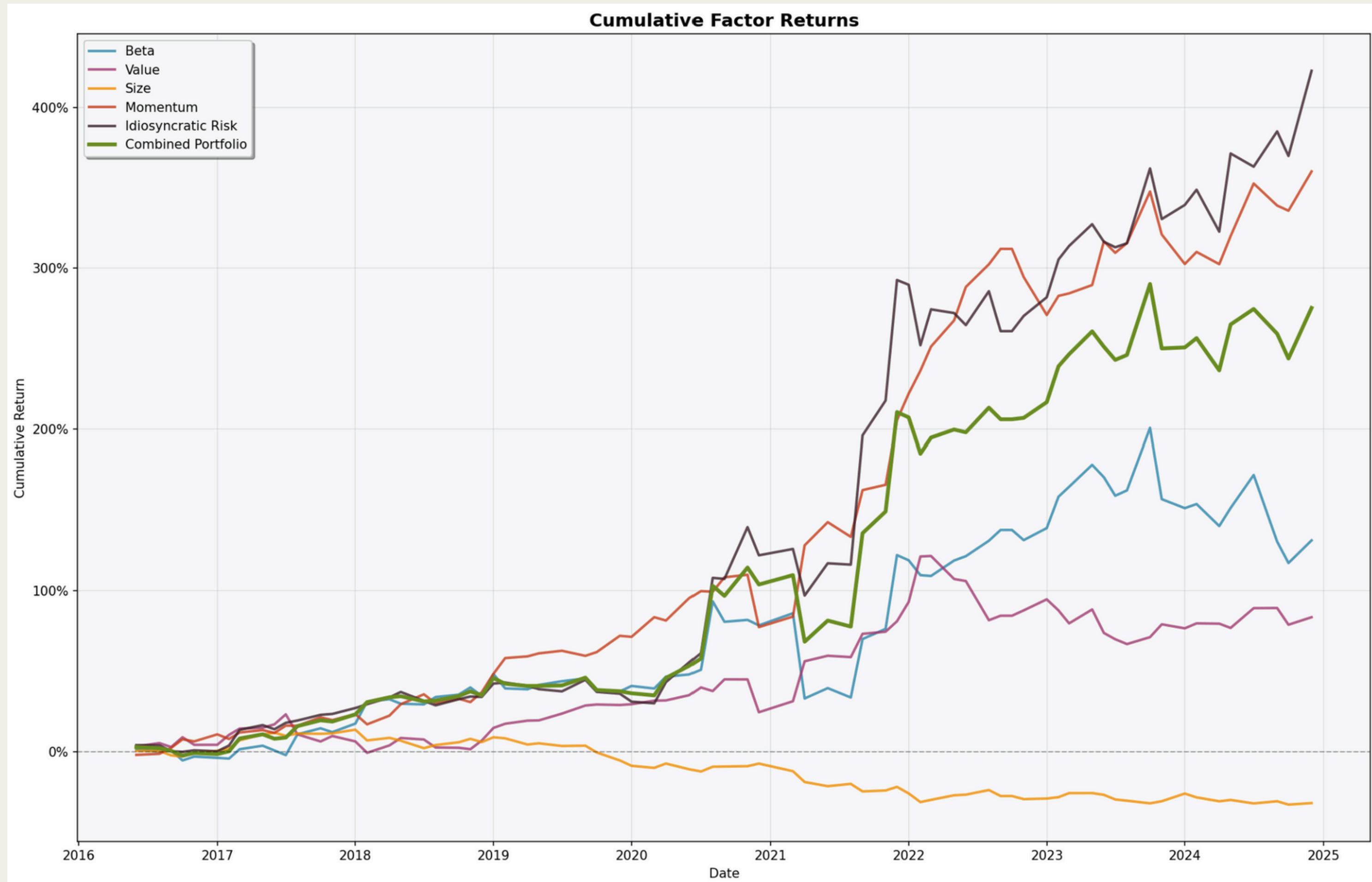
Factor	Return	Volatility	Sharpe Ratio	Alpha	Info Ratio
Beta	7.8%	16.7%	0.137	2.78%	0.167
Value	4.1%	9.9\$	-0.139	-1.04%	-0.106
Size	5.2%	13.0%	-0.022	-0.20%	-0.015
Momentum	9.6%	13.0%	0.317	4.64%	0.360
Idiosyncratic Risk	9.2%	16.5%	0.224	3.92%	0.239
Combined Portfolio	8.5%	14.5%	0.211	3.41%	0.235

RESULTS - VALUE WEIGHTED PORTFOLIOS

Out of Sample (2011-2024)

Factor	Return	Volatility	Sharpe Ratio	Alpha	Info Ratio
Beta	17.7%	28.2%	0.559	16.54%	0.590
Value	11.6%	17.8%	0.542	9.85%	0.556
Size	-5.8%	10.5%	-0.732	-9.15%	-0.892
Momentum	26.9%	18.2%	1.373	27.09%	1.511
Idiosyncratic Risk	30.6%	26.6%	1.080	26.14%	0.997
Combined Portfolio	24.9%	25.6%	0.898	21.89%	0.861

VALUE-WEIGHTED FACTOR RETURNS



RESULTS - EQUAL WEIGHTED PORTFOLIOS

In Sample (1970-2010)

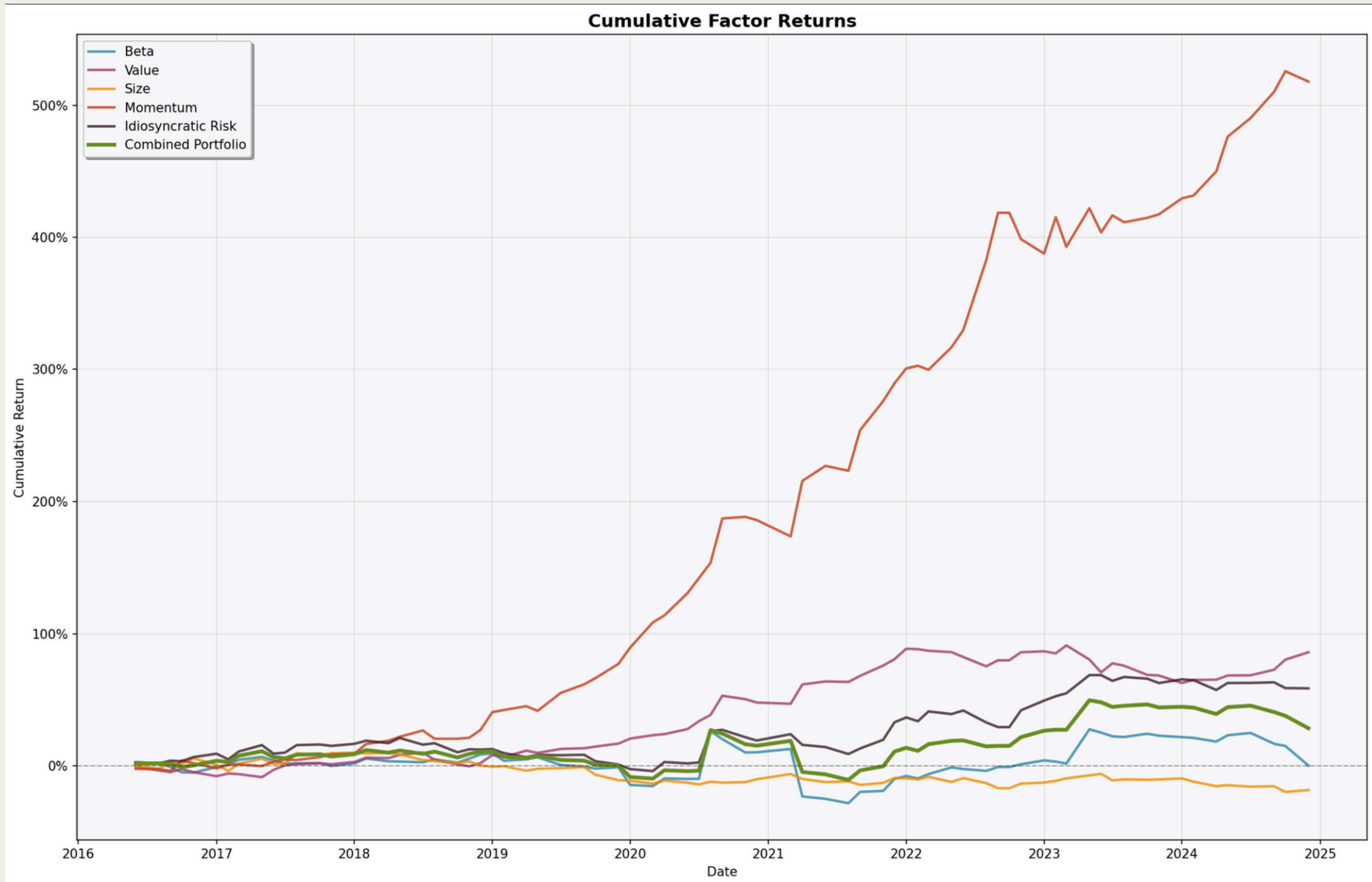
Factor	Return	Volatility	Sharpe Ratio	Alpha	Info Ratio
Beta	8.0%	15.7%	0.162	2.90%	0.185
Value	8.5%	7.8%	0.389	3.19%	0.404
Size	3.0%	11.7%	1.042	11.72%	1.028
Momentum	17.3%	11.3%	1.042	11.72%	1.028
Idiosyncratic Risk	10.8%	13.7%	0.389	5.48%	0.400
Combined Portfolio	9.3%	13.6%	0.284	4.13%	0.303

RESULTS - EQUAL WEIGHTED PORTFOLIOS

Out of Sample (2011-2024)

Factor	Return	Volatility	Sharpe Ratio	Alpha	Info Ratio
Beta	3.6%	27.2%	0.060	0.78%	0.029
Value	10.8%	10.8%	0.820	8.74%	0.805
Size	-2.9%	10.0%	-0.480	-5.96%	-0.605
Momentum	31.4%	14.8%	1.986	31.98%	2.233
Idiosyncratic Risk	8.8%	15.7%	0.434	4.90%	0.318
Combined Portfolio	6.0%	20.4%	0.201	2.75%	0.136

EQUAL-WEIGHTED FACTOR RETURNS



THE CONCENTRATION QUESTION

Are we measuring a risk premium or just riding big winners?

The Concern:

- High idiosyncratic risk stocks include volatile mega-caps, which have been responsible for the majority of market movement recently
 - “Just ten companies have produced three-quarters of the return of the MSCI United States Index through the first half of 2023.” (Fundssociety, 2023)
 - “The Magnificent Seven have accounted for more than half of the MSCI ACWI’s 11% year-to-date return in 2024.” (Rothschild & Co., 2024)
- Did we discover a factor or just measure tech stock performance?

THE EVIDENCE

Value-Weighted (Concentrated)

- 30.6% returns from idiosyncratic risk
- Likely includes Mag 7 stocks
- High performance, but potentially crowded
- Probably captures tech concentration

Equal-Weighted (Diversified)

- 8.8% returns from idiosyncratic risk
- Spread across many stocks
- Still positive, but more moderate
- **Suggests a broader, more diversified premium exists**

SOURCES

Han, Y., & Xu, W. (2022, December 23). *Is there a positive risk premium for idiosyncratic risk?* SSRN.

Fundsociety. (2023, September 14). *Why are so few stocks driving the market this year? 2023.*

Rothschild & Co. (2024, July 2). *Five stock market talking points. 2024.*

Thank you

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