VecViz Expected Up Body & Expected Down Body (EUB & EDB) Performance Report

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Table of contents

Introduction

The area of a security's forward return distribution between the 95th and 100th th percentile upward and downward are often referred to as the distribution's "tails". In this report we are going to discuss metrics for the expected value upward and downward for the area inside the tails, i.e., the distribution body.

We refer to these metrics as Expected Up Body and Expected Down Body, or EUB and EDB, respectively. More specifically, EUB is the horizon end date forecast probability-weighted average price between the model date price and the 95th probability percentile price upward. EDB is defined similarly, but pertains to the area between the Model Date price and the 95th probability percentile price downward. We believe that EUB and EDB can be useful to investors as estimates of base case / moderate upside and downside.

The aim of this report is to inform a broad spectrum of readers of the behavior and accuracy of VecViz's EUB and EDB estimates, and how they might influence portfolio performance. To do so, we rely upon both comparison to the well-known and still widely used "Sigma" approach to volatility.

Please see the "Important Considerations" section of this report for important disclosures related to the methods used in this report and other topics as well.

Evaluation of EUB and EDB Estimates

We compare Expected Body metrics derived from VecViz's Vector Model ('V') to VecViz's implementation to comparable statistics for Sigma (S), the standard deviation of the "normal" or "Gaussian" distribution.

Mean absolute average error (MAE)

Mean absolute average error (MAE) is the metric we use when evaluating accuracy. For example, when evaluating EUB, we take the average absolute value of the difference between the actual forward horizon price and the model date EUB price for the given model, for ticker model dates that are in the given model's "evaluation set".

Each model's EUB evaluation set includes all the ticker model dates for which the forward horizon price is between the model date price and that model's estimate of the 95th percentile upward price (95U). Likewise for each model's EDB evaluation set, substituting 95D for 95U. Given that there are differences between the 95th percentile as calculated by the Vector Model and Sigma, the evaluation sets for EUB and EDB estimates can be quite different. The differences in ticker level evaluation set constituents can often be apparent when reviewing the Top/Bottom 30 ticker lists for the Vector Model and Sigma included in this report.

As discussed further below, we evaluate MAE relative to Sigma both on an outright and adjusted basis, to address, at least in part, some of the aforementioned differences in the evaluation sets. We also evaluate MAE on the basis of its variability by date (when averaged across tickers) and by ticker (when averaged across dates), as a consistent, moderate level of error is preferable to potential large spikes in error.

Return on Expected Up Body and Return on Expected Down Body (ROEDB and ROEUB)

To determine the influence of Vector Model EUB and EDB on risk tolerant/ return seeking and risk avoidant strategies relative to Sigma EUB and EDB we calculate ROEUB and ROEDB (Return on EUB and Return on EDB, respectively). Specifically, Sigma ROEUB and Sigma ROEDB are ascribed the underlying ticker return, and Vector Model ROEUB (ROEDB) is ascribed a multiple of the underlying return based on the ratio of Vector Model EUB (Sigma EDB) to Sigma EUB (Vector Model EDB), subject to a cap and floor of 3.00x and 0.333x.

So, for example, if Sigma said EUB for ticker ABC was 2.00% and the Vector Model said EUB for ABC was 4.00%, the Vector Model ROEUB would be double Sigma's. Likewise, if the Vector Model said EUB for ABC was 1.00%, the Vector Model ROEUB would be half of Sigma's.

For the Vector Model ROEUB to be higher than Sigma's it signifies that either (1) Vector Model EUB exceeded Sigma's EUB (to the upside) and the ticker traded higher, or (2) Sigma EUB exceeded the Vector Model's EUB (to the upside) and the ticker traded lower.

However, if Sigma said EDB for XYZ was -2.00% and the Vector Model said EDB for XYZ was -4.00% the Vector Model's ROEDB for XYZ would be half Sigma's. Likewise, if Vector Model EDB for XYZ was -1.00% its ROEDB would be double Sigma's.

For the Vector Model ROEDB to be higher than Sigma's it signifies that either (1) Vector Model EDB exceeded Sigma's EDB (to the downside) and the ticker traded lower, or (2) Sigma EDB exceeded the Vector Model's EDB (to the downside) and the ticker traded higher.

Cost of borrowing or crediting for uninvested funds is incorporated into neither ROEUB or ROEDB.

Addressing The Influence of 95th percentile differences on MAE and ROEB

All else equal, the model with greater distance from the model date price to 95U (95D) will have higher EUB (EDB) distance and also a higher EUB (EDB) MAE. If prices drift upward over time, it will also have a higher ROEUB (lower ROEDB). Thus, MAE for EUB and EDB and ROEUB and ROEDB must be considered in the context of the distance to 95U and 95D, respectively, in order to discern what additional information value they offer.

Thus, when evaluating MAE, in addition to outright comparison of Vector Model MAE to Sigma we also have a 95th percentile distance adjusted comparison. Specifically, for this adjusted comparison we multiply Sigma's MAE by the ratio of the distance to the 95th percentile for the Vector Model relative to Sigma's distance to its 95th percentile. If Sigma's 95th percentile is more distant than the Vector Model's it's adjusted MAE will be smaller than its unadjusted MAE, and vice versa.

Likewise, when evaluating ROEUB and ROEDB, in additionto outright comparison to Sigma ROEDB and ROEUB (which in both cases are simply the underlying ticker returns), we also have an adjusted comparison. Specifically, we multiply Sigma's ROEUB (ROEDB) by the ratio of aggregate average Vector Model EUB (Sigma EDB) to aggregate average Sigma EUB (Vector Model EDB). This multiplication eliminates much of the influence of systematic EUB (EDB) differentials, be them the result of systematic 95U (95D) differentials or otherwise, on the relationship between Vector Model and Sigma ROEUB (ROEDB). The bias that remains reflects the aforementioned capping and flooring when calculating Vector Model ROEUB (ROEDB), and idiosyncratic variability arising from the aforementioned differential in ticker-model date constituents in each model's Expected Body evaluation sets.

We also provide a more elegant, though less transparent metric that addresses this concern - the alpha of Vector Model ROEUB (ROEDB) to Sigma ROEUB (ROEDB) (i.e., the underlying, equally weighted ticker returns). "Alpha", as discussed in this report, is the intercept of an ordinary least squares regression of Vector Model ROEUB (ROEDB) on the underlying ticker forward returns for corresponding TMD's. It represents the expected Vector Model ROEUB (ROEDB) when Sigma ROEUB (ROEDB), i.e., the underlying ticker return, is 0.00%.

Finally, we also include 95U and 95D levels and breakage rates for the Vector Model and Sigma in the Appendix to this report, for your reference as you consider the MAE and ROEUB / ROEDB adjustments.

Determining the drivers of ROEUB (ROEDB) alpha

A ROEUB (ROEDB) Alpha greater than 0.00 across TMD's indicates that Vector Model EUB (EDB) moved favorably from a market timing and / or ticker selection perspective. We present that statistic alongside an average ROEUB (ROEDB)alpha calculated at the single ticker level across dates. If this second alpha is >0 it indicates that market timing added to the overall alpha, and vice versa. If this second alpha exceeds the overall alpha then it indicates that ticker selection detracted from alpha, and vice versa.

ROEUB (ROEDB) Beta

ROEUB (ROEDB)Beta represents the expected sensitivity of Vector Model ROEUB (ROEDB) to Sigma ROEUB (ROEDB), i.e., the underlying ticker return. It is the slope of the aforementioned ordinary least squares regression of Vector Model ROEUB (ROEDB) on Sigma

ROEUB (ROEDB). Like outright ROEUB (ROEDB), it must be considered in the context of 95U (95D), and like alpha it can be bifurcated to reveal additional insight.

We encourage readers to consider the Vector Model ROLOBC beta to Sigma ROLOBC in the context of how well each model's 95% VaR and OaR breakage rates compare to targeted levels. For example, if the Sigma model 95% OaR breakage is well above target and the Vector Model's 95% OaR breakage is close to target, then Vector Model 95% OaR levels are likely higher than Sigma's and if that is the case then more likely than not Vector Model EUB levels are higher than Sigma's as well. The beta of Vector Model ROEUB to Sigma ROEUB should be expected to be > 1.00 in such a situation.

A ROEUB (ROEDB) Beta greater than 1.00 across TMD's indicates that Vector Model EUB (EDB) was higher (more deeply negative) than Sigma's for more volatile dates and / or tickers. We also present an average Beta alpha calculated at the single ticker level across dates. If this second beta is >1.00 it indicates that Vector Model ROEUB (ROEDB) was higher (more deeply negative) than Sigma ROEUB (ROEDB) on more volatile days. If this second beta is less than the overall beta then it indicates that Vector Model ROEUB (ROEDB) tended to be less elevated (less deeply negative) with respect to more volatile tickers than with respect to more volatile dates.

Vector Model Input and Calculation Details

The Vector Model uses systematic price channel identification and scoring in conjunction with machine learning to provide investors with volatility forecasts that reflect the asymmetric, jumpy, clustering, and price dependent behavior of realized and option implied volatility in the financial markets.

The sole input to Vector Model and the Sigma Model out of sample OaR analytics are daily closing prices obtained from QuoteMedia.

The Vector Model was trained upon ~ 60,000 ticker model dates (TMD's) representing ~550 tickers (including equities, currencies, and commodities) and ~ 120 model dates spanning from March 9, 2002 to February 3, 2021. The Out of Sample period starts on 1/31/2022, nearly a full one year from the last model date included in the training data. All Expected Body estimates discussed in this report are for model dates beyond January 31, 2022, making them fully out of sample.

This report includes Vector Model and Sigma model results for ~150 tickers. Only about twenty of these tickers were included in the Vector Model training data set discussed above. These tickers were selected using the following criteria at the time of selection: Top and Bottom 25 S&P 500 performers, Largest 25 publicly traded issuers in the LQD and HYG etf's, constituents of the Metals and Pharmaceuticals sector within the LQD and HYG etf's, and any other tickers that at the time drew significant financial media attention (Mag 7, meme-related stocks, bitcoin related stocks). We also included several major equity and debt-oriented ETF's.

The complete Vector Model EUB and EDB coverage universe discussed in this report includes the following tickers:

AA, AAP, AAPL, ABBV, ACGL, ADBE, AMAT, AMC, AMD, AMGN, AMZN, AVGO, AZN, AZO, BA, BAC, BALL, BBY, BHC, BHP, BIIB, BMY, BUD, BXP, CAH, CCL, CDNS, CHTR, CITI, CLF, CMA, CMCSA, CMG, CNC, COST, CPRT, CSCO, CSTM, CTLT, CVS, CYH, CZR, DHI, ELAN, EMB, ETRN, EXPE, FCX, FIS, FITB, FRA, FRCB, FSUGY, GBTC, GE, GILD, GLD, GME, GNRC, GOLD, GOOGL, GS, GSK, GT, GWW, HCA, HD, HLT, HON, HSBC, HYG, IEP, INTC, INTU, IRM, ISRG, JAZZ, JPM, KALU, KEY, KHC, LEN, LLY, LNC, LQD, LUMN, LVS, LW, META, MNST, MOS, MRK, MS, MSFT, MSI, MSTR, MU, MUB, NAVI, NEM, NFLX, NVDA, NVS, NWL, ON, ORCL, ORLY, OXY, PCG, PEP, PHM, POST, PRGO, PWR, QCOM, QQQ, RIO, SBNY, SBUX, SIVBQ, SLV, SNY, SPY, T, TDG, TEVA, TFC, THC, TLT, TMUS, TRGP, TSLA, TXN, UAA, UNH, USB, VCSH, VFC, VICI, VNO, VST, VZ, WDC, WFC, WRK, WYNN, X, XOM, ZION, ZTS.

The Vector Model is described further in the FAQ and Blog of vecviz.com.

Sigma Details

The core of Sigma, as presented alongside Vector Model output by VecViz, is the standard deviation of price-based returns that very likely gets discussed in any introductory book on risk or portfolio management. This is the same definition of volatility that is utilized in the Black Scholes option pricing formula. Sigma's flaws as an estimate of forward volatility are well documented. Nevertheless, it remains perhaps the most popular metric for "risk" when it comes to investments, likely because of its simplicity and familiarity.

We present Sigma based on daily logarithmic price returns (akin to % changes in price), and a lookback period of two years. To enhance Sigma's accuracy, we apply a 6-month half-life rate of decay to the weightings applied to the daily returns used to calculate Sigma. This weighting scheme causes the most recent 6 month period to be weighted 8x the least recent 6 month period in the 2 year look back window.

Sigma is converted to probabilities by applying multipliers associated with the standard normal (i.e. Gaussian) distribution with a mean of 0 and sigma of 1.00. Thus, 95% VaR is assumed to be-1.645 sigma's lower than the current price and 99% VaR is presumed to be-2.326 sigma's lower than the current price.

Sigma based probability percentiles for longer time horizons are obtained by multiplying Sigma calculated from daily closing prices by the square root of the number of trading days in the given horizon. In doing so, we are assuming daily returns are independent and identically distributed. So, for example, the multiplier that converts daily horizon sigma to 1 year horizon sigma is the square root of 252 (~15.9).

All calculations for Sigma are based on the same pricing data obtained from QuoteMedia data used to calculate Vector Model VaR.

All Sigma estimates discussed in this report are for dates beyond January 31, 2022, the end of the training period for the Vector Model. See the Appendix for the derivation of 0.657 as the Sigma multiplier that is used to calculate Sigma EUB and Sigma EDB.

Using this report

This report is ~200 pages long. Some tips to help you navigate: 1) Clicking on the page headings in the Table of Contents will instantly take you to the corresponding page.
2) Use Ctrl-F to search for tickers of interest, to see what Top/Bottom contributor lists they land on, and for what horizons 3) Click Ctrl-Home to return to the Table of Contents

Important considerations about the analytics and performance metrics presented in this report:

1) Past performance is no guarantee of future results. None of the content in this report is investment advice or an offer to buy or sell securities. VecViz is not a SEC investment advisor or broker-dealer. The staff of VecViz actively transacts in securities tied to many of the tickers discussed in this report.
   See VecViz's Terms and Conditions for more context and detail at https://vecviz.com/terms-and-conditions/
2) Read ""Let me warn you…" of the limitations of VecViz's Analytics.", a blog entry on vecviz.com (https://vecviz.com/let-me-warn-you-of-the-limitations-of-vecvizs-analytics/)
3) There are many volatility models that the Vector Model could be compared to beyond Sigma. Thus, even if this report causes you to conclude that the Vector Model's Expected Body metrics outperforms Sigma Expected Body metrics, you should not necessarily conclude that Vector Model Expected Body metrics are the best for your purposes. See the discussion of some of the other types of volatilty models in this blog for more detail, as Expected Body metrics could likely be calculated from them as well: https://vecviz.com/an-llms-comparison-of-vecviz-to-established-vol-models/
4) All MAE and ROEUB and ROEDB performance statistics are as of the end of the horizon only. All interim price movement is ignored.
5) Clearly, all horizons > 1d overlap when considered on a daily basis. Please note that the volatility of overlapping periodic returns is understated, because each observation shares return experience with other observations for such time horizons.
   Thus, we advise against considering any perceived volatility or volatility related metrics for multi-day horizons in isolation, including p-values for alpha and beta statistics. However, we do believe that their use is valid for comparing the Vector Model to Sigma, whose multi-day horizon ROLOBC returns are calculated similarly.

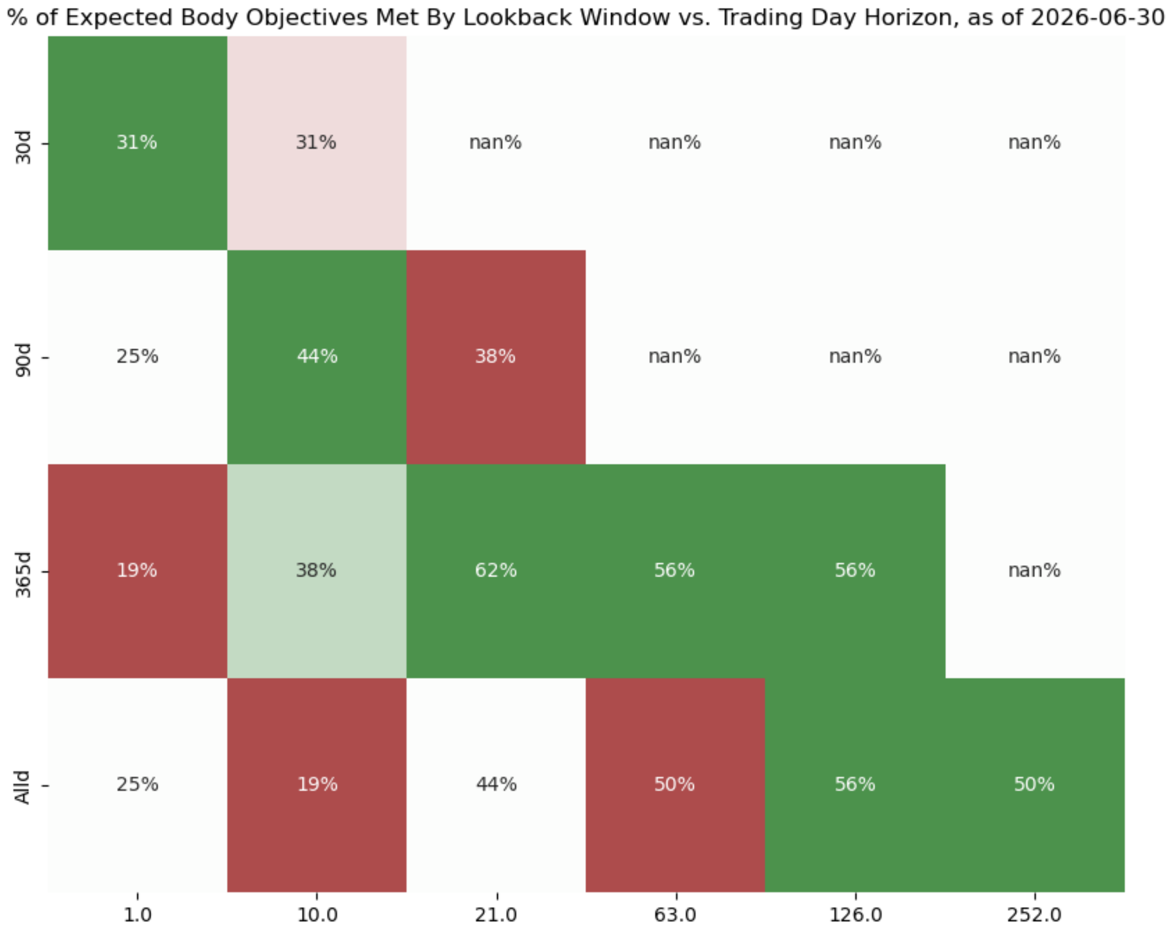
6) We are not considering transaction costs. The turnover and therefore transaction costs experienced by Vector Model ROEUB or ROEDB based investors resulting in the change in the ratio between Vector Model and Sigma ROEUB or ROEDB is completely ignored.

7) We are not incorporating any financing charges or margin-related costs for implied “levered” ROEUB or ROEDB positions.

Thus, in summary, all metrics presented in this report are presented and are to be considered on a comparative basis. Are Vector Model breakage rates closer to target than Sigma’s? Does Vector Model ROEUB or ROEDB outperform Sigma ROEUB or ROEDB? Is the relative performance driven by alpha or beta? By timing or ticker selection? What tickers contribute or detract the most from the relative performance? These are the questions this report is structured to answer.

Expected Body Objectives "Report Card"

Period examined: AllD = 2022-01-31 through 2026-06-29 while 365D /90D/ 30D include the 365/90/30 days ended 2026-06-29, respectively.



EB Criteria	Average Score(%)
1. Smaller EUB MAE (mean absolute error)	0
2. Smaller EUB MAE after 95%tile adjustment	0
3. Less adjusted EUB MAE Variability across dates	12.5
4. Less adjusted EUB MAE Variability across tickers	18.75
5. Smaller EDB MAE	50
6. Smaller EDB MAE after 95%tile adjustment	56.25
7. Less adjusted EDB MAE Variability across dates	18.75
8. Less adjusted EDB MAE Variability across tickers	43.75
9. Greater ROEUB	50

EB Criteria	Average Score(%)
10. Greater ROEUB after adjusting for EUB magnitude	56.25
11. ROEUB alpha across tickers and dates > 0	56.25
12. ROEUB alpha across dates > 0	37.5
13. Greater ROEDB	87.5
14. Greater ROEDB after adjusting for EDB magnitude	68.75
15. ROEDB alpha across tickers and dates > 0	6.25
16. ROEDB alpha across dates > 0	81.25
Overall Average	40.23

EB and ROEB Criteria by Fwd Hzn	1D	10D	21D	63D	126D	252D
1. Smaller EUB MAE (mean absolute error)	0	0	0	0	0	0
2. Smaller EUB MAE after 95%tile adjustment	0	0	0	0	0	0
3. Less adjusted EUB MAE Variability across dates	0	0	33.33	50	0	0
4. Less adjusted EUB MAE Variability across tickers	25	25	33.33	0	0	0
5. Smaller EDB MAE	0	25	66.67	100	100	100
6. Smaller EDB MAE after 95%tile adjustment	0	75	66.67	100	100	0
7. Less adjusted EDB MAE Variability across dates	0	0	33.33	0	50	100
8. Less adjusted EDB MAE Variability across tickers	50	25	66.67	50	50	0
9. Greater ROEUB	25	25	33.33	100	100	100
10. Greater ROEUB after adjusting for EUB magnitude	25	25	66.67	100	100	100
11. ROEUB alpha across tickers and dates > 0	25	25	66.67	100	100	100
12. ROEUB alpha across dates > 0	50	75	33.33	0	0	0
13. Greater ROEDB	75	75	100	100	100	100
14. Greater ROEDB after adjusting for EDB magnitude	50	50	100	50	100	100
15. ROEDB alpha across tickers and dates > 0	0	25	0	0	0	0
16. ROEDB alpha across dates > 0	75	75	66.67	100	100	100
TotalScore	25	32.81	47.92	53.12	56.25	50

EB and ROEB Criteria by Lookback Window	30D	90D	365D	AllD
1. Smaller EUB MAE (mean absolute error)	0	0	0	0
2. Smaller EUB MAE after 95%tile adjustment	0	0	0	0
3. Less adjusted EUB MAE Variability across dates	0	33.33	20	0
4. Less adjusted EUB MAE Variability across tickers	0	0	60	0
5. Smaller EDB MAE	0	66.67	60	50
6. Smaller EDB MAE after 95%tile adjustment	50	66.67	80	33.33
7. Less adjusted EDB MAE Variability across dates	0	0	0	50
8. Less adjusted EDB MAE Variability across tickers	0	33.33	100	16.67
9. Greater ROEUB	100	0	40	66.67
10. Greater ROEUB after adjusting for EUB magnitude	100	0	60	66.67
11. ROEUB alpha across tickers and dates > 0	100	0	60	66.67
12. ROEUB alpha across dates > 0	100	66.67	40	0
13. Greater ROEDB	0	100	100	100
14. Greater ROEDB after adjusting for EDB magnitude	0	100	40	100
15. ROEDB alpha across tickers and dates > 0	0	33.33	0	0
16. ROEDB alpha across dates > 0	50	66.67	80	100
TotalScore	31.25	35.42	46.25	40.62

See the prior page for associated definitions of the criteria.

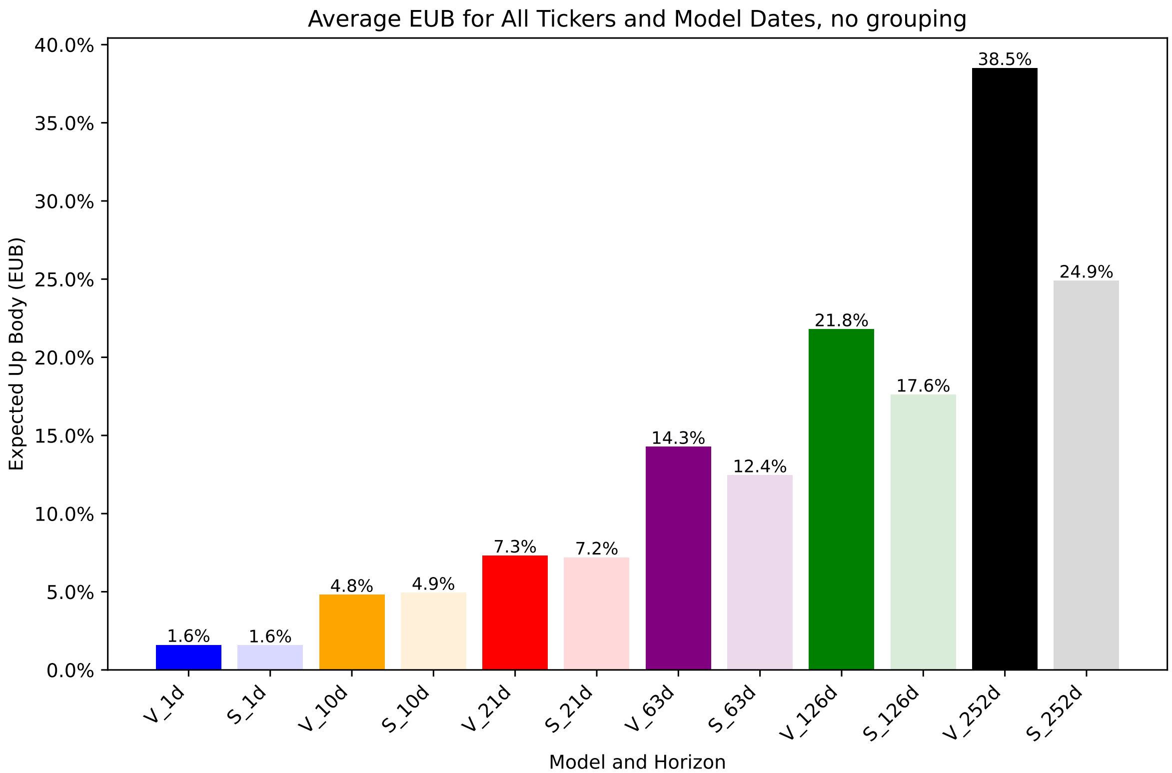
Expected Up Body (EUB)

Historic Average Levels

Here we compare Vector Model ("V", dark shading) and Sigma ("S", light shading) EUB levels by horizon, on average across all ticker-model dates for the lookback window indicated.

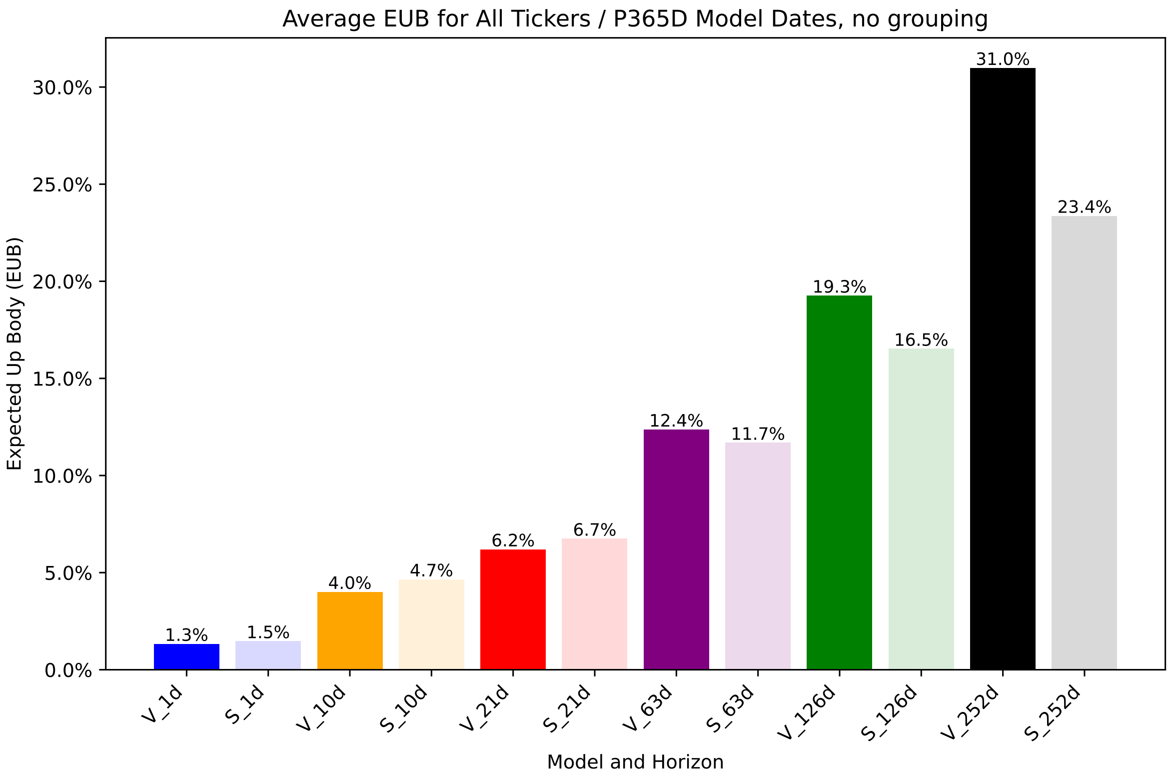
All Out of Sample Model Dates

Period examined: All model dates from 2022-01-31 through 2026-06-29



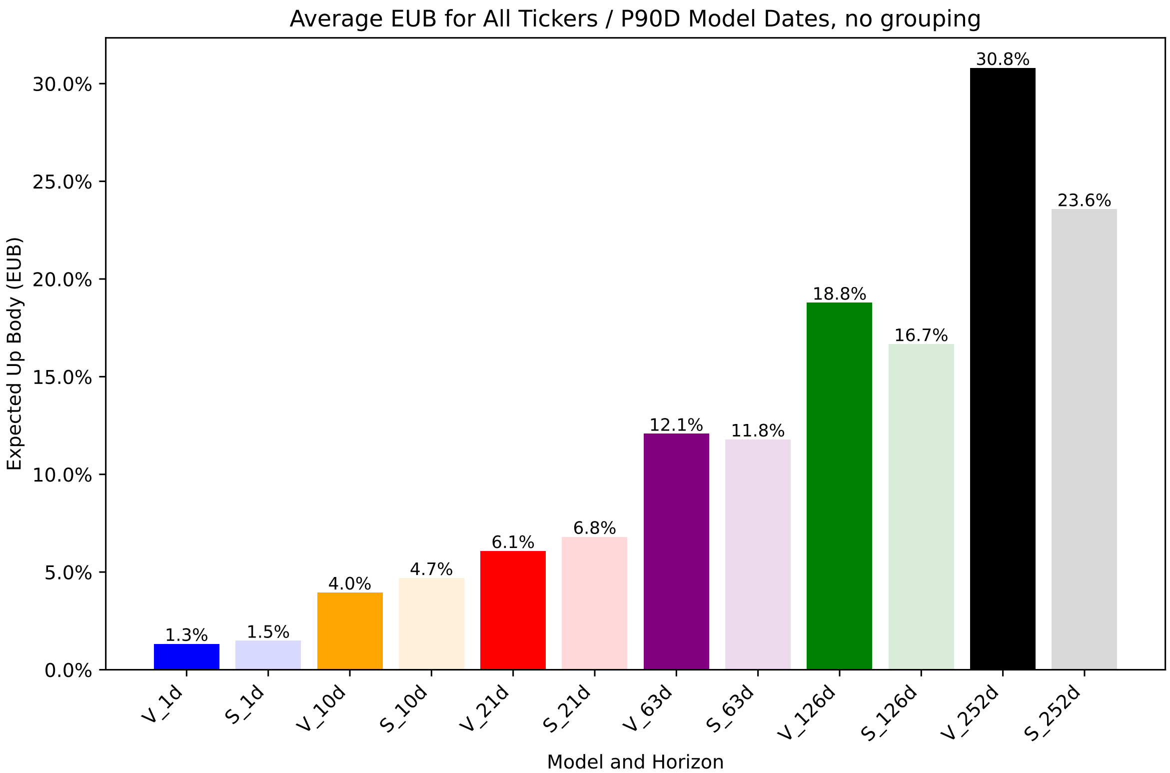
Prior 365 Calendar Days (P365D)

Period examined: All model dates from 2025-07-01 through 2026-06-29



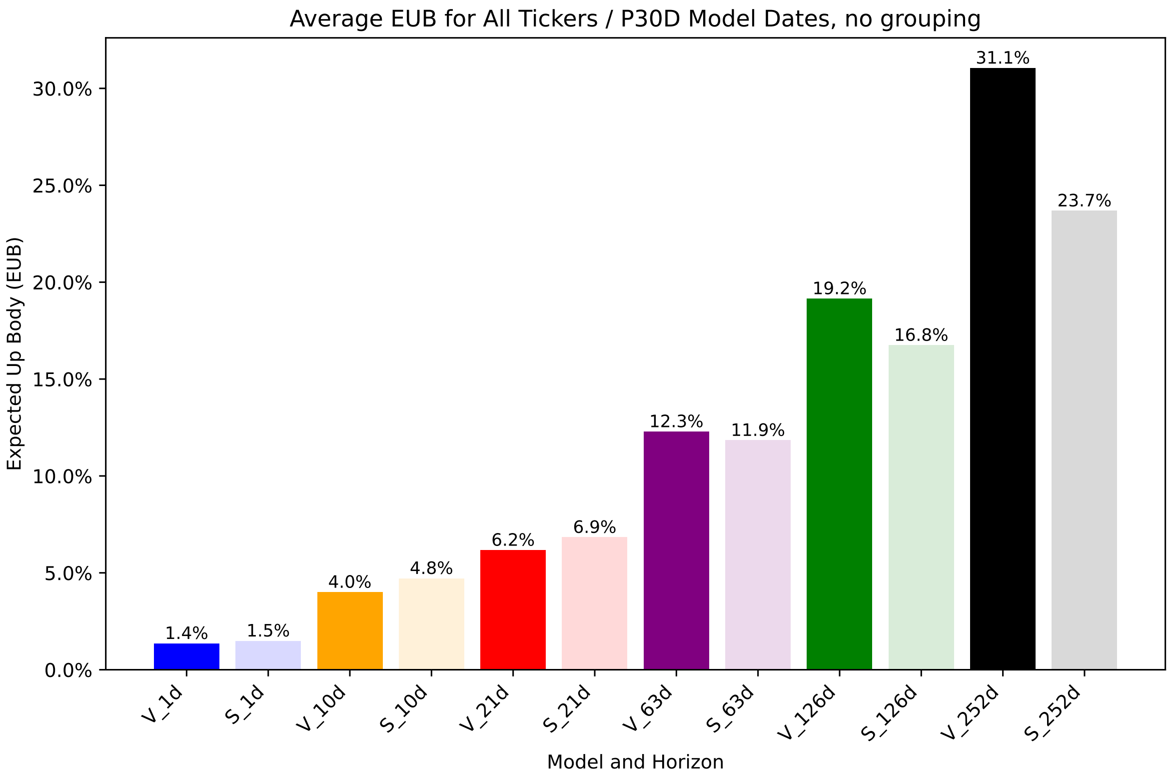
Prior 90 Calendar Days (P90D)

Period examined: All model dates from 2026-04-02 through 2026-06-29



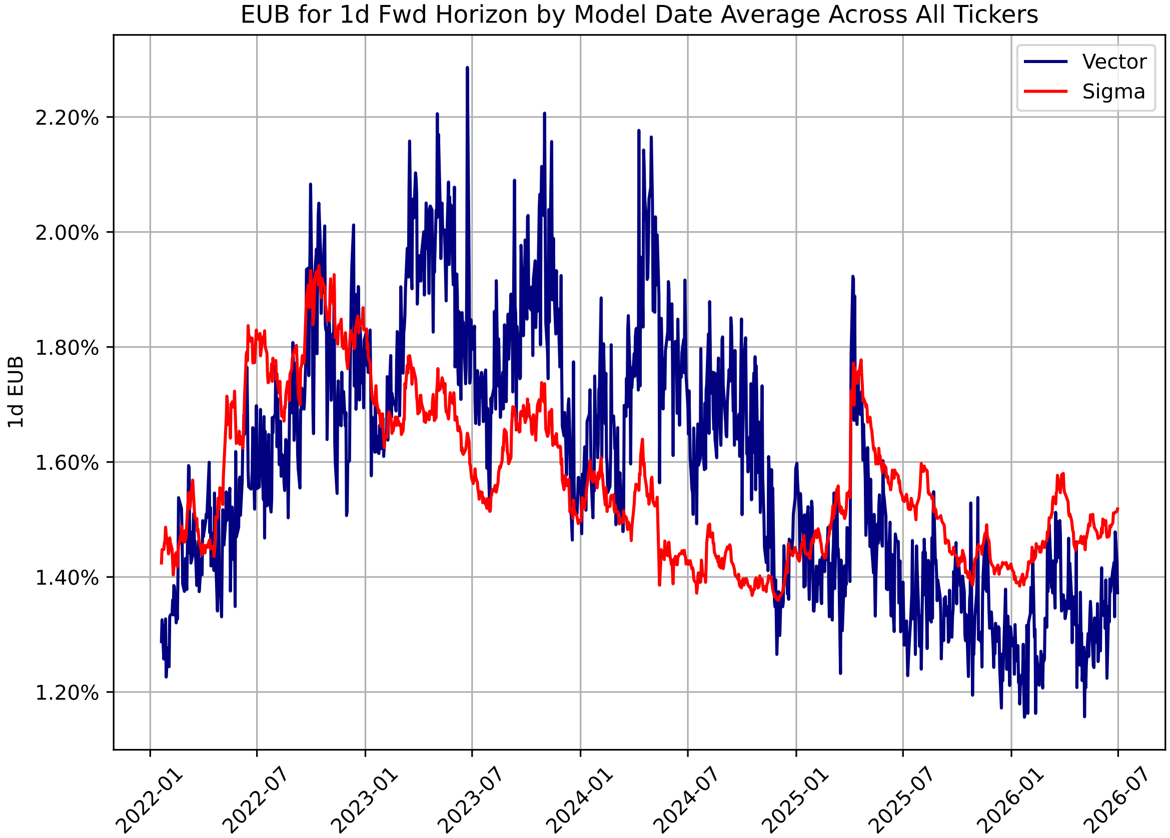
Prior 30 Calendar Days (P30D)

Period examined: All model dates from 2026-06-01 through 2026-06-29

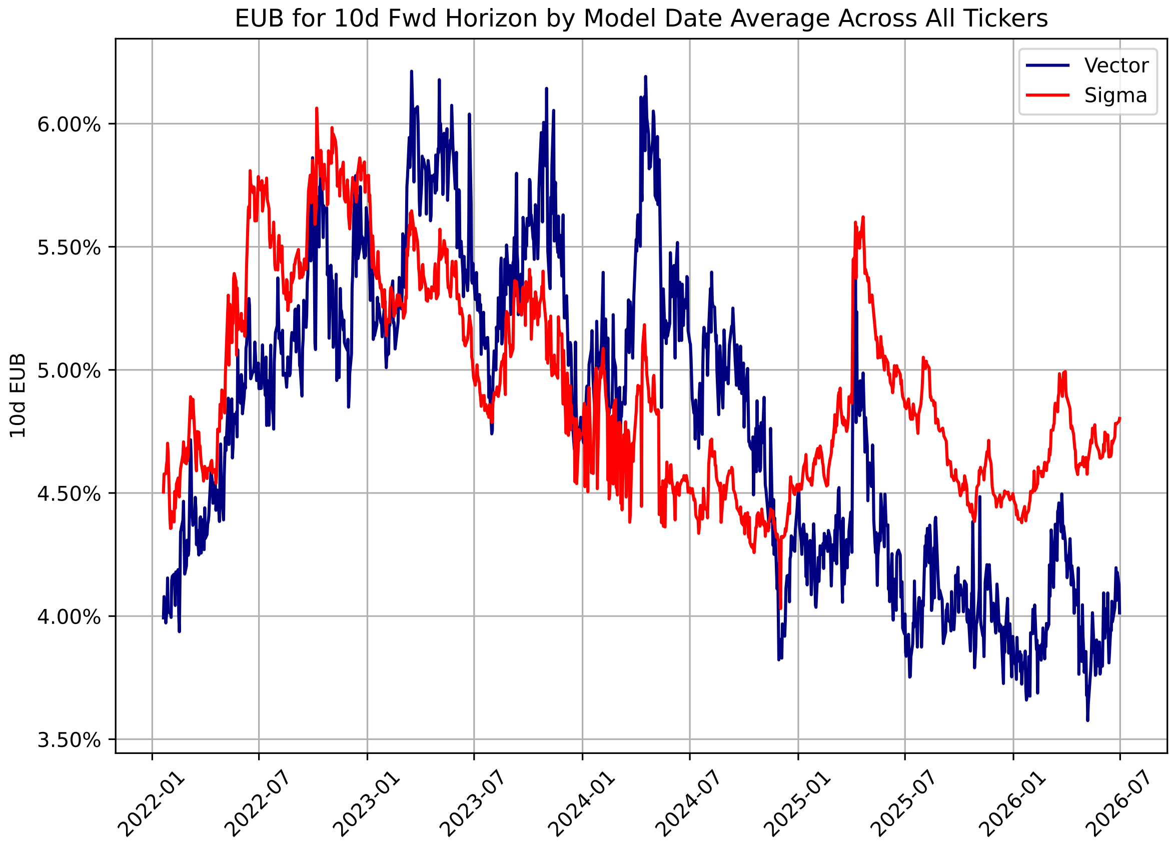


EUB by Model Date Detail

1d Horizon

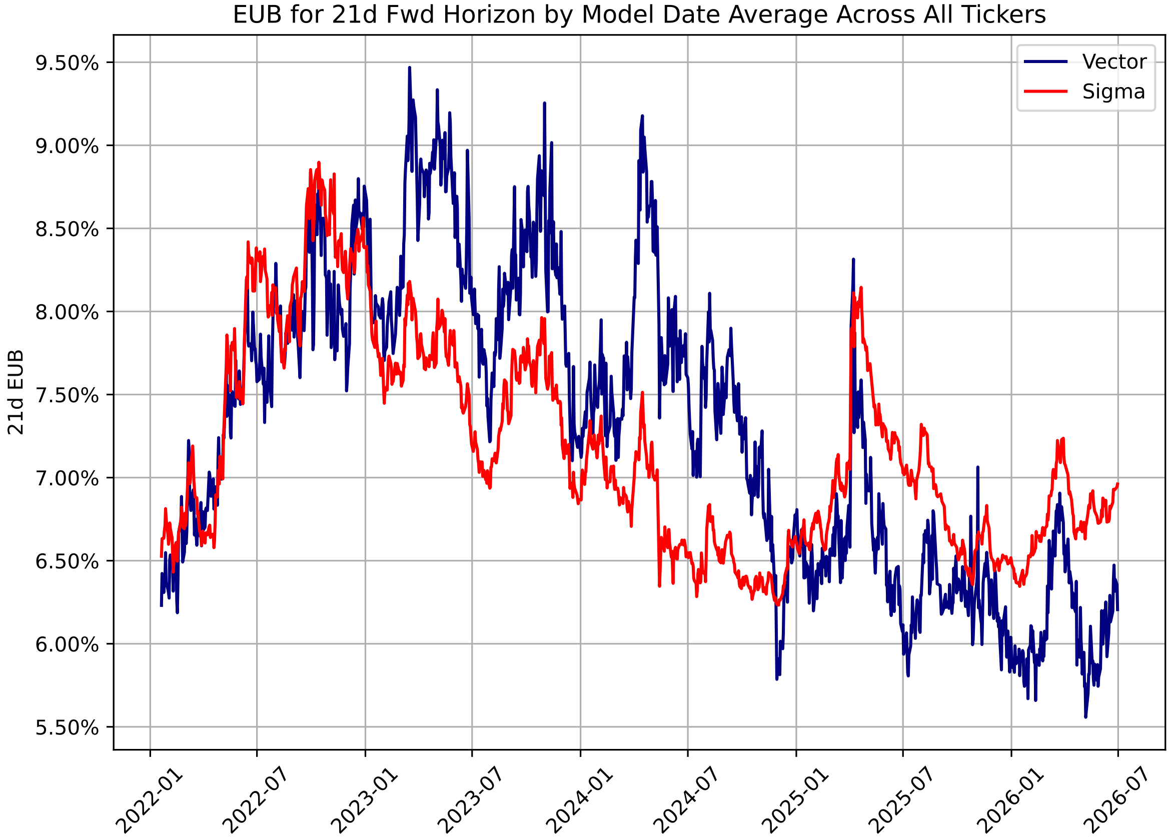


10d Horizon



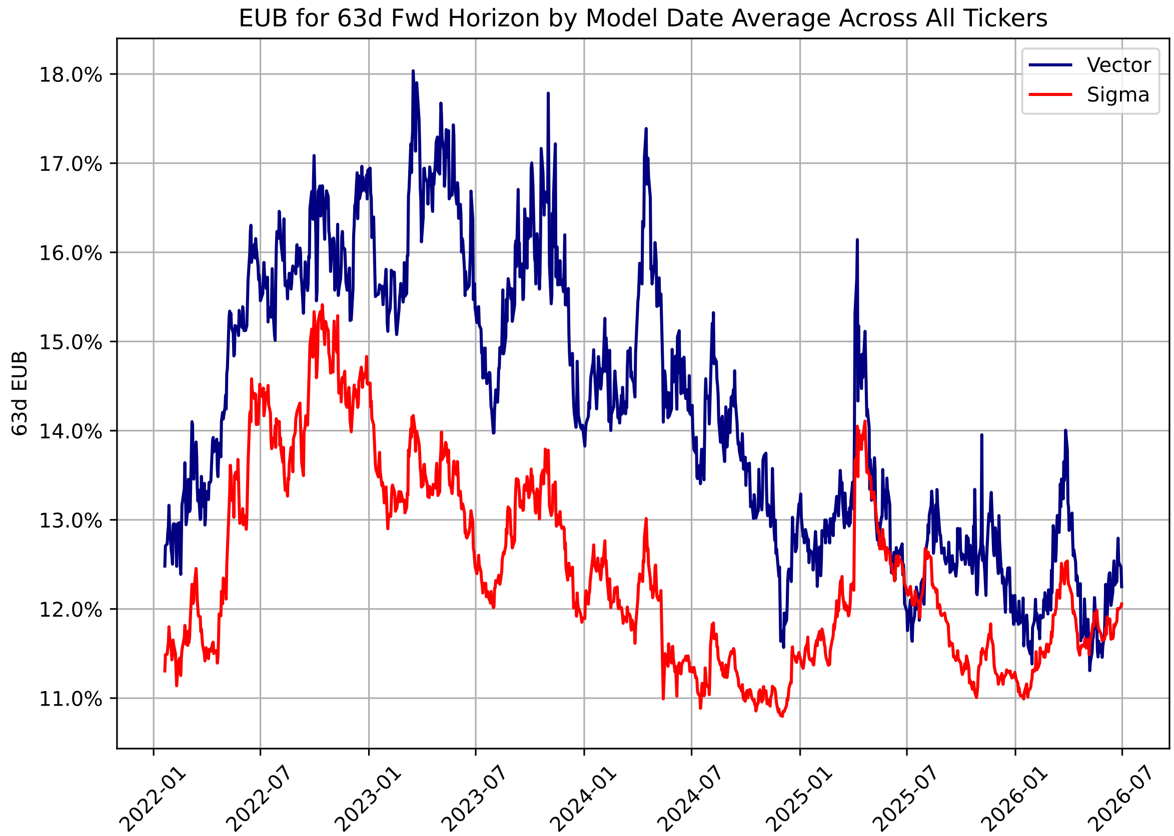
EUB for 10d Fwd Horizon by Model Date Average Across All Tickers
Vector
Sigma
10d EUB
6.00%
5.50%
5.00%
4.50%
4.00%
3.50%
2022-01
2022-07
2023-01
2023-07
2024-01
2024-07
2025-01
2025-07
2026-01
2026-07

21d Horizon

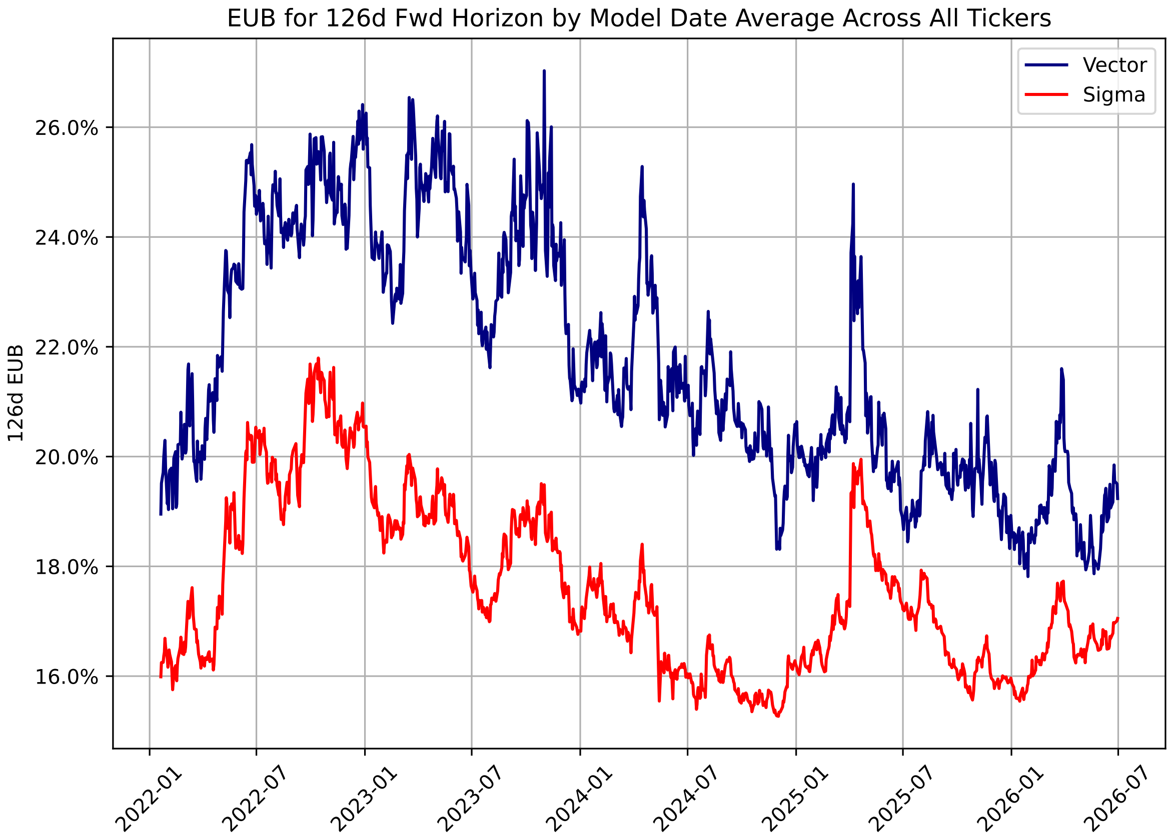


EUB for 21d Fwd Horizon by Model Date Average Across All Tickers
Vector
Sigma
21d EUB
9.50%
9.00%
8.50%
8.00%
7.50%
7.00%
6.50%
6.00%
5.50%
2022-01
2022-07
2023-01
2023-07
2024-01
2024-07
2025-01
2025-07
2026-01
2026-07

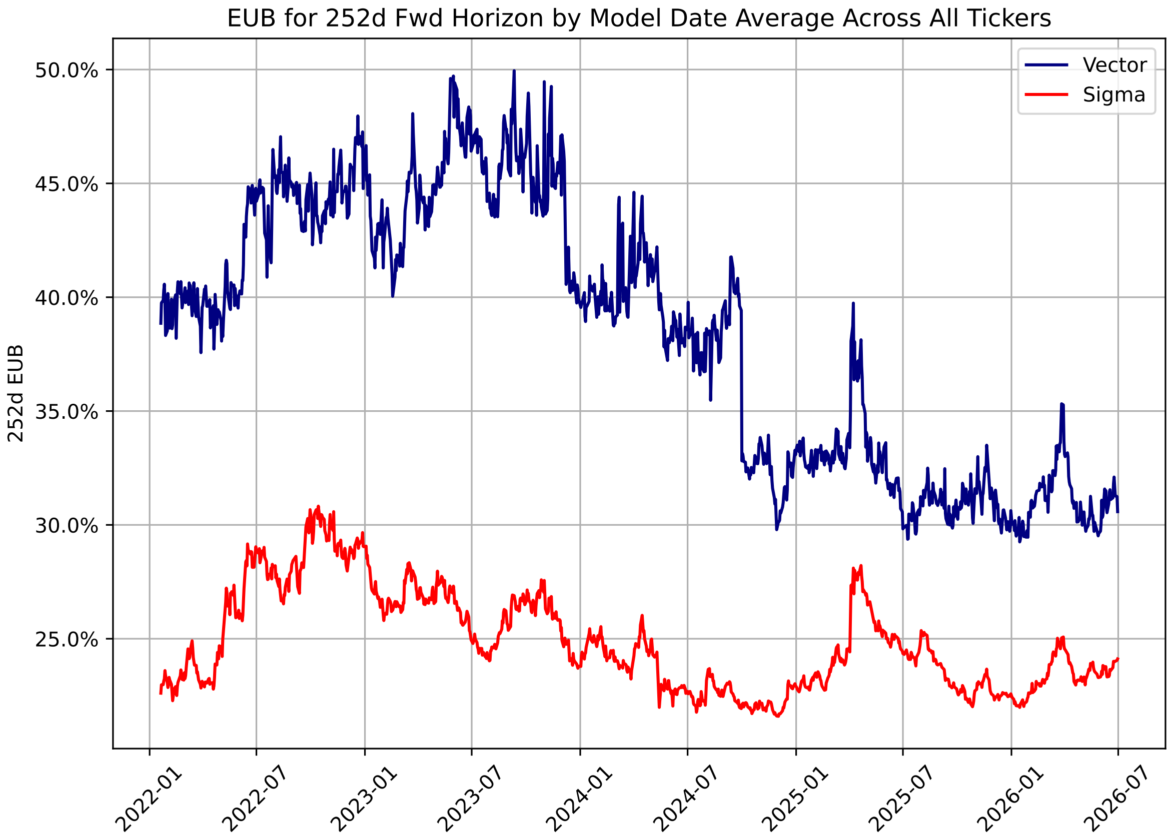
63d Horizon


EUB for 63d Fwd Horizon by Model Date Average Across All Tickers
Vector
Sigma
63d EUB
18.0%
17.0%
16.0%
15.0%
14.0%
13.0%
12.0%
11.0%
2022-01
2022-07
2023-01
2023-07
2024-01
2024-07
2025-01
2025-07
2026-01
2026-07

126d Horizon



252d Horizon



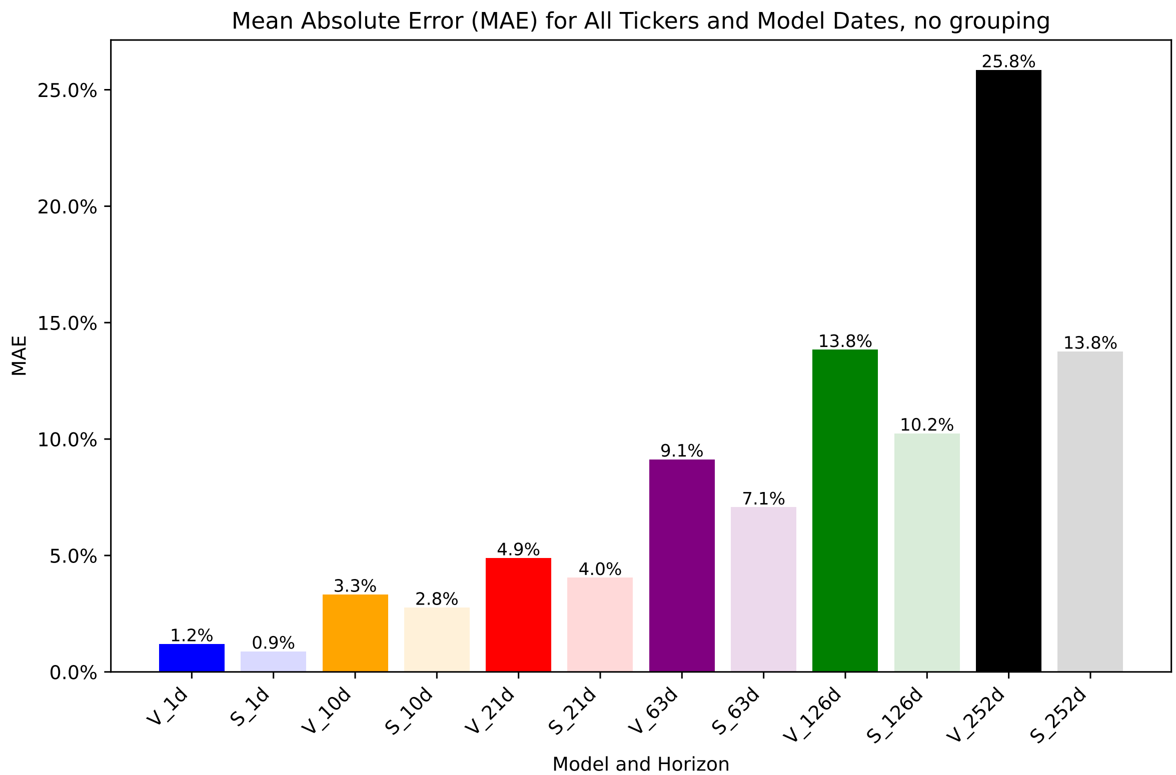
Performance Summary - MAE of EUB vs. Actual Fwd Returns

We use Mean Absolute Error (MAE) to assess how accurate Vector Model EB metrics are relative to those based upon Sigma.

Performance includes only those ticker - model dates whose foward performance is directionally “up” but inside of the 95th %tile forecasted for given model. Thus, these statistics are not perfectly comparable across models, or even horizons. Consider them alongside each model’s breakage rates for the 95U percentile (i.e., OaR breakage rates).

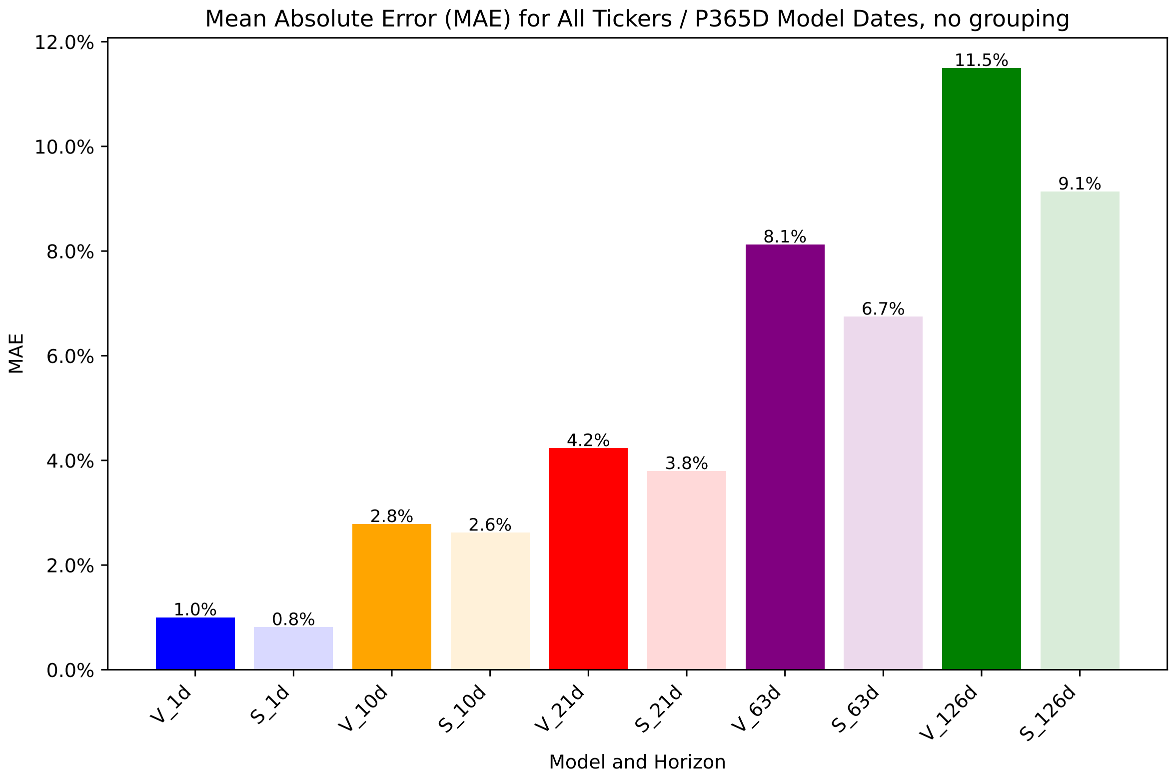
All Out of Sample Model Dates

Period examined: All model dates from 2022-01-31 through 2026-06-29



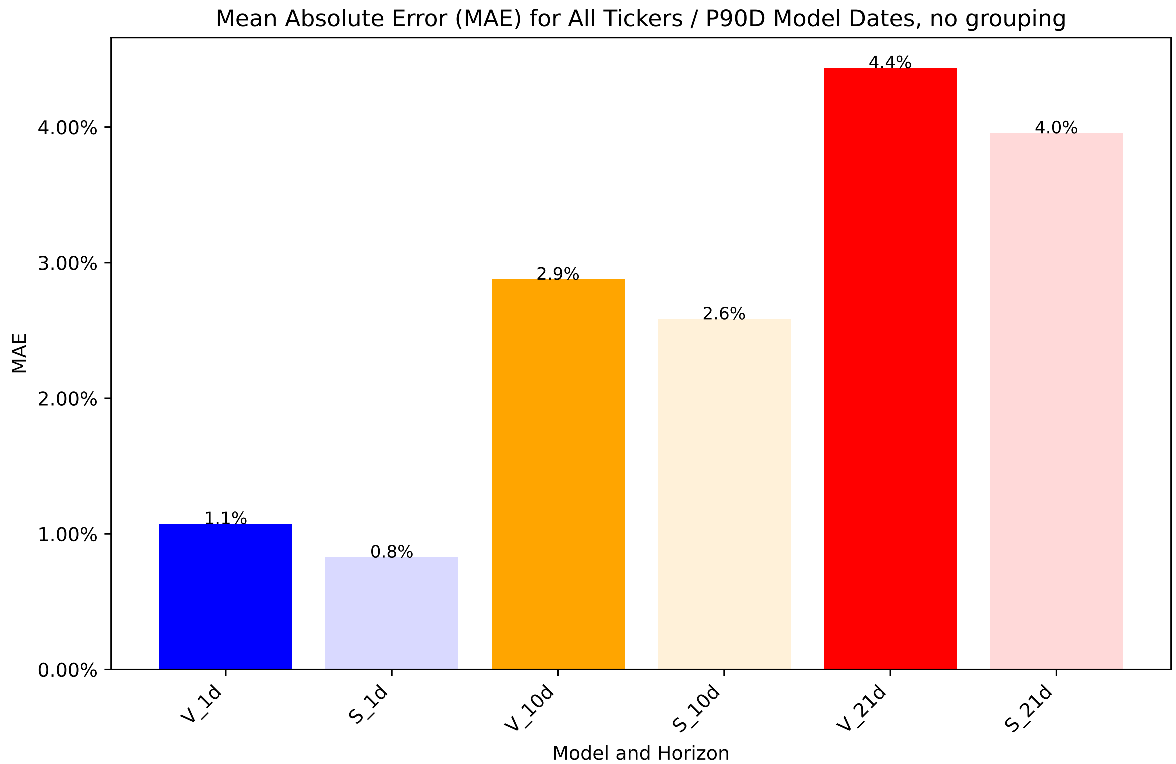
Prior 365 Calendar Days (P365D)

Period examined: All model dates from 2025-07-01 through 2026-06-29



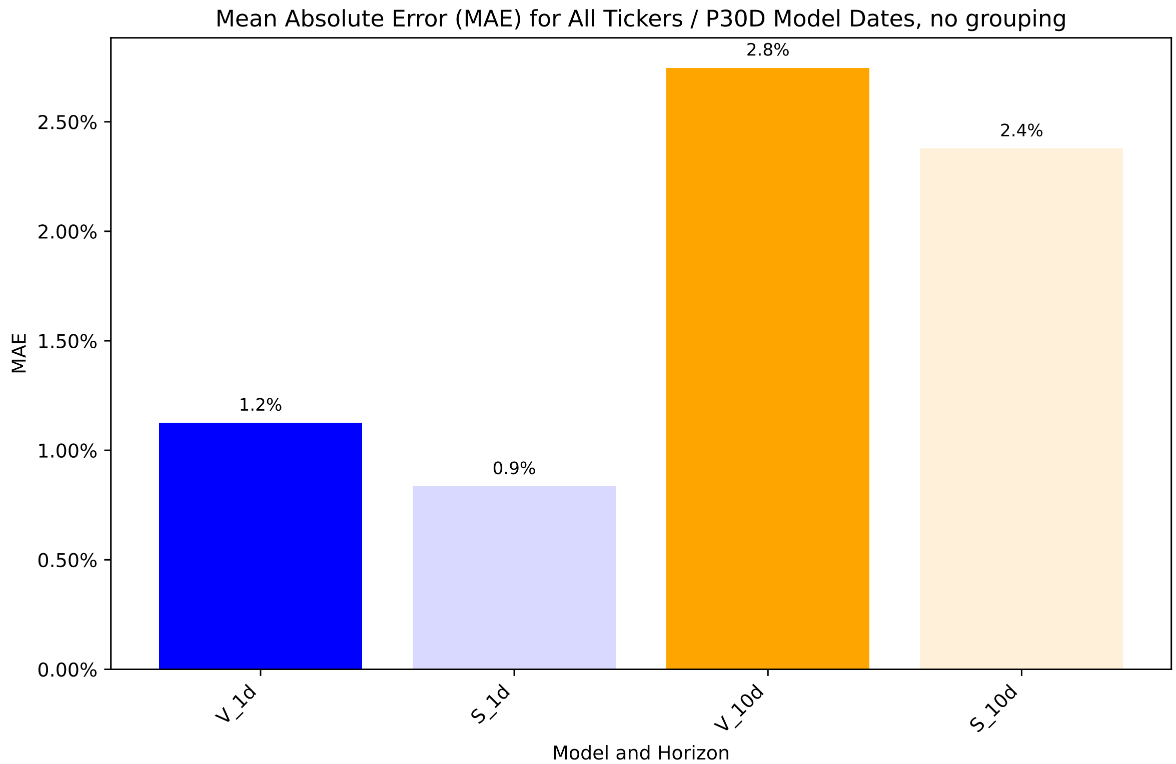
Prior 90 Calendar Days (P90D)

Period examined: All model dates from 2026-04-02 through 2026-06-29



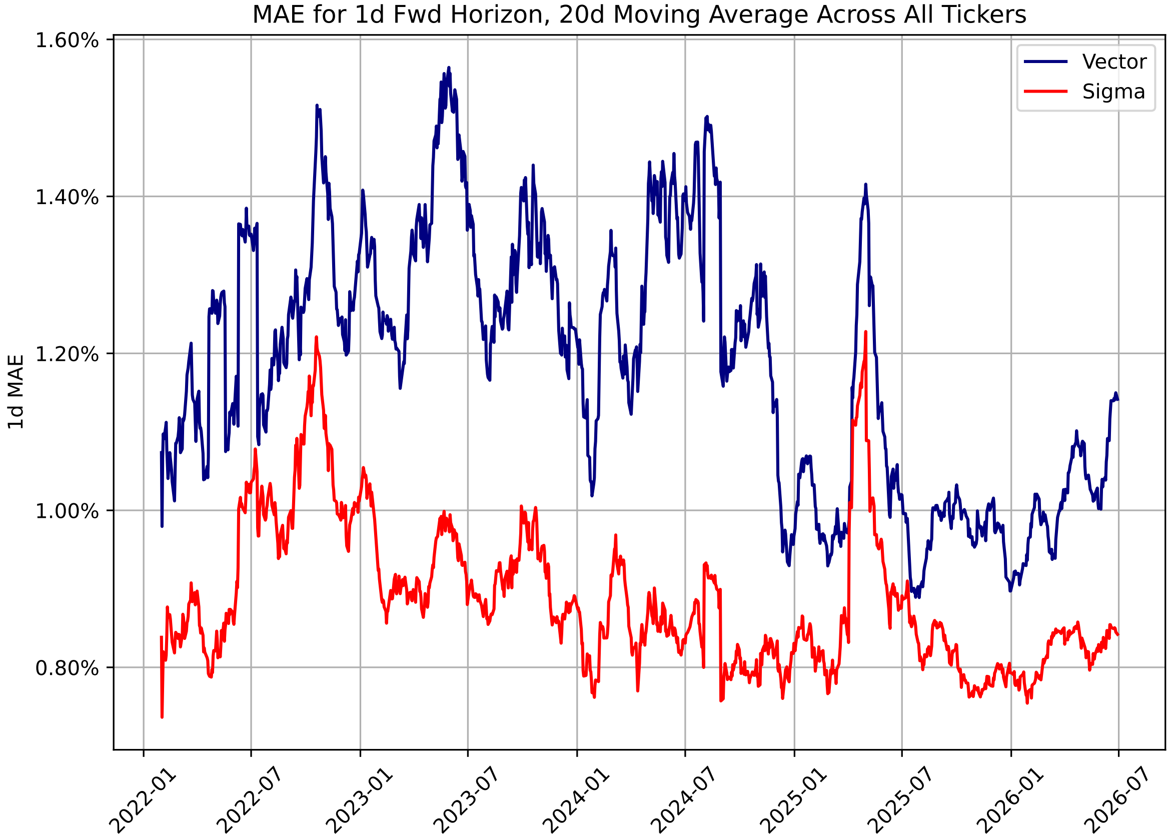
Prior 30 Calendar Days (P30D)

Period examined: All model dates from 2026-06-01 through 2026-06-29

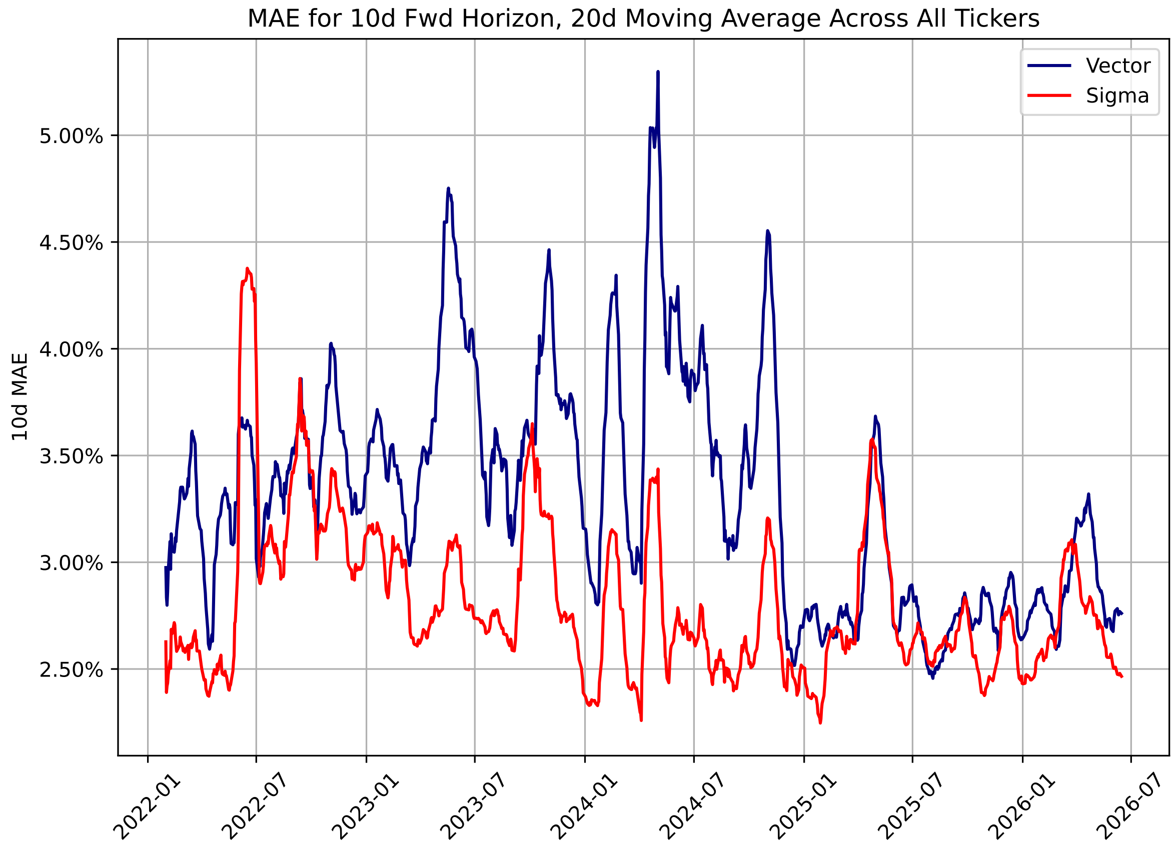


MAE by Model Date Detail

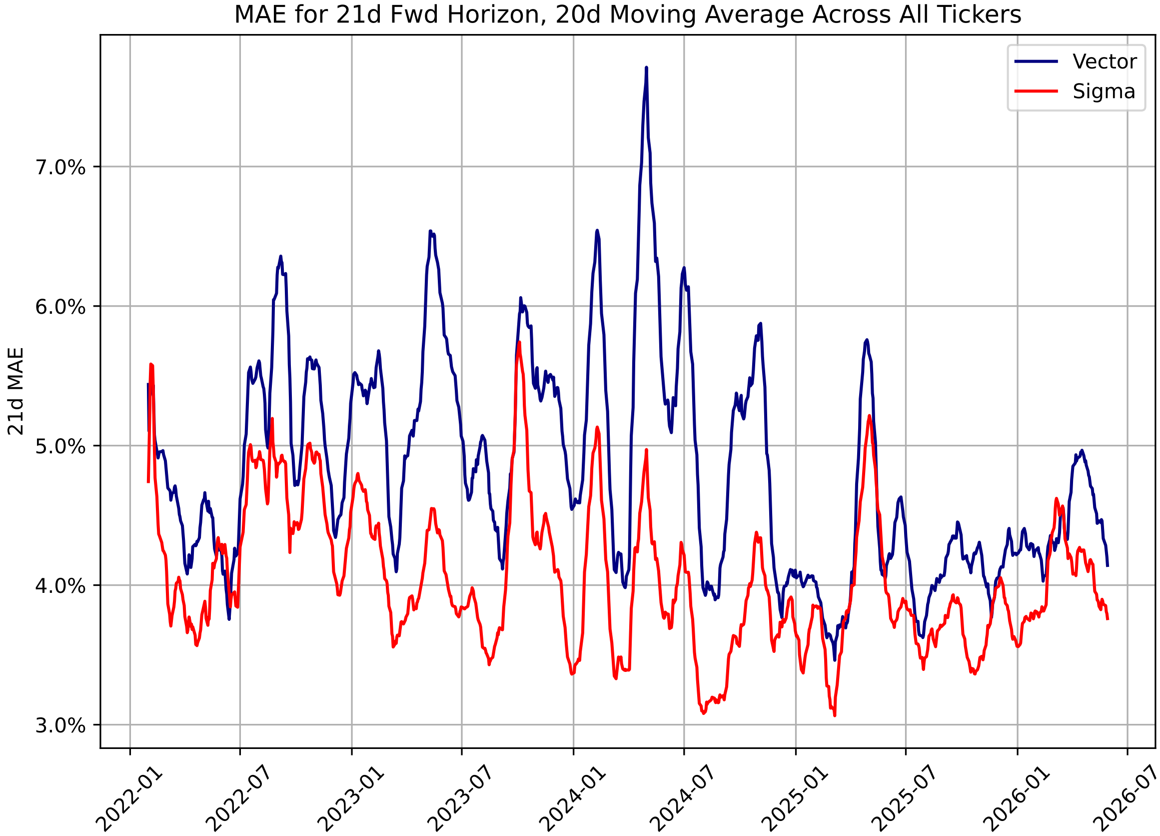
1d Horizon



10d Horizon

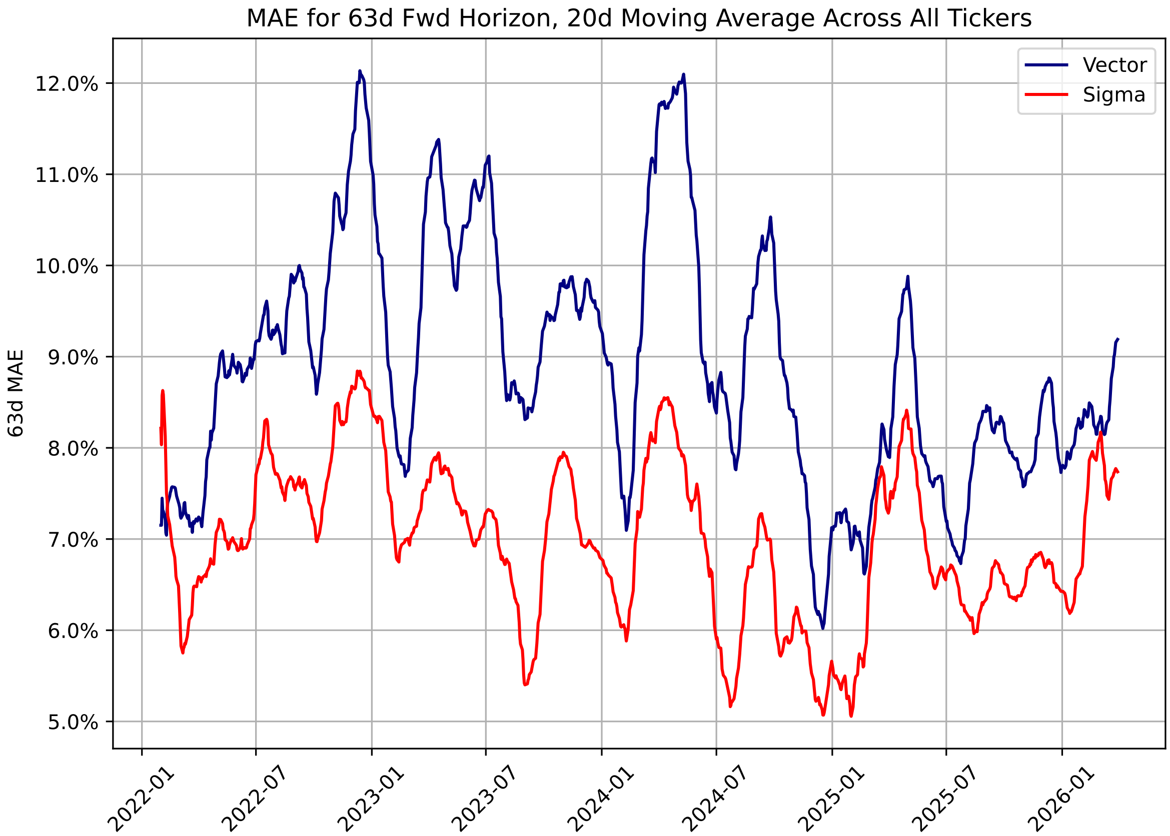

MAE for 10d Fwd Horizon, 20d Moving Average Across All Tickers
Vector
Sigma
10d MAE
5.00%
4.50%
4.00%
3.50%
3.00%
2.50%
2022-01
2022-07
2023-01
2023-07
2024-01
2024-07
2025-01
2025-07
2026-01
2026-07

21d Horizon

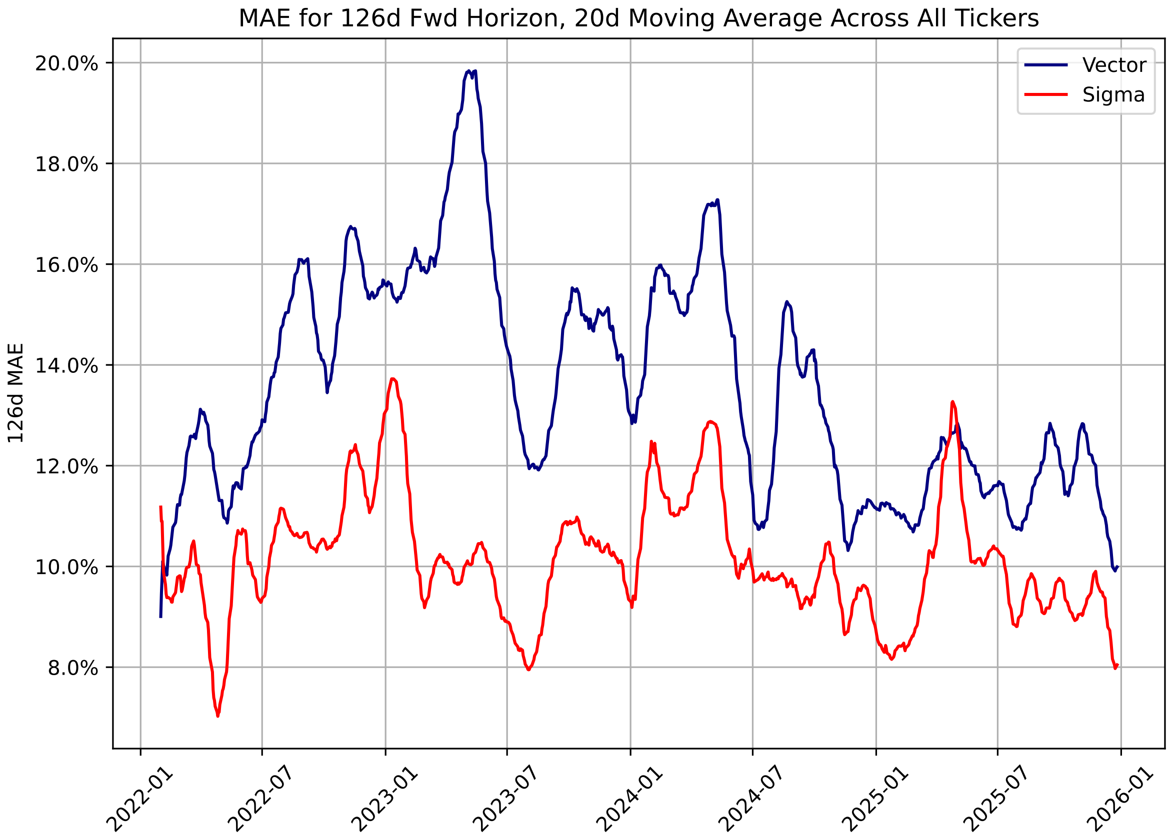


MAE for 21d Fwd Horizon, 20d Moving Average Across All Tickers
Vector
Sigma
21d MAE
7.0%
6.0%
5.0%
4.0%
3.0%
2022-01
2022-07
2023-01
2023-07
2024-01
2024-07
2025-01
2025-07
2026-01
2026-07

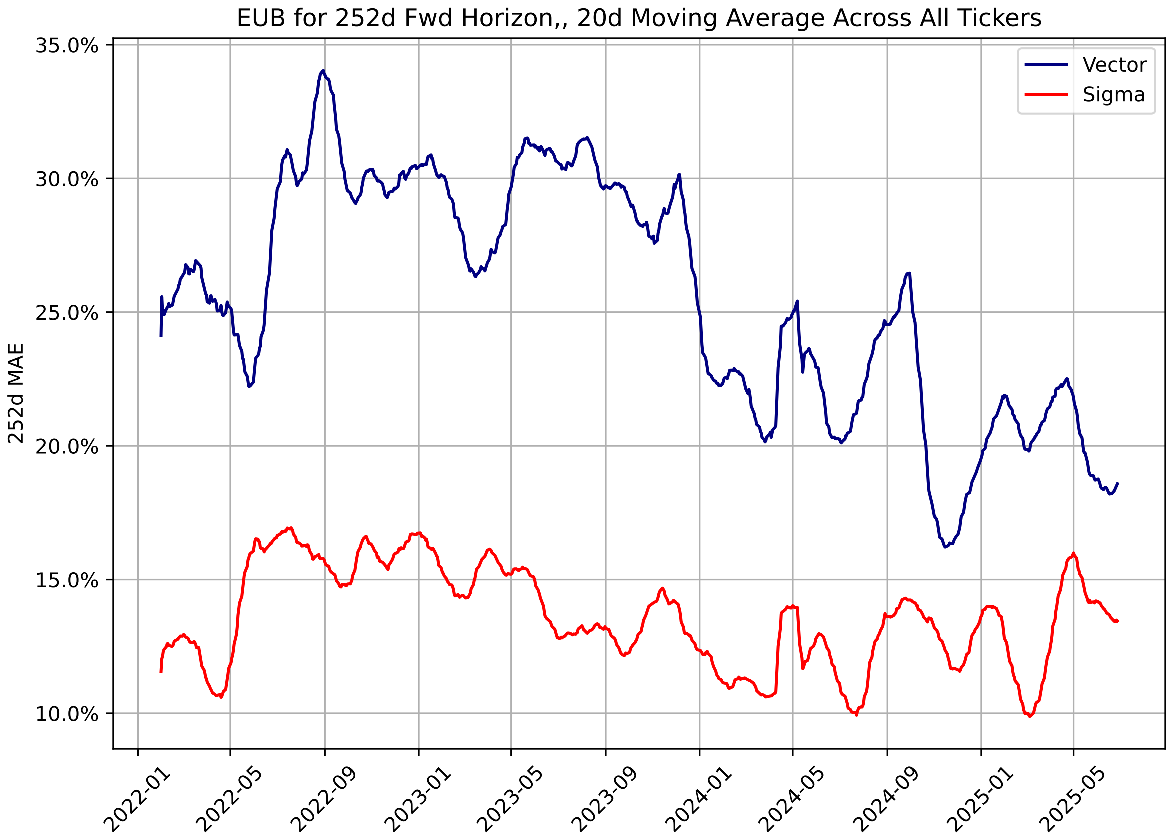
63d Horizon


MAE for 63d Fwd Horizon, 20d Moving Average Across All Tickers
Vector
Sigma
63d MAE
12.0%
11.0%
10.0%
9.0%
8.0%
7.0%
6.0%
5.0%
2022-01
2022-07
2023-01
2023-07
2024-01
2024-07
2025-01
2025-07
2026-01

126d Horizon



252d Horizon



Top 30 Tickers By EUB MAE

All TMD: 1d

Results reflect ticker level average EUB MAE across all model dates for which actual results for the stated horizon are known and for which the actual results fit the contingencies of the “EUB” metric - positive performance within the expected 95%tile.

Period examined: All model dates from 2022-01-31 through 2026-06-29

Horizon	Ticker_V	EUB-MAE_V	Ticker_S	EUB-MAE_S
1.0	AMC	10.41%	AMC	9.39%
1.0	LUMN	6.82%	GME	3.13%
1.0	IEP	6.33%	CYH	2.6%
1.0	TSLA	3.86%	LUMN	2.32%
1.0	ELAN	3.83%	MSTR	2.13%
1.0	CYH	3.75%	GBTC	1.9%
1.0	BHC	2.91%	BHC	1.73%
1.0	NWL	2.78%	IEP	1.5%
1.0	CCL	2.46%	CTLT	1.49%
1.0	GBTC	2.42%	UAA	1.48%
1.0	VNO	2.2%	NWL	1.46%
1.0	CZR	2.19%	TSLA	1.43%
1.0	GNRC	2.07%	VFC	1.42%
1.0	GT	2.03%	CLF	1.4%
1.0	MSTR	2.0%	GT	1.37%
1.0	UAA	1.89%	SIVBQ	1.36%
1.0	T	1.85%	AA	1.35%
1.0	NVDA	1.82%	CCL	1.31%
1.0	BXP	1.82%	CZR	1.31%
1.0	AVGO	1.71%	AAP	1.27%
1.0	MOS	1.68%	SBNY	1.22%
1.0	LNC	1.67%	AMD	1.21%
1.0	X	1.57%	GNRC	1.21%
1.0	AMD	1.55%	ON	1.17%
1.0	ON	1.5%	MU	1.15%
1.0	MU	1.47%	ELAN	1.09%
1.0	AMAT	1.44%	NVDA	1.09%
1.0	INTC	1.44%	X	1.09%
1.0	MSFT	1.43%	WDC	1.09%
1.0	ETRN	1.43%	LNC	1.09%

All TMD: 10d

Results reflect ticker level average EUB MAE across all model dates for which actual results for the stated horizon are known and for which the actual results fit the contingencies of the "EUB" metric - positive performance within the expected 95%tile.

Period examined: All model dates from 2022-01-31 through 2026-06-29

Horizon	Ticker_V	EUB-MAE_V	Ticker_S	EUB-MAE_S
10.0	AMC	40.35%	AMC	29.37%
10.0	LUMN	18.18%	GME	9.71%
10.0	IEP	13.92%	LUMN	7.92%
10.0	TSLA	9.69%	CYH	7.18%
10.0	ELAN	9.2%	MSTR	7.02%
10.0	BHC	8.18%	BHC	5.89%
10.0	NWL	8.0%	GBTC	5.43%
10.0	CYH	7.88%	UAA	4.75%
10.0	GBTC	7.28%	SIVBQ	4.75%
10.0	CZR	6.5%	NWL	4.71%
10.0	GT	6.25%	IEP	4.58%
10.0	CCL	5.99%	AA	4.37%
10.0	GNRC	5.87%	TSLA	4.36%
10.0	NVDA	5.81%	CLF	4.34%
10.0	MSTR	5.55%	GT	4.34%
10.0	AMD	5.28%	CZR	4.3%
10.0	LNC	5.07%	VFC	4.23%
10.0	UAA	4.9%	CCL	4.13%
10.0	X	4.81%	SBNY	4.11%
10.0	VNO	4.67%	GNRC	4.06%
10.0	MOS	4.64%	AMD	4.02%
10.0	MSFT	4.44%	CTLT	3.94%
10.0	INTC	4.4%	AAP	3.83%
10.0	BXP	4.35%	INTC	3.81%
10.0	MU	4.33%	MU	3.75%
10.0	AMAT	4.3%	LNC	3.73%
10.0	CLF	4.17%	ON	3.72%
10.0	AVGO	4.12%	NVDA	3.57%
10.0	GME	3.98%	X	3.56%
10.0	ON	3.97%	ELAN	3.51%

All TMD: 21d

Results reflect ticker level average EUB MAE across all model dates for which actual results for the stated horizon are known and for which the actual results fit the contingencies of the "EUB" metric - positive performance within the expected 95%tile.

Period examined: All model dates from 2022-01-31 through 2026-06-29

Horizon	Ticker_V	EUB-MAE_V	Ticker_S	EUB-MAE_S
21.0	AMC	58.97%	AMC	44.71%
21.0	LUMN	21.36%	GME	14.24%
21.0	IEP	18.93%	CYH	11.09%
21.0	ELAN	14.34%	LUMN	10.77%
21.0	TSLA	13.51%	MSTR	10.13%
21.0	BHC	11.49%	GBTC	7.51%
21.0	NWL	10.66%	BHC	7.5%
21.0	CCL	10.49%	UAA	7.35%
21.0	CYH	10.45%	TSLA	7.19%
21.0	CZR	10.32%	SIVBQ	7.04%
21.0	MSTR	10.28%	NWL	7.01%
21.0	GT	9.92%	IEP	6.99%
21.0	GBTC	9.26%	CCL	6.81%
21.0	GNRC	8.38%	VFC	6.7%
21.0	NVDA	8.37%	AMD	6.36%
21.0	AMD	8.09%	CZR	6.28%
21.0	MOS	7.79%	CLF	6.14%
21.0	UAA	7.37%	GT	6.11%
21.0	VNO	7.22%	GNRC	5.87%
21.0	AMAT	7.05%	AA	5.84%
21.0	LNC	6.96%	AAP	5.74%
21.0	X	6.83%	ON	5.72%
21.0	CLF	6.69%	CTLT	5.63%
21.0	ON	6.66%	NVDA	5.45%
21.0	MSFT	6.55%	SBNY	5.33%
21.0	BXP	6.51%	MU	5.3%
21.0	INTC	6.26%	X	5.22%
21.0	MU	6.21%	ELAN	5.16%
21.0	SIVBQ	6.2%	VNO	5.1%
21.0	AVGO	5.94%	WDC	5.03%

All TMD: 63d

Results reflect ticker level average EUB MAE across all model dates for which actual results for the stated horizon are known and for which the actual results fit the contingencies of the "EUB" metric - positive performance within the expected 95%tile.

Period examined: All model dates from 2022-01-31 through 2026-06-29

Horizon	Ticker_V	EUB-MAE_V	Ticker_S	EUB-MAE_S
63.0	AMC	122.28%	AMC	94.61%
63.0	LUMN	46.43%	GME	28.98%
63.0	IEP	37.15%	LUMN	22.6%
63.0	BHC	29.82%	CYH	22.52%
63.0	TSLA	28.22%	BHC	16.53%
63.0	CZR	27.11%	MSTR	15.49%
63.0	ELAN	25.85%	IEP	14.79%
63.0	NWL	23.06%	SBNY	14.24%
63.0	SIVBQ	22.95%	GBTC	13.85%
63.0	CCL	22.22%	UAA	12.81%
63.0	GBTC	21.77%	CTLT	12.36%
63.0	GT	21.64%	CCL	12.24%
63.0	CYH	20.64%	NWL	12.06%
63.0	MSTR	20.35%	CLF	11.94%
63.0	VNO	16.48%	TSLA	11.87%
63.0	AMD	15.62%	X	11.87%
63.0	MOS	15.19%	GT	11.16%
63.0	NVDA	14.8%	VFC	10.99%
63.0	UAA	14.7%	AMD	10.96%
63.0	LNC	14.52%	SIVBQ	10.74%
63.0	X	13.0%	CZR	10.58%
63.0	MSFT	12.66%	GNRC	10.18%
63.0	AMAT	12.33%	ELAN	10.05%
63.0	MU	12.15%	AA	9.82%
63.0	INTC	12.07%	MOS	9.75%
63.0	CLF	11.78%	NVDA	9.54%
63.0	GNRC	11.74%	AAP	9.37%
63.0	GME	11.52%	META	9.18%
63.0	VFC	11.46%	VNO	9.01%
63.0	ON	11.27%	CMA	8.92%

All TMD: 126d

Results reflect ticker level average EUB MAE across all model dates for which actual results for the stated horizon are known and for which the actual results fit the contingencies of the "EUB" metric - positive performance within the expected 95%tile.

Period examined: All model dates from 2022-01-31 through 2026-06-29

Horizon	Ticker_V	EUB-MAE_V	Ticker_S	EUB-MAE_S
126.0	AMC	269.69%	AMC	196.47%
126.0	CZR	56.59%	GME	45.21%
126.0	LUMN	55.15%	LUMN	44.77%
126.0	BHC	45.22%	CYH	36.85%
126.0	ELAN	43.48%	MSTR	25.76%
126.0	TSLA	40.8%	NWL	25.33%
126.0	GT	40.1%	BHC	24.84%
126.0	NWL	39.91%	VFC	18.92%
126.0	IEP	38.72%	CLF	18.84%
126.0	CCL	35.0%	CZR	18.76%
126.0	MSTR	32.68%	IEP	18.45%
126.0	CYH	31.21%	GBTC	17.8%
126.0	GBTC	29.55%	CCL	17.33%
126.0	VNO	27.32%	AAP	17.08%
126.0	LNC	25.3%	AA	17.08%
126.0	NVDA	24.24%	UAA	16.89%
126.0	GME	24.0%	CTLT	16.25%
126.0	INTC	21.82%	AMD	15.86%
126.0	UAA	21.08%	GT	15.81%
126.0	BXP	21.01%	TSLA	15.67%
126.0	MOS	20.53%	ETRN	15.56%
126.0	NFLX	20.42%	INTC	14.88%
126.0	AMAT	20.04%	MOS	14.26%
126.0	X	19.46%	WRK	14.14%
126.0	CLF	19.16%	KALU	13.96%
126.0	VFC	19.1%	LNC	13.79%
126.0	ADBE	19.0%	BIIB	13.68%
126.0	MU	18.93%	ELAN	13.64%
126.0	ETRN	18.77%	VST	13.59%
126.0	AMD	18.66%	EXPE	13.47%

All TMD: 252d

Results reflect ticker level average EUB MAE across all model dates for which actual results for the stated horizon are known and for which the actual results fit the contingencies of the "EUB" metric - positive performance within the expected 95%tile.

Period examined: All model dates from 2022-01-31 through 2026-06-29

Horizon	Ticker_V	EUB-MAE_V	Ticker_S	EUB-MAE_S
252.0	AMC	848.37%	AMC	549.03%
252.0	LUMN	92.5%	CYH	73.99%
252.0	BHC	85.91%	GME	51.27%
252.0	CZR	85.38%	BHC	49.98%
252.0	ELAN	78.48%	GBTC	43.01%
252.0	GBTC	77.11%	MSTR	42.72%
252.0	CYH	76.67%	LUMN	35.41%
252.0	INTU	64.49%	CZR	34.58%
252.0	NWL	63.04%	UAA	30.02%
252.0	CDNS	61.52%	GT	29.52%
252.0	GT	60.19%	CLF	27.78%
252.0	AMZN	55.9%	AA	27.39%
252.0	CCL	55.83%	NFLX	25.93%
252.0	NVDA	54.3%	NWL	24.44%
252.0	COST	47.82%	TSLA	24.11%
252.0	TSLA	47.75%	VFC	23.99%
252.0	MSFT	47.28%	GNRC	23.08%
252.0	ON	46.78%	INTC	22.95%
252.0	AMD	46.42%	ELAN	21.67%
252.0	UAA	45.79%	AMD	21.66%
252.0	CMG	45.47%	AVGO	20.53%
252.0	VNO	44.4%	PRGO	20.52%
252.0	MOS	44.12%	X	20.5%
252.0	GME	42.28%	CTLT	20.02%
252.0	DHI	40.95%	META	19.92%
252.0	BBY	40.31%	WRK	19.59%
252.0	MU	39.99%	OXY	19.44%
252.0	LNC	37.34%	LEN	19.11%
252.0	AZO	37.09%	VNO	18.9%
252.0	AVGO	36.49%	KALU	17.88%

Bottom 30 Tickers By EUB MAE

All TMD: 1d

Results reflect ticker level average EUB MAE across all model dates for which actual results for the stated horizon are known and for which the actual results fit the contingencies of the "EUB" metric - positive performance within the expected 95%tile.

Period examined: All model dates from 2022-01-31 through 2026-06-29

Horizon	Ticker_V	EUB-MAE_V	Ticker_S	EUB-MAE_S
1.0	VCSH	0.14%	VCSH	0.06%
1.0	MUB	0.15%	MUB	0.09%
1.0	LQD	0.26%	HYG	0.16%
1.0	HYG	0.31%	LQD	0.2%
1.0	FRA	0.38%	EMB	0.21%
1.0	GLD	0.46%	FRA	0.29%
1.0	NVS	0.49%	TLT	0.36%
1.0	PEP	0.51%	GLD	0.36%
1.0	TMUS	0.54%	SPY	0.38%
1.0	HON	0.54%	NVS	0.42%
1.0	MRK	0.54%	PEP	0.43%
1.0	MSI	0.55%	HON	0.48%
1.0	SNY	0.55%	VICI	0.49%
1.0	GILD	0.55%	VZ	0.49%
1.0	TLT	0.56%	ABBV	0.5%
1.0	POST	0.57%	POST	0.5%
1.0	HD	0.57%	TMUS	0.5%
1.0	MNST	0.58%	MSI	0.5%
1.0	BUD	0.58%	MRK	0.5%
1.0	ABBV	0.6%	COST	0.51%
1.0	GWW	0.61%	HSBC	0.51%
1.0	AMGN	0.61%	MNST	0.51%
1.0	ORLY	0.62%	ORLY	0.52%
1.0	XOM	0.62%	KHC	0.52%
1.0	HCA	0.63%	AZN	0.52%
1.0	VICI	0.64%	GWW	0.52%
1.0	AZN	0.64%	CSCO	0.52%
1.0	SBUX	0.64%	AZO	0.53%
1.0	BALL	0.65%	QQQ	0.53%
1.0	BAC	0.66%	AMGN	0.53%

All TMD: 10d

Results reflect ticker level average EUB MAE across all model dates for which actual results for the stated horizon are known and for which the actual results fit the contingencies of the "EUB" metric - positive performance within the expected 95%tile.

Period examined: All model dates from 2022-01-31 through 2026-06-29

Horizon	Ticker_V	EUB-MAE_V	Ticker_S	EUB-MAE_S
10.0	VCSH	0.39%	VCSH	0.21%
10.0	MUB	0.51%	MUB	0.32%
10.0	LQD	0.7%	HYG	0.55%
10.0	HYG	0.93%	LQD	0.66%
10.0	FRA	1.0%	EMB	0.7%
10.0	GLD	1.31%	FRA	0.92%
10.0	PEP	1.42%	SPY	1.16%
10.0	POST	1.45%	GLD	1.23%
10.0	NVS	1.46%	TLT	1.26%
10.0	GILD	1.48%	PEP	1.33%
10.0	TLT	1.49%	POST	1.47%
10.0	SNY	1.59%	NVS	1.48%
10.0	HD	1.6%	VZ	1.51%
10.0	MSI	1.62%	ORLY	1.55%
10.0	SPY	1.65%	VICI	1.55%
10.0	HON	1.66%	QQQ	1.57%
10.0	VICI	1.67%	HON	1.58%
10.0	ABBV	1.69%	CSCO	1.61%
10.0	XOM	1.7%	ACGL	1.62%
10.0	VZ	1.71%	ABBV	1.63%
10.0	BUD	1.72%	COST	1.64%
10.0	TMUS	1.74%	MSI	1.65%
10.0	ORLY	1.75%	TMUS	1.68%
10.0	HCA	1.77%	MRK	1.68%
10.0	AMGN	1.77%	GILD	1.69%
10.0	GWW	1.8%	T	1.69%
10.0	BALL	1.81%	CAH	1.72%
10.0	EMB	1.85%	BMY	1.73%
10.0	MNST	1.85%	MNST	1.74%
10.0	SBUX	1.88%	HD	1.75%

All TMD: 21d

Results reflect ticker level average EUB MAE across all model dates for which actual results for the stated horizon are known and for which the actual results fit the contingencies of the "EUB" metric - positive performance within the expected 95%tile.

Period examined: All model dates from 2022-01-31 through 2026-06-29

Horizon	Ticker_V	EUB-MAE_V	Ticker_S	EUB-MAE_S
21.0	VCSH	0.59%	VCSH	0.31%
21.0	MUB	0.75%	MUB	0.41%
21.0	LQD	1.0%	HYG	0.79%
21.0	FRA	1.4%	LQD	0.87%
21.0	HYG	1.6%	EMB	0.94%
21.0	PEP	1.99%	FRA	1.32%
21.0	NVS	2.1%	SPY	1.63%
21.0	GLD	2.2%	GLD	1.65%
21.0	GILD	2.27%	TLT	1.7%
21.0	TLT	2.31%	PEP	1.79%
21.0	BUD	2.34%	NVS	2.11%
21.0	POST	2.35%	HSBC	2.21%
21.0	SNY	2.37%	QQQ	2.22%
21.0	MSI	2.44%	HON	2.27%
21.0	VZ	2.47%	VZ	2.31%
21.0	HD	2.48%	POST	2.33%
21.0	HSBC	2.53%	ACGL	2.35%
21.0	HON	2.56%	MSI	2.37%
21.0	VICI	2.56%	CAH	2.38%
21.0	SPY	2.57%	VICI	2.38%
21.0	ACGL	2.66%	GILD	2.41%
21.0	XOM	2.67%	TMUS	2.42%
21.0	ORLY	2.7%	CSCO	2.44%
21.0	TMUS	2.71%	ORLY	2.47%
21.0	MNST	2.74%	T	2.47%
21.0	FRCB	2.77%	KHC	2.51%
21.0	ABBV	2.81%	MRK	2.52%
21.0	EMB	2.82%	COST	2.53%
21.0	CMCSA	2.84%	AMGN	2.57%
21.0	BAC	2.84%	XOM	2.57%

All TMD: 63d

Results reflect ticker level average EUB MAE across all model dates for which actual results for the stated horizon are known and for which the actual results fit the contingencies of the "EUB" metric - positive performance within the expected 95%tile.

Period examined: All model dates from 2022-01-31 through 2026-06-29

Horizon	Ticker_V	EUB-MAE_V	Ticker_S	EUB-MAE_S
63.0	VCSH	0.99%	VCSH	0.58%
63.0	MUB	1.18%	MUB	0.84%
63.0	LQD	1.75%	HYG	1.46%
63.0	FRA	2.55%	LQD	1.66%
63.0	GLD	3.38%	EMB	1.91%
63.0	PEP	3.39%	FRA	2.14%
63.0	HYG	3.75%	GLD	2.76%
63.0	BUD	3.88%	SPY	2.78%
63.0	NVS	4.03%	PEP	3.03%
63.0	VZ	4.11%	TLT	3.18%
63.0	ZTS	4.26%	COST	3.44%
63.0	TLT	4.28%	NVS	3.53%
63.0	HD	4.32%	VICI	3.81%
63.0	GILD	4.36%	HON	3.83%
63.0	POST	4.39%	QQQ	4.09%
63.0	MSI	4.44%	VZ	4.09%
63.0	TMUS	4.45%	AZO	4.13%
63.0	SNY	4.5%	MRK	4.17%
63.0	HON	4.59%	POST	4.2%
63.0	ORLY	4.61%	HD	4.32%
63.0	AMGN	4.78%	TMUS	4.36%
63.0	CMCSA	4.8%	ORLY	4.36%
63.0	VICI	4.94%	HSBC	4.41%
63.0	HLT	4.95%	ACGL	4.44%
63.0	XOM	4.95%	MSI	4.46%
63.0	SPY	5.0%	AMGN	4.5%
63.0	EMB	5.01%	CAH	4.51%
63.0	JAZZ	5.01%	JPM	4.55%
63.0	SBNY	5.11%	GILD	4.56%
63.0	HCA	5.14%	BUD	4.57%

All TMD: 126d

Results reflect ticker level average EUB MAE across all model dates for which actual results for the stated horizon are known and for which the actual results fit the contingencies of the "EUB" metric - positive performance within the expected 95%tile.

Period examined: All model dates from 2022-01-31 through 2026-06-29

Horizon	Ticker_V	EUB-MAE_V	Ticker_S	EUB-MAE_S
126.0	VCSH	0.99%	VCSH	0.7%
126.0	MUB	1.44%	MUB	1.26%
126.0	LQD	1.72%	HYG	1.75%
126.0	FRA	3.52%	LQD	1.87%
126.0	PEP	4.6%	EMB	2.28%
126.0	ABBV	5.27%	FRA	3.16%
126.0	TMUS	5.31%	PEP	3.83%
126.0	ZTS	5.33%	SPY	4.15%
126.0	NVS	5.78%	GLD	4.54%
126.0	NAVI	5.79%	TLT	4.69%
126.0	GLD	5.79%	HON	4.72%
126.0	SPY	5.81%	MNST	5.03%
126.0	AMGN	5.98%	ABBV	5.08%
126.0	ORLY	6.31%	AMGN	5.39%
126.0	EMB	6.32%	KHC	5.42%
126.0	MNST	6.37%	QQQ	5.47%
126.0	HLT	6.39%	TMUS	5.5%
126.0	BALL	6.43%	VICI	5.51%
126.0	VICI	6.47%	AZO	5.53%
126.0	VZ	6.55%	ORLY	5.56%
126.0	POST	6.63%	NVS	5.61%
126.0	SNY	6.87%	VZ	5.65%
126.0	HON	6.9%	CSCO	5.92%
126.0	BUD	6.98%	XOM	5.99%
126.0	HYG	7.09%	ZTS	6.02%
126.0	MSI	7.17%	COST	6.13%
126.0	XOM	7.19%	JPM	6.13%
126.0	BMY	7.2%	MSI	6.16%
126.0	JPM	7.56%	HD	6.18%
126.0	CHTR	7.6%	PCG	6.28%

All TMD: 252d

Results reflect ticker level average EUB MAE across all model dates for which actual results for the stated horizon are known and for which the actual results fit the contingencies of the "EUB" metric - positive performance within the expected 95%tile.

Period examined: All model dates from 2022-01-31 through 2026-06-29

Horizon	Ticker_V	EUB-MAE_V	Ticker_S	EUB-MAE_S
252.0	VCSH	1.65%	VCSH	0.91%
252.0	MUB	2.69%	MUB	1.45%
252.0	LQD	4.22%	HYG	2.94%
252.0	FRA	5.79%	EMB	3.72%
252.0	NVS	6.51%	LQD	4.01%
252.0	BUD	6.95%	FRA	4.31%
252.0	VICI	7.98%	PEP	4.96%
252.0	ZTS	8.22%	GLD	5.49%
252.0	POST	8.46%	BMY	5.54%
252.0	PEP	8.5%	VICI	6.12%
252.0	CMCSA	8.92%	NVS	6.19%
252.0	VZ	9.23%	AMGN	6.8%
252.0	EMB	9.33%	HON	6.97%
252.0	AMGN	9.36%	ABBV	7.17%
252.0	GLD	9.37%	VZ	7.72%
252.0	MRK	9.7%	SPY	7.72%
252.0	SLV	10.39%	MSI	7.84%
252.0	BALL	10.6%	TLT	7.93%
252.0	HYG	10.74%	HD	8.14%
252.0	MSI	11.08%	TMUS	8.21%
252.0	IRM	11.1%	AZN	8.3%
252.0	NAVI	11.14%	AZO	8.39%
252.0	SNY	11.14%	HSBC	8.51%
252.0	LW	11.53%	BUD	8.59%
252.0	GILD	11.62%	UNH	8.59%
252.0	XOM	11.79%	POST	8.6%
252.0	HLT	11.98%	IRM	8.71%
252.0	CNC	12.18%	CSCO	9.14%
252.0	KHC	12.28%	ZTS	9.16%
252.0	CHTR	12.58%	AAPL	9.25%

Performance Summary - Returns on EUB based exposures (ROEUB)

Here we compare ROEUB, or price return performance of ticker-model date (TMD) exposures based upon EUB, for Vector Mdel EUB to the Sigma Model's EUB ("S", presented with light shading).

Vector Model EUB is denoted by a "V" and presented with dark shading in the bar charts comparison of EUB that follow, whereas Sigma EUB is denoted by "S" and presented with light shading.

Sigma based ticker exposure performance reflects equal TMD weighting and the price returns of the underlying TMD for the given horizon.

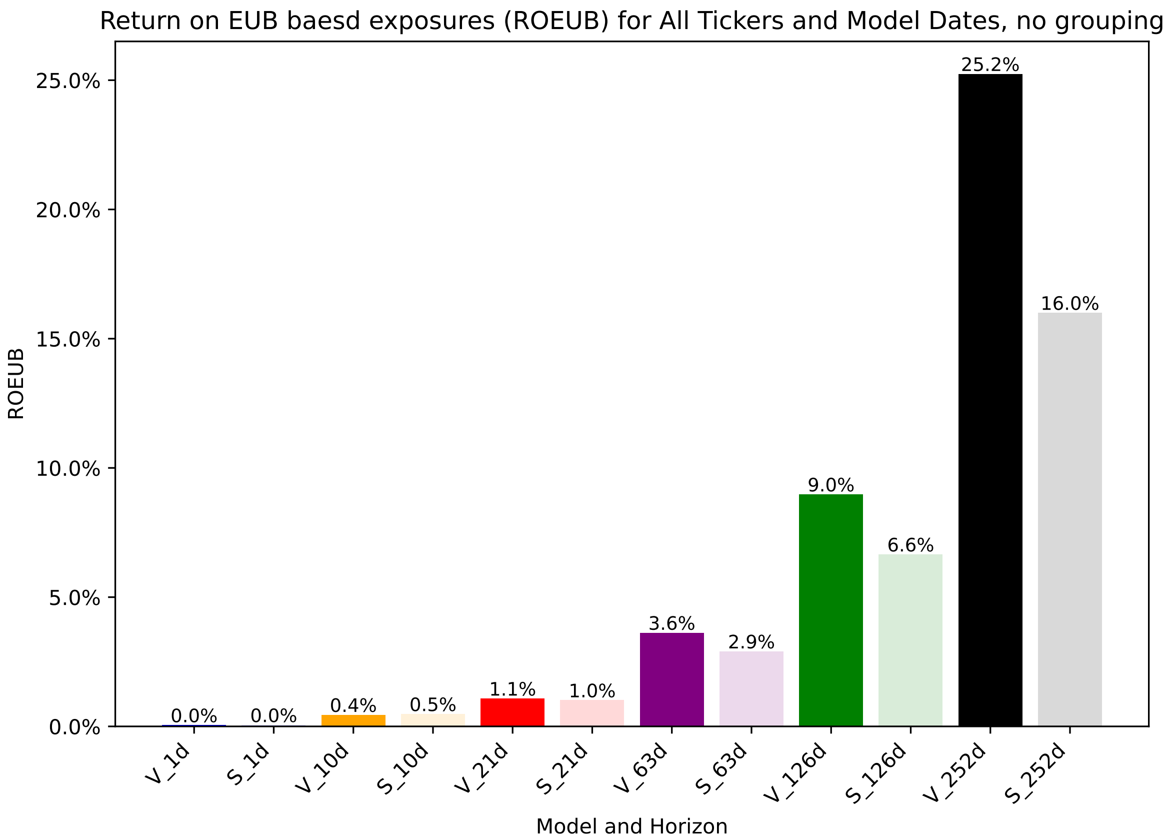
Vector Model based TMD exposures reflect each TMD's underlying horizon price return multiplied by the ratio of Vector Model EUB to Sigma model based EUB for the given horizon. This ratio is capped of 3.0x and floored of 0.333x.

Following each bar chart comparison of ROEUB is a table detailing the alpha (intercept) and slope (beta) of Vector Model EUB based exposure performance to Sigma EUB exposure based performance. The beta arguably provides some indication of the leverage of the Vector Model based exposures and the alpha is an indication of Vector Model EUB's ability to generate performance indepdendent of the ticker's returns. See the Introduction for further discussion of alpha and beta.

Note that time horizons are denominated in trading days, where 10d is ~ 2 weeks in calendar terms, 21d is ~ 1 month, 63d is ~ 1 quarter, 126d is ~ half year, 252d is ~1 year. Model estimates for all horizons are made on each Model Date, so p-Values for horizons beyond 1d are not valid.

All Out of Sample Model Dates

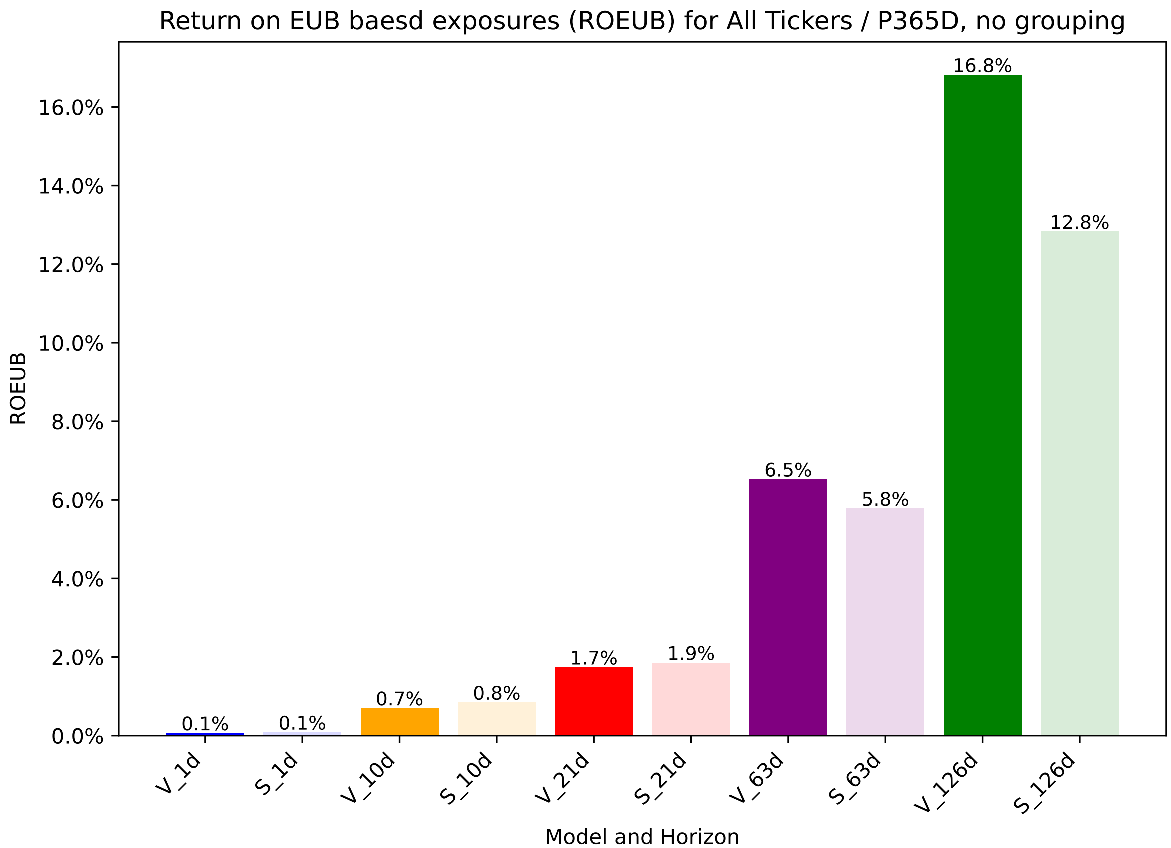
Period examined: All model dates from 2022-01-31 through 2026-06-29




```
Alpha (intercept) and Beta (slope) of Vector Model ROEUB regressed upon
corresponding horizon actual ticker-model date returns:
                       1d      10d      21d       63d      126d      252d
intercept          -0.00%  -0.00%    0.07%     0.27%     0.79%     3.85%
intercept_p_value  26.54%  70.59%    0.00%     0.00%     0.00%     0.00%
slope              97.93%  94.29%   99.50%   115.56%   123.01%   133.74%
slope_p_value       0.00%   0.00%    0.00%     0.00%     0.00%     0.00%

Same as above, but averaged by Ticker across Model Dates:
                       1d      10d       21d       63d      126d      252d
intercept          -0.00%  -0.03%    -0.02%    -0.22%    -0.86%    -2.62%
intercept_p_value  51.21%  20.19%    14.05%     9.67%     7.17%    10.27%
slope              99.57%  98.23%   104.57%   118.47%   128.14%   147.83%
slope_p_value       0.00%   0.00%     0.00%     0.00%     0.00%     0.36%
```

Prior 365 Calendar Days (P365D)

Period examined: All model dates from 2025-07-01 through 2026-06-29



Alpha (intercept) and Beta (slope) of Vector Model ROEUB regressed upon corresponding horizon actual ticker-model date returns:

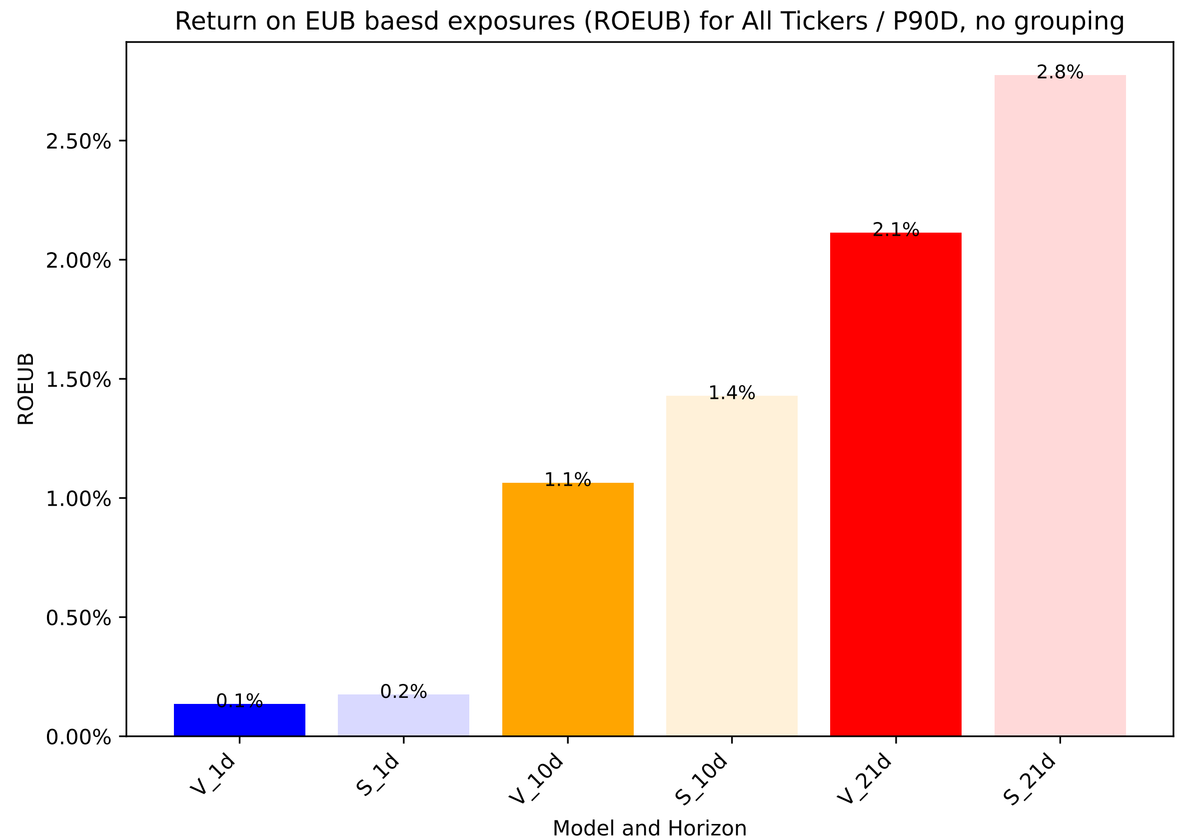
	1d	10d	21d	63d	126d
intercept	-0.01%	-0.01%	0.06%	0.23%	0.84%
intercept_p_value	15.26%	67.81%	5.07%	0.27%	0.00%
slope	90.55%	83.81%	90.64%	108.97%	124.54%
slope_p_value	0.00%	0.00%	0.00%	0.00%	0.00%

Same as above, but averaged by Ticker across Model Dates:

	1d	10d	21d	63d	126d
intercept	-0.00%	0.02%	0.05%	-0.56%	-1.50%
intercept_p_value	44.43%	19.57%	16.97%	17.86%	18.18%
slope	94.53%	93.10%	100.76%	116.48%	126.61%
slope_p_value	0.00%	0.00%	0.00%	0.00%	0.46%

Prior 90 Calendar Days (P90D)

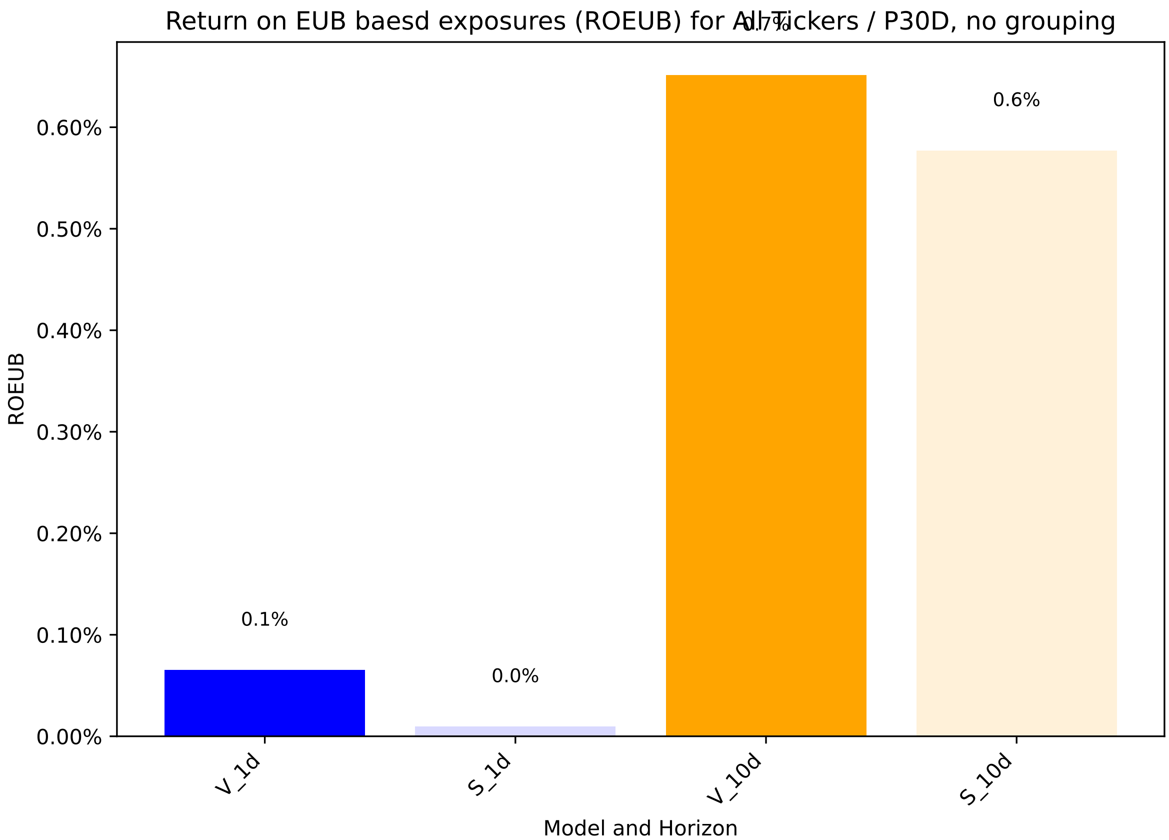
Period examined: All model dates from 2026-04-02 through 2026-06-29




```
Alpha (intercept) and Beta (slope) of Vector Model ROEUB regressed upon
corresponding horizon actual ticker-model date returns:
                      1d      10d      21d
intercept          -0.02%  -0.06%  -0.22%
intercept_p_value  25.08%  15.79%   0.72%
slope              88.79%  78.84%  84.18%
slope_p_value       0.00%   0.00%   0.00%

Same as above, but averaged by Ticker across Model Dates:
                      1d      10d      21d
intercept           0.01%   0.08%  -0.10%
intercept_p_value  43.48%  24.77%  26.85%
slope              92.22%  90.55%  98.63%
slope_p_value       0.00%   0.00%   0.00%
```

Prior 30 Calendar Days (P30D)

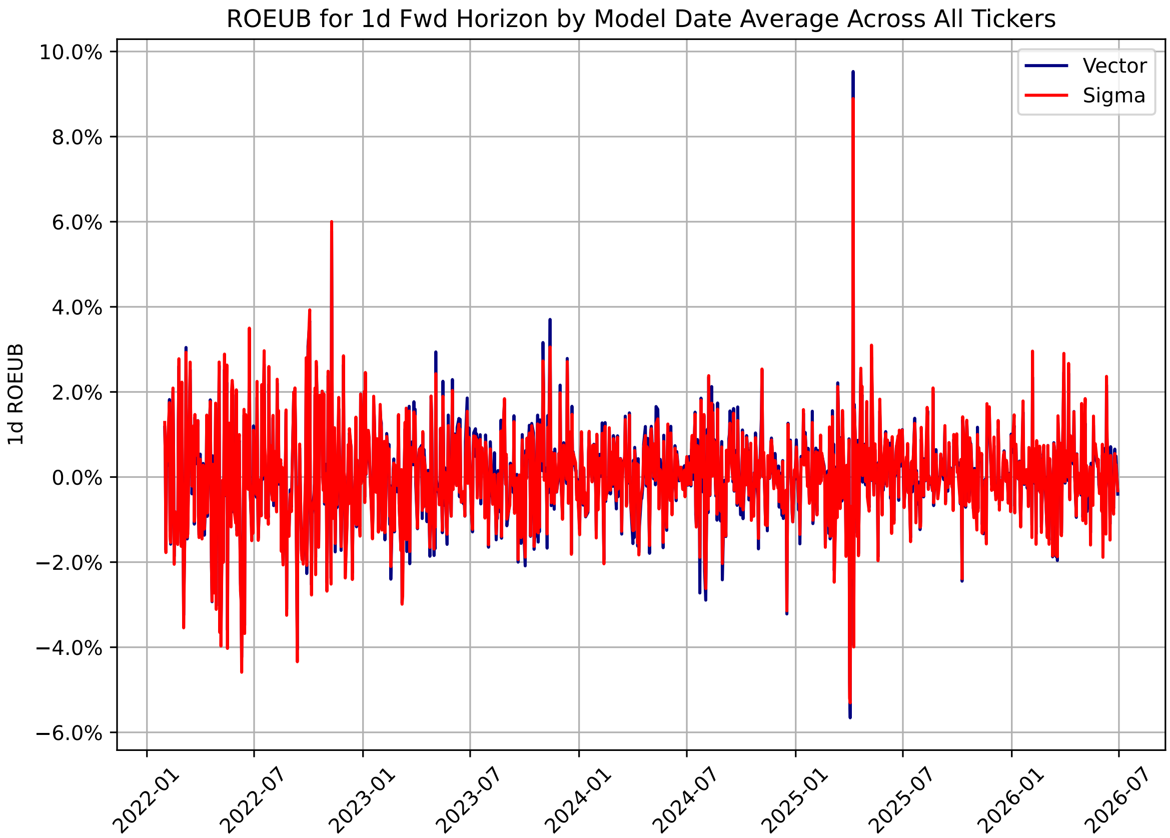
Period examined: All model dates from 2026-06-01 through 2026-06-29



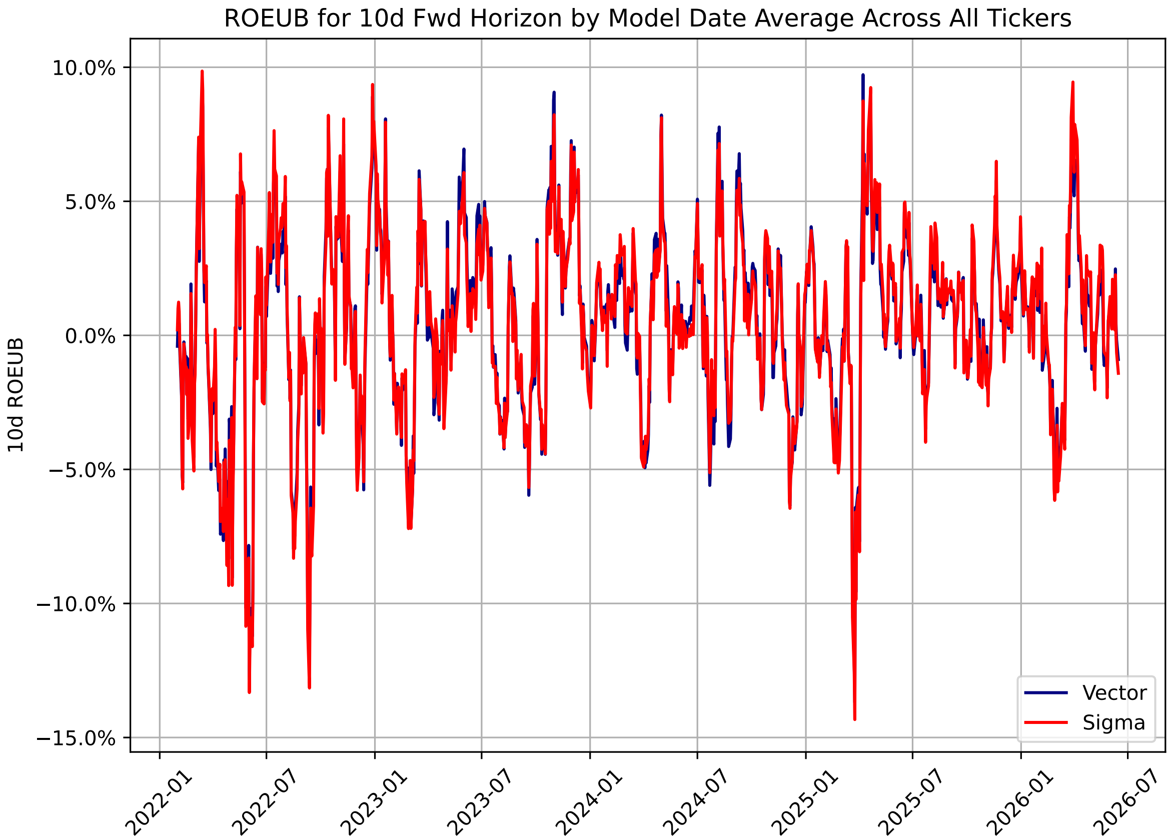

```
Alpha (intercept) and Beta (slope) of Vector Model ROEUB regressed upon
corresponding horizon actual ticker-model date returns:
                       1d      10d
intercept            0.06%   0.20%
intercept_p_value   10.54%   2.11%
slope               92.79%  77.44%
slope_p_value        0.00%   0.00%

Same as above, but averaged by Ticker across Model Dates:
                       1d      10d
intercept            0.02%   0.12%
intercept_p_value   48.05%  44.55%
slope               93.24%  86.54%
slope_p_value        0.00%   1.35%
```

ROEUB by Model Date Detail

1d Horizon

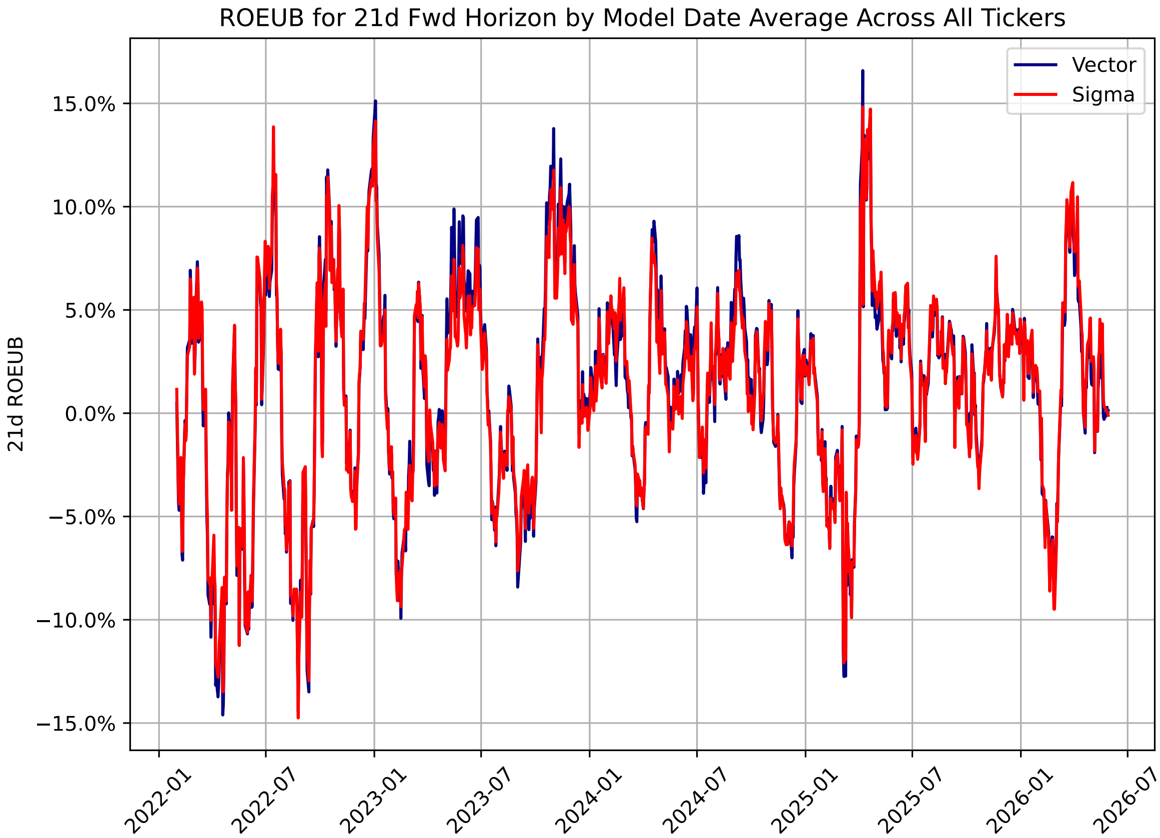


10d Horizon



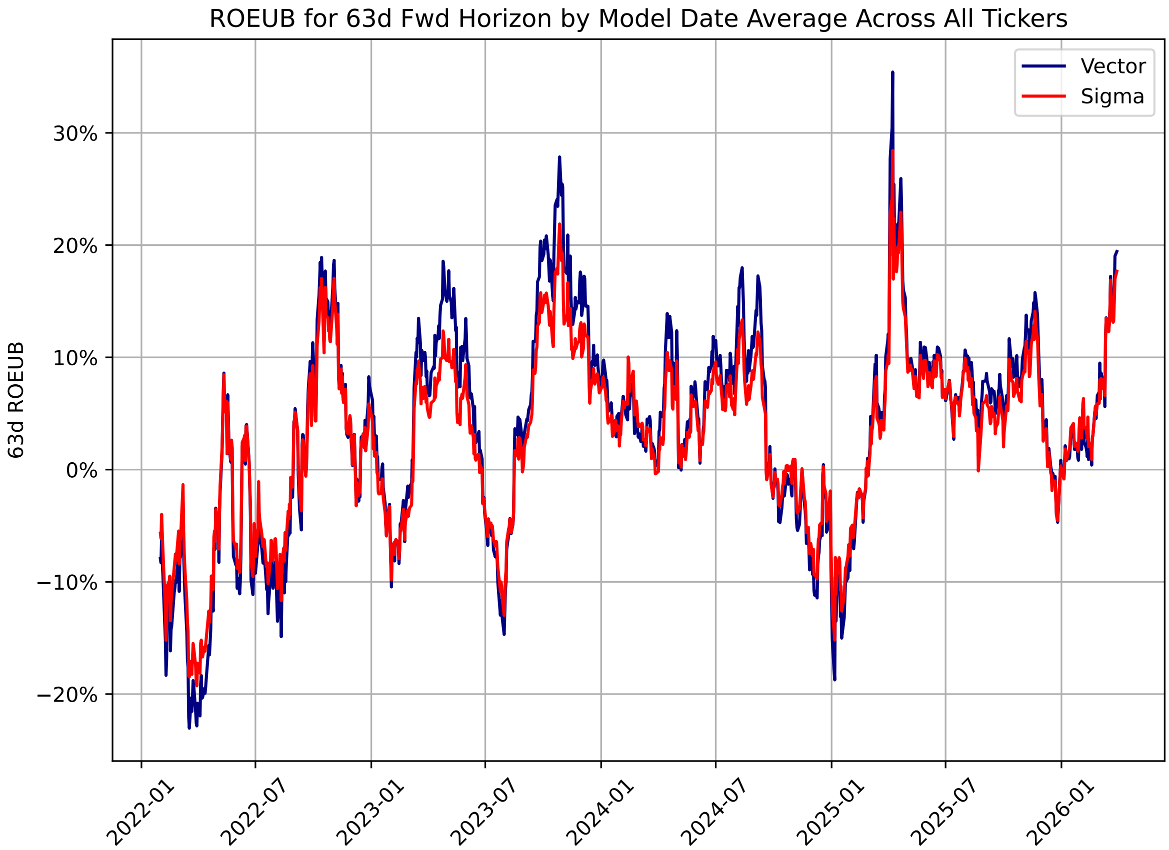
ROEUB for 10d Fwd Horizon by Model Date Average Across All Tickers
10d ROEUB
10.0%
5.0%
0.0%
−5.0%
−10.0%
−15.0%
2022-01
2022-07
2023-01
2023-07
2024-01
2024-07
2025-01
2025-07
2026-01
2026-07
Vector
Sigma

21d Horizon



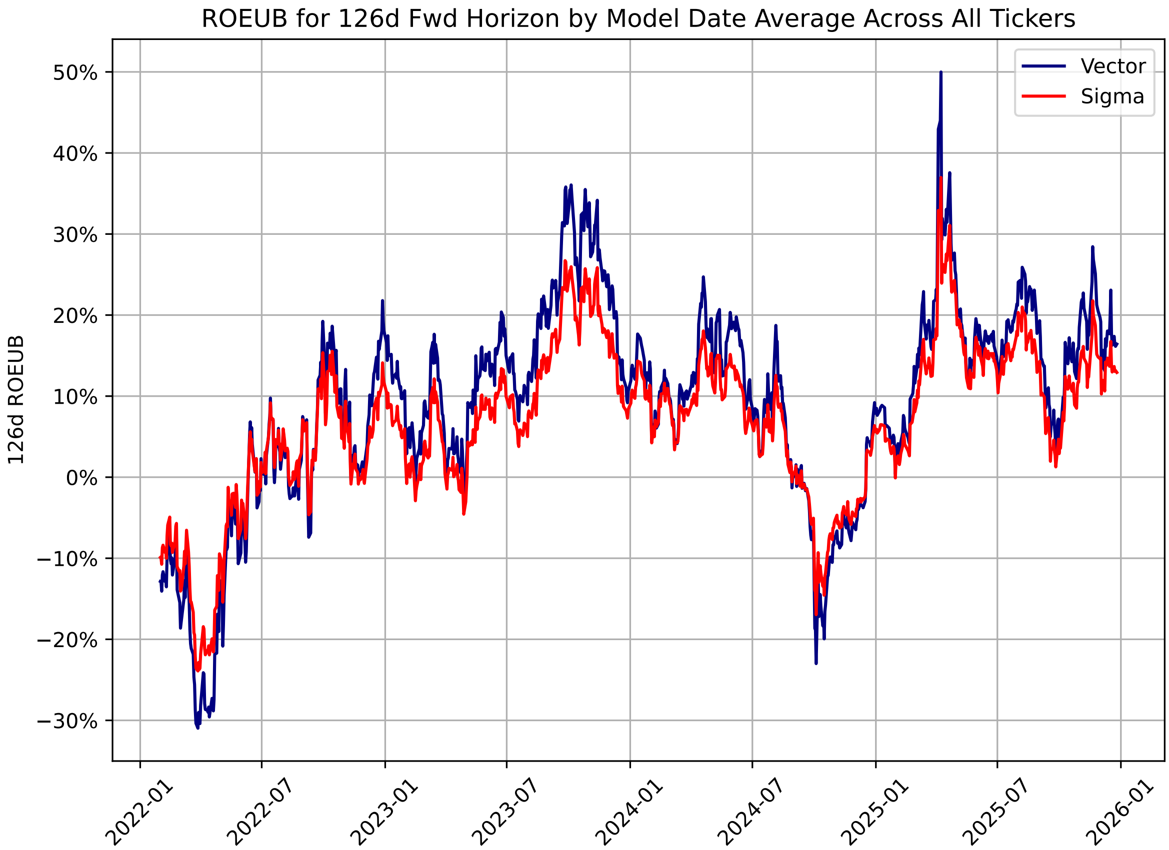
ROEUB for 21d Fwd Horizon by Model Date Average Across All Tickers
Vector
Sigma
21d ROEUB
15.0%
10.0%
5.0%
0.0%
−5.0%
−10.0%
−15.0%
2022-01
2022-07
2023-01
2023-07
2024-01
2024-07
2025-01
2025-07
2026-01
2026-07

63d Horizon

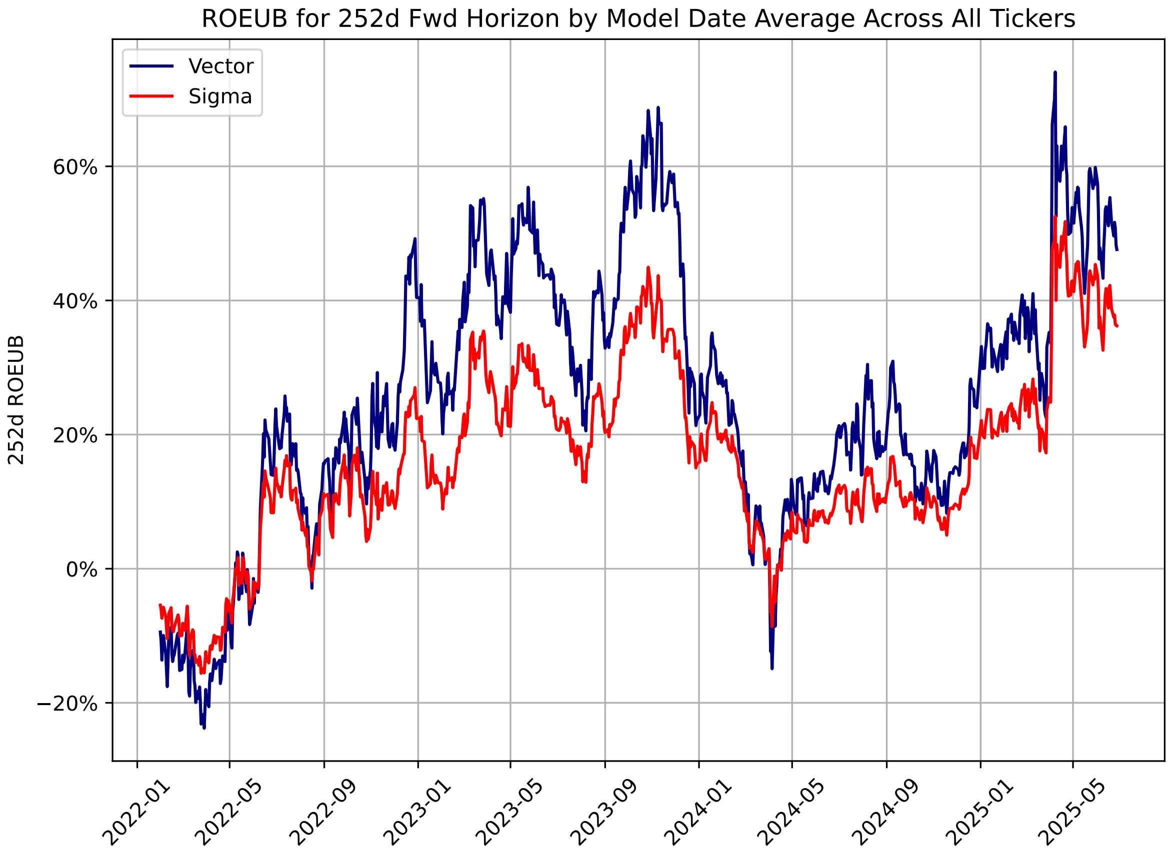


ROEUB for 63d Fwd Horizon by Model Date Average Across All Tickers
Vector
Sigma
63d ROEUB
30%
20%
10%
0%
−10%
−20%
2022-01
2022-07
2023-01
2023-07
2024-01
2024-07
2025-01
2025-07
2026-01

126d Horizon



252d Horizon



Top 30 Tickers By ROEUB

All TMD: 1d

Results reflect ticker level average ROEUB across all model dates for which actual results for the stated horizon are known.

Period examined: All model dates from 2022-01-31 through 2026-06-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
1.0	AVGO	0.31%	MU	0.3%
1.0	TSLA	0.29%	WDC	0.28%
1.0	NVDA	0.27%	MSTR	0.25%
1.0	AMD	0.26%	NVDA	0.24%
1.0	MU	0.26%	VST	0.23%
1.0	CCL	0.26%	AMD	0.21%
1.0	VST	0.25%	AVGO	0.21%
1.0	X	0.22%	PWR	0.2%
1.0	LLY	0.22%	AMAT	0.19%
1.0	GE	0.22%	GE	0.17%
1.0	AMAT	0.21%	X	0.17%
1.0	PWR	0.2%	LLY	0.17%
1.0	WDC	0.19%	TEVA	0.16%
1.0	CAH	0.16%	TRGP	0.16%
1.0	GBTC	0.15%	INTC	0.16%
1.0	TRGP	0.14%	GME	0.15%
1.0	B	0.14%	CAH	0.15%
1.0	PHM	0.13%	THC	0.13%
1.0	TDG	0.13%	GBTC	0.12%
1.0	DHI	0.12%	ETRN	0.12%
1.0	THC	0.11%	SLV	0.12%
1.0	ON	0.11%	PHM	0.11%
1.0	LVS	0.11%	GS	0.11%
1.0	AMC	0.11%	IRM	0.11%
1.0	INTC	0.1%	GOOGL	0.11%
1.0	MSFT	0.1%	CDNS	0.11%
1.0	CDNS	0.1%	ON	0.11%
1.0	JAZZ	0.1%	KALU	0.1%
1.0	FCX	0.09%	GWW	0.1%
1.0	IRM	0.09%	HSBC	0.1%

All TMD: 10d

Results reflect ticker level average ROEUB across all model dates for which actual results for the stated horizon are known.

Period examined: All model dates from 2022-01-31 through 2026-06-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
10.0	NVDA	3.59%	MU	3.03%
10.0	AVGO	3.15%	WDC	2.95%
10.0	TSLA	2.9%	MSTR	2.64%
10.0	MU	2.69%	NVDA	2.41%
10.0	VST	2.5%	VST	2.27%
10.0	AMD	2.25%	AVGO	2.07%
10.0	LLY	2.19%	PWR	1.99%
10.0	CCL	2.14%	AMD	1.98%
10.0	AMAT	2.13%	AMAT	1.75%
10.0	PWR	2.01%	TEVA	1.67%
10.0	GE	1.68%	LLY	1.64%
10.0	X	1.5%	GE	1.63%
10.0	GBTC	1.5%	INTC	1.59%
10.0	CAH	1.49%	X	1.58%
10.0	WDC	1.47%	TRGP	1.54%
10.0	ETRN	1.32%	CAH	1.49%
10.0	GS	1.29%	ETRN	1.41%
10.0	MSTR	1.18%	GME	1.27%
10.0	CDNS	1.18%	GBTC	1.18%
10.0	MSFT	1.16%	THC	1.17%
10.0	TRGP	1.16%	SLV	1.16%
10.0	QQQ	1.15%	IRM	1.16%
10.0	HLT	1.09%	GS	1.15%
10.0	SLV	1.09%	META	1.11%
10.0	DHI	1.04%	CDNS	1.08%
10.0	TEVA	1.03%	PHM	1.07%
10.0	TDG	1.01%	GWW	1.06%
10.0	PHM	1.0%	GOOGL	1.03%
10.0	JPM	0.99%	ON	1.02%
10.0	CSTM	0.98%	KALU	1.02%

All TMD: 21d

Results reflect ticker level average ROEUB across all model dates for which actual results for the stated horizon are known.

Period examined: All model dates from 2022-01-31 through 2026-06-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
21.0	NVDA	8.75%	MU	6.41%
21.0	TSLA	6.99%	MSTR	6.34%
21.0	MU	6.8%	WDC	6.19%
21.0	AVGO	6.15%	NVDA	5.28%
21.0	AMAT	5.83%	VST	4.79%
21.0	AMD	5.41%	AMD	4.46%
21.0	VST	5.26%	AVGO	4.41%
21.0	CCL	5.08%	PWR	4.24%
21.0	PWR	4.63%	TEVA	3.64%
21.0	LLY	4.31%	AMAT	3.53%
21.0	ETRN	3.92%	ETRN	3.5%
21.0	GBTC	3.91%	GE	3.44%
21.0	GE	3.73%	LLY	3.42%
21.0	CAH	3.66%	INTC	3.35%
21.0	MSTR	3.46%	TRGP	3.22%
21.0	WDC	3.45%	X	3.17%
21.0	X	3.17%	CAH	3.08%
21.0	CDNS	2.85%	GBTC	2.67%
21.0	GS	2.84%	META	2.51%
21.0	TRGP	2.76%	SLV	2.5%
21.0	PHM	2.72%	GS	2.47%
21.0	DHI	2.72%	ORCL	2.45%
21.0	QQQ	2.67%	IRM	2.43%
21.0	HLT	2.48%	THC	2.34%
21.0	MSFT	2.41%	TSLA	2.34%
21.0	CSTM	2.39%	CDNS	2.3%
21.0	SLV	2.36%	ON	2.29%
21.0	AZO	2.35%	GOOGL	2.28%
21.0	TEVA	2.35%	GWW	2.25%
21.0	JPM	2.22%	NFLX	2.24%

All TMD: 63d

Results reflect ticker level average ROEUB across all model dates for which actual results for the stated horizon are known.

Period examined: All model dates from 2022-01-31 through 2026-06-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
63.0	NVDA	29.48%	WDC	20.44%
63.0	MU	25.07%	MSTR	19.38%
63.0	AMAT	21.11%	MU	19.17%
63.0	AMD	19.12%	NVDA	17.64%
63.0	MSTR	18.14%	VST	15.68%
63.0	VST	17.68%	AVGO	13.85%
63.0	CCL	15.56%	AMD	12.99%
63.0	AVGO	15.27%	PWR	12.22%
63.0	WDC	14.78%	TEVA	10.47%
63.0	TSLA	14.28%	GE	10.37%
63.0	GBTC	13.47%	ETRN	10.28%
63.0	PWR	13.44%	AMAT	9.99%
63.0	GE	13.38%	GBTC	9.87%
63.0	CAH	12.93%	INTC	9.63%
63.0	LLY	12.7%	LLY	9.44%
63.0	DHI	11.61%	TRGP	9.22%
63.0	PHM	10.2%	META	9.19%
63.0	TRGP	9.8%	CAH	8.92%
63.0	ETRN	9.47%	NFLX	8.5%
63.0	QQQ	9.35%	SLV	8.34%
63.0	GS	9.29%	THC	7.54%
63.0	GOOGL	9.28%	GOOGL	7.45%
63.0	SLV	8.93%	ORCL	7.42%
63.0	THC	8.57%	PHM	7.37%
63.0	TEVA	8.07%	GS	7.31%
63.0	CDNS	7.94%	HSBC	6.69%
63.0	CSTM	7.8%	IRM	6.49%
63.0	X	7.66%	CCL	6.31%
63.0	HLT	7.58%	GWW	6.2%
63.0	INTC	7.42%	KALU	6.09%

All TMD: 126d

Results reflect ticker level average ROEUB across all model dates for which actual results for the stated horizon are known.

Period examined: All model dates from 2022-01-31 through 2026-06-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
126.0	NVDA	68.88%	WDC	48.93%
126.0	MU	66.09%	MSTR	47.86%
126.0	AMAT	54.92%	MU	45.81%
126.0	VST	42.22%	NVDA	43.47%
126.0	GBTC	39.64%	VST	34.86%
126.0	WDC	39.5%	AVGO	29.62%
126.0	AMD	39.08%	GBTC	27.8%
126.0	GE	33.7%	GE	25.13%
126.0	MSTR	32.55%	PWR	23.89%
126.0	CCL	30.29%	AMD	23.15%
126.0	AVGO	29.97%	TEVA	23.04%
126.0	TSLA	28.84%	META	22.47%
126.0	PWR	27.84%	AMAT	22.21%
126.0	NFLX	27.68%	NFLX	21.24%
126.0	CAH	27.02%	SLV	20.58%
126.0	PHM	26.67%	TRGP	19.55%
126.0	THC	25.07%	CAH	19.52%
126.0	DHI	24.86%	THC	19.51%
126.0	TRGP	23.34%	LLY	19.42%
126.0	LLY	23.31%	ETRN	18.49%
126.0	QQQ	23.18%	INTC	17.11%
126.0	SLV	22.14%	PHM	16.86%
126.0	GOOGL	21.36%	GOOGL	16.65%
126.0	ORCL	21.02%	GS	15.69%
126.0	INTC	20.66%	ORCL	15.49%
126.0	GS	20.53%	B	14.84%
126.0	B	20.17%	HSBC	14.35%
126.0	AMZN	19.99%	CCL	13.81%
126.0	JPM	18.76%	CSTM	13.68%
126.0	COST	18.68%	GLD	13.12%

All TMD: 252d

Results reflect ticker level average ROEUB across all model dates for which actual results for the stated horizon are known.

Period examined: All model dates from 2022-01-31 through 2026-06-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
252.0	NVDA	237.47%	MSTR	163.63%
252.0	MSTR	178.4%	WDC	120.96%
252.0	MU	154.21%	NVDA	118.09%
252.0	GBTC	143.87%	VST	103.8%
252.0	WDC	129.21%	MU	102.34%
252.0	VST	110.18%	GBTC	89.68%
252.0	NFLX	108.07%	AVGO	76.56%
252.0	AVGO	103.66%	META	61.88%
252.0	AMAT	100.22%	GE	60.65%
252.0	AMD	98.64%	NFLX	55.36%
252.0	GE	97.73%	AMD	51.59%
252.0	PWR	90.43%	PWR	50.29%
252.0	CCL	83.09%	THC	47.06%
252.0	LLY	73.59%	TEVA	44.02%
252.0	AMZN	71.95%	AMAT	43.35%
252.0	PHM	71.26%	LLY	42.51%
252.0	CDNS	69.86%	PHM	42.12%
252.0	GOOGL	68.25%	TRGP	41.19%
252.0	THC	66.16%	SLV	40.63%
252.0	QQQ	65.99%	CAH	39.21%
252.0	DHI	63.9%	CCL	37.04%
252.0	META	61.0%	GOOGL	36.85%
252.0	COST	58.76%	ORCL	36.36%
252.0	ORLY	58.25%	ETRN	35.78%
252.0	ORCL	56.46%	GS	34.45%
252.0	JPM	55.75%	INTC	34.0%
252.0	MSFT	52.28%	B	31.66%
252.0	CAH	51.6%	HSBC	31.58%
252.0	ISRG	50.24%	JPM	30.72%
252.0	GS	48.92%	GLD	29.23%

P365D: 1d

Results reflect ticker level average ROEUB across all model dates for which actual results for the stated horizon are known.

Period examined: All model dates from 2025-07-01 through 2026-06-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
1.0	MU	0.86%	WDC	1.02%
1.0	AMAT	0.81%	MU	1.01%
1.0	AMD	0.73%	INTC	0.84%
1.0	WDC	0.66%	AMD	0.67%
1.0	INTC	0.53%	AMAT	0.61%
1.0	LUMN	0.46%	KALU	0.39%
1.0	AVGO	0.42%	CSTM	0.38%
1.0	TEVA	0.36%	JAZZ	0.34%
1.0	PWR	0.34%	LUMN	0.34%
1.0	CAH	0.32%	GNRC	0.34%
1.0	LLY	0.31%	TEVA	0.31%
1.0	KALU	0.28%	ON	0.31%
1.0	CSTM	0.28%	GOOGL	0.3%
1.0	BHP	0.28%	PWR	0.29%
1.0	JAZZ	0.27%	SLV	0.28%
1.0	VST	0.25%	AA	0.28%
1.0	BIIB	0.25%	CMA	0.27%
1.0	SLV	0.23%	B	0.27%
1.0	CMA	0.23%	ELAN	0.25%
1.0	FSUGY	0.22%	BHP	0.24%
1.0	AA	0.21%	CSCO	0.23%
1.0	GOOGL	0.2%	NEM	0.23%
1.0	GNRC	0.2%	BIIB	0.23%
1.0	HSBC	0.19%	RIO	0.21%
1.0	CSCO	0.19%	LLY	0.2%
1.0	MRK	0.18%	EXPE	0.2%
1.0	B	0.18%	HSBC	0.2%
1.0	RIO	0.17%	MRK	0.2%
1.0	GE	0.17%	TRGP	0.19%
1.0	DHI	0.17%	FCX	0.19%

P365D: 10d

Results reflect ticker level average ROEUB across all model dates for which actual results for the stated horizon are known.

Period examined: All model dates from 2025-07-01 through 2026-06-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
10.0	MU	9.36%	WDC	10.74%
10.0	AMD	7.04%	MU	10.62%
10.0	AMAT	6.76%	INTC	8.76%
10.0	INTC	5.98%	AMD	6.55%
10.0	WDC	5.39%	AMAT	5.46%
10.0	LUMN	4.63%	CSTM	3.84%
10.0	AVGO	4.62%	LUMN	3.68%
10.0	PWR	3.49%	KALU	3.6%
10.0	SLV	3.34%	ON	3.42%
10.0	BHP	3.33%	GNRC	3.38%
10.0	CSTM	3.08%	JAZZ	3.34%
10.0	TEVA	2.85%	CNC	3.32%
10.0	B	2.77%	TEVA	3.19%
10.0	GNRC	2.64%	AA	3.16%
10.0	CSCO	2.64%	GOOGL	3.11%
10.0	RIO	2.42%	CMA	2.99%
10.0	LLY	2.39%	B	2.9%
10.0	KALU	2.37%	PWR	2.84%
10.0	JAZZ	2.3%	SLV	2.78%
10.0	AA	2.25%	CSCO	2.49%
10.0	GOOGL	2.1%	NEM	2.48%
10.0	BIIB	2.07%	BHP	2.34%
10.0	ON	2.05%	ELAN	2.34%
10.0	MRK	2.02%	RIO	2.22%
10.0	QQQ	1.95%	CVS	1.98%
10.0	NEM	1.94%	TRGP	1.96%
10.0	CMA	1.88%	HSBC	1.94%
10.0	CAH	1.85%	BIIB	1.94%
10.0	GS	1.76%	FCX	1.94%
10.0	ELAN	1.7%	MNST	1.93%

P365D: 21d

Results reflect ticker level average ROEUB across all model dates for which actual results for the stated horizon are known.

Period examined: All model dates from 2025-07-01 through 2026-06-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
21.0	MU	24.9%	MU	24.43%
21.0	AMAT	19.4%	WDC	23.24%
21.0	AMD	17.26%	INTC	19.64%
21.0	INTC	14.33%	AMD	14.56%
21.0	WDC	13.59%	AMAT	11.22%
21.0	LUMN	11.15%	CSTM	8.8%
21.0	CSTM	8.61%	CNC	8.54%
21.0	AVGO	8.25%	LUMN	8.37%
21.0	BHP	7.52%	ON	8.13%
21.0	SLV	7.42%	KALU	8.07%
21.0	CSCO	7.21%	AA	8.03%
21.0	PWR	6.8%	TEVA	7.33%
21.0	B	6.79%	JAZZ	7.06%
21.0	GNRC	6.75%	GNRC	6.9%
21.0	ON	6.44%	GOOGL	6.8%
21.0	CNC	6.32%	B	6.71%
21.0	TEVA	6.25%	SLV	6.62%
21.0	AA	6.08%	CMA	6.15%
21.0	RIO	5.83%	PWR	5.94%
21.0	KALU	5.7%	CSCO	5.82%
21.0	GOOGL	5.63%	NEM	5.44%
21.0	BIIB	5.33%	BHP	5.09%
21.0	CAH	5.27%	RIO	5.05%
21.0	JAZZ	5.03%	ELAN	4.99%
21.0	MRK	5.03%	TRGP	4.53%
21.0	TRGP	4.77%	TXN	4.48%
21.0	NEM	4.71%	CVS	4.42%
21.0	LLY	4.69%	FCX	4.4%
21.0	GS	4.19%	QCOM	4.22%
21.0	QQQ	4.17%	BIIB	4.18%

P365D: 63d

Results reflect ticker level average ROEUB across all model dates for which actual results for the stated horizon are known.

Period examined: All model dates from 2025-07-01 through 2026-06-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
63.0	MU	102.19%	WDC	82.28%
63.0	AMAT	79.71%	MU	81.13%
63.0	WDC	64.54%	INTC	67.28%
63.0	AMD	60.64%	AMD	43.21%
63.0	INTC	56.52%	AMAT	37.13%
63.0	LUMN	42.21%	CSTM	32.03%
63.0	CSTM	38.77%	AA	31.26%
63.0	SLV	32.47%	KALU	30.51%
63.0	ON	31.13%	LUMN	29.51%
63.0	BHP	30.54%	ON	28.03%
63.0	CAH	28.6%	SLV	27.71%
63.0	RIO	27.42%	TEVA	26.37%
63.0	AA	27.03%	CNC	23.16%
63.0	B	26.48%	JAZZ	22.69%
63.0	TEVA	26.18%	B	21.71%
63.0	CSCO	25.12%	PWR	21.24%
63.0	BIIB	24.56%	GOOGL	21.15%
63.0	KALU	23.23%	CMA	19.37%
63.0	TRGP	22.29%	RIO	18.36%
63.0	CNC	22.27%	NEM	18.31%
63.0	GOOGL	21.02%	TRGP	16.5%
63.0	MRK	19.75%	BHP	16.49%
63.0	LLY	19.19%	FCX	16.06%
63.0	JAZZ	19.0%	CSCO	15.96%
63.0	NEM	18.29%	GNRC	15.47%
63.0	XOM	16.99%	TXN	14.49%
63.0	AVGO	16.63%	MRK	13.14%
63.0	GS	15.44%	ELAN	13.07%
63.0	PWR	15.18%	LLY	12.91%
63.0	CMA	14.86%	BIIB	12.71%

P365D: 126d

Results reflect ticker level average ROEUB across all model dates for which actual results for the stated horizon are known.

Period examined: All model dates from 2025-07-01 through 2026-06-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
126.0	MU	301.3%	WDC	222.39%
126.0	AMAT	244.58%	MU	218.01%
126.0	WDC	198.55%	INTC	130.62%
126.0	INTC	156.3%	AMAT	89.43%
126.0	CSTM	109.07%	AA	83.83%
126.0	SLV	91.28%	CSTM	81.12%
126.0	BHP	86.28%	SLV	76.01%
126.0	AMD	83.8%	KALU	70.89%
126.0	TRGP	83.01%	TEVA	63.15%
126.0	RIO	80.43%	ON	59.94%
126.0	ON	80.32%	AMD	58.47%
126.0	AA	79.71%	B	51.14%
126.0	B	72.42%	JAZZ	45.45%
126.0	TEVA	68.66%	NEM	45.29%
126.0	CAH	61.67%	FCX	44.79%
126.0	LUMN	58.11%	RIO	44.7%
126.0	BIIB	57.67%	PWR	43.68%
126.0	KALU	55.78%	CMA	41.75%
126.0	MRK	51.38%	TRGP	41.6%
126.0	CNC	51.26%	CNC	41.09%
126.0	NEM	46.54%	GOOGL	40.45%
126.0	XOM	45.65%	BHP	39.44%
126.0	CSCO	44.58%	LUMN	36.01%
126.0	GOOGL	44.58%	MRK	33.14%
126.0	PWR	41.85%	TXN	33.06%
126.0	JAZZ	41.54%	GNRC	32.43%
126.0	FCX	39.61%	XOM	30.05%
126.0	BMY	36.03%	HSBC	29.51%
126.0	GNRC	35.55%	VFC	27.83%
126.0	LLY	34.98%	CSCO	27.66%

P90D: 1d

Results reflect ticker level average ROEUB across all model dates for which actual results for the stated horizon are known.

Period examined: All model dates from 2026-04-02 through 2026-06-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
1.0	MU	2.02%	MU	2.13%
1.0	WDC	1.55%	INTC	1.89%
1.0	AMD	1.27%	AMD	1.78%
1.0	AMC	1.24%	WDC	1.42%
1.0	INTC	1.14%	AMAT	1.32%
1.0	AMAT	1.02%	AMC	1.16%
1.0	CNC	0.76%	NWL	1.08%
1.0	VNO	0.69%	CNC	1.05%
1.0	NWL	0.67%	ON	0.87%
1.0	CYH	0.62%	TXN	0.78%
1.0	VST	0.59%	QCOM	0.77%
1.0	PWR	0.58%	GNRC	0.76%
1.0	AAP	0.57%	VNO	0.75%
1.0	NVDA	0.55%	KALU	0.7%
1.0	LLY	0.55%	CSCO	0.7%
1.0	AVGO	0.52%	UNH	0.7%
1.0	QQQ	0.49%	CVS	0.59%
1.0	ON	0.48%	CDNS	0.54%
1.0	TDG	0.48%	GE	0.5%
1.0	CSCO	0.47%	MNST	0.5%
1.0	SPY	0.45%	PWR	0.47%
1.0	DHI	0.45%	JAZZ	0.44%
1.0	KALU	0.43%	LLY	0.44%
1.0	CVS	0.4%	BXP	0.43%
1.0	LUMN	0.4%	MS	0.4%
1.0	CCL	0.38%	QQQ	0.4%
1.0	TXN	0.38%	AAP	0.37%
1.0	LW	0.36%	AVGO	0.37%
1.0	PRGO	0.35%	IRM	0.36%
1.0	QCOM	0.35%	BIIB	0.35%

P90D: 10d

Results reflect ticker level average ROEUB across all model dates for which actual results for the stated horizon are known.

Period examined: All model dates from 2026-04-02 through 2026-06-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
10.0	MU	21.26%	MU	22.38%
10.0	AMD	15.45%	INTC	18.51%
10.0	INTC	11.0%	AMD	17.64%
10.0	QCOM	9.05%	WDC	15.06%
10.0	CSCO	8.67%	AMC	12.37%
10.0	PWR	8.4%	CNC	11.8%
10.0	WDC	8.0%	ON	10.93%
10.0	AMAT	7.92%	QCOM	10.91%
10.0	ON	7.61%	AMAT	10.76%
10.0	CNC	7.52%	NWL	8.61%
10.0	LLY	5.58%	TXN	8.03%
10.0	CDNS	5.34%	CSCO	7.91%
10.0	NWL	5.24%	GNRC	7.18%
10.0	AVGO	5.24%	VNO	7.09%
10.0	VNO	5.14%	UNH	6.28%
10.0	GNRC	5.12%	KALU	6.04%
10.0	QQQ	4.99%	CDNS	5.98%
10.0	VST	4.49%	CVS	5.88%
10.0	AMC	4.4%	CLF	5.14%
10.0	TXN	4.34%	MNST	4.78%
10.0	DHI	3.88%	PWR	4.69%
10.0	KALU	3.87%	MS	4.34%
10.0	CVS	3.87%	LLY	4.25%
10.0	BBY	3.5%	BBY	4.19%
10.0	MNST	3.4%	BXP	4.11%
10.0	BHP	3.23%	GE	3.87%
10.0	MS	3.23%	GS	3.68%
10.0	SPY	3.19%	IRM	3.54%
10.0	BXP	2.96%	JAZZ	3.48%
10.0	TDG	2.96%	QQQ	3.45%

P90D: 21d

Results reflect ticker level average ROEUB across all model dates for which actual results for the stated horizon are known.

Period examined: All model dates from 2026-04-02 through 2026-06-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
21.0	MU	59.27%	MU	56.57%
21.0	AMD	37.09%	AMD	40.92%
21.0	CSCO	27.84%	INTC	39.62%
21.0	QCOM	24.13%	WDC	30.76%
21.0	INTC	23.39%	QCOM	29.15%
21.0	ON	19.77%	CNC	27.55%
21.0	CNC	19.26%	AMC	24.08%
21.0	AMAT	18.98%	ON	23.2%
21.0	WDC	16.48%	AMAT	22.25%
21.0	PWR	15.38%	CSCO	20.77%
21.0	LLY	15.09%	CLF	15.86%
21.0	CDNS	12.91%	VNO	15.49%
21.0	GNRC	12.37%	TXN	15.18%
21.0	QQQ	11.36%	GNRC	14.28%
21.0	BBY	10.48%	CDNS	13.51%
21.0	AVGO	9.53%	CVS	13.27%
21.0	MNST	9.25%	UNH	11.83%
21.0	VNO	9.01%	LLY	11.82%
21.0	CVS	8.33%	BBY	11.47%
21.0	BHP	8.04%	NWL	11.35%
21.0	MS	7.9%	KALU	10.88%
21.0	TXN	7.87%	MNST	10.86%
21.0	AMC	7.4%	ORCL	9.9%
21.0	NVDA	7.35%	PWR	9.14%
21.0	GS	7.34%	MS	8.96%
21.0	KALU	7.12%	JAZZ	8.8%
21.0	SPY	7.09%	GE	8.73%
21.0	CLF	6.93%	GS	8.33%
21.0	AAPL	6.66%	BXP	7.83%
21.0	ORCL	6.6%	GWW	7.5%

P30D: 1d

Results reflect ticker level average ROEUB across all model dates for which actual results for the stated horizon are known.

Period examined: All model dates from 2026-06-01 through 2026-06-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
1.0	WDC	2.73%	NWL	3.2%
1.0	NWL	2.69%	AMAT	2.49%
1.0	CAH	2.24%	INTC	1.4%
1.0	AMAT	2.24%	WDC	1.04%
1.0	AMC	1.77%	CYH	1.0%
1.0	INTC	1.43%	CAH	1.0%
1.0	CYH	1.42%	ABBV	0.86%
1.0	VNO	0.99%	MU	0.85%
1.0	DHI	0.93%	VNO	0.84%
1.0	VST	0.84%	PHM	0.8%
1.0	ACGL	0.83%	AMD	0.79%
1.0	CMG	0.81%	FITB	0.76%
1.0	MU	0.77%	BALL	0.76%
1.0	HD	0.71%	UAA	0.75%
1.0	LLY	0.7%	GE	0.73%
1.0	GT	0.67%	CVS	0.68%
1.0	ABBV	0.62%	HD	0.65%
1.0	PHM	0.56%	ZION	0.63%
1.0	BIIB	0.54%	USB	0.62%
1.0	BALL	0.54%	EXPE	0.62%
1.0	UAA	0.54%	BIIB	0.61%
1.0	KEY	0.54%	BXP	0.59%
1.0	TFC	0.53%	CMG	0.57%
1.0	FITB	0.46%	MRK	0.57%
1.0	MRK	0.45%	GT	0.56%
1.0	WFC	0.45%	DHI	0.55%
1.0	TDG	0.45%	LLY	0.54%
1.0	USB	0.44%	GNRC	0.52%
1.0	CCL	0.44%	BAC	0.51%
1.0	BAC	0.43%	JPM	0.51%

P30D: 10d

Results reflect ticker level average ROEUB across all model dates for which actual results for the stated horizon are known.

Period examined: All model dates from 2026-06-01 through 2026-06-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
10.0	NWL	21.42%	NWL	31.95%
10.0	CAH	21.27%	AMAT	23.39%
10.0	VST	17.74%	WDC	22.46%
10.0	MU	16.85%	INTC	16.87%
10.0	AMAT	16.26%	MU	13.37%
10.0	INTC	15.07%	AMC	13.28%
10.0	CYH	11.07%	GE	10.59%
10.0	WDC	10.85%	CAH	10.43%
10.0	ACGL	9.02%	BALL	10.07%
10.0	CMG	8.88%	EXPE	9.74%
10.0	DHI	8.58%	CYH	9.54%
10.0	TDG	8.17%	THC	8.76%
10.0	PHM	7.6%	PHM	8.65%
10.0	JPM	7.27%	VST	8.15%
10.0	HD	7.17%	DHI	7.55%
10.0	THC	6.64%	CMG	7.24%
10.0	AMC	6.56%	GT	6.71%
10.0	BALL	5.9%	USB	6.61%
10.0	BAC	5.88%	HD	6.58%
10.0	NAVI	5.37%	JPM	6.53%
10.0	VNO	5.34%	AMD	6.49%
10.0	UAA	5.32%	CCL	6.43%
10.0	USB	5.06%	ZION	6.08%
10.0	GT	5.03%	TDG	6.06%
10.0	ZION	4.75%	CVS	6.0%
10.0	CCL	4.37%	BAC	6.0%
10.0	EXPE	4.3%	UAA	5.68%
10.0	BIIB	3.87%	ABBV	5.65%
10.0	CVS	3.73%	GNRC	5.59%
10.0	ABBV	3.71%	FITB	5.33%

Bottom 30 Tickers By ROEUB

All TMD: 1d

Results reflect ticker level average ROEUB across all model dates for which actual results for the stated horizon are known.

Period examined: All model dates from 2022-01-31 through 2026-06-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
1.0	SIVBQ	-0.53%	SIVBQ	-0.78%
1.0	IEP	-0.29%	SBNY	-0.45%
1.0	SBNY	-0.24%	FRCB	-0.23%
1.0	LUMN	-0.23%	IEP	-0.14%
1.0	CZR	-0.2%	AMC	-0.13%
1.0	NWL	-0.15%	CHTR	-0.09%
1.0	UAA	-0.13%	PRGO	-0.09%
1.0	CHTR	-0.13%	FIS	-0.08%
1.0	ZTS	-0.1%	ZTS	-0.07%
1.0	FRCB	-0.1%	BHC	-0.06%
1.0	FIS	-0.08%	VFC	-0.06%
1.0	ADBE	-0.06%	ADBE	-0.06%
1.0	UNH	-0.06%	AAP	-0.06%
1.0	CMCSA	-0.06%	NWL	-0.06%
1.0	INTU	-0.06%	GT	-0.05%
1.0	BXP	-0.05%	CMCSA	-0.05%
1.0	GNRC	-0.05%	TLT	-0.04%
1.0	VFC	-0.05%	UAA	-0.04%
1.0	NAVI	-0.04%	NAVI	-0.04%
1.0	TLT	-0.04%	INTU	-0.04%
1.0	LNC	-0.04%	CZR	-0.03%
1.0	PRGO	-0.03%	KHC	-0.03%
1.0	CTLT	-0.03%	BXP	-0.03%
1.0	BALL	-0.03%	LNC	-0.02%
1.0	VZ	-0.02%	MOS	-0.02%
1.0	BA	-0.02%	BALL	-0.02%
1.0	AA	-0.02%	FRA	-0.02%
1.0	BIIB	-0.02%	PEP	-0.02%
1.0	AAP	-0.02%	CTLT	-0.01%
1.0	EMB	-0.02%	LQD	-0.01%

All TMD: 10d

Results reflect ticker level average ROEUB across all model dates for which actual results for the stated horizon are known.

Period examined: All model dates from 2022-01-31 through 2026-06-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
10.0	SIVBQ	-3.66%	SBNY	-4.05%
10.0	IEP	-2.52%	SIVBQ	-3.9%
10.0	CZR	-2.05%	FRCB	-2.19%
10.0	SBNY	-1.64%	IEP	-1.38%
10.0	FRCB	-1.18%	AMC	-1.17%
10.0	LUMN	-1.04%	CHTR	-0.99%
10.0	NWL	-1.02%	PRGO	-0.89%
10.0	AMC	-0.88%	FIS	-0.78%
10.0	ZTS	-0.85%	ZTS	-0.69%
10.0	UAA	-0.8%	NWL	-0.66%
10.0	CHTR	-0.75%	VFC	-0.66%
10.0	FIS	-0.63%	AAP	-0.62%
10.0	PRGO	-0.61%	ADBE	-0.57%
10.0	VFC	-0.61%	GT	-0.57%
10.0	INTU	-0.56%	CMCSA	-0.57%
10.0	ADBE	-0.55%	UAA	-0.56%
10.0	CMCSA	-0.52%	BHC	-0.53%
10.0	BXP	-0.51%	NAVI	-0.5%
10.0	NAVI	-0.47%	CZR	-0.45%
10.0	BALL	-0.42%	INTU	-0.4%
10.0	UNH	-0.38%	TLT	-0.39%
10.0	GNRC	-0.37%	MOS	-0.32%
10.0	KHC	-0.37%	BXP	-0.31%
10.0	TLT	-0.35%	KHC	-0.29%
10.0	LNC	-0.32%	LNC	-0.24%
10.0	AAP	-0.28%	BALL	-0.22%
10.0	CTLT	-0.23%	FRA	-0.18%
10.0	GT	-0.2%	CYH	-0.13%
10.0	BIIB	-0.17%	LQD	-0.12%
10.0	FRA	-0.15%	PEP	-0.12%

All TMD: 21d

Results reflect ticker level average ROEUB across all model dates for which actual results for the stated horizon are known.

Period examined: All model dates from 2022-01-31 through 2026-06-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
21.0	SIVBQ	-8.0%	SBNY	-11.16%
21.0	IEP	-5.96%	SIVBQ	-9.37%
21.0	SBNY	-4.88%	FRCB	-6.02%
21.0	CZR	-4.41%	IEP	-2.96%
21.0	FRCB	-3.24%	AMC	-2.93%
21.0	NWL	-2.06%	CHTR	-2.05%
21.0	ZTS	-1.65%	NWL	-1.82%
21.0	CHTR	-1.54%	PRGO	-1.78%
21.0	VFC	-1.52%	FIS	-1.46%
21.0	UAA	-1.46%	ZTS	-1.41%
21.0	AMC	-1.43%	VFC	-1.4%
21.0	INTU	-1.19%	BHC	-1.32%
21.0	ADBE	-1.17%	AAP	-1.25%
21.0	PRGO	-1.17%	GT	-1.15%
21.0	FIS	-1.14%	CMCSA	-1.12%
21.0	LUMN	-1.0%	NAVI	-1.12%
21.0	BXP	-0.96%	UAA	-1.08%
21.0	KHC	-0.89%	CZR	-1.02%
21.0	NAVI	-0.88%	ADBE	-0.93%
21.0	TLT	-0.87%	TLT	-0.83%
21.0	CMCSA	-0.85%	MOS	-0.72%
21.0	BALL	-0.78%	BXP	-0.71%
21.0	AAP	-0.72%	KHC	-0.69%
21.0	BHC	-0.62%	INTU	-0.64%
21.0	UNH	-0.59%	LNC	-0.61%
21.0	LNC	-0.51%	BALL	-0.55%
21.0	GNRC	-0.51%	FRA	-0.35%
21.0	VZ	-0.46%	CYH	-0.3%
21.0	GT	-0.43%	LQD	-0.23%
21.0	FRA	-0.32%	PEP	-0.2%

All TMD: 63d

Results reflect ticker level average ROEUB across all model dates for which actual results for the stated horizon are known.

Period examined: All model dates from 2022-01-31 through 2026-06-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
63.0	SIVBQ	-30.27%	SBNY	-37.59%
63.0	IEP	-19.3%	SIVBQ	-33.73%
63.0	SBNY	-19.01%	FRCB	-24.04%
63.0	FRCB	-15.74%	AMC	-13.25%
63.0	NWL	-10.61%	IEP	-9.66%
63.0	VFC	-7.09%	NWL	-7.11%
63.0	CZR	-6.88%	PRGO	-5.97%
63.0	AMC	-6.62%	CHTR	-5.25%
63.0	UAA	-4.86%	AAP	-4.3%
63.0	PRGO	-4.75%	MOS	-4.08%
63.0	CHTR	-4.65%	CZR	-4.07%
63.0	ADBE	-4.38%	VFC	-3.95%
63.0	GNRC	-4.16%	BHC	-3.94%
63.0	AAP	-3.95%	FIS	-3.82%
63.0	KHC	-3.6%	ZTS	-3.51%
63.0	ZTS	-3.47%	NAVI	-3.4%
63.0	BXP	-3.17%	UAA	-3.05%
63.0	BHC	-3.1%	GT	-2.94%
63.0	MOS	-2.78%	CMCSA	-2.87%
63.0	NAVI	-2.75%	BXP	-2.83%
63.0	FIS	-2.75%	KHC	-2.75%
63.0	BALL	-2.71%	ADBE	-2.46%
63.0	TLT	-2.65%	TLT	-2.31%
63.0	GT	-2.55%	LNC	-1.91%
63.0	CLF	-2.35%	CLF	-1.76%
63.0	CMCSA	-2.29%	BALL	-1.4%
63.0	CYH	-1.99%	BBY	-1.28%
63.0	CTLT	-1.99%	FRA	-0.88%
63.0	VZ	-1.95%	CYH	-0.68%
63.0	UNH	-1.47%	LW	-0.57%

All TMD: 126d

Results reflect ticker level average ROEUB across all model dates for which actual results for the stated horizon are known.

Period examined: All model dates from 2022-01-31 through 2026-06-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
126.0	SIVBQ	-64.31%	SIVBQ	-65.15%
126.0	FRCB	-39.92%	SBNY	-64.8%
126.0	IEP	-39.72%	FRCB	-51.17%
126.0	SBNY	-33.47%	AMC	-28.95%
126.0	NWL	-30.71%	IEP	-18.89%
126.0	AMC	-15.49%	NWL	-16.23%
126.0	VFC	-14.27%	PRGO	-11.88%
126.0	PRGO	-10.84%	AAP	-10.26%
126.0	AAP	-10.83%	CHTR	-9.02%
126.0	CZR	-10.07%	MOS	-8.07%
126.0	GNRC	-9.24%	CZR	-7.87%
126.0	GT	-9.2%	VFC	-6.65%
126.0	FIS	-8.57%	FIS	-6.48%
126.0	CHTR	-7.94%	NAVI	-5.98%
126.0	KHC	-7.59%	KHC	-5.9%
126.0	ADBE	-7.39%	BHC	-5.78%
126.0	MOS	-7.3%	CTLT	-5.69%
126.0	UAA	-7.28%	ZTS	-5.45%
126.0	CTLT	-6.16%	GT	-5.43%
126.0	BHC	-5.63%	BXP	-5.34%
126.0	CMCSA	-5.3%	UAA	-5.24%
126.0	BXP	-5.14%	CMCSA	-4.71%
126.0	TLT	-4.88%	TLT	-4.11%
126.0	CLF	-4.54%	CNC	-3.97%
126.0	NAVI	-4.5%	CLF	-3.31%
126.0	ZTS	-4.22%	ADBE	-3.19%
126.0	BALL	-3.89%	UNH	-3.18%
126.0	VZ	-3.85%	LNC	-2.41%
126.0	CVS	-3.41%	LW	-2.34%
126.0	CYH	-3.12%	BBY	-1.97%

All TMD: 252d

Results reflect ticker level average ROEUB across all model dates for which actual results for the stated horizon are known.

Period examined: All model dates from 2022-01-31 through 2026-06-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
252.0	SIVBQ	-165.64%	SBNY	-95.75%
252.0	FRCB	-122.39%	SIVBQ	-95.29%
252.0	SBNY	-81.71%	FRCB	-91.61%
252.0	IEP	-79.97%	AMC	-54.07%
252.0	NWL	-64.67%	IEP	-39.1%
252.0	AMC	-35.56%	NWL	-30.4%
252.0	CZR	-27.45%	AAP	-22.06%
252.0	VFC	-26.49%	PRGO	-20.35%
252.0	AAP	-25.49%	VFC	-17.45%
252.0	GT	-24.98%	CNC	-17.13%
252.0	PRGO	-23.08%	CZR	-16.6%
252.0	MOS	-23.05%	MOS	-15.12%
252.0	UAA	-20.12%	UAA	-14.81%
252.0	CNC	-19.27%	CHTR	-13.82%
252.0	CVS	-18.11%	KHC	-11.7%
252.0	CLF	-18.01%	GT	-9.8%
252.0	KHC	-17.49%	UNH	-9.31%
252.0	FIS	-16.7%	NAVI	-9.17%
252.0	UNH	-14.87%	CLF	-8.62%
252.0	CHTR	-12.19%	BHC	-8.33%
252.0	ADBE	-11.77%	BMY	-7.84%
252.0	BHC	-11.03%	TLT	-7.08%
252.0	CYH	-9.96%	ZTS	-6.74%
252.0	TLT	-9.23%	CMCSA	-6.41%
252.0	BMY	-8.37%	CTLT	-6.24%
252.0	LW	-7.76%	CYH	-5.99%
252.0	NAVI	-7.51%	FIS	-5.69%
252.0	BALL	-6.58%	LW	-5.6%
252.0	ZTS	-6.51%	BXP	-5.52%
252.0	GNRC	-6.38%	OXY	-4.95%

P365D: 1d

Results reflect ticker level average ROEUB across all model dates for which actual results for the stated horizon are known.

Period examined: All model dates from 2025-07-01 through 2026-06-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
1.0	MSTR	-0.5%	MSTR	-0.47%
1.0	CHTR	-0.42%	INTU	-0.39%
1.0	ZTS	-0.4%	CHTR	-0.38%
1.0	UAA	-0.33%	PRGO	-0.34%
1.0	INTU	-0.31%	ZTS	-0.29%
1.0	ADBE	-0.3%	FIS	-0.28%
1.0	FIS	-0.29%	ADBE	-0.23%
1.0	GBTC	-0.28%	NFLX	-0.21%
1.0	MOS	-0.24%	CPRT	-0.21%
1.0	CMG	-0.22%	GBTC	-0.2%
1.0	CPRT	-0.22%	CMG	-0.18%
1.0	CMCSA	-0.21%	NAVI	-0.18%
1.0	IEP	-0.18%	MOS	-0.18%
1.0	NFLX	-0.15%	GT	-0.15%
1.0	VICI	-0.15%	CMCSA	-0.14%
1.0	PRGO	-0.13%	TMUS	-0.13%
1.0	CZR	-0.12%	T	-0.12%
1.0	ORCL	-0.12%	ISRG	-0.1%
1.0	GT	-0.11%	MSFT	-0.1%
1.0	MSFT	-0.11%	ORCL	-0.08%
1.0	ISRG	-0.1%	VICI	-0.08%
1.0	TMUS	-0.1%	POST	-0.08%
1.0	T	-0.08%	BHC	-0.08%
1.0	NAVI	-0.08%	META	-0.07%
1.0	FRA	-0.08%	FRA	-0.07%
1.0	LEN	-0.07%	LEN	-0.07%
1.0	POST	-0.07%	AMC	-0.05%
1.0	WYNN	-0.06%	AZO	-0.05%
1.0	CNC	-0.04%	IEP	-0.04%
1.0	MSI	-0.03%	SNY	-0.04%

P365D: 10d

Results reflect ticker level average ROEUB across all model dates for which actual results for the stated horizon are known.

Period examined: All model dates from 2025-07-01 through 2026-06-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
10.0	MSTR	-4.58%	MSTR	-4.86%
10.0	CHTR	-3.09%	INTU	-3.9%
10.0	ZTS	-3.07%	CHTR	-3.85%
10.0	MOS	-3.02%	PRGO	-3.41%
10.0	INTU	-2.91%	FIS	-2.86%
10.0	CPRT	-2.51%	ZTS	-2.58%
10.0	GT	-2.47%	ADBE	-2.34%
10.0	PRGO	-2.33%	NAVI	-2.22%
10.0	ADBE	-2.26%	GBTC	-2.15%
10.0	GBTC	-2.21%	NFLX	-1.95%
10.0	CMG	-2.19%	CPRT	-1.89%
10.0	FIS	-1.96%	GT	-1.89%
10.0	NAVI	-1.88%	CMG	-1.88%
10.0	NFLX	-1.58%	MOS	-1.88%
10.0	CMCSA	-1.32%	CMCSA	-1.65%
10.0	VICI	-1.3%	MSFT	-1.06%
10.0	ORCL	-1.3%	TMUS	-0.96%
10.0	AMC	-1.18%	ISRG	-0.92%
10.0	IEP	-0.98%	VICI	-0.84%
10.0	ISRG	-0.87%	BHC	-0.81%
10.0	META	-0.85%	FRA	-0.8%
10.0	T	-0.79%	T	-0.8%
10.0	FRA	-0.72%	META	-0.74%
10.0	TMUS	-0.63%	IEP	-0.7%
10.0	AZO	-0.62%	POST	-0.67%
10.0	KHC	-0.62%	AZO	-0.65%
10.0	UAA	-0.58%	ORCL	-0.63%
10.0	LEN	-0.56%	LEN	-0.63%
10.0	ORLY	-0.45%	KHC	-0.52%
10.0	SNY	-0.45%	SNY	-0.49%

P365D: 21d

Results reflect ticker level average ROEUB across all model dates for which actual results for the stated horizon are known.

Period examined: All model dates from 2025-07-01 through 2026-06-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
21.0	MSTR	-11.07%	MSTR	-9.3%
21.0	INTU	-7.11%	INTU	-7.88%
21.0	ZTS	-6.51%	CHTR	-7.59%
21.0	CPRT	-6.39%	PRGO	-7.07%
21.0	CHTR	-6.04%	FIS	-6.02%
21.0	MOS	-5.61%	ZTS	-5.32%
21.0	ADBE	-5.11%	GBTC	-4.76%
21.0	GBTC	-5.05%	NAVI	-4.69%
21.0	PRGO	-4.88%	ADBE	-4.34%
21.0	GT	-4.74%	GT	-4.13%
21.0	CMG	-4.36%	MOS	-4.02%
21.0	FIS	-4.3%	CMG	-3.92%
21.0	NAVI	-3.41%	CPRT	-3.77%
21.0	NFLX	-2.98%	NFLX	-3.64%
21.0	CMCSA	-2.75%	CMCSA	-3.25%
21.0	IEP	-2.48%	TMUS	-2.06%
21.0	VICI	-2.47%	MSFT	-1.98%
21.0	ORCL	-2.14%	BHC	-1.79%
21.0	ISRG	-1.96%	IEP	-1.76%
21.0	KHC	-1.9%	FRA	-1.69%
21.0	AMC	-1.7%	ISRG	-1.65%
21.0	META	-1.68%	VST	-1.65%
21.0	BHC	-1.63%	VICI	-1.64%
21.0	LEN	-1.55%	TDG	-1.61%
21.0	FRA	-1.49%	META	-1.55%
21.0	TMUS	-1.34%	LEN	-1.47%
21.0	VST	-1.25%	T	-1.46%
21.0	AZO	-1.19%	AZO	-1.45%
21.0	T	-1.15%	KHC	-1.41%
21.0	MSFT	-1.09%	POST	-1.38%

P365D: 63d

Results reflect ticker level average ROEUB across all model dates for which actual results for the stated horizon are known.

Period examined: All model dates from 2025-07-01 through 2026-06-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
63.0	MSTR	-40.76%	MSTR	-23.84%
63.0	CPRT	-25.59%	PRGO	-22.0%
63.0	INTU	-21.23%	INTU	-20.52%
63.0	ADBE	-17.88%	CHTR	-16.04%
63.0	PRGO	-17.32%	FIS	-15.53%
63.0	MOS	-16.37%	ZTS	-14.04%
63.0	ORCL	-15.56%	GBTC	-14.03%
63.0	GBTC	-15.29%	NAVI	-13.89%
63.0	GT	-14.75%	ADBE	-12.56%
63.0	ZTS	-14.51%	CPRT	-11.77%
63.0	LEN	-13.77%	MOS	-11.28%
63.0	CHTR	-13.11%	LEN	-9.65%
63.0	FIS	-12.62%	NFLX	-9.44%
63.0	NAVI	-10.96%	CMG	-9.09%
63.0	CMG	-10.83%	GT	-9.06%
63.0	NFLX	-10.41%	AMC	-8.72%
63.0	VST	-8.5%	CMCSA	-7.65%
63.0	MSFT	-8.26%	VST	-7.47%
63.0	VICI	-7.95%	TMUS	-7.43%
63.0	CMCSA	-7.37%	ORCL	-7.43%
63.0	TMUS	-6.95%	MSFT	-7.06%
63.0	BHC	-6.94%	BHC	-6.94%
63.0	KHC	-6.87%	NWL	-6.32%
63.0	AZO	-6.74%	META	-6.07%
63.0	FRA	-5.41%	LW	-5.9%
63.0	T	-5.38%	FRA	-5.8%
63.0	VNO	-5.05%	AZO	-5.73%
63.0	ISRG	-4.76%	HD	-5.7%
63.0	META	-4.73%	KHC	-5.24%
63.0	LW	-4.68%	VICI	-5.16%

P365D: 126d

Results reflect ticker level average ROEUB across all model dates for which actual results for the stated horizon are known.

Period examined: All model dates from 2025-07-01 through 2026-06-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
126.0	MSTR	-106.69%	MSTR	-48.55%
126.0	INTU	-46.97%	AMC	-41.14%
126.0	CPRT	-45.51%	INTU	-40.21%
126.0	ORCL	-43.06%	PRGO	-39.49%
126.0	LEN	-39.42%	GBTC	-31.2%
126.0	NFLX	-33.99%	FIS	-30.07%
126.0	PRGO	-33.66%	NAVI	-29.5%
126.0	FIS	-33.61%	ORCL	-28.32%
126.0	GBTC	-31.92%	CHTR	-26.33%
126.0	ADBE	-31.48%	ADBE	-26.1%
126.0	GT	-30.04%	ZTS	-23.41%
126.0	MOS	-24.22%	NFLX	-23.37%
126.0	MSFT	-23.54%	LW	-22.46%
126.0	NAVI	-21.3%	CPRT	-21.22%
126.0	VNO	-20.4%	LEN	-19.18%
126.0	LW	-20.23%	MSFT	-18.37%
126.0	CHTR	-19.94%	MOS	-17.27%
126.0	AZO	-19.82%	VNO	-17.23%
126.0	ZTS	-17.76%	VST	-16.48%
126.0	VST	-17.41%	BXP	-14.74%
126.0	CMG	-16.89%	BHC	-14.46%
126.0	BHC	-15.68%	GT	-13.3%
126.0	VICI	-15.23%	TMUS	-13.06%
126.0	AMC	-14.77%	CMG	-13.03%
126.0	KHC	-14.14%	FRA	-11.52%
126.0	WYNN	-13.96%	AZO	-11.44%
126.0	TMUS	-12.96%	META	-11.02%
126.0	BBY	-11.91%	BBY	-10.42%
126.0	BXP	-10.53%	KHC	-10.37%
126.0	CMCSA	-10.38%	WYNN	-10.22%

P90D: 1d

Results reflect ticker level average ROEUB across all model dates for which actual results for the stated horizon are known.

Period examined: All model dates from 2026-04-02 through 2026-06-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
1.0	ZTS	-1.22%	ZTS	-0.76%
1.0	CHTR	-1.09%	INTU	-0.71%
1.0	INTU	-0.64%	CHTR	-0.6%
1.0	SLV	-0.37%	NFLX	-0.51%
1.0	VFC	-0.36%	T	-0.51%
1.0	FIS	-0.36%	AA	-0.46%
1.0	T	-0.34%	OXY	-0.4%
1.0	MOS	-0.33%	MSTR	-0.4%
1.0	AA	-0.32%	MOS	-0.31%
1.0	OXY	-0.3%	HCA	-0.3%
1.0	MSTR	-0.3%	SLV	-0.29%
1.0	LVS	-0.29%	TMUS	-0.29%
1.0	POST	-0.29%	NEM	-0.28%
1.0	NFLX	-0.27%	CPRT	-0.27%
1.0	B	-0.27%	FIS	-0.26%
1.0	ADBE	-0.26%	XOM	-0.25%
1.0	VICI	-0.26%	LVS	-0.25%
1.0	CPRT	-0.24%	GLD	-0.24%
1.0	CMCSA	-0.22%	VZ	-0.24%
1.0	VZ	-0.21%	ADBE	-0.24%
1.0	HCA	-0.19%	PEP	-0.24%
1.0	PCG	-0.18%	POST	-0.2%
1.0	AZN	-0.16%	GBTC	-0.2%
1.0	PEP	-0.16%	ISRG	-0.19%
1.0	GILD	-0.16%	CMCSA	-0.18%
1.0	MSI	-0.15%	SNY	-0.18%
1.0	BMY	-0.15%	B	-0.16%
1.0	TMUS	-0.13%	GILD	-0.16%
1.0	ISRG	-0.13%	COST	-0.13%
1.0	GBTC	-0.12%	GSK	-0.12%

P90D: 10d

Results reflect ticker level average ROEUB across all model dates for which actual results for the stated horizon are known.

Period examined: All model dates from 2026-04-02 through 2026-06-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
10.0	ZTS	-12.25%	CHTR	-8.65%
10.0	CHTR	-8.21%	ZTS	-7.34%
10.0	INTU	-7.48%	INTU	-6.7%
10.0	MOS	-4.22%	NFLX	-6.1%
10.0	T	-3.59%	HCA	-4.4%
10.0	CMCSA	-3.52%	AA	-3.75%
10.0	HCA	-3.44%	CMCSA	-3.66%
10.0	NFLX	-3.25%	FIS	-3.55%
10.0	AA	-2.99%	T	-3.54%
10.0	LVS	-2.95%	SLV	-3.48%
10.0	OXY	-2.89%	MSTR	-3.29%
10.0	CPRT	-2.66%	ADBE	-3.0%
10.0	NEM	-2.64%	NEM	-2.95%
10.0	POST	-2.43%	GLD	-2.71%
10.0	SLV	-2.35%	LVS	-2.69%
10.0	ADBE	-2.29%	GBTC	-2.65%
10.0	GME	-2.15%	MOS	-2.6%
10.0	MSTR	-1.95%	OXY	-2.52%
10.0	META	-1.94%	ISRG	-2.34%
10.0	GBTC	-1.85%	BHC	-2.34%
10.0	AZN	-1.83%	POST	-2.21%
10.0	PCG	-1.81%	XOM	-2.16%
10.0	CMG	-1.73%	AZO	-2.14%
10.0	SNY	-1.71%	CPRT	-2.09%
10.0	AZO	-1.69%	SNY	-2.05%
10.0	FIS	-1.64%	GILD	-2.03%
10.0	GILD	-1.64%	AZN	-1.97%
10.0	ISRG	-1.6%	PEP	-1.95%
10.0	XOM	-1.49%	GSK	-1.92%
10.0	PRGO	-1.45%	MSI	-1.76%

P90D: 21d

Results reflect ticker level average ROEUB across all model dates for which actual results for the stated horizon are known.

Period examined: All model dates from 2026-04-02 through 2026-06-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
21.0	ZTS	-31.02%	CHTR	-19.5%
21.0	INTU	-18.95%	ZTS	-18.0%
21.0	CHTR	-17.2%	INTU	-14.87%
21.0	CMCSA	-9.77%	NFLX	-10.81%
21.0	HCA	-9.17%	HCA	-10.61%
21.0	MOS	-7.6%	CMCSA	-8.99%
21.0	CPRT	-7.51%	MSTR	-8.73%
21.0	CMG	-6.7%	FIS	-8.34%
21.0	NEM	-6.54%	GBTC	-7.53%
21.0	POST	-6.53%	T	-7.41%
21.0	NFLX	-6.49%	AZO	-6.61%
21.0	LVS	-6.37%	SLV	-6.41%
21.0	AZO	-6.3%	POST	-6.16%
21.0	T	-6.05%	NEM	-6.16%
21.0	GT	-5.98%	ISRG	-6.13%
21.0	META	-5.83%	GT	-5.84%
21.0	MSTR	-5.74%	BHC	-5.63%
21.0	GBTC	-5.73%	GME	-5.63%
21.0	SLV	-5.49%	GLD	-5.52%
21.0	NAVI	-5.21%	VFC	-5.46%
21.0	AZN	-5.11%	LVS	-5.45%
21.0	GME	-5.05%	META	-5.23%
21.0	ADBE	-4.95%	MOS	-5.2%
21.0	BHC	-4.66%	PEP	-4.8%
21.0	PRGO	-4.47%	CMG	-4.77%
21.0	FIS	-4.27%	CPRT	-4.61%
21.0	THC	-4.12%	ADBE	-4.5%
21.0	ISRG	-4.06%	SNY	-4.36%
21.0	ACGL	-3.99%	GSK	-4.16%
21.0	SNY	-3.92%	AZN	-4.14%

P30D: 1d

Results reflect ticker level average ROEUB across all model dates for which actual results for the stated horizon are known.

Period examined: All model dates from 2026-06-01 through 2026-06-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
1.0	MSTR	-1.77%	ORCL	-2.54%
1.0	INTU	-1.69%	MSTR	-2.51%
1.0	ORCL	-1.57%	AA	-1.89%
1.0	ADBE	-1.49%	CLF	-1.72%
1.0	LUMN	-1.21%	LUMN	-1.55%
1.0	MSFT	-1.2%	INTU	-1.46%
1.0	AA	-1.13%	ADBE	-1.4%
1.0	ON	-1.12%	SLV	-1.11%
1.0	LVS	-0.99%	MSFT	-1.02%
1.0	OXY	-0.94%	FSUGY	-0.97%
1.0	CLF	-0.85%	OXY	-0.95%
1.0	T	-0.85%	GBTC	-0.94%
1.0	RIO	-0.84%	QCOM	-0.94%
1.0	ZTS	-0.68%	NFLX	-0.89%
1.0	GBTC	-0.67%	ON	-0.89%
1.0	FSUGY	-0.64%	AVGO	-0.88%
1.0	NFLX	-0.58%	T	-0.82%
1.0	MOS	-0.57%	LVS	-0.7%
1.0	QCOM	-0.57%	NEM	-0.68%
1.0	VZ	-0.57%	RIO	-0.66%
1.0	CPRT	-0.57%	B	-0.65%
1.0	SLV	-0.56%	CPRT	-0.65%
1.0	CSTM	-0.55%	VZ	-0.57%
1.0	B	-0.46%	FIS	-0.55%
1.0	VFC	-0.46%	NVDA	-0.54%
1.0	FIS	-0.41%	GLD	-0.53%
1.0	CMCSA	-0.4%	TMUS	-0.51%
1.0	FCX	-0.39%	CDNS	-0.46%
1.0	VICI	-0.39%	WYNN	-0.45%
1.0	GS	-0.35%	AMZN	-0.43%

P30D: 10d

Results reflect ticker level average ROEUB across all model dates for which actual results for the stated horizon are known.

Period examined: All model dates from 2026-06-01 through 2026-06-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
10.0	ORCL	-17.12%	AA	-22.11%
10.0	ADBE	-14.8%	ORCL	-21.68%
10.0	AA	-13.66%	MSTR	-18.78%
10.0	ON	-12.12%	CLF	-16.34%
10.0	INTU	-12.06%	ADBE	-16.06%
10.0	OXY	-11.28%	LUMN	-11.19%
10.0	CLF	-11.12%	INTU	-11.13%
10.0	LUMN	-10.57%	OXY	-10.1%
10.0	MSFT	-9.56%	SLV	-10.0%
10.0	MSTR	-9.24%	MSFT	-9.55%
10.0	PRGO	-7.98%	NFLX	-9.05%
10.0	LVS	-7.33%	ON	-7.51%
10.0	SLV	-6.7%	PRGO	-7.38%
10.0	NFLX	-5.75%	XOM	-7.04%
10.0	T	-5.45%	FSUGY	-6.98%
10.0	CPRT	-5.03%	AVGO	-6.47%
10.0	RIO	-5.01%	QCOM	-6.4%
10.0	XOM	-4.95%	LVS	-6.38%
10.0	FSUGY	-4.27%	RIO	-6.03%
10.0	CMCSA	-4.19%	BHC	-4.85%
10.0	ZTS	-4.03%	FIS	-4.55%
10.0	VICI	-3.39%	GLD	-4.4%
10.0	QCOM	-3.24%	CSTM	-4.33%
10.0	AVGO	-3.11%	NVDA	-4.23%
10.0	TSLA	-2.75%	T	-4.12%
10.0	BHC	-2.7%	META	-4.1%
10.0	CSTM	-2.65%	CPRT	-4.03%
10.0	AMZN	-2.63%	B	-3.98%
10.0	CSCO	-2.37%	AMZN	-3.94%
10.0	POST	-2.32%	CDNS	-3.75%

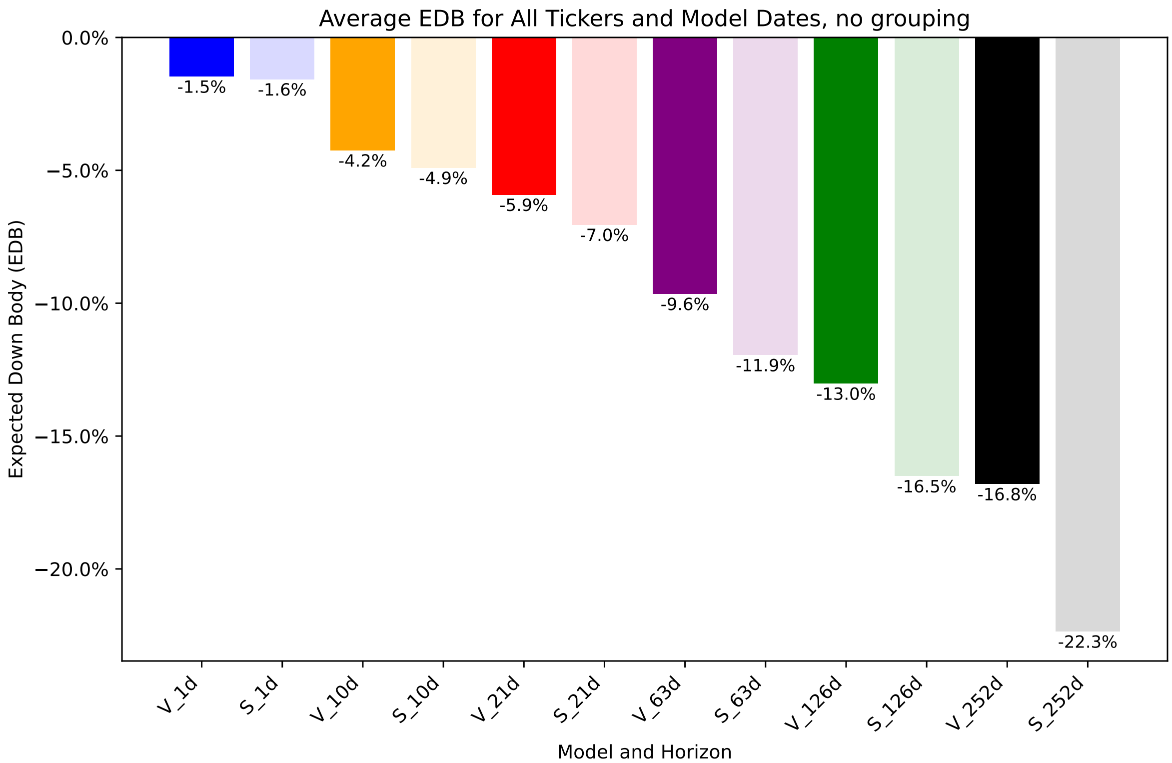
Expected Down Body (EDB)

Historic Average Levels

Here we compare Vector Model ("V", dark shading) and Sigma ("S", light shading) EDB levels by horizon, on average across all ticker-model dates for the lookback window indicated.

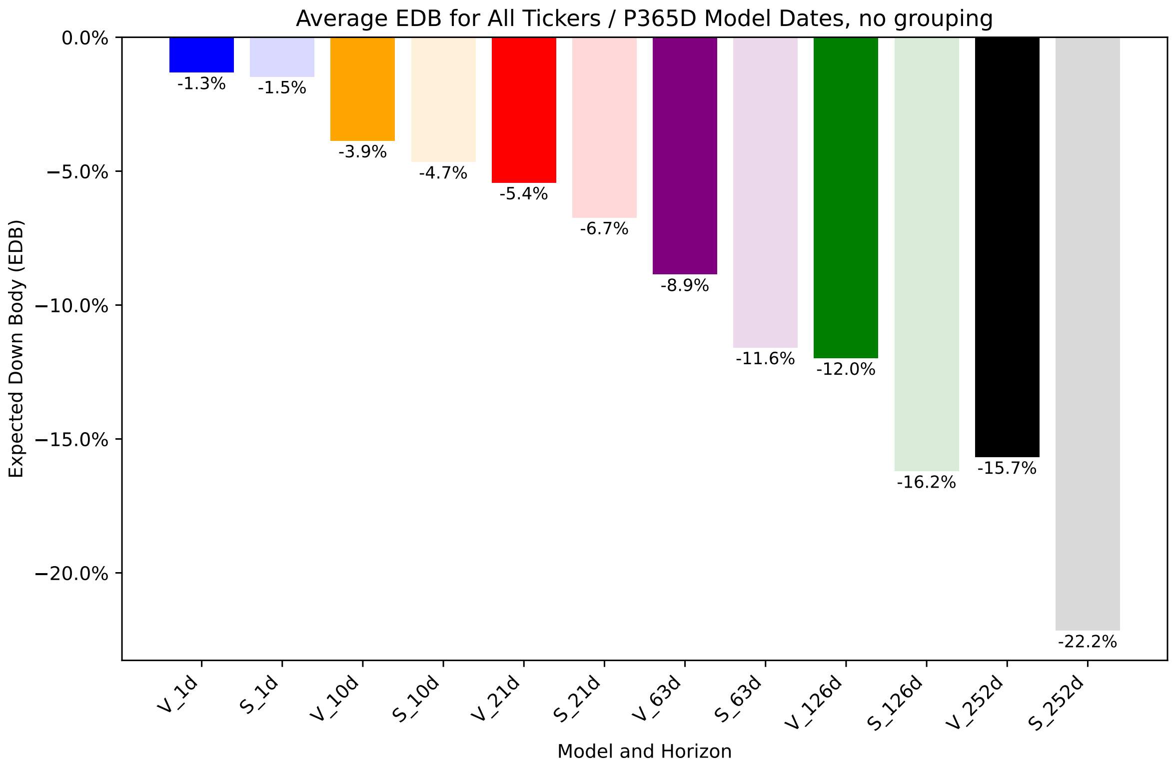
All Out of Sample Model Dates

Period examined: All model dates from 2022-01-31 through 2026-06-29



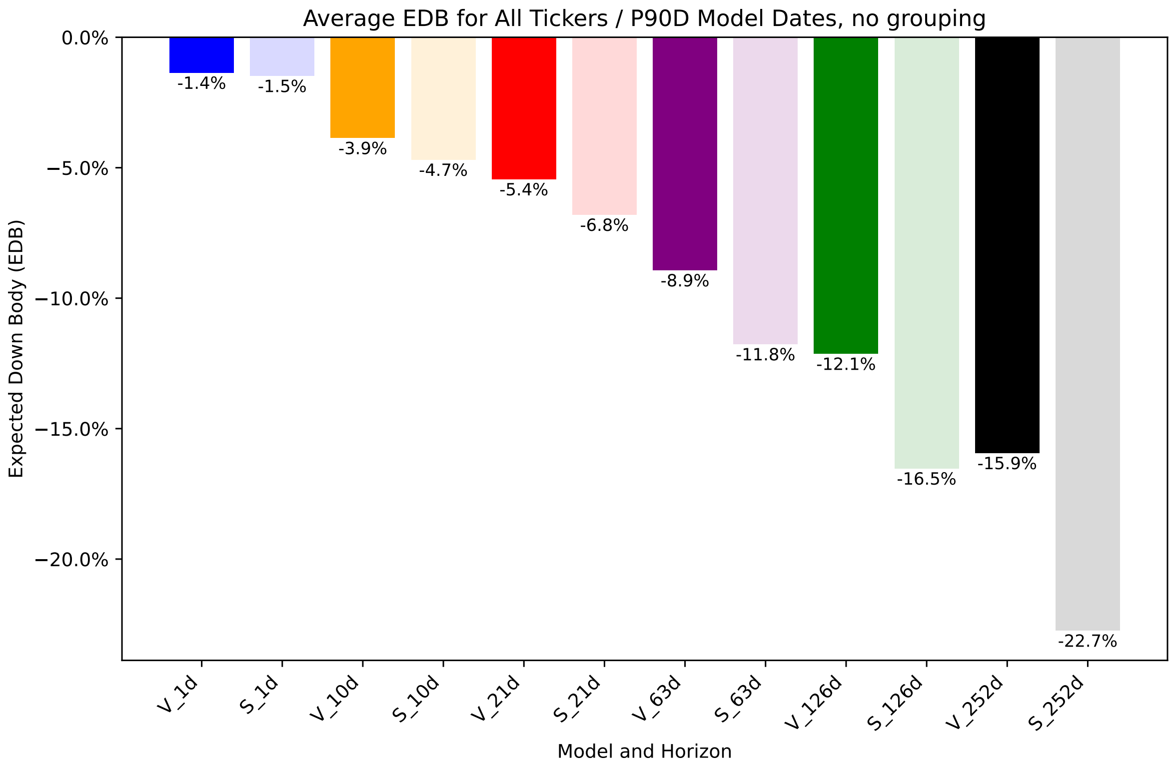
Prior 365 Calendar Days (P365D)

Period examined: All model dates from 2025-07-01 through 2026-06-29



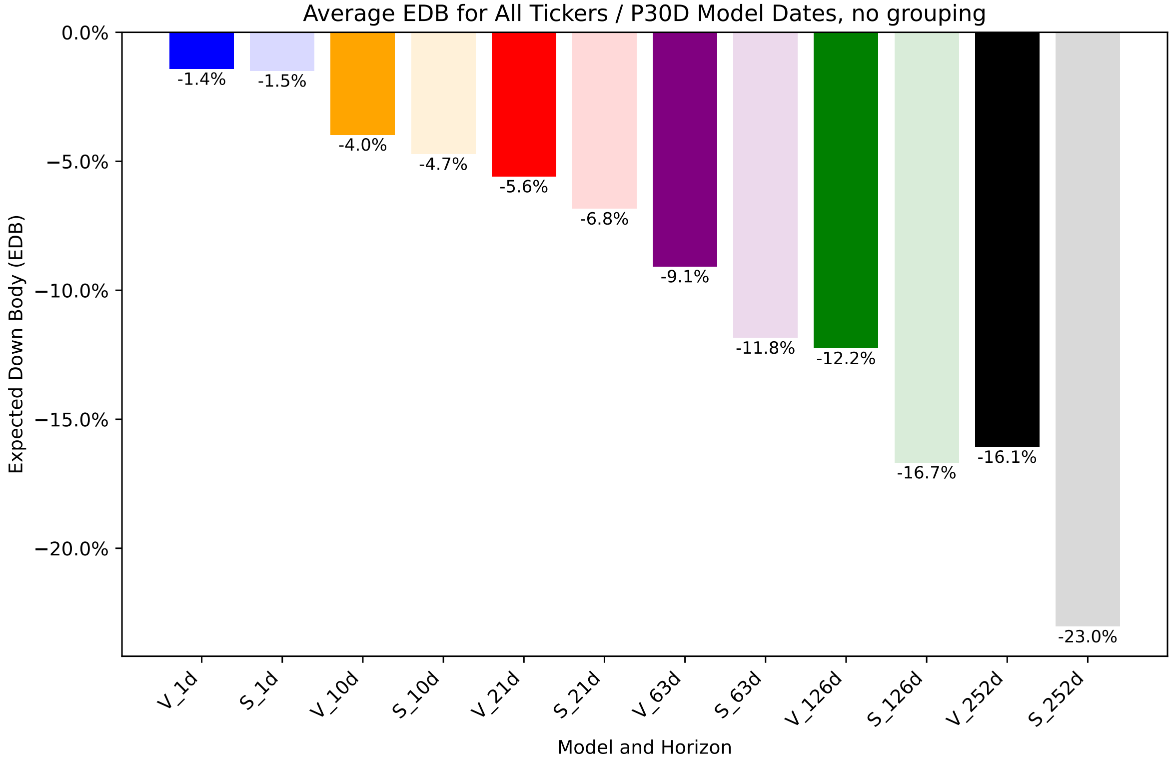
Prior 90 Calendar Days (P90D)

Period examined: All model dates from 2026-04-02 through 2026-06-29



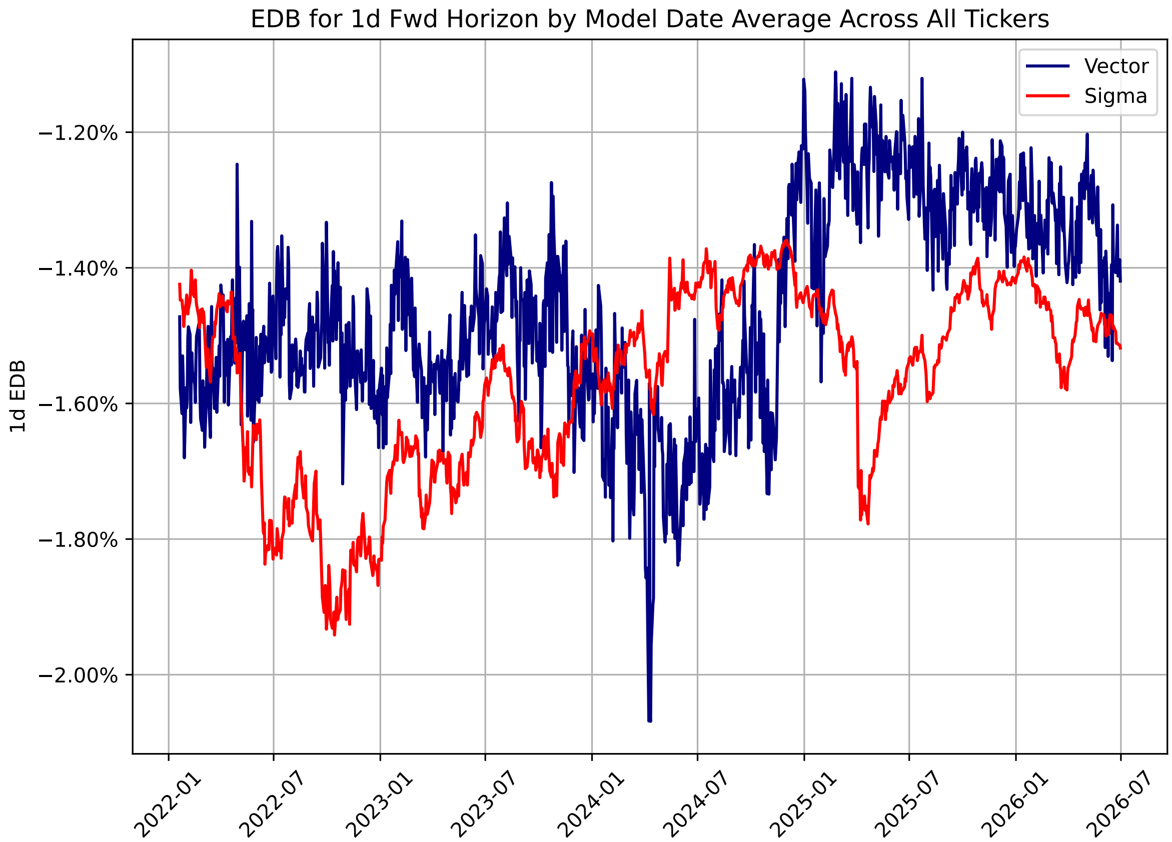
Prior 30 Calendar Days (P30D)

Period examined: All model dates from 2026-06-01 through 2026-06-29

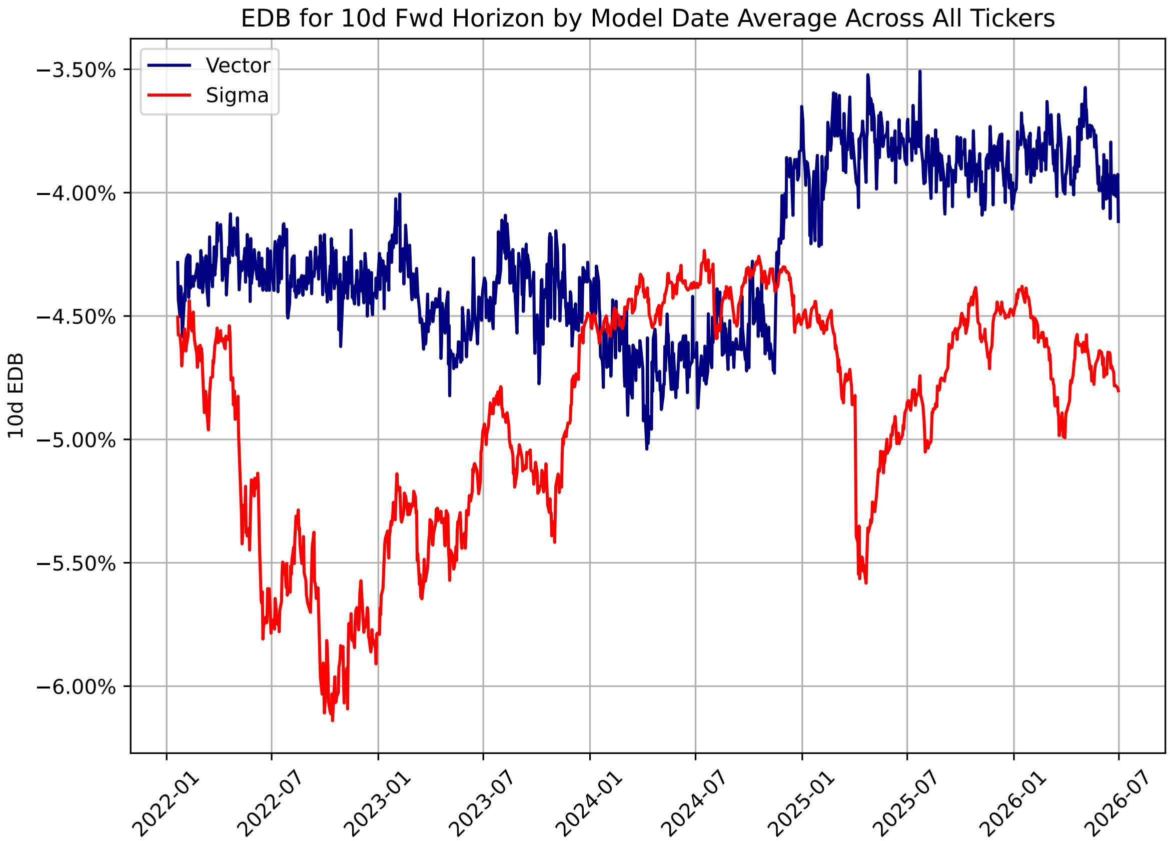


EDB by Model Date Detail

1d Horizon

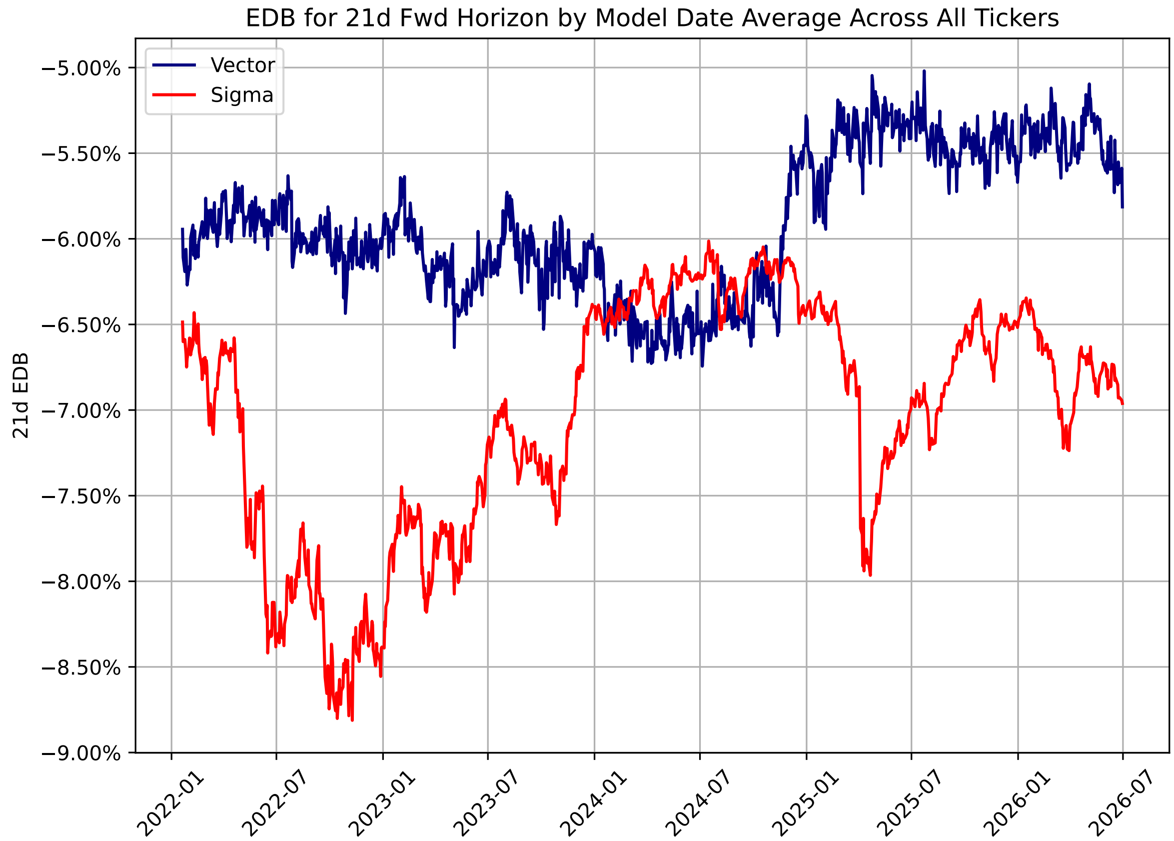


10d Horizon

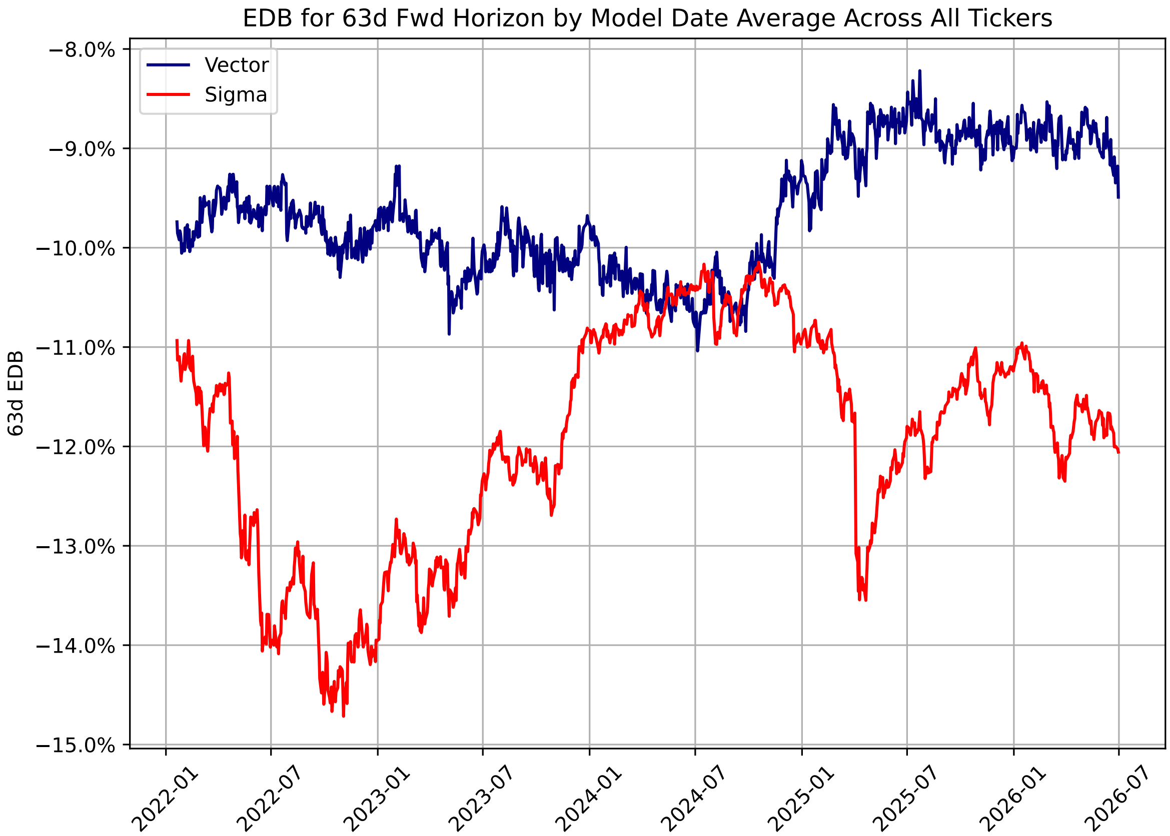


EDB for 10d Fwd Horizon by Model Date Average Across All Tickers
Vector
Sigma
10d EDB
−3.50%
−4.00%
−4.50%
−5.00%
−5.50%
−6.00%
2022-01
2022-07
2023-01
2023-07
2024-01
2024-07
2025-01
2025-07
2026-01
2026-07

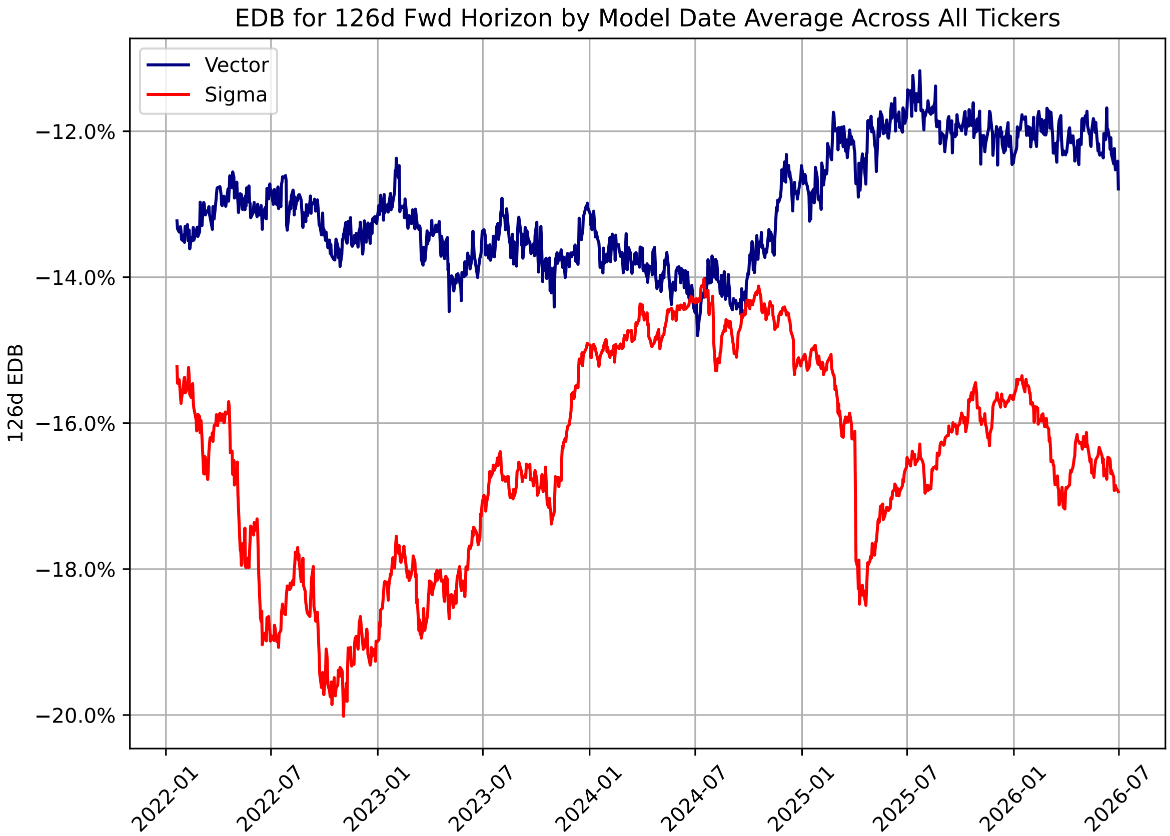
21d Horizon


EDB for 21d Fwd Horizon by Model Date Average Across All Tickers
Vector
Sigma
21d EDB
−5.00%
−5.50%
−6.00%
−6.50%
−7.00%
−7.50%
−8.00%
−8.50%
−9.00%
2022-01
2022-07
2023-01
2023-07
2024-01
2024-07
2025-01
2025-07
2026-01
2026-07

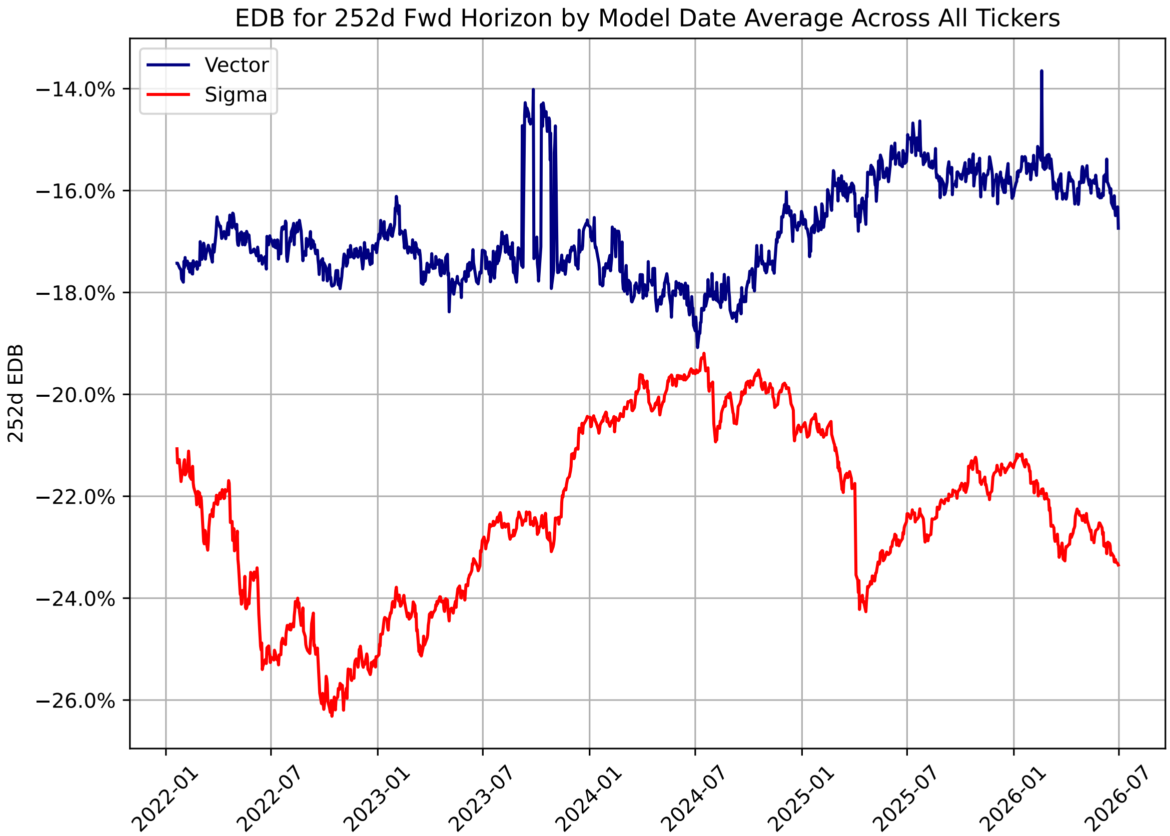
63d Horizon


EDB for 63d Fwd Horizon by Model Date Average Across All Tickers
Vector
Sigma
63d EDB
−8.0%
−9.0%
−10.0%
−11.0%
−12.0%
−13.0%
−14.0%
−15.0%
2022-01
2022-07
2023-01
2023-07
2024-01
2024-07
2025-01
2025-07
2026-01
2026-07

126d Horizon



252d Horizon



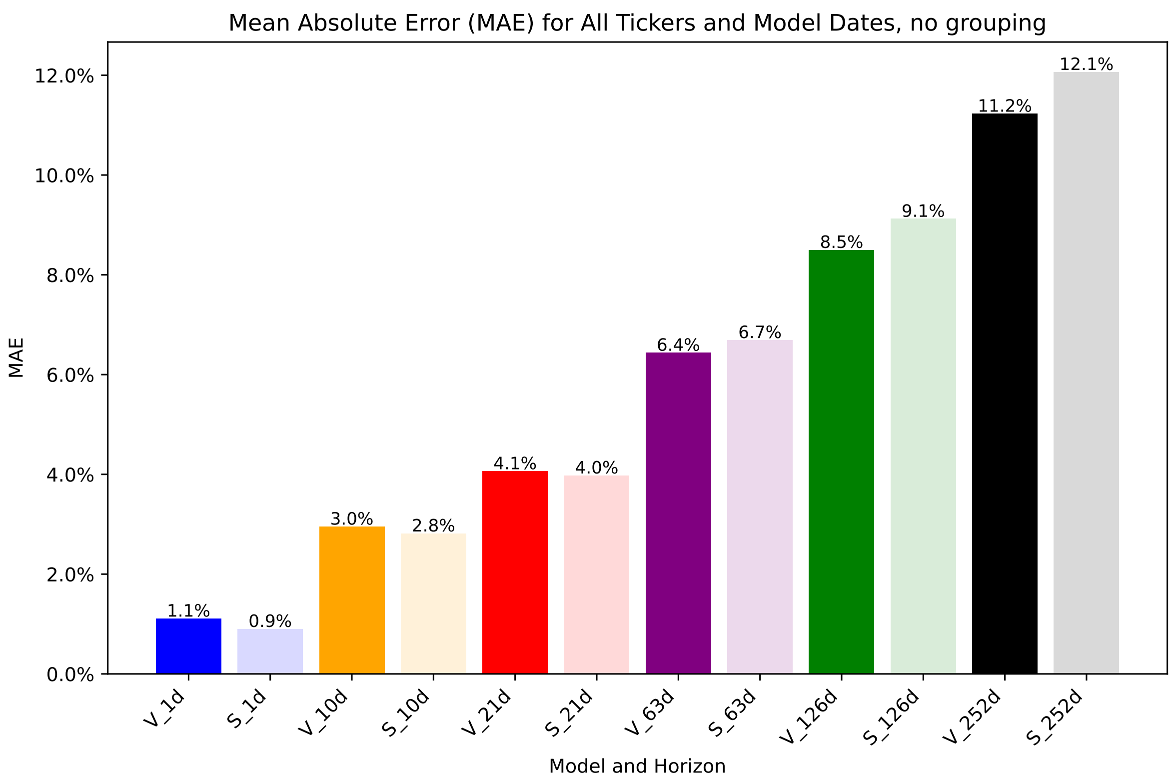
Performance Summary - MAE of EDB vs. Actual Fwd Returns

We use Mean Absolute Error (MAE) to assess how accurate Vector Model EB metrics are relative to those based upon Sigma.

Performance includes only those ticker - model dates whose foward performance is directionally "down" but inside of the 95th %tile forecasted for given model. Thus, these statistics are not perfectly comparable across models, or even horizons. Consider them alongside each model's breakage rates for the 95D percentile (i.e., VaR breakage rates).

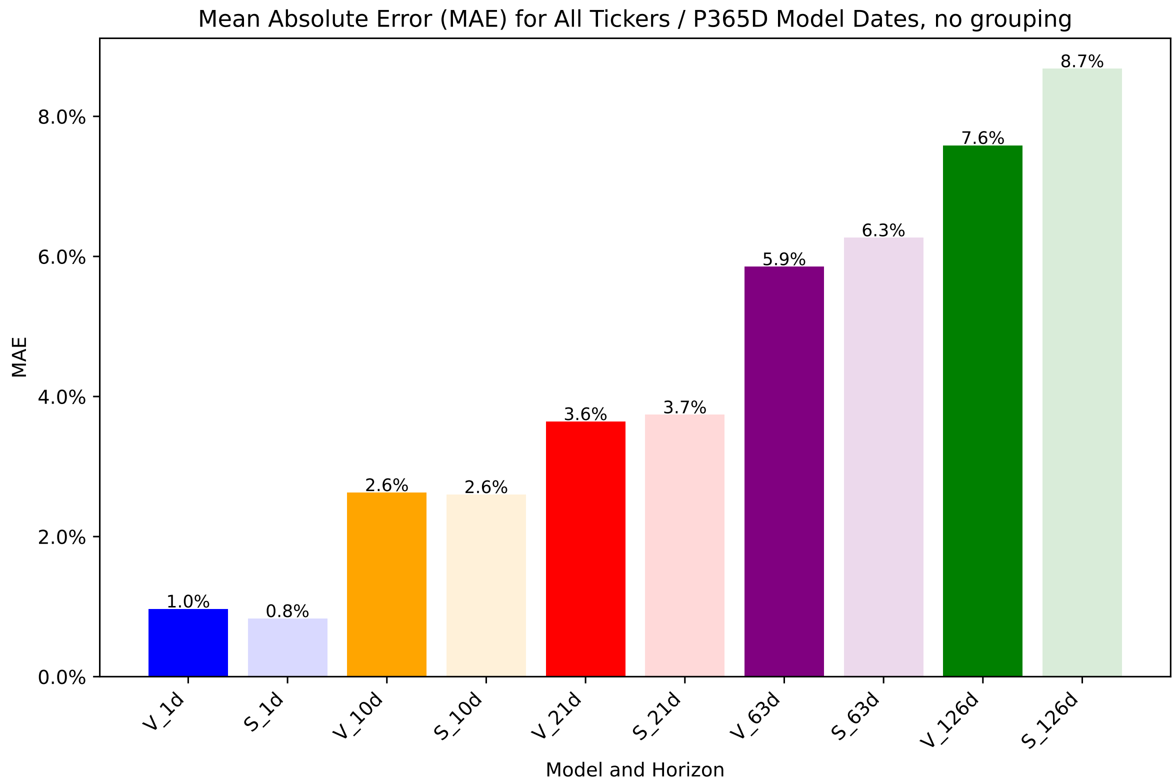
All Out of Sample Model Dates

Period examined: All model dates from 2022-01-31 through 2026-06-29



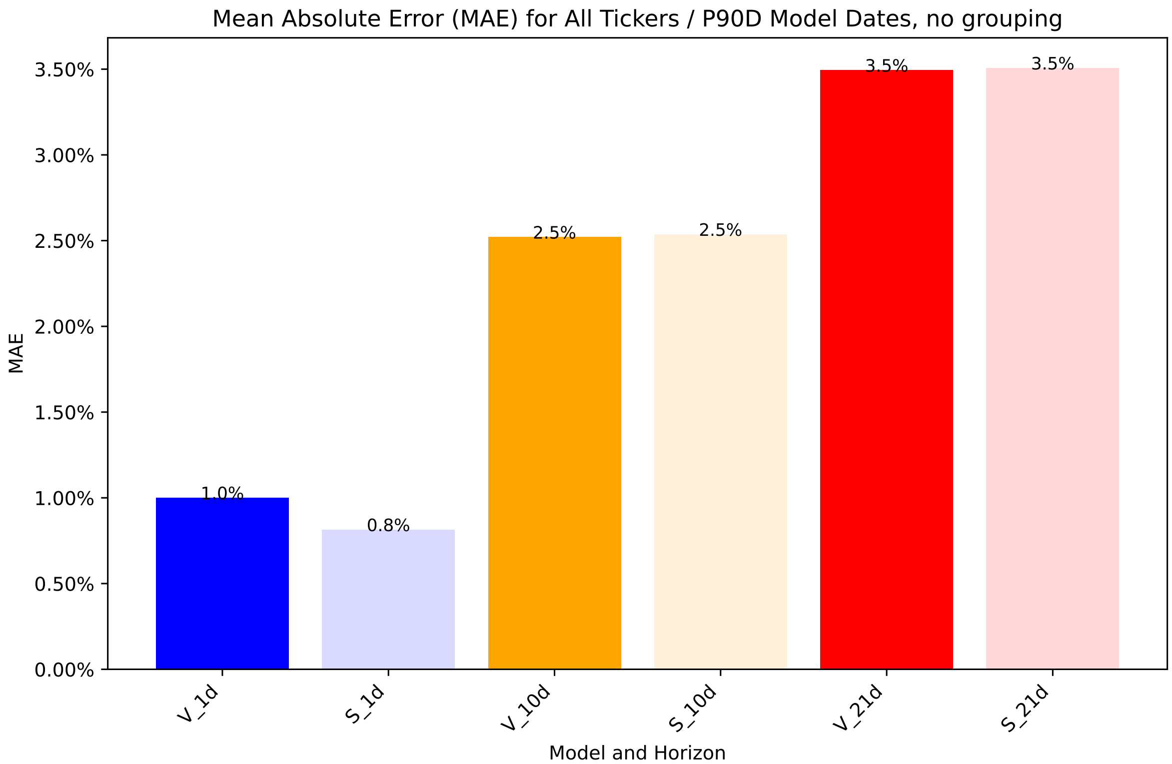
Prior 365 Calendar Days (P365D)

Period examined: All model dates from 2025-07-01 through 2026-06-29



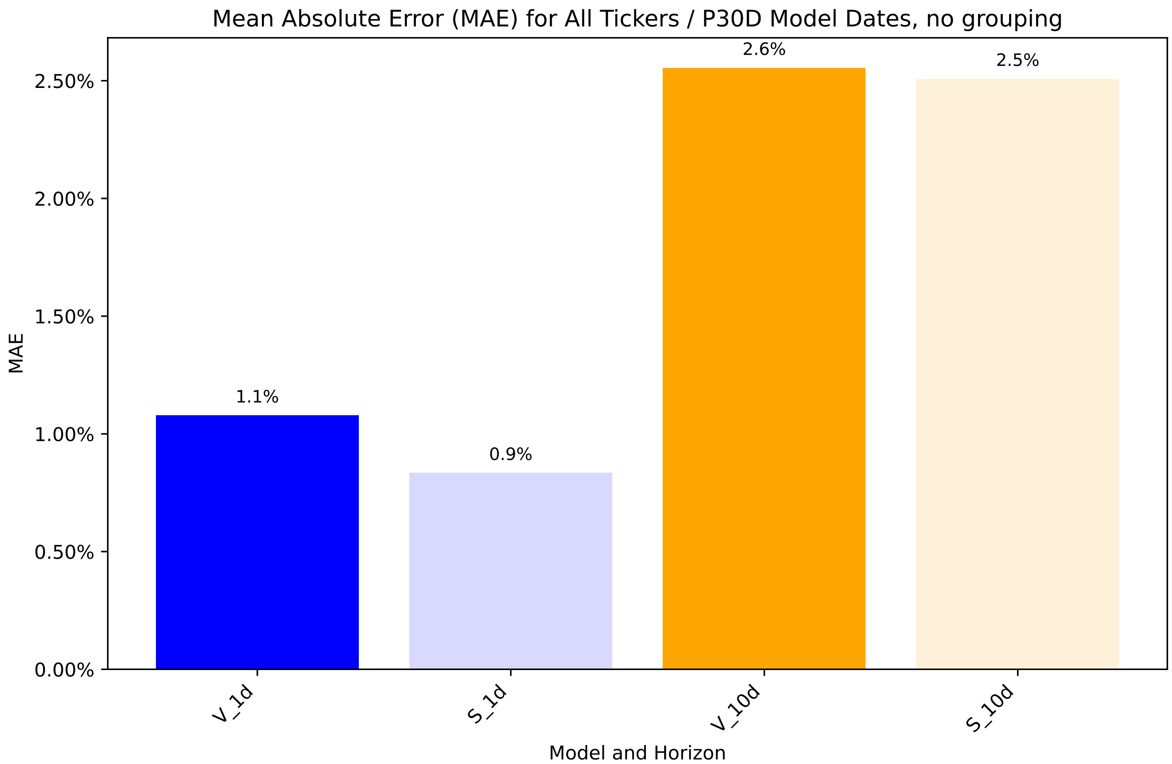
Prior 90 Calendar Days (P90D)

Period examined: All model dates from 2026-04-02 through 2026-06-29



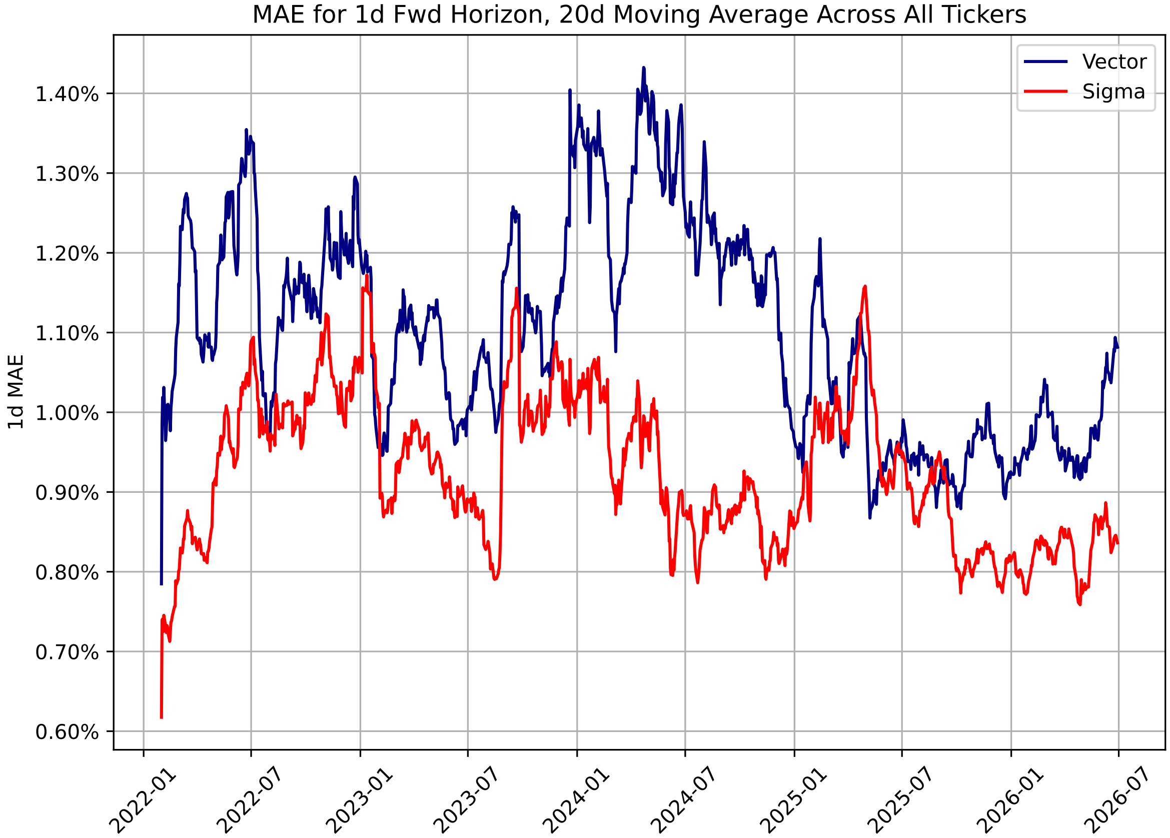
Prior 30 Calendar Days (P30D)

Period examined: All model dates from 2026-06-01 through 2026-06-29

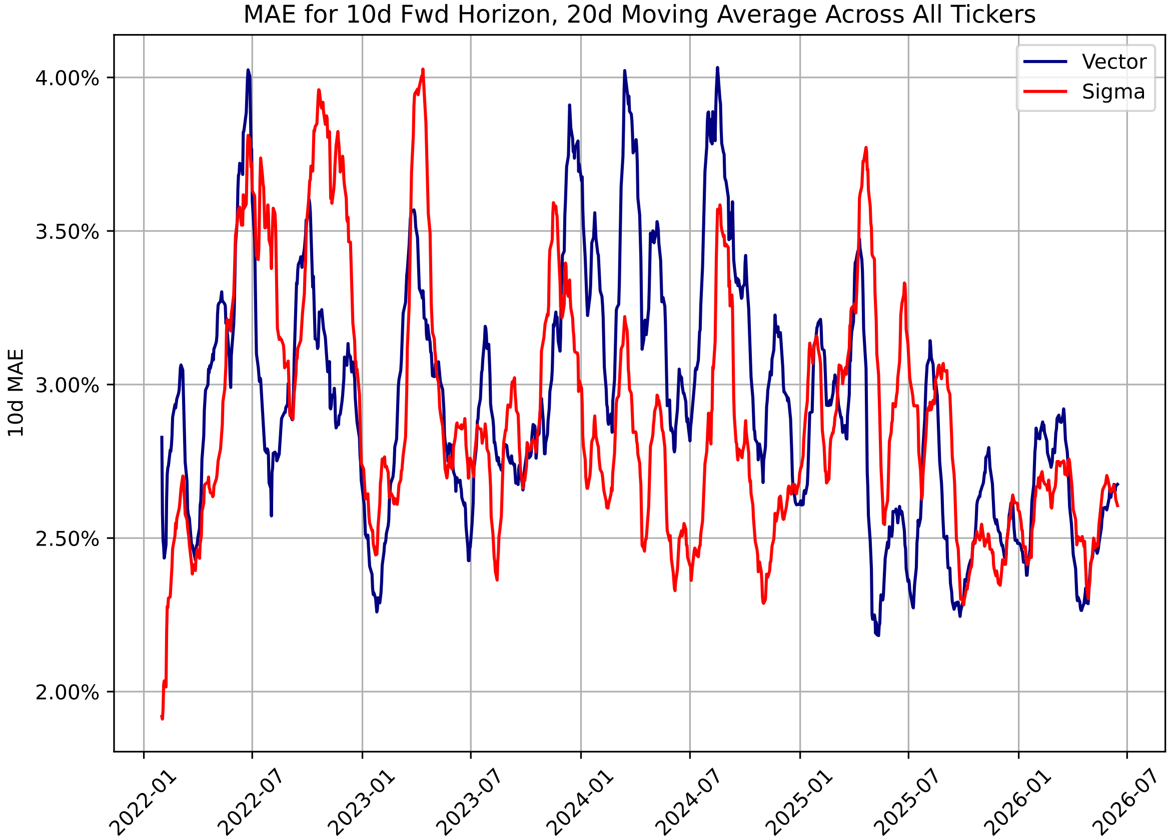


MAE by Model Date Detail

1d Horizon

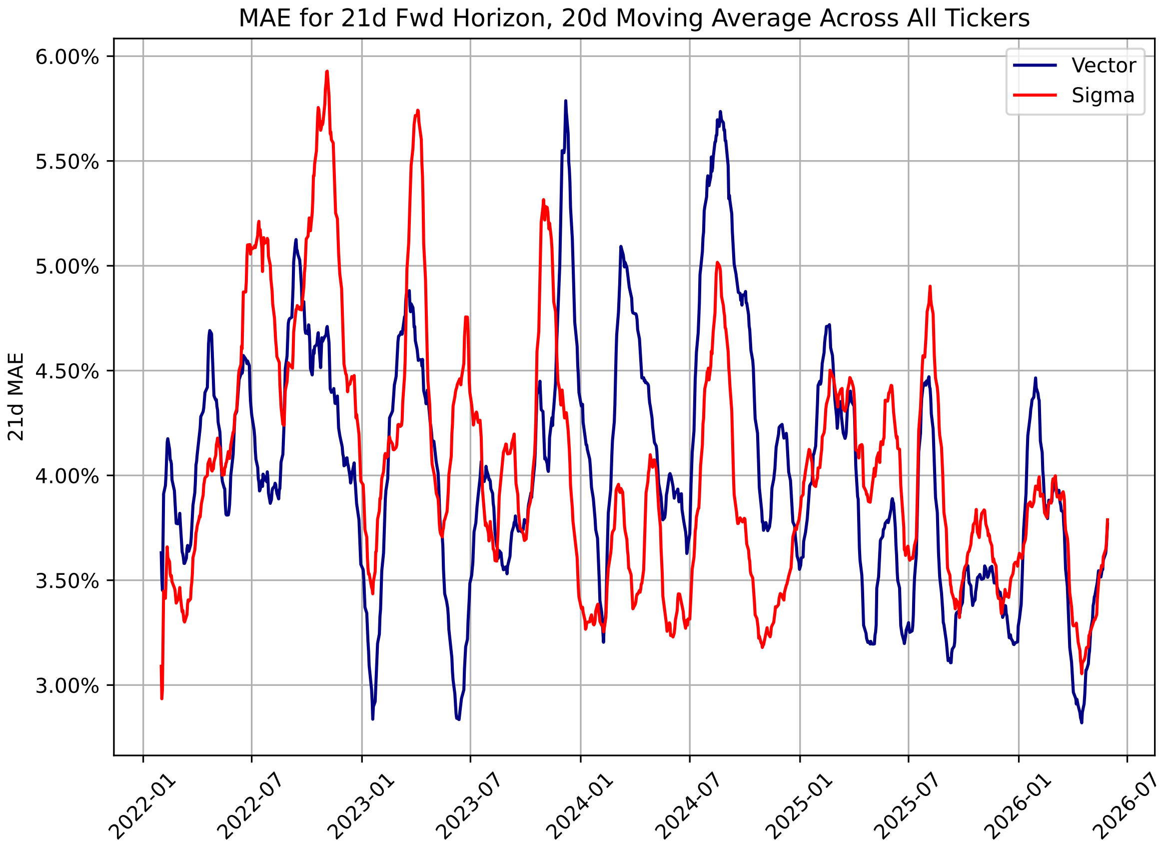


10d Horizon



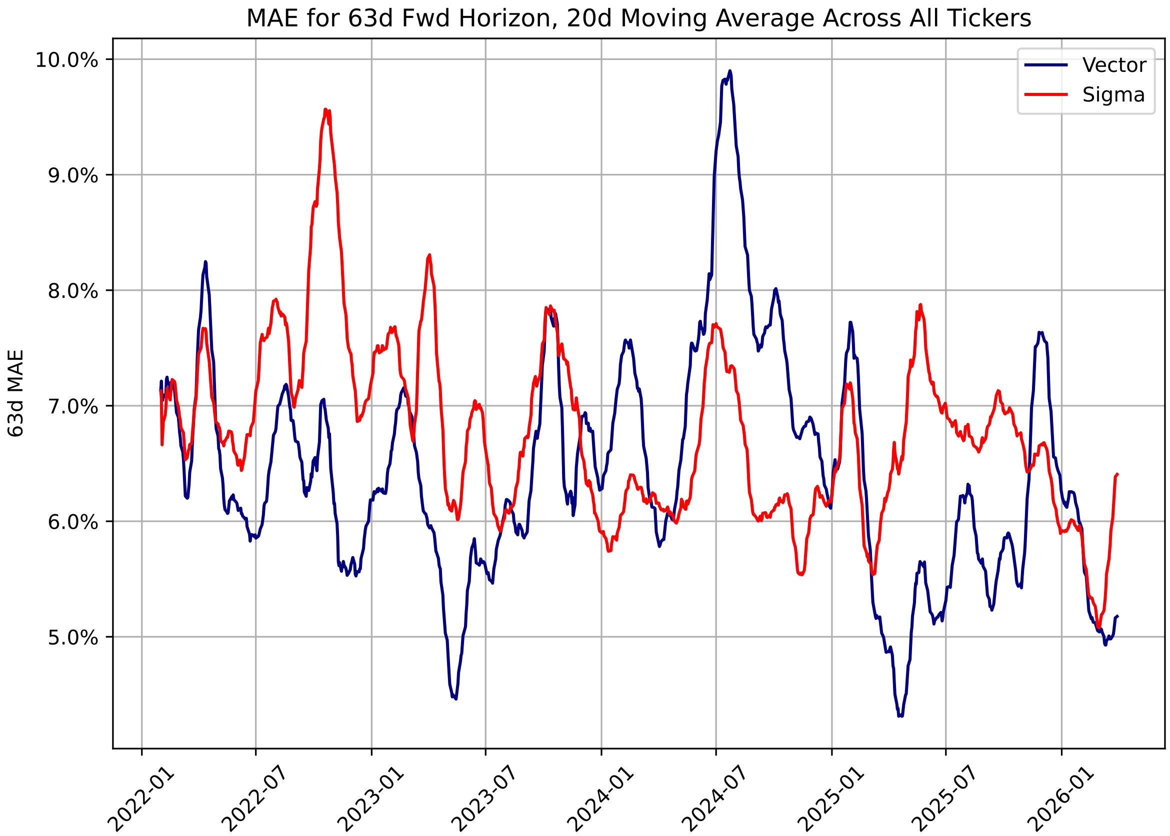
MAE for 10d Fwd Horizon, 20d Moving Average Across All Tickers
Vector
Sigma
10d MAE
4.00%
3.50%
3.00%
2.50%
2.00%
2022-01
2022-07
2023-01
2023-07
2024-01
2024-07
2025-01
2025-07
2026-01
2026-07

21d Horizon



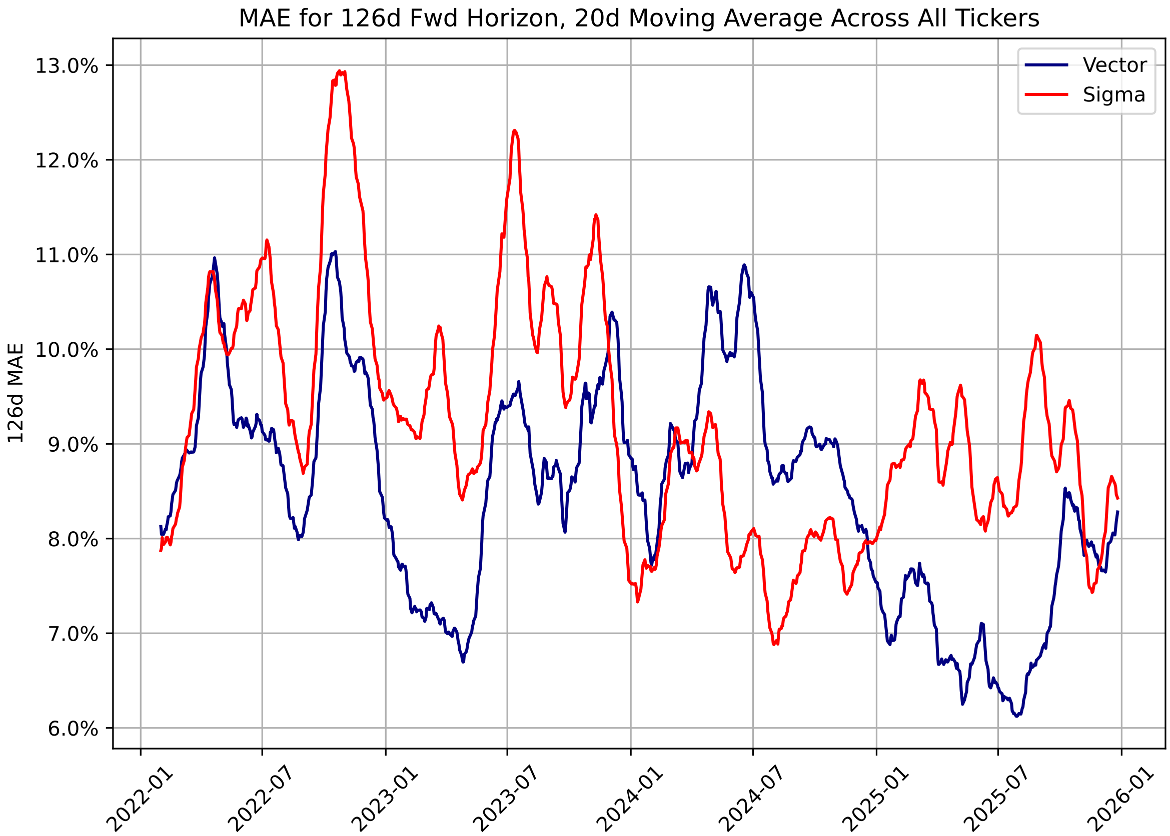
MAE for 21d Fwd Horizon, 20d Moving Average Across All Tickers
21d MAE
6.00%
5.50%
5.00%
4.50%
4.00%
3.50%
3.00%
2022-01
2022-07
2023-01
2023-07
2024-01
2024-07
2025-01
2025-07
2026-01
2026-07
Vector
Sigma

63d Horizon

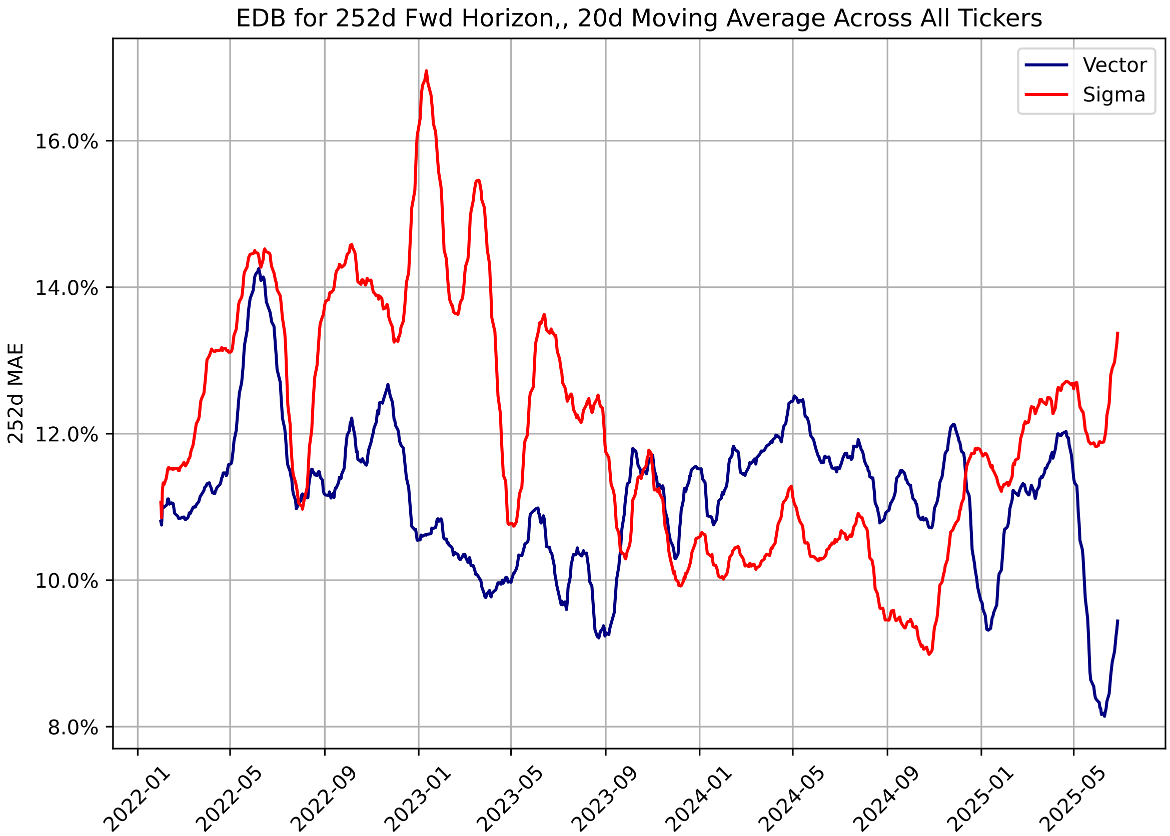


MAE for 63d Fwd Horizon, 20d Moving Average Across All Tickers
Vector
Sigma
63d MAE
10.0%
9.0%
8.0%
7.0%
6.0%
5.0%
2022-01
2022-07
2023-01
2023-07
2024-01
2024-07
2025-01
2025-07
2026-01

126d Horizon



252d Horizon



Top 30 Tickers By EDB MAE

All TMD: 1d

Results reflect ticker level average EDB MAE across all model dates for which actual results for the stated horizon are known and for which the actual results fit the contingencies of the "EDB" metric - negative performance within the expected 95%tile .

Period examined: All model dates from 2022-01-31 through 2026-06-29

Horizon	Ticker_V	EDB-MAE_V	Ticker_S	EDB-MAE_S
1.0	AMC	9.54%	AMC	8.96%
1.0	CZR	3.17%	GME	2.82%
1.0	CYH	3.15%	CYH	2.62%
1.0	LUMN	3.06%	LUMN	2.23%
1.0	GBTC	2.88%	MSTR	1.96%
1.0	AMAT	2.65%	GBTC	1.71%
1.0	TSLA	2.27%	BHC	1.67%
1.0	NVDA	2.07%	IEP	1.58%
1.0	PHM	2.02%	CTLT	1.4%
1.0	CCL	1.98%	UAA	1.38%
1.0	ELAN	1.81%	TSLA	1.38%
1.0	THC	1.73%	NWL	1.37%
1.0	IEP	1.73%	VFC	1.36%
1.0	GT	1.73%	SIVBQ	1.34%
1.0	VNO	1.72%	CLF	1.32%
1.0	MSTR	1.71%	AA	1.28%
1.0	AVGO	1.68%	CZR	1.28%
1.0	BHC	1.66%	SBNY	1.27%
1.0	MS	1.65%	GNRC	1.26%
1.0	GNRC	1.63%	CCL	1.25%
1.0	VST	1.61%	GT	1.23%
1.0	NWL	1.59%	AAP	1.21%
1.0	CLF	1.57%	AMD	1.17%
1.0	MSFT	1.56%	ON	1.12%
1.0	MOS	1.53%	INTC	1.11%
1.0	X	1.52%	NVDA	1.1%
1.0	AMD	1.51%	MU	1.1%
1.0	PWR	1.45%	LNC	1.09%
1.0	UAA	1.4%	X	1.09%
1.0	MU	1.39%	KALU	1.04%

All TMD: 10d

Results reflect ticker level average EDB MAE across all model dates for which actual results for the stated horizon are known and for which the actual results fit the contingencies of the "EDB" metric - negative performance within the expected 95%tile .

Period examined: All model dates from 2022-01-31 through 2026-06-29

Horizon	Ticker_V	EDB-MAE_V	Ticker_S	EDB-MAE_S
10.0	AMC	20.78%	AMC	18.49%
10.0	GBTC	8.74%	GME	8.75%
10.0	CYH	8.21%	CYH	8.52%
10.0	LUMN	7.36%	LUMN	7.51%
10.0	GT	5.78%	MSTR	6.35%
10.0	CZR	5.66%	GBTC	6.06%
10.0	IEP	5.2%	BHC	5.13%
10.0	CCL	4.99%	UAA	4.81%
10.0	AMAT	4.83%	IEP	4.67%
10.0	NVDA	4.79%	NWL	4.66%
10.0	NWL	4.68%	GT	4.47%
10.0	MSTR	4.61%	CLF	4.45%
10.0	X	4.54%	VFC	4.37%
10.0	PHM	4.52%	CTLT	4.36%
10.0	BHC	4.41%	GNRC	4.28%
10.0	VNO	4.34%	TSLA	4.25%
10.0	MU	4.29%	AA	4.23%
10.0	LNC	4.21%	SBNY	4.13%
10.0	CLF	4.17%	CZR	4.07%
10.0	TSLA	4.03%	CCL	4.06%
10.0	SIVBQ	4.01%	AAP	3.93%
10.0	GME	4.0%	LNC	3.88%
10.0	UAA	3.88%	SIVBQ	3.83%
10.0	ELAN	3.87%	INTC	3.64%
10.0	THC	3.83%	AMD	3.51%
10.0	VST	3.78%	ON	3.5%
10.0	TEVA	3.73%	EXPE	3.42%
10.0	AA	3.71%	NVDA	3.42%
10.0	MOS	3.67%	X	3.37%
10.0	ETRN	3.66%	ELAN	3.37%

All TMD: 21d

Results reflect ticker level average EDB MAE across all model dates for which actual results for the stated horizon are known and for which the actual results fit the contingencies of the "EDB" metric - negative performance within the expected 95%tile .

Period examined: All model dates from 2022-01-31 through 2026-06-29

Horizon	Ticker_V	EDB-MAE_V	Ticker_S	EDB-MAE_S
21.0	AMC	25.76%	AMC	19.44%
21.0	GBTC	10.88%	GME	11.65%
21.0	LUMN	9.32%	LUMN	11.34%
21.0	CYH	9.27%	CYH	9.74%
21.0	GT	7.34%	GBTC	8.8%
21.0	NVDA	7.16%	MSTR	8.72%
21.0	NWL	6.95%	BHC	7.59%
21.0	IEP	6.86%	NWL	6.91%
21.0	CZR	6.84%	CTLT	6.81%
21.0	AMAT	6.71%	UAA	6.75%
21.0	CCL	6.56%	CLF	6.6%
21.0	UAA	6.39%	VFC	6.35%
21.0	BHC	6.34%	IEP	6.26%
21.0	CLF	6.19%	GT	6.06%
21.0	MSTR	6.03%	CCL	6.05%
21.0	GME	5.97%	AA	5.95%
21.0	ELAN	5.97%	LNC	5.84%
21.0	PHM	5.96%	SIVBQ	5.75%
21.0	LNC	5.87%	TSLA	5.7%
21.0	VNO	5.77%	GNRC	5.68%
21.0	TEVA	5.6%	CZR	5.59%
21.0	X	5.58%	X	5.59%
21.0	TSLA	5.49%	ELAN	5.46%
21.0	VST	5.39%	AMD	5.16%
21.0	ON	5.34%	AAP	5.14%
21.0	VFC	5.29%	ON	5.13%
21.0	ETRN	5.26%	INTC	5.11%
21.0	MOS	5.22%	NVDA	5.03%
21.0	AVGO	5.2%	KALU	4.91%
21.0	MU	5.18%	ETRN	4.89%

All TMD: 63d

Results reflect ticker level average EDB MAE across all model dates for which actual results for the stated horizon are known and for which the actual results fit the contingencies of the "EDB" metric - negative performance within the expected 95%tile .

Period examined: All model dates from 2022-01-31 through 2026-06-29

Horizon	Ticker_V	EDB-MAE_V	Ticker_S	EDB-MAE_S
63.0	AMC	33.37%	AMC	20.13%
63.0	LUMN	14.51%	GME	18.53%
63.0	IEP	14.04%	MSTR	16.42%
63.0	CYH	13.93%	CYH	14.76%
63.0	GBTC	12.36%	LUMN	14.61%
63.0	AMAT	10.91%	IEP	13.42%
63.0	UAA	10.38%	BHC	13.08%
63.0	NVDA	10.32%	CTLT	12.64%
63.0	X	10.15%	CCL	11.61%
63.0	GT	9.83%	UAA	11.58%
63.0	CTLT	9.82%	GNRC	11.16%
63.0	MU	9.81%	TSLA	10.89%
63.0	PHM	9.66%	GBTC	10.86%
63.0	GME	9.6%	NWL	10.69%
63.0	ELAN	9.5%	GT	10.64%
63.0	TSLA	9.48%	INTC	10.6%
63.0	VNO	9.4%	SIVBQ	9.95%
63.0	THC	9.33%	CZR	9.73%
63.0	CCL	9.32%	CLF	9.59%
63.0	NWL	9.19%	AA	9.31%
63.0	SIVBQ	9.14%	ON	9.21%
63.0	INTC	8.82%	LNC	9.18%
63.0	BHC	8.75%	LW	9.14%
63.0	MOS	8.66%	VFC	8.79%
63.0	CZR	8.56%	X	8.7%
63.0	CLF	8.55%	MU	8.5%
63.0	LNC	8.4%	SBNY	8.42%
63.0	PWR	8.25%	WDC	8.29%
63.0	WDC	8.23%	THC	8.25%
63.0	MSFT	7.99%	KALU	8.22%

All TMD: 126d

Results reflect ticker level average EDB MAE across all model dates for which actual results for the stated horizon are known and for which the actual results fit the contingencies of the "EDB" metric - negative performance within the expected 95%tile .

Period examined: All model dates from 2022-01-31 through 2026-06-29

Horizon	Ticker_V	EDB-MAE_V	Ticker_S	EDB-MAE_S
126.0	AMC	34.79%	CYH	21.01%
126.0	CYH	23.98%	AMC	20.06%
126.0	LUMN	23.13%	MSTR	19.56%
126.0	IEP	21.3%	LUMN	19.22%
126.0	SIVBQ	18.52%	GNRC	19.15%
126.0	ETRN	15.25%	IEP	18.76%
126.0	AMAT	15.02%	GME	18.14%
126.0	GBTC	15.0%	BHC	17.23%
126.0	CSTM	14.33%	SBNY	15.33%
126.0	ELAN	14.29%	ETRN	15.13%
126.0	NVDA	13.76%	SIVBQ	14.87%
126.0	NWL	12.97%	NVDA	14.41%
126.0	PWR	12.85%	UAA	14.21%
126.0	CLF	12.62%	CTLT	14.12%
126.0	INTC	12.49%	VFC	14.11%
126.0	MU	12.43%	CCL	13.96%
126.0	LNC	12.16%	AAP	13.85%
126.0	GME	12.16%	CZR	13.59%
126.0	NFLX	12.06%	GT	13.57%
126.0	MSTR	11.88%	CLF	13.46%
126.0	TSLA	11.65%	EXPE	13.38%
126.0	UAA	11.65%	NWL	13.36%
126.0	AA	11.62%	AA	13.27%
126.0	PHM	11.49%	GBTC	12.99%
126.0	THC	11.44%	INTC	12.99%
126.0	X	11.35%	KEY	12.47%
126.0	GT	11.34%	LNC	12.21%
126.0	CTLT	11.22%	CSTM	12.01%
126.0	VNO	11.02%	ON	11.43%
126.0	BHC	10.98%	X	11.39%

All TMD: 252d

Results reflect ticker level average EDB MAE across all model dates for which actual results for the stated horizon are known and for which the actual results fit the contingencies of the "EDB" metric - negative performance within the expected 95%tile .

Period examined: All model dates from 2022-01-31 through 2026-06-29

Horizon	Ticker_V	EDB-MAE_V	Ticker_S	EDB-MAE_S
252.0	AMC	45.39%	SBNY	53.5%
252.0	NVDA	36.82%	LUMN	25.31%
252.0	CYH	32.78%	SIVBQ	23.37%
252.0	LUMN	31.51%	AMC	22.68%
252.0	AMAT	25.05%	CTLT	22.33%
252.0	LNC	24.95%	TSLA	21.69%
252.0	SIVBQ	24.89%	BHC	21.65%
252.0	PHM	24.82%	CLF	21.43%
252.0	IEP	21.25%	NVDA	21.3%
252.0	CCL	20.19%	VST	21.21%
252.0	AVGO	19.63%	LNC	21.14%
252.0	TRGP	19.3%	EXPE	20.66%
252.0	MSTR	19.17%	UAA	20.47%
252.0	GT	18.21%	AAP	20.1%
252.0	GBTC	17.89%	AVGO	19.62%
252.0	EXPE	17.74%	CYH	19.41%
252.0	ELAN	17.42%	TEVA	18.76%
252.0	PWR	16.74%	VFC	18.7%
252.0	CPRT	16.66%	GNRC	18.68%
252.0	ETRN	16.26%	META	17.03%
252.0	NWL	16.23%	GME	17.02%
252.0	INTC	16.14%	FSUGY	16.83%
252.0	TXN	15.5%	NWL	16.75%
252.0	CMA	15.3%	ELAN	16.73%
252.0	KEY	14.86%	CMA	16.1%
252.0	CSTM	14.79%	CSTM	15.77%
252.0	CZR	14.74%	GT	15.62%
252.0	AA	14.62%	ETRN	15.18%
252.0	HCA	14.38%	AMZN	15.12%
252.0	UNH	14.26%	CZR	14.98%

Bottom 30 Tickers By EDB MAE

All TMD: 1d

Results reflect ticker level average EDB MAE across all model dates for which actual results for the stated horizon are known and for which the actual results fit the contingencies of the "EDB" metric - negative performance within the expected 95%tile .

Period examined: All model dates from 2022-01-31 through 2026-06-29

Horizon	Ticker_V	EDB-MAE_V	Ticker_S	EDB-MAE_S
1.0	VCSH	0.09%	VCSH	0.07%
1.0	MUB	0.11%	MUB	0.09%
1.0	LQD	0.17%	HYG	0.19%
1.0	HYG	0.27%	LQD	0.21%
1.0	EMB	0.29%	EMB	0.23%
1.0	FRA	0.36%	FRA	0.3%
1.0	TLT	0.4%	TLT	0.35%
1.0	PEP	0.47%	GLD	0.36%
1.0	VZ	0.5%	PEP	0.4%
1.0	AMGN	0.51%	SPY	0.42%
1.0	HD	0.52%	NVS	0.43%
1.0	SNY	0.52%	POST	0.46%
1.0	POST	0.54%	ORLY	0.49%
1.0	GSK	0.56%	ABBV	0.49%
1.0	SBUX	0.56%	HON	0.49%
1.0	BUD	0.56%	VICI	0.5%
1.0	VICI	0.56%	COST	0.5%
1.0	HON	0.57%	CSCO	0.5%
1.0	BMY	0.58%	VZ	0.51%
1.0	ABBV	0.58%	MNST	0.51%
1.0	XOM	0.58%	MRK	0.51%
1.0	GILD	0.58%	AZN	0.51%
1.0	CMCSA	0.59%	MSI	0.51%
1.0	NVS	0.6%	BMY	0.52%
1.0	BALL	0.6%	KHC	0.52%
1.0	MSI	0.61%	AMGN	0.52%
1.0	JAZZ	0.62%	CAH	0.54%
1.0	GLD	0.62%	AZO	0.54%
1.0	T	0.62%	GILD	0.54%
1.0	CVS	0.62%	TMUS	0.54%

All TMD: 10d

Results reflect ticker level average EDB MAE across all model dates for which actual results for the stated horizon are known and for which the actual results fit the contingencies of the "EDB" metric - negative performance within the expected 95%tile .

Period examined: All model dates from 2022-01-31 through 2026-06-29

Horizon	Ticker_V	EDB-MAE_V	Ticker_S	EDB-MAE_S
10.0	VCSH	0.22%	VCSH	0.22%
10.0	MUB	0.39%	MUB	0.31%
10.0	HYG	0.62%	HYG	0.58%
10.0	LQD	0.63%	LQD	0.65%
10.0	EMB	0.86%	EMB	0.73%
10.0	FRA	1.03%	FRA	0.97%
10.0	TLT	1.1%	GLD	1.09%
10.0	VZ	1.45%	TLT	1.17%
10.0	SNY	1.47%	SPY	1.29%
10.0	BUD	1.5%	ORLY	1.45%
10.0	GILD	1.51%	POST	1.46%
10.0	NVS	1.55%	NVS	1.47%
10.0	BMY	1.55%	PEP	1.47%
10.0	POST	1.57%	ABBV	1.54%
10.0	TMUS	1.6%	VICI	1.54%
10.0	ZTS	1.61%	COST	1.56%
10.0	PEP	1.61%	HON	1.58%
10.0	GLD	1.64%	KHC	1.59%
10.0	GSK	1.64%	VZ	1.59%
10.0	AMGN	1.65%	MRK	1.62%
10.0	MSI	1.68%	GILD	1.63%
10.0	GWW	1.72%	BMY	1.64%
10.0	JAZZ	1.74%	MSI	1.64%
10.0	VICI	1.75%	AZO	1.65%
10.0	KHC	1.78%	TMUS	1.65%
10.0	XOM	1.79%	CAH	1.66%
10.0	ABBV	1.8%	CSCO	1.66%
10.0	TDG	1.8%	QQQ	1.67%
10.0	HON	1.85%	PCG	1.68%
10.0	MRK	1.88%	AZN	1.72%

All TMD: 21d

Results reflect ticker level average EDB MAE across all model dates for which actual results for the stated horizon are known and for which the actual results fit the contingencies of the "EDB" metric - negative performance within the expected 95%tile .

Period examined: All model dates from 2022-01-31 through 2026-06-29

Horizon	Ticker_V	EDB-MAE_V	Ticker_S	EDB-MAE_S
21.0	VCSH	0.31%	VCSH	0.33%
21.0	MUB	0.65%	MUB	0.47%
21.0	LQD	0.87%	HYG	0.82%
21.0	HYG	0.89%	LQD	0.98%
21.0	EMB	1.42%	EMB	1.18%
21.0	TLT	1.56%	FRA	1.52%
21.0	FRA	1.65%	GLD	1.77%
21.0	BUD	1.94%	TLT	1.8%
21.0	GILD	1.94%	PEP	1.86%
21.0	SNY	1.97%	SPY	1.87%
21.0	BMY	2.04%	NVS	2.0%
21.0	NVS	2.08%	MRK	2.12%
21.0	MSI	2.16%	ACGL	2.12%
21.0	PEP	2.19%	ORLY	2.14%
21.0	GLD	2.24%	BMY	2.17%
21.0	VICI	2.24%	VICI	2.18%
21.0	GSK	2.28%	POST	2.22%
21.0	POST	2.29%	MSI	2.25%
21.0	CVS	2.3%	HON	2.27%
21.0	AMGN	2.32%	GILD	2.28%
21.0	TMUS	2.37%	MNST	2.32%
21.0	HON	2.39%	AMGN	2.33%
21.0	ZTS	2.4%	TMUS	2.33%
21.0	KHC	2.4%	GWW	2.33%
21.0	MRK	2.4%	QQQ	2.34%
21.0	JAZZ	2.42%	CAH	2.35%
21.0	BIIB	2.42%	BUD	2.36%
21.0	VZ	2.44%	COST	2.37%
21.0	XOM	2.46%	KHC	2.38%
21.0	GWW	2.47%	ABBV	2.4%

All TMD: 63d

Results reflect ticker level average EDB MAE across all model dates for which actual results for the stated horizon are known and for which the actual results fit the contingencies of the "EDB" metric - negative performance within the expected 95%tile .

Period examined: All model dates from 2022-01-31 through 2026-06-29

Horizon	Ticker_V	EDB-MAE_V	Ticker_S	EDB-MAE_S
63.0	VCSH	0.47%	VCSH	0.58%
63.0	MUB	0.93%	MUB	0.75%
63.0	LQD	1.09%	LQD	1.59%
63.0	HYG	1.53%	HYG	1.62%
63.0	EMB	2.13%	EMB	2.01%
63.0	TLT	2.23%	FRA	2.5%
63.0	FRA	2.5%	GLD	2.66%
63.0	POST	2.88%	TLT	2.97%
63.0	GLD	3.08%	SPY	3.14%
63.0	ABBV	3.09%	POST	3.17%
63.0	GSK	3.18%	ABBV	3.28%
63.0	GILD	3.3%	PEP	3.32%
63.0	BUD	3.41%	HON	3.37%
63.0	VICI	3.45%	GWW	3.43%
63.0	BMY	3.54%	NVS	3.46%
63.0	NVS	3.55%	VZ	3.5%
63.0	HON	3.6%	VICI	3.51%
63.0	GWW	3.62%	ORLY	3.64%
63.0	COST	3.7%	GILD	3.79%
63.0	AMGN	3.71%	BUD	3.87%
63.0	PEP	3.72%	AZN	3.89%
63.0	SNY	3.79%	MNST	3.9%
63.0	VZ	3.8%	COST	3.94%
63.0	KHC	3.81%	CAH	3.94%
63.0	TDG	3.87%	BMY	3.94%
63.0	SBNY	3.89%	AMGN	4.06%
63.0	TMUS	3.92%	KHC	4.07%
63.0	OXY	3.96%	MRK	4.12%
63.0	HD	3.98%	CPRT	4.23%
63.0	XOM	4.02%	HD	4.27%

All TMD: 126d

Results reflect ticker level average EDB MAE across all model dates for which actual results for the stated horizon are known and for which the actual results fit the contingencies of the "EDB" metric - negative performance within the expected 95%tile .

Period examined: All model dates from 2022-01-31 through 2026-06-29

Horizon	Ticker_V	EDB-MAE_V	Ticker_S	EDB-MAE_S
126.0	VCSH	0.67%	VCSH	0.76%
126.0	MUB	1.51%	MUB	1.24%
126.0	LQD	1.82%	LQD	2.26%
126.0	HYG	1.91%	HYG	2.47%
126.0	NVS	2.93%	EMB	3.32%
126.0	TLT	2.93%	FRA	4.02%
126.0	FRA	3.71%	NVS	4.03%
126.0	SNY	3.87%	TLT	4.3%
126.0	EMB	3.96%	CAH	4.32%
126.0	BUD	4.01%	POST	4.37%
126.0	MSI	4.09%	GLD	4.38%
126.0	HON	4.22%	KHC	4.47%
126.0	POST	4.26%	TMUS	4.59%
126.0	GSK	4.27%	PEP	4.68%
126.0	HD	4.27%	MSI	4.71%
126.0	TMUS	4.29%	MNST	4.79%
126.0	GWW	4.41%	ORLY	4.85%
126.0	GLD	4.45%	GILD	5.01%
126.0	KHC	4.53%	VICI	5.08%
126.0	GILD	4.57%	HON	5.1%
126.0	JAZZ	4.85%	ABBV	5.11%
126.0	AZN	4.88%	GWW	5.12%
126.0	VICI	4.91%	JAZZ	5.22%
126.0	CMCSA	4.93%	SPY	5.25%
126.0	COST	4.94%	FRCB	5.39%
126.0	BHP	4.97%	CSCO	5.45%
126.0	AMZN	5.05%	AMGN	5.53%
126.0	GS	5.11%	COST	5.57%
126.0	PEP	5.12%	VZ	5.62%
126.0	ZTS	5.12%	BUD	5.66%

All TMD: 252d

Results reflect ticker level average EDB MAE across all model dates for which actual results for the stated horizon are known and for which the actual results fit the contingencies of the "EDB" metric - negative performance within the expected 95%tile .

Period examined: All model dates from 2022-01-31 through 2026-06-29

Horizon	Ticker_V	EDB-MAE_V	Ticker_S	EDB-MAE_S
252.0	VCSH	1.09%	VCSH	1.17%
252.0	LQD	2.69%	MUB	1.46%
252.0	MUB	2.9%	HYG	3.63%
252.0	HYG	3.49%	SPY	4.18%
252.0	FRA	3.83%	FRA	4.34%
252.0	QQQ	3.88%	LQD	4.39%
252.0	GLD	4.02%	QQQ	4.72%
252.0	TLT	4.44%	EMB	4.98%
252.0	GILD	4.47%	TLT	5.13%
252.0	BHP	5.14%	GLD	5.17%
252.0	SPY	5.14%	PEP	5.31%
252.0	OXY	5.3%	GILD	5.64%
252.0	VICI	5.35%	MNST	5.71%
252.0	NVS	5.41%	VICI	6.34%
252.0	SNY	5.42%	AZO	6.34%
252.0	AMGN	5.51%	FRCB	6.47%
252.0	BUD	5.67%	CMCSA	6.51%
252.0	AZO	5.68%	POST	6.62%
252.0	HD	5.92%	JAZZ	6.72%
252.0	MSI	6.03%	AMGN	6.84%
252.0	GSK	6.17%	IRM	6.89%
252.0	META	6.33%	TMUS	7.18%
252.0	T	6.34%	ISRG	7.31%
252.0	RIO	6.37%	COST	7.37%
252.0	KHC	6.38%	GSK	7.47%
252.0	IRM	6.41%	DHI	7.56%
252.0	SBUX	6.47%	ACGL	7.57%
252.0	BXP	6.53%	LLY	7.67%
252.0	PEP	6.55%	KHC	7.77%
252.0	HON	6.56%	ABBV	7.81%

Performance Summary - Returns on EDB based exposures (ROEDB)

Here we compare ROEDB, or price return performance of ticker-model date (TMD) exposures based upon EDB, for Vector Mdel EDB to the Sigma Model's EDB ("S", presented with light shading).

Vector Model EDB is denoted by a "V" and presented with dark shading in the bar charts comparison of EDB that follow, whereas Sigma EDB is denoted by "S" and presented with light shading.

Sigma based ticker exposure performance reflects equal TMD weighting and the price returns of the underlying TMD for the given horizon.

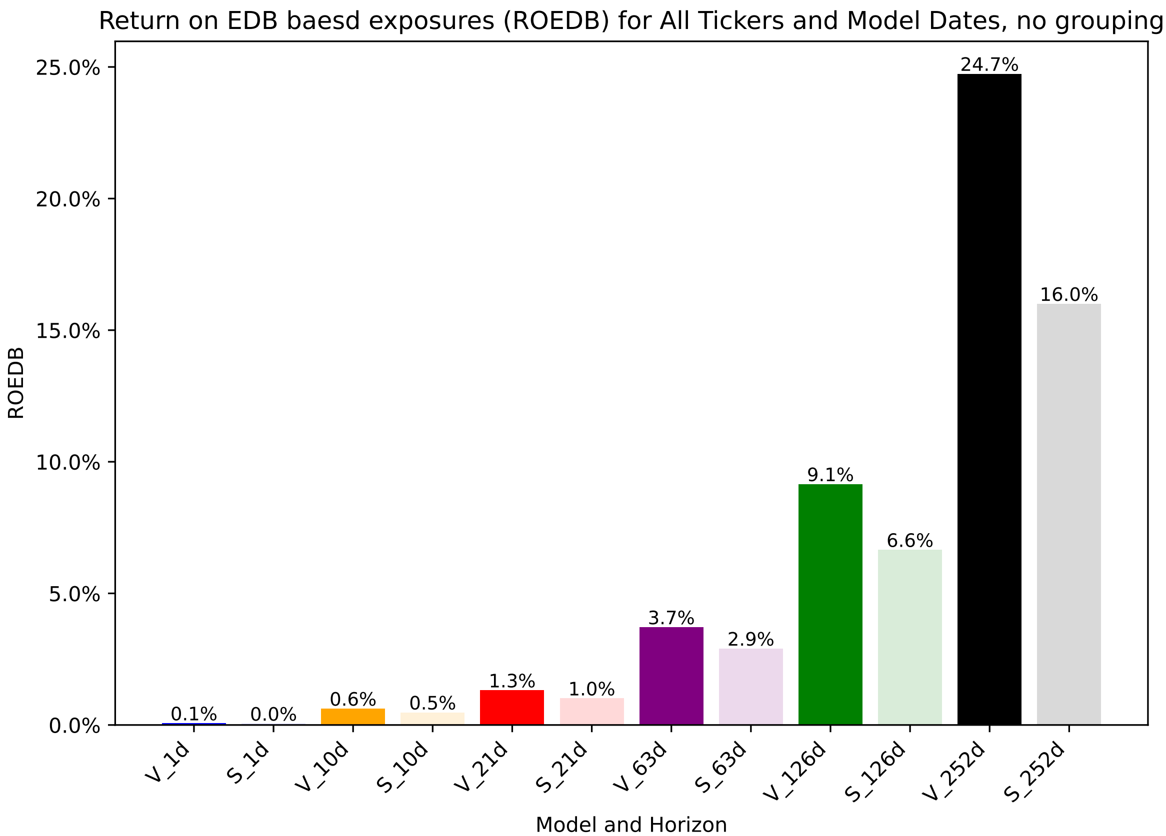
Vector Model based TMD exposures reflect each TMD's underlying horizon price return multiplied by the ratio of Sigma model based EDB to Vector Model EDB for the given horizon. This ratio is capped of 3.0x and floored of 0.333x.

Following each bar chart comparison of ROEDB is a table detailing the alpha (intercept) and slope (beta) of Vector Model EDB based exposure performance to Sigma EDB exposure based performance. The beta arguably provides some indication of the leverage of the Vector Model based exposures and the alpha is an indication of Vector Model EDB's ability to generate performance indepdendent of the ticker's returns.

Note that time horizons are denominated in trading days, where 10d is ~ 2 weeks in calendar terms, 21d is ~ 1 month, 63d is ~ 1 quarter, 126d is ~ half year, 252d is ~1 year. Model estimates for all horizons are made on each Model Date, so p-Values for horizons beyond 1d are not valid.

All Out of Sample Model Dates

Period examined: All model dates from 2022-01-31 through 2026-06-29



Alpha (intercept) and Beta (slope) of Vector Model ROEDB regressed upon corresponding horizon actual ticker-model date returns:

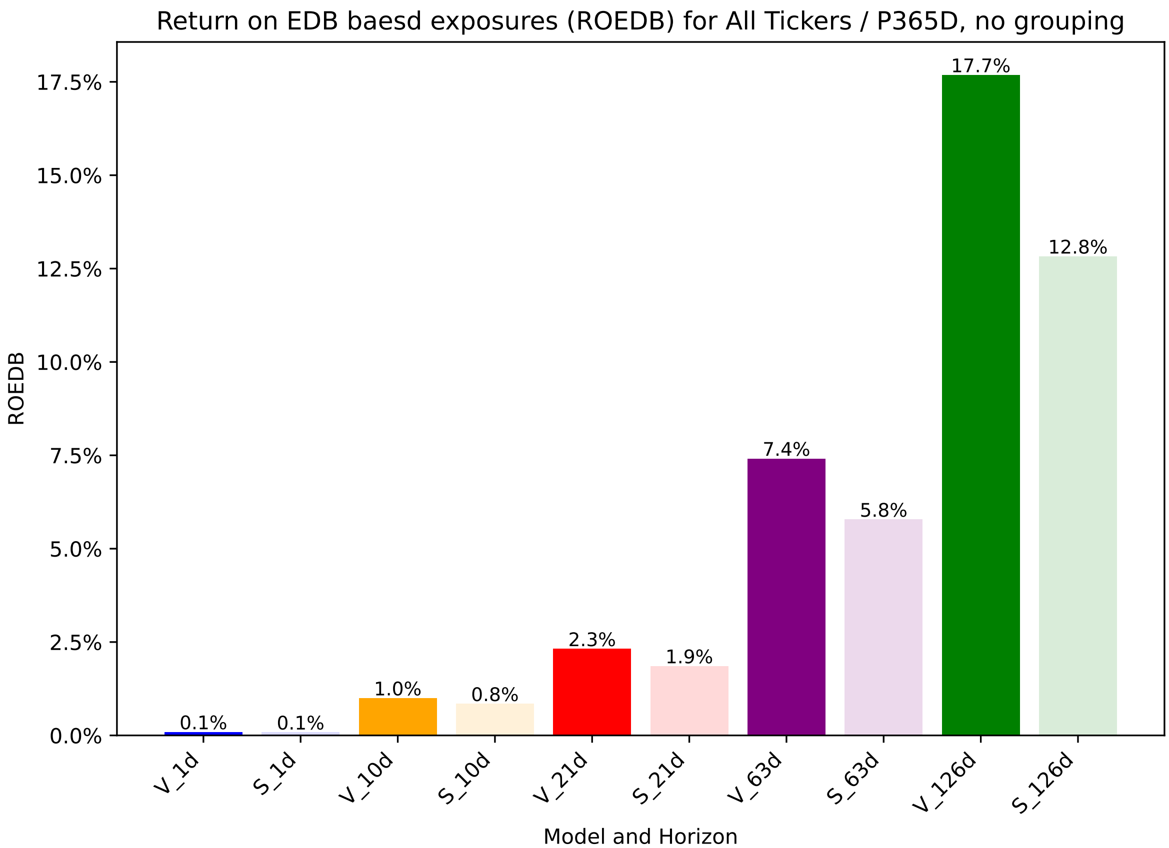
	1d	10d	21d	63d	126d	252d
intercept	-0.02%	-0.13%	-0.28%	-0.79%	-1.39%	-4.86%
intercept_p_value	0.43%	0.00%	0.00%	0.00%	0.00%	0.00%
slope	162.35%	157.59%	158.52%	155.27%	158.43%	185.03%
slope_p_value	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

Same as above, but averaged by Ticker across Model Dates:

	1d	10d	21d	63d	126d	252d
intercept	0.00%	0.07%	0.16%	0.56%	1.49%	2.37%
intercept_p_value	47.94%	22.46%	15.60%	13.68%	9.20%	11.34%
slope	153.44%	145.75%	147.24%	147.68%	151.45%	164.30%
slope_p_value	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

Prior 365 Calendar Days (P365D)

Period examined: All model dates from 2025-07-01 through 2026-06-29



Alpha (intercept) and Beta (slope) of Vector Model ROEDB regressed upon corresponding horizon actual ticker-model date returns:

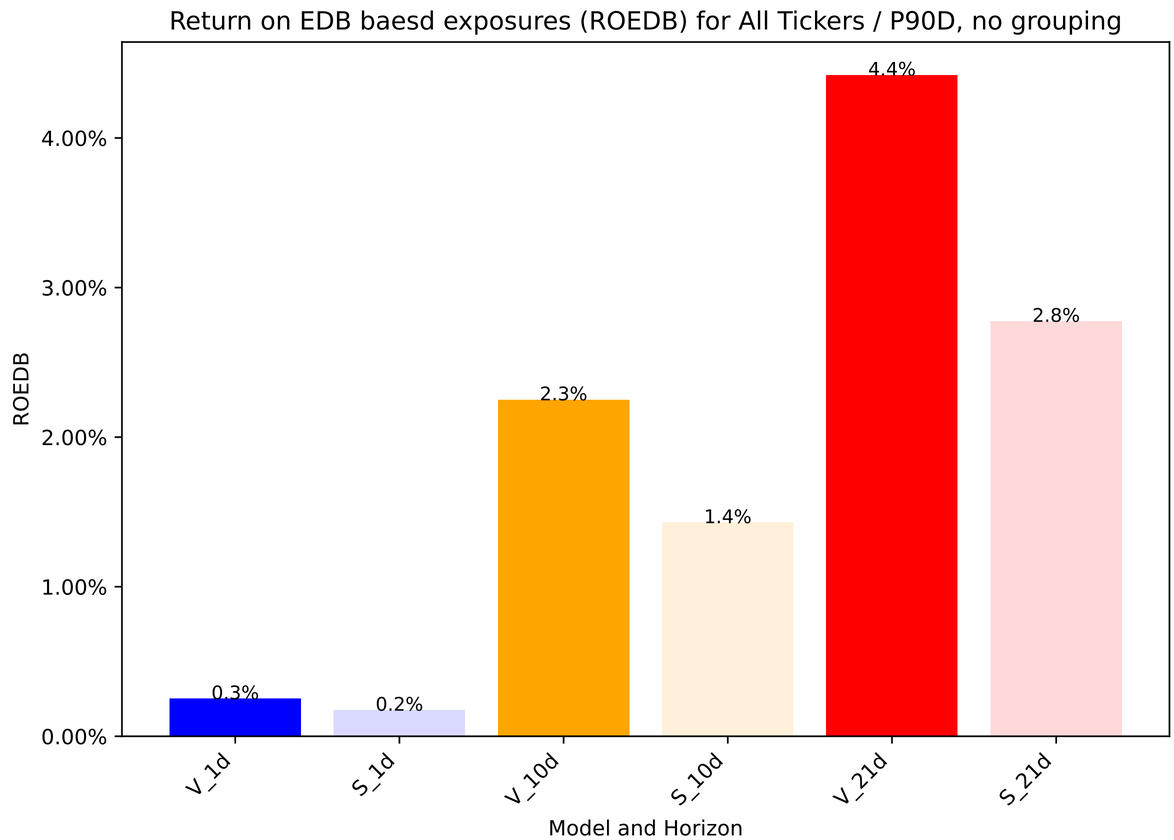
	1d	10d	21d	63d	126d
intercept	-0.04%	-0.26%	-0.52%	-1.28%	-1.71%
intercept_p_value	0.13%	0.00%	0.00%	0.00%	0.00%
slope	151.78%	149.13%	152.64%	150.39%	151.16%
slope_p_value	0.00%	0.00%	0.00%	0.00%	0.00%

Same as above, but averaged by Ticker across Model Dates:

	1d	10d	21d	63d	126d
intercept	-0.01%	0.06%	0.17%	0.37%	0.45%
intercept_p_value	49.23%	21.18%	13.27%	12.77%	19.56%
slope	147.91%	140.98%	142.12%	145.13%	150.84%
slope_p_value	0.00%	0.00%	0.00%	0.00%	0.75%

Prior 90 Calendar Days (P90D)

Period examined: All model dates from 2026-04-02 through 2026-06-29



Alpha (intercept) and Beta (slope) of Vector Model ROEDB regressed upon corresponding horizon actual ticker-model date returns:

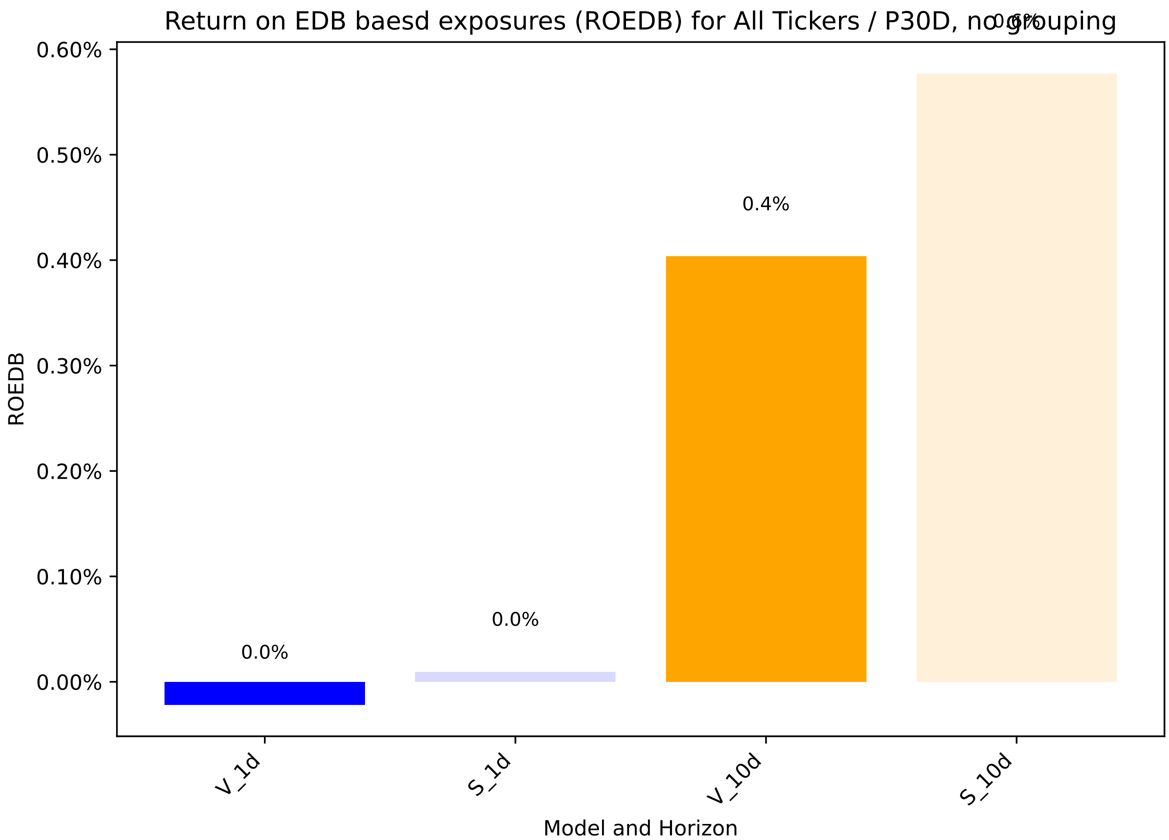
	1d	10d	21d
intercept	-0.01%	0.00%	-0.08%
intercept_p_value	71.67%	97.39%	56.02%
slope	149.04%	157.31%	162.28%
slope_p_value	0.00%	0.00%	0.00%

Same as above, but averaged by Ticker across Model Dates:

	1d	10d	21d
intercept	0.01%	0.15%	-0.00%
intercept_p_value	48.91%	36.21%	29.21%
slope	150.50%	147.50%	149.33%
slope_p_value	0.00%	0.00%	0.00%

Prior 30 Calendar Days (P30D)

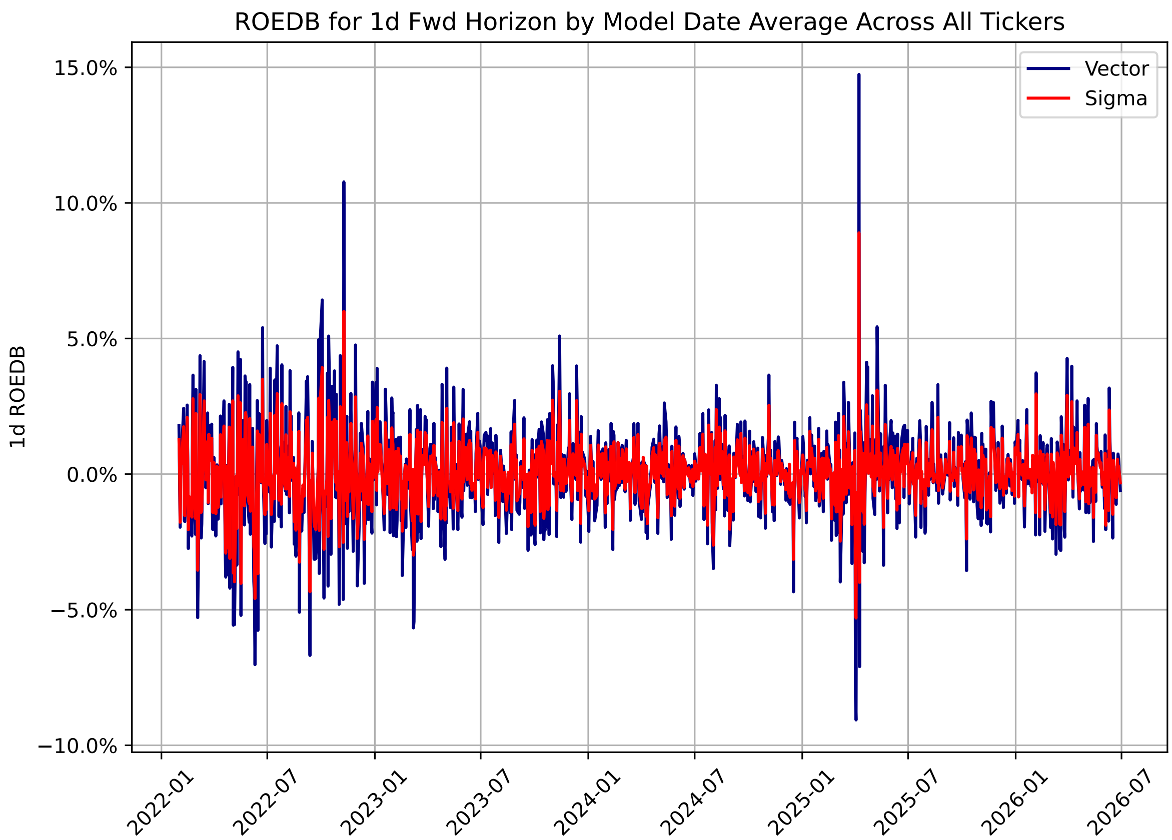
Period examined: All model dates from 2026-06-01 through 2026-06-29



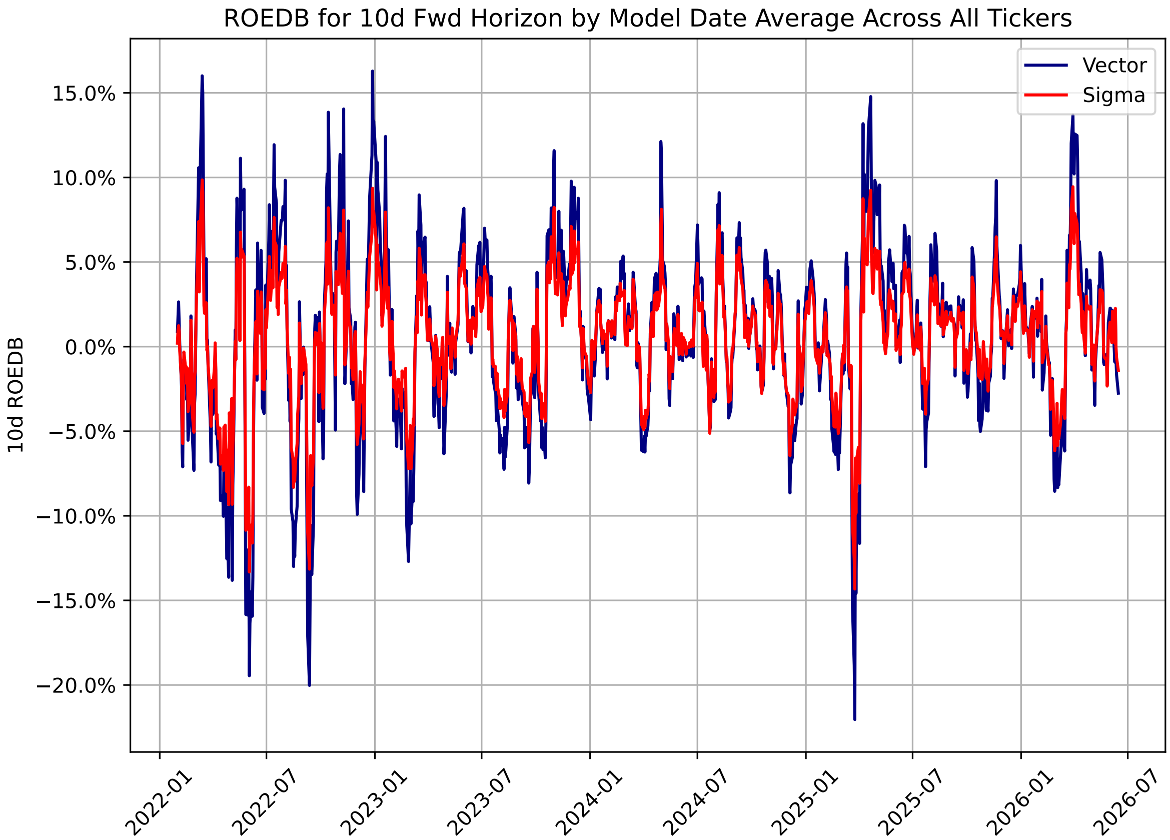

```
Alpha (intercept) and Beta (slope) of Vector Model ROEDB regressed upon
corresponding horizon actual ticker-model date returns:
                        1d      10d
intercept           -0.03%   -0.46%
intercept_p_value   44.92%    0.47%
slope              136.87%  148.85%
slope_p_value        0.00%    0.00%

Same as above, but averaged by Ticker across Model Dates:
                        1d      10d
intercept            0.02%   -0.40%
intercept_p_value   45.82%   44.48%
slope              149.80%  153.70%
slope_p_value        0.00%    0.32%
```

ROEDB by Model Date Detail

1d Horizon

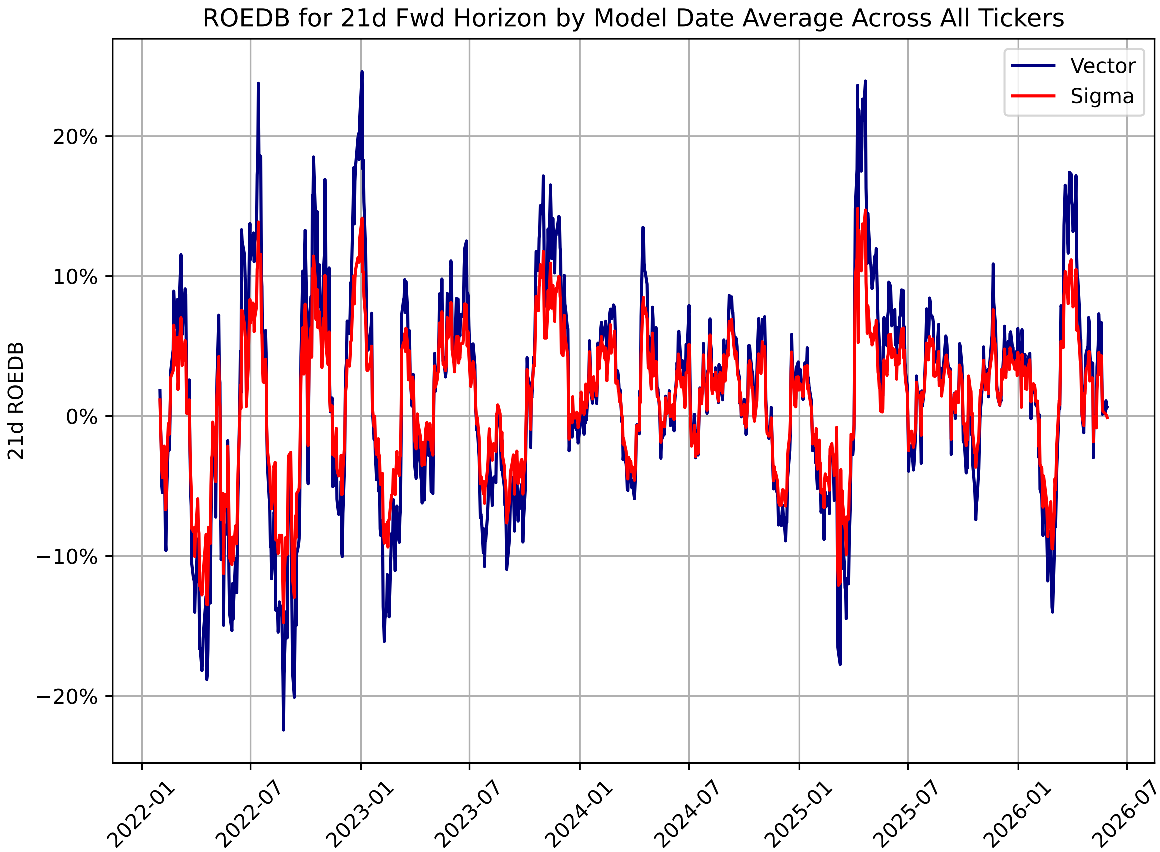


10d Horizon



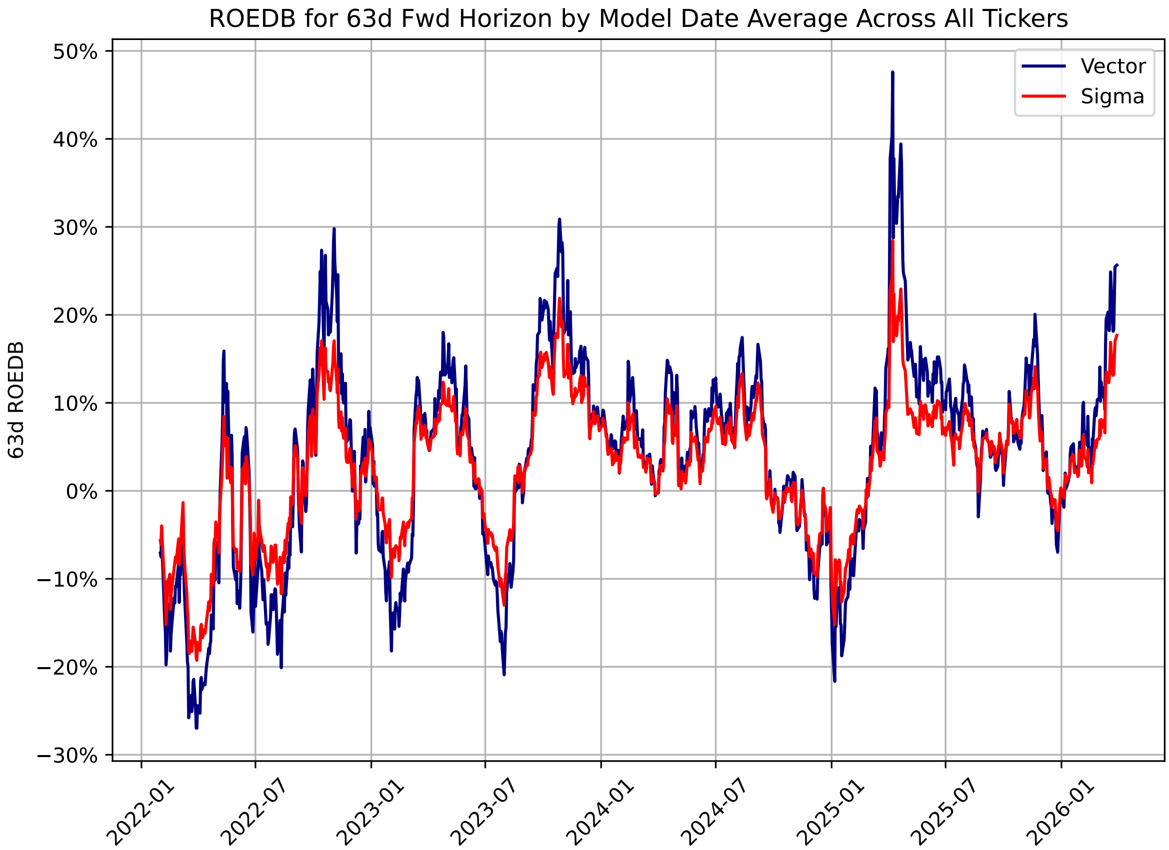
ROEDB for 10d Fwd Horizon by Model Date Average Across All Tickers
Vector
Sigma
10d ROEDB
15.0%
10.0%
5.0%
0.0%
−5.0%
−10.0%
−15.0%
−20.0%
2022-01
2022-07
2023-01
2023-07
2024-01
2024-07
2025-01
2025-07
2026-01
2026-07

21d Horizon



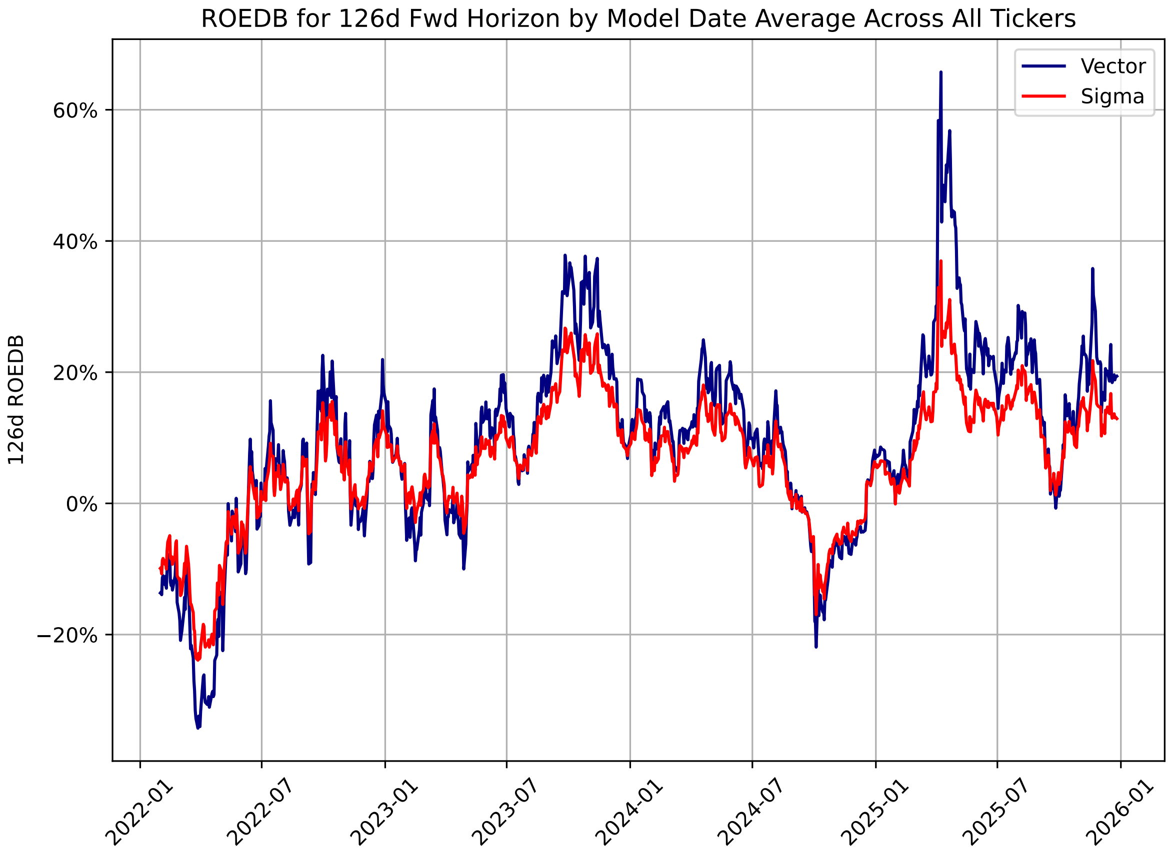
ROEDB for 21d Fwd Horizon by Model Date Average Across All Tickers
Vector
Sigma
21d ROEDB
20%
10%
0%
−10%
−20%
2022-01
2022-07
2023-01
2023-07
2024-01
2024-07
2025-01
2025-07
2026-01
2026-07

63d Horizon

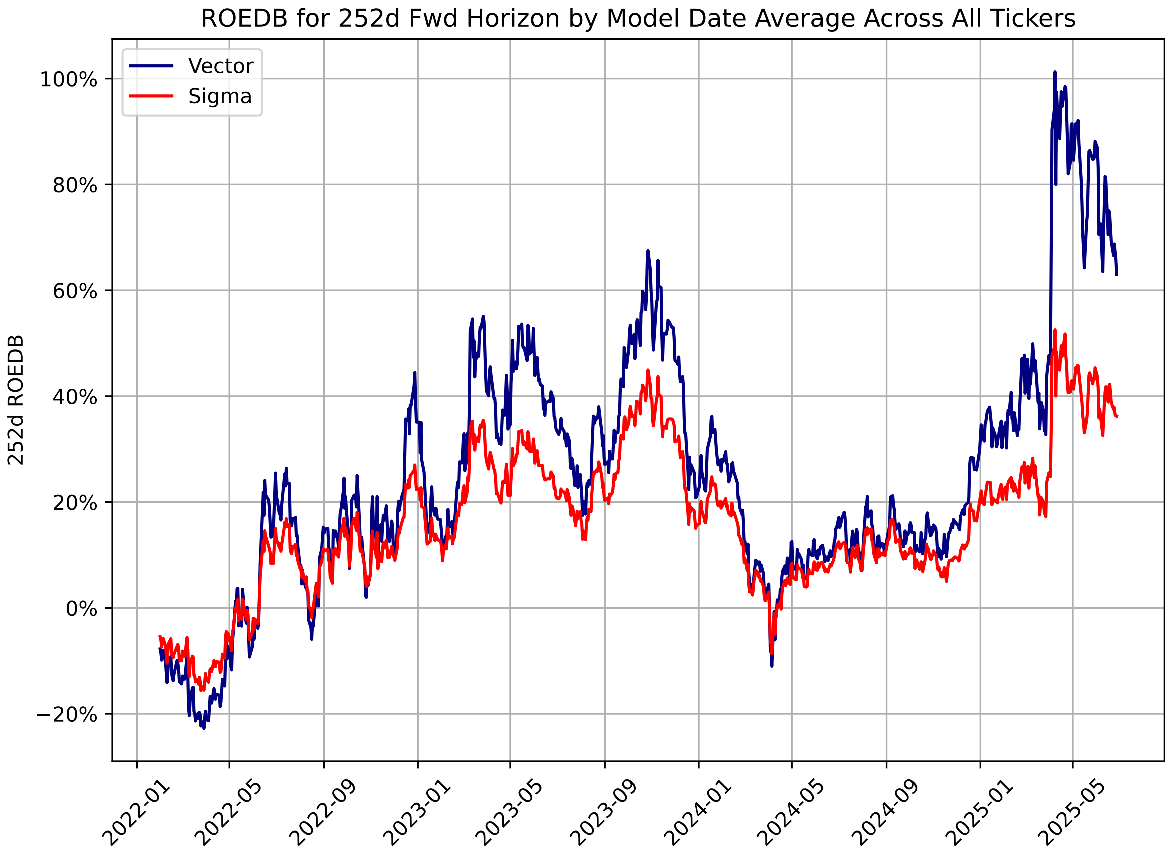


ROEDB for 63d Fwd Horizon by Model Date Average Across All Tickers
63d ROEDB
50%
40%
30%
20%
10%
0%
−10%
−20%
−30%
2022-01
2022-07
2023-01
2023-07
2024-01
2024-07
2025-01
2025-07
2026-01
Vector
Sigma

126d Horizon



252d Horizon



Top 30 Tickers By ROEDB

All TMD: 1d

Results reflect ticker level average ROEDB across all model dates for which actual results for the stated horizon are known.

Period examined: All model dates from 2022-01-31 through 2026-06-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
1.0	MSTR	0.49%	MU	0.3%
1.0	GME	0.48%	WDC	0.28%
1.0	WDC	0.47%	MSTR	0.25%
1.0	MU	0.42%	NVDA	0.24%
1.0	AMD	0.37%	VST	0.23%
1.0	INTC	0.33%	AMD	0.21%
1.0	AVGO	0.3%	AVGO	0.21%
1.0	META	0.3%	PWR	0.2%
1.0	NFLX	0.28%	AMAT	0.19%
1.0	LLY	0.27%	GE	0.17%
1.0	CDNS	0.26%	X	0.17%
1.0	NVDA	0.25%	LLY	0.17%
1.0	PWR	0.23%	TEVA	0.16%
1.0	GOOGL	0.21%	TRGP	0.16%
1.0	XOM	0.21%	INTC	0.16%
1.0	GWW	0.2%	GME	0.15%
1.0	AAPL	0.18%	CAH	0.15%
1.0	CLF	0.18%	THC	0.13%
1.0	KALU	0.17%	GBTC	0.12%
1.0	ON	0.16%	ETRN	0.12%
1.0	AMZN	0.16%	SLV	0.12%
1.0	X	0.16%	PHM	0.11%
1.0	CAH	0.15%	GS	0.11%
1.0	GE	0.15%	IRM	0.11%
1.0	ORCL	0.15%	GOOGL	0.11%
1.0	FCX	0.15%	CDNS	0.11%
1.0	IRM	0.15%	ON	0.11%
1.0	AA	0.15%	KALU	0.1%
1.0	TRGP	0.15%	GWW	0.1%
1.0	NEM	0.15%	HSBC	0.1%

All TMD: 10d

Results reflect ticker level average ROEDB across all model dates for which actual results for the stated horizon are known.

Period examined: All model dates from 2022-01-31 through 2026-06-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
10.0	MSTR	6.27%	MU	3.03%
10.0	WDC	4.65%	WDC	2.95%
10.0	MU	4.61%	MSTR	2.64%
10.0	GME	4.37%	NVDA	2.41%
10.0	INTC	3.39%	VST	2.27%
10.0	AMD	3.11%	AVGO	2.07%
10.0	META	2.71%	PWR	1.99%
10.0	TEVA	2.46%	AMD	1.98%
10.0	ORCL	2.41%	AMAT	1.75%
10.0	AVGO	2.27%	TEVA	1.67%
10.0	NVDA	2.24%	LLY	1.64%
10.0	NFLX	2.24%	GE	1.63%
10.0	LLY	2.15%	INTC	1.59%
10.0	VST	2.12%	X	1.58%
10.0	PWR	2.11%	TRGP	1.54%
10.0	CDNS	2.08%	CAH	1.49%
10.0	GE	1.89%	ETRN	1.41%
10.0	GWW	1.82%	GME	1.27%
10.0	GOOGL	1.81%	GBTC	1.18%
10.0	AMAT	1.75%	THC	1.17%
10.0	CAH	1.75%	SLV	1.16%
10.0	KALU	1.71%	IRM	1.16%
10.0	SLV	1.57%	GS	1.15%
10.0	AAPL	1.54%	META	1.11%
10.0	FCX	1.5%	CDNS	1.08%
10.0	X	1.49%	PHM	1.07%
10.0	XOM	1.43%	GWW	1.06%
10.0	ETRN	1.4%	GOOGL	1.03%
10.0	GILD	1.35%	ON	1.02%
10.0	AMZN	1.32%	KALU	1.02%

All TMD: 21d

Results reflect ticker level average ROEDB across all model dates for which actual results for the stated horizon are known.

Period examined: All model dates from 2022-01-31 through 2026-06-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
21.0	MSTR	14.31%	MU	6.41%
21.0	WDC	10.24%	MSTR	6.34%
21.0	MU	9.28%	WDC	6.19%
21.0	INTC	7.16%	NVDA	5.28%
21.0	GME	7.05%	VST	4.79%
21.0	AMD	6.85%	AMD	4.46%
21.0	META	6.17%	AVGO	4.41%
21.0	TEVA	5.92%	PWR	4.24%
21.0	ORCL	5.46%	TEVA	3.64%
21.0	AVGO	4.82%	AMAT	3.53%
21.0	NFLX	4.72%	ETRN	3.5%
21.0	PWR	4.61%	GE	3.44%
21.0	NVDA	4.5%	LLY	3.42%
21.0	LLY	4.4%	INTC	3.35%
21.0	ETRN	4.25%	TRGP	3.22%
21.0	VST	4.12%	X	3.17%
21.0	CDNS	4.01%	CAH	3.08%
21.0	AMAT	3.88%	GBTC	2.67%
21.0	GE	3.87%	META	2.51%
21.0	GOOGL	3.84%	SLV	2.5%
21.0	GWW	3.56%	GS	2.47%
21.0	CAH	3.54%	ORCL	2.45%
21.0	KALU	3.44%	IRM	2.43%
21.0	SLV	3.38%	THC	2.34%
21.0	GILD	3.19%	TSLA	2.34%
21.0	XOM	3.15%	CDNS	2.3%
21.0	AA	3.11%	ON	2.29%
21.0	TXN	3.11%	GOOGL	2.28%
21.0	X	2.92%	GWW	2.25%
21.0	GS	2.92%	NFLX	2.24%

All TMD: 63d

Results reflect ticker level average ROEDB across all model dates for which actual results for the stated horizon are known.

Period examined: All model dates from 2022-01-31 through 2026-06-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
63.0	WDC	37.97%	WDC	20.44%
63.0	MSTR	34.13%	MSTR	19.38%
63.0	MU	26.36%	MU	19.17%
63.0	META	22.96%	NVDA	17.64%
63.0	AMD	19.43%	VST	15.68%
63.0	NFLX	17.58%	AVGO	13.85%
63.0	NVDA	16.45%	AMD	12.99%
63.0	AVGO	16.32%	PWR	12.22%
63.0	INTC	16.23%	TEVA	10.47%
63.0	ORCL	15.76%	GE	10.37%
63.0	TEVA	14.35%	ETRN	10.28%
63.0	VST	14.34%	AMAT	9.99%
63.0	PWR	13.0%	GBTC	9.87%
63.0	AMAT	12.72%	INTC	9.63%
63.0	GE	12.46%	LLY	9.44%
63.0	GNRC	11.62%	TRGP	9.22%
63.0	GWW	11.15%	META	9.19%
63.0	KALU	10.98%	CAH	8.92%
63.0	SLV	10.84%	NFLX	8.5%
63.0	GOOGL	10.73%	SLV	8.34%
63.0	LLY	10.53%	THC	7.54%
63.0	ETRN	10.51%	GOOGL	7.45%
63.0	CTLT	10.48%	ORCL	7.42%
63.0	GILD	10.44%	PHM	7.37%
63.0	CAH	10.1%	GS	7.31%
63.0	GS	9.48%	HSBC	6.69%
63.0	ON	9.3%	IRM	6.49%
63.0	CDNS	9.03%	CCL	6.31%
63.0	B	8.94%	GWW	6.2%
63.0	NEM	8.72%	KALU	6.09%

All TMD: 126d

Results reflect ticker level average ROEDB across all model dates for which actual results for the stated horizon are known.

Period examined: All model dates from 2022-01-31 through 2026-06-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
126.0	MSTR	98.94%	WDC	48.93%
126.0	WDC	98.52%	MSTR	47.86%
126.0	MU	69.35%	MU	45.81%
126.0	META	58.26%	NVDA	43.47%
126.0	NFLX	45.1%	VST	34.86%
126.0	NVDA	44.54%	AVGO	29.62%
126.0	AVGO	40.43%	GBTC	27.8%
126.0	AMD	36.39%	GE	25.13%
126.0	VST	35.34%	PWR	23.89%
126.0	TEVA	33.17%	AMD	23.15%
126.0	INTC	32.68%	TEVA	23.04%
126.0	AMAT	32.31%	META	22.47%
126.0	GE	31.32%	AMAT	22.21%
126.0	SLV	30.67%	NFLX	21.24%
126.0	ORCL	29.75%	SLV	20.58%
126.0	B	27.1%	TRGP	19.55%
126.0	GOOGL	27.04%	CAH	19.52%
126.0	LLY	24.91%	THC	19.51%
126.0	CSTM	24.56%	LLY	19.42%
126.0	PWR	24.28%	ETRN	18.49%
126.0	CAH	24.25%	INTC	17.11%
126.0	GILD	23.91%	PHM	16.86%
126.0	NEM	23.55%	GOOGL	16.65%
126.0	GWW	22.23%	GS	15.69%
126.0	KALU	22.12%	ORCL	15.49%
126.0	THC	21.7%	B	14.84%
126.0	GBTC	21.26%	HSBC	14.35%
126.0	GNRC	20.48%	CCL	13.81%
126.0	GS	19.9%	CSTM	13.68%
126.0	ETRN	19.22%	GLD	13.12%

All TMD: 252d

Results reflect ticker level average ROEDB across all model dates for which actual results for the stated horizon are known.

Period examined: All model dates from 2022-01-31 through 2026-06-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
252.0	MSTR	335.14%	MSTR	163.63%
252.0	WDC	288.8%	WDC	120.96%
252.0	MU	172.27%	NVDA	118.09%
252.0	META	155.4%	VST	103.8%
252.0	VST	140.5%	MU	102.34%
252.0	NFLX	120.63%	GBTC	89.68%
252.0	AVGO	109.85%	AVGO	76.56%
252.0	NVDA	108.59%	META	61.88%
252.0	INTC	96.03%	GE	60.65%
252.0	GE	80.24%	NFLX	55.36%
252.0	SLV	80.14%	AMD	51.59%
252.0	AMD	75.17%	PWR	50.29%
252.0	GBTC	73.7%	THC	47.06%
252.0	TEVA	72.43%	TEVA	44.02%
252.0	GOOGL	65.67%	AMAT	43.35%
252.0	B	65.47%	LLY	42.51%
252.0	ORCL	65.13%	PHM	42.12%
252.0	AMAT	64.48%	TRGP	41.19%
252.0	NEM	62.33%	SLV	40.63%
252.0	THC	59.25%	CAH	39.21%
252.0	PWR	55.69%	CCL	37.04%
252.0	CAH	55.52%	GOOGL	36.85%
252.0	AMZN	54.91%	ORCL	36.36%
252.0	CSTM	54.34%	ETRN	35.78%
252.0	LLY	52.87%	GS	34.45%
252.0	EXPE	52.34%	INTC	34.0%
252.0	ISRG	50.6%	B	31.66%
252.0	ELAN	50.48%	HSBC	31.58%
252.0	GILD	48.75%	JPM	30.72%
252.0	GS	47.93%	GLD	29.23%

P365D: 1d

Results reflect ticker level average ROEDB across all model dates for which actual results for the stated horizon are known.

Period examined: All model dates from 2025-07-01 through 2026-06-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
1.0	WDC	1.54%	WDC	1.02%
1.0	INTC	1.37%	MU	1.01%
1.0	MU	1.22%	INTC	0.84%
1.0	AMD	1.16%	AMD	0.67%
1.0	AAP	0.66%	AMAT	0.61%
1.0	LLY	0.64%	KALU	0.39%
1.0	CMA	0.63%	CSTM	0.38%
1.0	JAZZ	0.59%	JAZZ	0.34%
1.0	ON	0.55%	LUMN	0.34%
1.0	AMAT	0.52%	GNRC	0.34%
1.0	KALU	0.49%	TEVA	0.31%
1.0	MRK	0.49%	ON	0.31%
1.0	CDNS	0.45%	GOOGL	0.3%
1.0	CVS	0.45%	PWR	0.29%
1.0	TSLA	0.44%	SLV	0.28%
1.0	GOOGL	0.43%	AA	0.28%
1.0	AA	0.42%	CMA	0.27%
1.0	UNH	0.39%	B	0.27%
1.0	FCX	0.38%	ELAN	0.25%
1.0	LUMN	0.35%	BHP	0.24%
1.0	CLF	0.35%	CSCO	0.23%
1.0	EXPE	0.34%	NEM	0.23%
1.0	PCG	0.31%	BIIB	0.23%
1.0	AAPL	0.3%	RIO	0.21%
1.0	NVDA	0.3%	LLY	0.2%
1.0	BHP	0.27%	EXPE	0.2%
1.0	CSTM	0.27%	HSBC	0.2%
1.0	NEM	0.26%	MRK	0.2%
1.0	GSK	0.25%	TRGP	0.19%
1.0	TEVA	0.25%	FCX	0.19%

P365D: 10d

Results reflect ticker level average ROEDB across all model dates for which actual results for the stated horizon are known.

Period examined: All model dates from 2025-07-01 through 2026-06-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
10.0	WDC	15.03%	WDC	10.74%
10.0	MU	14.82%	MU	10.62%
10.0	INTC	12.97%	INTC	8.76%
10.0	AMD	9.14%	AMD	6.55%
10.0	ON	5.72%	AMAT	5.46%
10.0	KALU	5.36%	CSTM	3.84%
10.0	JAZZ	5.06%	LUMN	3.68%
10.0	LLY	5.06%	KALU	3.6%
10.0	UNH	5.04%	ON	3.42%
10.0	AMAT	4.88%	GNRC	3.38%
10.0	GOOGL	4.8%	JAZZ	3.34%
10.0	CVS	4.76%	CNC	3.32%
10.0	CNC	4.62%	TEVA	3.19%
10.0	AA	4.38%	AA	3.16%
10.0	TSLA	4.29%	GOOGL	3.11%
10.0	CMA	3.75%	CMA	2.99%
10.0	QCOM	3.52%	B	2.9%
10.0	MRK	3.5%	PWR	2.84%
10.0	B	3.48%	SLV	2.78%
10.0	GNRC	3.44%	CSCO	2.49%
10.0	CDNS	3.43%	NEM	2.48%
10.0	CSTM	3.36%	BHP	2.34%
10.0	VFC	3.15%	ELAN	2.34%
10.0	EXPE	3.04%	RIO	2.22%
10.0	FCX	2.98%	CVS	1.98%
10.0	GE	2.86%	TRGP	1.96%
10.0	TXN	2.83%	HSBC	1.94%
10.0	CLF	2.82%	BIIB	1.94%
10.0	PWR	2.75%	FCX	1.94%
10.0	AAP	2.72%	MNST	1.93%

P365D: 21d

Results reflect ticker level average ROEDB across all model dates for which actual results for the stated horizon are known.

Period examined: All model dates from 2025-07-01 through 2026-06-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
21.0	WDC	33.96%	MU	24.43%
21.0	MU	31.65%	WDC	23.24%
21.0	INTC	31.21%	INTC	19.64%
21.0	AMD	21.19%	AMD	14.56%
21.0	ON	13.73%	AMAT	11.22%
21.0	CNC	13.5%	CSTM	8.8%
21.0	KALU	12.68%	CNC	8.54%
21.0	UNH	12.31%	LUMN	8.37%
21.0	JAZZ	11.85%	ON	8.13%
21.0	LLY	11.13%	KALU	8.07%
21.0	CVS	10.97%	AA	8.03%
21.0	AMAT	10.95%	TEVA	7.33%
21.0	AA	10.57%	JAZZ	7.06%
21.0	GOOGL	10.4%	GNRC	6.9%
21.0	TXN	10.05%	GOOGL	6.8%
21.0	TSLA	10.05%	B	6.71%
21.0	B	8.44%	SLV	6.62%
21.0	CSTM	8.29%	CMA	6.15%
21.0	QCOM	7.98%	PWR	5.94%
21.0	GNRC	7.92%	CSCO	5.82%
21.0	CMA	7.36%	NEM	5.44%
21.0	MRK	6.77%	BHP	5.09%
21.0	FCX	6.59%	RIO	5.05%
21.0	LUMN	6.3%	ELAN	4.99%
21.0	TEVA	6.16%	TRGP	4.53%
21.0	NEM	6.05%	TXN	4.48%
21.0	CDNS	5.98%	CVS	4.42%
21.0	VFC	5.86%	FCX	4.4%
21.0	AAPL	5.48%	QCOM	4.22%
21.0	PWR	5.33%	BIIB	4.18%

P365D: 63d

Results reflect ticker level average ROEDB across all model dates for which actual results for the stated horizon are known.

Period examined: All model dates from 2025-07-01 through 2026-06-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
63.0	WDC	124.9%	WDC	82.28%
63.0	MU	104.17%	MU	81.13%
63.0	INTC	97.24%	INTC	67.28%
63.0	AMD	70.11%	AMD	43.21%
63.0	ON	57.76%	AMAT	37.13%
63.0	KALU	49.81%	CSTM	32.03%
63.0	AMAT	42.39%	AA	31.26%
63.0	CNC	39.16%	KALU	30.51%
63.0	AA	38.86%	LUMN	29.51%
63.0	JAZZ	38.43%	ON	28.03%
63.0	CSTM	38.21%	SLV	27.71%
63.0	TXN	37.26%	TEVA	26.37%
63.0	GNRC	30.9%	CNC	23.16%
63.0	LUMN	27.65%	JAZZ	22.69%
63.0	CMA	27.27%	B	21.71%
63.0	CVS	26.83%	PWR	21.24%
63.0	GOOGL	26.38%	GOOGL	21.15%
63.0	LLY	25.79%	CMA	19.37%
63.0	B	24.98%	RIO	18.36%
63.0	UNH	24.85%	NEM	18.31%
63.0	TSLA	24.1%	TRGP	16.5%
63.0	NEM	23.4%	BHP	16.49%
63.0	TEVA	22.2%	FCX	16.06%
63.0	FCX	21.16%	CSCO	15.96%
63.0	MRK	21.07%	GNRC	15.47%
63.0	PWR	20.45%	TXN	14.49%
63.0	SLV	20.16%	MRK	13.14%
63.0	BHP	20.16%	ELAN	13.07%
63.0	VFC	19.91%	LLY	12.91%
63.0	BIIB	19.31%	BIIB	12.71%

P365D: 126d

Results reflect ticker level average ROEDB across all model dates for which actual results for the stated horizon are known.

Period examined: All model dates from 2025-07-01 through 2026-06-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
126.0	WDC	340.4%	WDC	222.39%
126.0	MU	294.75%	MU	218.01%
126.0	INTC	182.48%	INTC	130.62%
126.0	KALU	139.48%	AMAT	89.43%
126.0	ON	137.94%	AA	83.83%
126.0	AMAT	134.71%	CSTM	81.12%
126.0	AA	123.94%	SLV	76.01%
126.0	CSTM	122.47%	KALU	70.89%
126.0	AMD	98.84%	TEVA	63.15%
126.0	TXN	90.31%	ON	59.94%
126.0	CMA	89.71%	AMD	58.47%
126.0	JAZZ	86.3%	B	51.14%
126.0	GNRC	77.51%	JAZZ	45.45%
126.0	SLV	76.66%	NEM	45.29%
126.0	CNC	71.47%	FCX	44.79%
126.0	B	69.33%	RIO	44.7%
126.0	NEM	60.3%	PWR	43.68%
126.0	TEVA	59.19%	CMA	41.75%
126.0	FCX	58.87%	TRGP	41.6%
126.0	VFC	57.12%	CNC	41.09%
126.0	BHP	55.66%	GOOGL	40.45%
126.0	MRK	55.45%	BHP	39.44%
126.0	RIO	52.44%	LUMN	36.01%
126.0	GOOGL	52.25%	MRK	33.14%
126.0	LLY	51.11%	TXN	33.06%
126.0	BMY	50.55%	GNRC	32.43%
126.0	BIIB	50.54%	XOM	30.05%
126.0	GWW	50.3%	HSBC	29.51%
126.0	BUD	46.13%	VFC	27.83%
126.0	PWR	45.71%	CSCO	27.66%

P90D: 1d

Results reflect ticker level average ROEDB across all model dates for which actual results for the stated horizon are known.

Period examined: All model dates from 2026-04-02 through 2026-06-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
1.0	INTC	3.1%	MU	2.13%
1.0	AMD	3.0%	INTC	1.89%
1.0	WDC	2.9%	AMD	1.78%
1.0	AMC	2.42%	WDC	1.42%
1.0	ON	2.3%	AMAT	1.32%
1.0	UNH	1.92%	AMC	1.16%
1.0	MU	1.87%	NWL	1.08%
1.0	CNC	1.81%	CNC	1.05%
1.0	CDNS	1.65%	ON	0.87%
1.0	AMAT	1.5%	TXN	0.78%
1.0	NWL	1.24%	QCOM	0.77%
1.0	AAP	1.2%	GNRC	0.76%
1.0	LLY	1.14%	VNO	0.75%
1.0	TXN	1.1%	KALU	0.7%
1.0	LUMN	1.06%	CSCO	0.7%
1.0	CVS	1.03%	UNH	0.7%
1.0	TSLA	0.99%	CVS	0.59%
1.0	GE	0.99%	CDNS	0.54%
1.0	BXP	0.98%	GE	0.5%
1.0	QCOM	0.9%	MNST	0.5%
1.0	VNO	0.87%	PWR	0.47%
1.0	JAZZ	0.83%	JAZZ	0.44%
1.0	CYH	0.8%	LLY	0.44%
1.0	BBY	0.79%	BXP	0.43%
1.0	KALU	0.79%	MS	0.4%
1.0	SBUX	0.72%	QQQ	0.4%
1.0	AMZN	0.67%	AAP	0.37%
1.0	GWW	0.66%	AVGO	0.37%
1.0	CLF	0.58%	IRM	0.36%
1.0	ABBV	0.58%	BIIB	0.35%

P90D: 10d

Results reflect ticker level average ROEDB across all model dates for which actual results for the stated horizon are known.

Period examined: All model dates from 2026-04-02 through 2026-06-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
10.0	AMD	31.02%	MU	22.38%
10.0	INTC	30.95%	INTC	18.51%
10.0	WDC	24.33%	AMD	17.64%
10.0	AMC	24.21%	WDC	15.06%
10.0	MU	22.71%	AMC	12.37%
10.0	QCOM	22.3%	CNC	11.8%
10.0	UNH	18.27%	ON	10.93%
10.0	CNC	17.56%	QCOM	10.91%
10.0	NWL	16.67%	AMAT	10.76%
10.0	CDNS	16.2%	NWL	8.61%
10.0	ON	15.31%	TXN	8.03%
10.0	CVS	13.43%	CSCO	7.91%
10.0	ORCL	12.74%	GNRC	7.18%
10.0	AMAT	12.61%	VNO	7.09%
10.0	LLY	12.11%	UNH	6.28%
10.0	BXP	10.35%	KALU	6.04%
10.0	TXN	10.26%	CDNS	5.98%
10.0	CLF	9.39%	CVS	5.88%
10.0	VNO	9.29%	CLF	5.14%
10.0	GE	9.14%	MNST	4.78%
10.0	KALU	9.09%	PWR	4.69%
10.0	TSLA	7.73%	MS	4.34%
10.0	BBY	7.43%	LLY	4.25%
10.0	JAZZ	7.2%	BBY	4.19%
10.0	CSCO	6.51%	BXP	4.11%
10.0	GNRC	6.5%	GE	3.87%
10.0	PHM	5.68%	GS	3.68%
10.0	AAP	5.62%	IRM	3.54%
10.0	CAH	5.44%	JAZZ	3.48%
10.0	LUMN	4.73%	QQQ	3.45%

P90D: 21d

Results reflect ticker level average ROEDB across all model dates for which actual results for the stated horizon are known.

Period examined: All model dates from 2026-04-02 through 2026-06-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
21.0	AMD	73.93%	MU	56.57%
21.0	INTC	73.43%	AMD	40.92%
21.0	MU	58.26%	INTC	39.62%
21.0	WDC	55.25%	WDC	30.76%
21.0	AMC	52.89%	QCOM	29.15%
21.0	QCOM	52.82%	CNC	27.55%
21.0	CNC	43.04%	AMC	24.08%
21.0	ON	34.69%	ON	23.2%
21.0	UNH	33.64%	AMAT	22.25%
21.0	LLY	33.6%	CSCO	20.77%
21.0	CDNS	32.99%	CLF	15.86%
21.0	CVS	31.69%	VNO	15.49%
21.0	ORCL	31.08%	TXN	15.18%
21.0	AMAT	28.74%	GNRC	14.28%
21.0	CLF	28.65%	CDNS	13.51%
21.0	VNO	24.04%	CVS	13.27%
21.0	NWL	22.15%	UNH	11.83%
21.0	TXN	21.34%	LLY	11.82%
21.0	BXP	20.45%	BBY	11.47%
21.0	JAZZ	19.6%	NWL	11.35%
21.0	BBY	17.16%	KALU	10.88%
21.0	CSCO	17.07%	MNST	10.86%
21.0	KALU	16.78%	ORCL	9.9%
21.0	GE	16.08%	PWR	9.14%
21.0	TSLA	15.65%	MS	8.96%
21.0	GNRC	12.77%	JAZZ	8.8%
21.0	MNST	10.4%	GE	8.73%
21.0	BUD	10.02%	GS	8.33%
21.0	ABBV	9.36%	BXP	7.83%
21.0	PWR	9.17%	GWW	7.5%

P30D: 1d

Results reflect ticker level average ROEDB across all model dates for which actual results for the stated horizon are known.

Period examined: All model dates from 2026-06-01 through 2026-06-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
1.0	NWL	5.16%	NWL	3.2%
1.0	WDC	2.88%	AMAT	2.49%
1.0	INTC	2.41%	INTC	1.4%
1.0	PHM	1.95%	WDC	1.04%
1.0	GE	1.9%	CYH	1.0%
1.0	CYH	1.73%	CAH	1.0%
1.0	MRK	1.51%	ABBV	0.86%
1.0	AMAT	1.51%	MU	0.85%
1.0	GT	1.41%	VNO	0.84%
1.0	CAH	1.32%	PHM	0.8%
1.0	KEY	1.27%	AMD	0.79%
1.0	UNH	1.25%	FITB	0.76%
1.0	AMC	1.24%	BALL	0.76%
1.0	BALL	1.2%	UAA	0.75%
1.0	BXP	1.2%	GE	0.73%
1.0	TSLA	1.19%	CVS	0.68%
1.0	ABBV	1.16%	HD	0.65%
1.0	LLY	1.1%	ZION	0.63%
1.0	HD	1.06%	USB	0.62%
1.0	CMG	1.04%	EXPE	0.62%
1.0	FITB	1.01%	BIIB	0.61%
1.0	SBUX	0.86%	BXP	0.59%
1.0	DHI	0.85%	CMG	0.57%
1.0	AMGN	0.8%	MRK	0.57%
1.0	CVS	0.8%	GT	0.56%
1.0	EXPE	0.75%	DHI	0.55%
1.0	UAA	0.73%	LLY	0.54%
1.0	GSK	0.72%	GNRC	0.52%
1.0	HCA	0.71%	BAC	0.51%
1.0	TDG	0.7%	JPM	0.51%

P30D: 10d

Results reflect ticker level average ROEDB across all model dates for which actual results for the stated horizon are known.

Period examined: All model dates from 2026-06-01 through 2026-06-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
10.0	NWL	64.2%	NWL	31.95%
10.0	GE	29.59%	AMAT	23.39%
10.0	AMC	28.41%	WDC	22.46%
10.0	INTC	23.37%	INTC	16.87%
10.0	CYH	22.78%	MU	13.37%
10.0	WDC	20.86%	AMC	13.28%
10.0	AMAT	20.39%	GE	10.59%
10.0	PHM	19.86%	CAH	10.43%
10.0	EXPE	17.91%	BALL	10.07%
10.0	CAH	16.93%	EXPE	9.74%
10.0	HD	14.86%	CYH	9.54%
10.0	GT	14.49%	THC	8.76%
10.0	BALL	13.69%	PHM	8.65%
10.0	TDG	12.41%	VST	8.15%
10.0	SBUX	10.37%	DHI	7.55%
10.0	UAA	10.18%	CMG	7.24%
10.0	CVS	10.02%	GT	6.71%
10.0	CMG	8.59%	USB	6.61%
10.0	UNH	8.27%	HD	6.58%
10.0	DHI	7.88%	JPM	6.53%
10.0	KEY	7.64%	AMD	6.49%
10.0	LNC	7.29%	CCL	6.43%
10.0	NAVI	7.02%	ZION	6.08%
10.0	THC	6.82%	TDG	6.06%
10.0	MU	6.72%	CVS	6.0%
10.0	AMD	6.71%	BAC	6.0%
10.0	VST	6.41%	UAA	5.68%
10.0	BXP	6.32%	ABBV	5.65%
10.0	ABBV	6.28%	GNRC	5.59%
10.0	BAC	6.07%	FITB	5.33%

Bottom 30 Tickers By ROEDB

All TMD: 1d

Results reflect ticker level average ROEDB across all model dates for which actual results for the stated horizon are known.

Period examined: All model dates from 2022-01-31 through 2026-06-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
1.0	SIVBQ	-2.09%	SIVBQ	-0.78%
1.0	SBNY	-1.16%	SBNY	-0.45%
1.0	FRCB	-0.4%	FRCB	-0.23%
1.0	IEP	-0.28%	IEP	-0.14%
1.0	CHTR	-0.27%	AMC	-0.13%
1.0	FIS	-0.22%	CHTR	-0.09%
1.0	UAA	-0.16%	PRGO	-0.09%
1.0	LUMN	-0.15%	FIS	-0.08%
1.0	NWL	-0.15%	ZTS	-0.07%
1.0	PRGO	-0.14%	BHC	-0.06%
1.0	CMCSA	-0.11%	VFC	-0.06%
1.0	NAVI	-0.1%	ADBE	-0.06%
1.0	AMC	-0.1%	AAP	-0.06%
1.0	TLT	-0.09%	NWL	-0.06%
1.0	ADBE	-0.09%	GT	-0.05%
1.0	USB	-0.09%	CMCSA	-0.05%
1.0	VFC	-0.09%	TLT	-0.04%
1.0	GT	-0.08%	UAA	-0.04%
1.0	CYH	-0.08%	NAVI	-0.04%
1.0	T	-0.08%	INTU	-0.04%
1.0	ZTS	-0.07%	CZR	-0.03%
1.0	BHC	-0.07%	KHC	-0.03%
1.0	PEP	-0.06%	BXP	-0.03%
1.0	WRK	-0.05%	LNC	-0.02%
1.0	LNC	-0.05%	MOS	-0.02%
1.0	VZ	-0.04%	BALL	-0.02%
1.0	EMB	-0.04%	FRA	-0.02%
1.0	ZION	-0.03%	PEP	-0.02%
1.0	FRA	-0.03%	CTLT	-0.01%
1.0	GSK	-0.03%	LQD	-0.01%

All TMD: 10d

Results reflect ticker level average ROEDB across all model dates for which actual results for the stated horizon are known.

Period examined: All model dates from 2022-01-31 through 2026-06-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
10.0	SBNY	-11.81%	SBNY	-4.05%
10.0	SIVBQ	-8.56%	SIVBQ	-3.9%
10.0	FRCB	-4.1%	FRCB	-2.19%
10.0	AMC	-3.64%	IEP	-1.38%
10.0	PRGO	-2.62%	AMC	-1.17%
10.0	CHTR	-2.4%	CHTR	-0.99%
10.0	IEP	-1.95%	PRGO	-0.89%
10.0	FIS	-1.73%	FIS	-0.78%
10.0	BHC	-1.02%	ZTS	-0.69%
10.0	GT	-1.02%	NWL	-0.66%
10.0	CMCSA	-0.91%	VFC	-0.66%
10.0	ZTS	-0.86%	AAP	-0.62%
10.0	NWL	-0.85%	ADBE	-0.57%
10.0	VFC	-0.77%	GT	-0.57%
10.0	ADBE	-0.76%	CMCSA	-0.57%
10.0	TLT	-0.72%	UAA	-0.56%
10.0	NAVI	-0.7%	BHC	-0.53%
10.0	UAA	-0.66%	NAVI	-0.5%
10.0	LUMN	-0.63%	CZR	-0.45%
10.0	T	-0.57%	INTU	-0.4%
10.0	AAP	-0.57%	TLT	-0.39%
10.0	LNC	-0.53%	MOS	-0.32%
10.0	BXP	-0.48%	BXP	-0.31%
10.0	KHC	-0.43%	KHC	-0.29%
10.0	MOS	-0.41%	LNC	-0.24%
10.0	INTU	-0.39%	BALL	-0.22%
10.0	VZ	-0.38%	FRA	-0.18%
10.0	ELAN	-0.36%	CYH	-0.13%
10.0	CYH	-0.35%	LQD	-0.12%
10.0	LQD	-0.3%	PEP	-0.12%

All TMD: 21d

Results reflect ticker level average ROEDB across all model dates for which actual results for the stated horizon are known.

Period examined: All model dates from 2022-01-31 through 2026-06-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
21.0	SBNY	-32.56%	SBNY	-11.16%
21.0	SIVBQ	-21.2%	SIVBQ	-9.37%
21.0	FRCB	-13.47%	FRCB	-6.02%
21.0	AMC	-8.08%	IEP	-2.96%
21.0	CHTR	-5.03%	AMC	-2.93%
21.0	PRGO	-4.89%	CHTR	-2.05%
21.0	IEP	-3.54%	NWL	-1.82%
21.0	FIS	-3.15%	PRGO	-1.78%
21.0	NWL	-3.01%	FIS	-1.46%
21.0	BHC	-2.7%	ZTS	-1.41%
21.0	AAP	-2.04%	VFC	-1.4%
21.0	ZTS	-1.93%	BHC	-1.32%
21.0	CMCSA	-1.89%	AAP	-1.25%
21.0	VFC	-1.85%	GT	-1.15%
21.0	TLT	-1.81%	CMCSA	-1.12%
21.0	NAVI	-1.66%	NAVI	-1.12%
21.0	GT	-1.58%	UAA	-1.08%
21.0	LNC	-1.28%	CZR	-1.02%
21.0	ADBE	-1.01%	ADBE	-0.93%
21.0	BXP	-0.96%	TLT	-0.83%
21.0	T	-0.88%	MOS	-0.72%
21.0	CYH	-0.87%	BXP	-0.71%
21.0	MOS	-0.74%	KHC	-0.69%
21.0	KHC	-0.71%	INTU	-0.64%
21.0	VNO	-0.7%	LNC	-0.61%
21.0	ELAN	-0.63%	BALL	-0.55%
21.0	VZ	-0.61%	FRA	-0.35%
21.0	LUMN	-0.58%	CYH	-0.3%
21.0	LQD	-0.57%	LQD	-0.23%
21.0	BALL	-0.53%	PEP	-0.2%

All TMD: 63d

Results reflect ticker level average ROEDB across all model dates for which actual results for the stated horizon are known.

Period examined: All model dates from 2022-01-31 through 2026-06-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
63.0	SBNY	-111.62%	SBNY	-37.59%
63.0	SIVBQ	-84.01%	SIVBQ	-33.73%
63.0	FRCB	-59.55%	FRCB	-24.04%
63.0	AMC	-28.78%	AMC	-13.25%
63.0	PRGO	-13.52%	IEP	-9.66%
63.0	CHTR	-12.16%	NWL	-7.11%
63.0	IEP	-11.88%	PRGO	-5.97%
63.0	NWL	-11.79%	CHTR	-5.25%
63.0	AAP	-9.99%	AAP	-4.3%
63.0	FIS	-8.0%	MOS	-4.08%
63.0	VFC	-7.25%	CZR	-4.07%
63.0	ZTS	-6.03%	VFC	-3.95%
63.0	BHC	-5.7%	BHC	-3.94%
63.0	CMCSA	-4.97%	FIS	-3.82%
63.0	TLT	-4.91%	ZTS	-3.51%
63.0	NAVI	-4.56%	NAVI	-3.4%
63.0	MOS	-4.52%	UAA	-3.05%
63.0	CYH	-3.78%	GT	-2.94%
63.0	BXP	-3.35%	CMCSA	-2.87%
63.0	VNO	-3.33%	BXP	-2.83%
63.0	LNC	-3.08%	KHC	-2.75%
63.0	GT	-2.83%	ADBE	-2.46%
63.0	KHC	-2.79%	TLT	-2.31%
63.0	LW	-2.49%	LNC	-1.91%
63.0	CZR	-2.32%	CLF	-1.76%
63.0	BBY	-2.03%	BALL	-1.4%
63.0	CLF	-1.93%	BBY	-1.28%
63.0	ADBE	-1.82%	FRA	-0.88%
63.0	BALL	-1.52%	CYH	-0.68%
63.0	T	-1.11%	LW	-0.57%

All TMD: 126d

Results reflect ticker level average ROEDB across all model dates for which actual results for the stated horizon are known.

Period examined: All model dates from 2022-01-31 through 2026-06-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
126.0	SBNY	-192.56%	SIVBQ	-65.15%
126.0	SIVBQ	-162.07%	SBNY	-64.8%
126.0	FRCB	-138.04%	FRCB	-51.17%
126.0	AMC	-57.0%	AMC	-28.95%
126.0	PRGO	-26.55%	IEP	-18.89%
126.0	NWL	-25.37%	NWL	-16.23%
126.0	IEP	-25.26%	PRGO	-11.88%
126.0	AAP	-22.8%	AAP	-10.26%
126.0	CHTR	-22.28%	CHTR	-9.02%
126.0	VFC	-13.86%	MOS	-8.07%
126.0	BHC	-12.03%	CZR	-7.87%
126.0	FIS	-10.56%	VFC	-6.65%
126.0	MOS	-10.25%	FIS	-6.48%
126.0	ZTS	-9.95%	NAVI	-5.98%
126.0	CMCSA	-9.49%	KHC	-5.9%
126.0	CZR	-8.54%	BHC	-5.78%
126.0	BXP	-8.05%	CTLT	-5.69%
126.0	NAVI	-7.95%	ZTS	-5.45%
126.0	TLT	-7.76%	GT	-5.43%
126.0	KHC	-6.99%	BXP	-5.34%
126.0	CNC	-6.87%	UAA	-5.24%
126.0	UNH	-6.4%	CMCSA	-4.71%
126.0	LNC	-6.21%	TLT	-4.11%
126.0	CYH	-6.15%	CNC	-3.97%
126.0	GT	-4.83%	CLF	-3.31%
126.0	LW	-4.06%	ADBE	-3.19%
126.0	CLF	-3.68%	UNH	-3.18%
126.0	UAA	-3.24%	LNC	-2.41%
126.0	VNO	-3.0%	LW	-2.34%
126.0	BBY	-2.65%	BBY	-1.97%

All TMD: 252d

Results reflect ticker level average ROEDB across all model dates for which actual results for the stated horizon are known.

Period examined: All model dates from 2022-01-31 through 2026-06-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
252.0	SBNY	-283.27%	SBNY	-95.75%
252.0	SIVBQ	-231.16%	SIVBQ	-95.29%
252.0	FRCB	-206.23%	FRCB	-91.61%
252.0	AMC	-88.22%	AMC	-54.07%
252.0	NWL	-52.67%	IEP	-39.1%
252.0	IEP	-51.36%	NWL	-30.4%
252.0	AAP	-51.32%	AAP	-22.06%
252.0	VFC	-45.4%	PRGO	-20.35%
252.0	PRGO	-42.38%	VFC	-17.45%
252.0	CHTR	-36.68%	CNC	-17.13%
252.0	UAA	-30.46%	CZR	-16.6%
252.0	CZR	-26.28%	MOS	-15.12%
252.0	CNC	-25.3%	UAA	-14.81%
252.0	MOS	-24.1%	CHTR	-13.82%
252.0	BHC	-20.5%	KHC	-11.7%
252.0	CLF	-15.17%	GT	-9.8%
252.0	KHC	-15.17%	UNH	-9.31%
252.0	TLT	-14.82%	NAVI	-9.17%
252.0	ZTS	-13.72%	CLF	-8.62%
252.0	UNH	-12.86%	BHC	-8.33%
252.0	NAVI	-12.73%	BMY	-7.84%
252.0	CMCSA	-11.69%	TLT	-7.08%
252.0	BXP	-11.29%	ZTS	-6.74%
252.0	OXY	-11.28%	CMCSA	-6.41%
252.0	GT	-11.06%	CTLT	-6.24%
252.0	BIIB	-10.63%	CYH	-5.99%
252.0	CYH	-10.51%	FIS	-5.69%
252.0	BMY	-8.72%	LW	-5.6%
252.0	LW	-7.91%	BXP	-5.52%
252.0	LNC	-5.69%	OXY	-4.95%

P365D: 1d

Results reflect ticker level average ROEDB across all model dates for which actual results for the stated horizon are known.

Period examined: All model dates from 2025-07-01 through 2026-06-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
1.0	MSTR	-1.19%	MSTR	-0.47%
1.0	CHTR	-0.81%	INTU	-0.39%
1.0	FIS	-0.64%	CHTR	-0.38%
1.0	INTU	-0.64%	PRGO	-0.34%
1.0	ZTS	-0.56%	ZTS	-0.29%
1.0	PRGO	-0.56%	FIS	-0.28%
1.0	CMG	-0.49%	ADBE	-0.23%
1.0	CMCSA	-0.47%	NFLX	-0.21%
1.0	NAVI	-0.39%	CPRT	-0.21%
1.0	NFLX	-0.38%	GBTC	-0.2%
1.0	TMUS	-0.33%	CMG	-0.18%
1.0	UAA	-0.33%	NAVI	-0.18%
1.0	ADBE	-0.32%	MOS	-0.18%
1.0	ORCL	-0.32%	GT	-0.15%
1.0	VST	-0.27%	CMCSA	-0.14%
1.0	GBTC	-0.27%	TMUS	-0.13%
1.0	ISRG	-0.24%	T	-0.12%
1.0	POST	-0.24%	ISRG	-0.1%
1.0	BHC	-0.22%	MSFT	-0.1%
1.0	MSFT	-0.21%	ORCL	-0.08%
1.0	TDG	-0.2%	VICI	-0.08%
1.0	NWL	-0.19%	POST	-0.08%
1.0	AZO	-0.19%	BHC	-0.08%
1.0	CPRT	-0.18%	META	-0.07%
1.0	MOS	-0.17%	FRA	-0.07%
1.0	GT	-0.17%	LEN	-0.07%
1.0	VICI	-0.16%	AMC	-0.05%
1.0	LEN	-0.15%	AZO	-0.05%
1.0	IEP	-0.12%	IEP	-0.04%
1.0	FRA	-0.12%	SNY	-0.04%

P365D: 10d

Results reflect ticker level average ROEDB across all model dates for which actual results for the stated horizon are known.

Period examined: All model dates from 2025-07-01 through 2026-06-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
10.0	MSTR	-10.69%	MSTR	-4.86%
10.0	PRGO	-8.51%	INTU	-3.9%
10.0	INTU	-6.63%	CHTR	-3.85%
10.0	CHTR	-5.98%	PRGO	-3.41%
10.0	NAVI	-4.85%	FIS	-2.86%
10.0	ZTS	-4.68%	ZTS	-2.58%
10.0	FIS	-4.45%	ADBE	-2.34%
10.0	CMG	-3.9%	NAVI	-2.22%
10.0	CMCSA	-3.59%	GBTC	-2.15%
10.0	ADBE	-3.32%	NFLX	-1.95%
10.0	NFLX	-2.78%	CPRT	-1.89%
10.0	AMC	-2.73%	GT	-1.89%
10.0	TDG	-1.95%	CMG	-1.88%
10.0	GT	-1.86%	MOS	-1.88%
10.0	MOS	-1.85%	CMCSA	-1.65%
10.0	BHC	-1.83%	MSFT	-1.06%
10.0	MSFT	-1.73%	TMUS	-0.96%
10.0	GBTC	-1.64%	ISRG	-0.92%
10.0	META	-1.6%	VICI	-0.84%
10.0	CPRT	-1.58%	BHC	-0.81%
10.0	VICI	-1.53%	FRA	-0.8%
10.0	TMUS	-1.53%	T	-0.8%
10.0	AZO	-1.41%	META	-0.74%
10.0	T	-1.24%	IEP	-0.7%
10.0	POST	-1.17%	POST	-0.67%
10.0	KHC	-1.02%	AZO	-0.65%
10.0	ISRG	-0.98%	ORCL	-0.63%
10.0	IEP	-0.9%	LEN	-0.63%
10.0	LEN	-0.8%	KHC	-0.52%
10.0	UAA	-0.76%	SNY	-0.49%

P365D: 21d

Results reflect ticker level average ROEDB across all model dates for which actual results for the stated horizon are known.

Period examined: All model dates from 2025-07-01 through 2026-06-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
21.0	MSTR	-19.17%	MSTR	-9.3%
21.0	PRGO	-17.34%	INTU	-7.88%
21.0	CHTR	-13.47%	CHTR	-7.59%
21.0	INTU	-12.75%	PRGO	-7.07%
21.0	ZTS	-9.92%	FIS	-6.02%
21.0	NAVI	-9.34%	ZTS	-5.32%
21.0	FIS	-8.46%	GBTC	-4.76%
21.0	CMG	-7.54%	NAVI	-4.69%
21.0	CMCSA	-7.0%	ADBE	-4.34%
21.0	ADBE	-5.6%	GT	-4.13%
21.0	AMC	-5.3%	MOS	-4.02%
21.0	TDG	-5.23%	CMG	-3.92%
21.0	NFLX	-4.62%	CPRT	-3.77%
21.0	GT	-4.2%	NFLX	-3.64%
21.0	META	-4.04%	CMCSA	-3.25%
21.0	GBTC	-3.9%	TMUS	-2.06%
21.0	MOS	-3.69%	MSFT	-1.98%
21.0	BHC	-3.68%	BHC	-1.79%
21.0	CPRT	-3.62%	IEP	-1.76%
21.0	TMUS	-3.15%	FRA	-1.69%
21.0	MSFT	-2.92%	ISRG	-1.65%
21.0	AZO	-2.81%	VST	-1.65%
21.0	IEP	-2.71%	VICI	-1.64%
21.0	T	-2.45%	TDG	-1.61%
21.0	KHC	-2.44%	META	-1.55%
21.0	VICI	-2.32%	LEN	-1.47%
21.0	POST	-2.06%	T	-1.46%
21.0	LEN	-1.88%	AZO	-1.45%
21.0	VST	-1.58%	KHC	-1.41%
21.0	HD	-1.56%	POST	-1.38%

P365D: 63d

Results reflect ticker level average ROEDB across all model dates for which actual results for the stated horizon are known.

Period examined: All model dates from 2025-07-01 through 2026-06-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
63.0	MSTR	-60.43%	MSTR	-23.84%
63.0	PRGO	-54.6%	PRGO	-22.0%
63.0	INTU	-38.27%	INTU	-20.52%
63.0	AMC	-31.85%	CHTR	-16.04%
63.0	ZTS	-30.66%	FIS	-15.53%
63.0	CHTR	-29.25%	ZTS	-14.04%
63.0	NAVI	-23.97%	GBTC	-14.03%
63.0	FIS	-21.67%	NAVI	-13.89%
63.0	NFLX	-18.8%	ADBE	-12.56%
63.0	CMCSA	-16.87%	CPRT	-11.77%
63.0	META	-16.86%	MOS	-11.28%
63.0	CMG	-15.26%	LEN	-9.65%
63.0	ADBE	-14.73%	NFLX	-9.44%
63.0	NWL	-14.53%	CMG	-9.09%
63.0	CPRT	-13.54%	GT	-9.06%
63.0	LEN	-13.22%	AMC	-8.72%
63.0	TDG	-13.13%	CMCSA	-7.65%
63.0	GBTC	-12.09%	VST	-7.47%
63.0	VST	-10.33%	TMUS	-7.43%
63.0	GT	-10.12%	ORCL	-7.43%
63.0	TMUS	-9.79%	MSFT	-7.06%
63.0	MOS	-9.69%	BHC	-6.94%
63.0	KHC	-9.46%	NWL	-6.32%
63.0	HD	-9.02%	META	-6.07%
63.0	AZO	-8.7%	LW	-5.9%
63.0	BHC	-8.54%	FRA	-5.8%
63.0	VNO	-8.36%	AZO	-5.73%
63.0	BXP	-7.7%	HD	-5.7%
63.0	VICI	-7.39%	KHC	-5.24%
63.0	T	-7.33%	VICI	-5.16%

P365D: 126d

Results reflect ticker level average ROEDB across all model dates for which actual results for the stated horizon are known.

Period examined: All model dates from 2025-07-01 through 2026-06-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
126.0	MSTR	-136.34%	MSTR	-48.55%
126.0	AMC	-112.27%	AMC	-41.14%
126.0	PRGO	-101.63%	INTU	-40.21%
126.0	INTU	-63.68%	PRGO	-39.49%
126.0	ZTS	-50.22%	GBTC	-31.2%
126.0	CHTR	-49.89%	FIS	-30.07%
126.0	NAVI	-46.29%	NAVI	-29.5%
126.0	NFLX	-39.98%	ORCL	-28.32%
126.0	BXP	-39.6%	CHTR	-26.33%
126.0	FIS	-37.05%	ADBE	-26.1%
126.0	ADBE	-36.51%	ZTS	-23.41%
126.0	ORCL	-35.48%	NFLX	-23.37%
126.0	LW	-34.15%	LW	-22.46%
126.0	LEN	-32.62%	CPRT	-21.22%
126.0	VST	-31.12%	LEN	-19.18%
126.0	META	-30.75%	MSFT	-18.37%
126.0	CPRT	-29.15%	MOS	-17.27%
126.0	VNO	-26.71%	VNO	-17.23%
126.0	GBTC	-25.71%	VST	-16.48%
126.0	CMCSA	-24.83%	BXP	-14.74%
126.0	NWL	-21.75%	BHC	-14.46%
126.0	BBY	-20.73%	GT	-13.3%
126.0	BHC	-20.08%	TMUS	-13.06%
126.0	KHC	-18.44%	CMG	-13.03%
126.0	TDG	-18.27%	FRA	-11.52%
126.0	MSFT	-17.45%	AZO	-11.44%
126.0	CMG	-15.5%	META	-11.02%
126.0	TMUS	-15.1%	BBY	-10.42%
126.0	MOS	-14.33%	KHC	-10.37%
126.0	AZO	-13.48%	WYNN	-10.22%

P90D: 1d

Results reflect ticker level average ROEDB across all model dates for which actual results for the stated horizon are known.

Period examined: All model dates from 2026-04-02 through 2026-06-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
1.0	CHTR	-1.24%	ZTS	-0.76%
1.0	NFLX	-1.21%	INTU	-0.71%
1.0	INTU	-1.05%	CHTR	-0.6%
1.0	ZTS	-1.01%	NFLX	-0.51%
1.0	MSTR	-0.97%	T	-0.51%
1.0	FIS	-0.88%	AA	-0.46%
1.0	TMUS	-0.88%	OXY	-0.4%
1.0	CMCSA	-0.66%	MSTR	-0.4%
1.0	GLD	-0.63%	MOS	-0.31%
1.0	VFC	-0.62%	HCA	-0.3%
1.0	GBTC	-0.61%	SLV	-0.29%
1.0	PEP	-0.58%	TMUS	-0.29%
1.0	T	-0.51%	NEM	-0.28%
1.0	LVS	-0.46%	CPRT	-0.27%
1.0	SNY	-0.45%	FIS	-0.26%
1.0	POST	-0.42%	XOM	-0.25%
1.0	AA	-0.4%	LVS	-0.25%
1.0	HCA	-0.4%	GLD	-0.24%
1.0	MOS	-0.38%	VZ	-0.24%
1.0	AZO	-0.36%	ADBE	-0.24%
1.0	ISRG	-0.35%	PEP	-0.24%
1.0	UAA	-0.34%	POST	-0.2%
1.0	B	-0.33%	GBTC	-0.2%
1.0	MSI	-0.32%	ISRG	-0.19%
1.0	OXY	-0.31%	CMCSA	-0.18%
1.0	COST	-0.3%	SNY	-0.18%
1.0	VICI	-0.26%	B	-0.16%
1.0	VZ	-0.26%	GILD	-0.16%
1.0	WYNN	-0.25%	COST	-0.13%
1.0	BHC	-0.25%	GSK	-0.12%

P90D: 10d

Results reflect ticker level average ROEDB across all model dates for which actual results for the stated horizon are known.

Period examined: All model dates from 2026-04-02 through 2026-06-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
10.0	NFLX	-16.81%	CHTR	-8.65%
10.0	CHTR	-11.02%	ZTS	-7.34%
10.0	ZTS	-9.02%	INTU	-6.7%
10.0	CMCSA	-8.14%	NFLX	-6.1%
10.0	INTU	-7.75%	HCA	-4.4%
10.0	FIS	-7.25%	AA	-3.75%
10.0	GLD	-7.0%	CMCSA	-3.66%
10.0	MSTR	-6.38%	FIS	-3.55%
10.0	AZO	-6.13%	T	-3.54%
10.0	HCA	-5.73%	SLV	-3.48%
10.0	T	-5.55%	MSTR	-3.29%
10.0	SNY	-5.09%	ADBE	-3.0%
10.0	GBTC	-4.36%	NEM	-2.95%
10.0	MSI	-4.29%	GLD	-2.71%
10.0	NEM	-4.22%	LVS	-2.69%
10.0	TMUS	-4.11%	GBTC	-2.65%
10.0	META	-3.64%	MOS	-2.6%
10.0	PEP	-3.55%	OXY	-2.52%
10.0	GME	-3.46%	ISRG	-2.34%
10.0	LVS	-3.4%	BHC	-2.34%
10.0	OXY	-3.38%	POST	-2.21%
10.0	ISRG	-3.37%	XOM	-2.16%
10.0	BHC	-3.19%	AZO	-2.14%
10.0	SLV	-3.13%	CPRT	-2.09%
10.0	POST	-2.88%	SNY	-2.05%
10.0	MOS	-2.59%	GILD	-2.03%
10.0	B	-2.56%	AZN	-1.97%
10.0	ADBE	-2.45%	PEP	-1.95%
10.0	AA	-2.42%	GSK	-1.92%
10.0	GSK	-2.23%	MSI	-1.76%

P90D: 21d

Results reflect ticker level average ROEDB across all model dates for which actual results for the stated horizon are known.

Period examined: All model dates from 2026-04-02 through 2026-06-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
21.0	CHTR	-29.15%	CHTR	-19.5%
21.0	NFLX	-27.86%	ZTS	-18.0%
21.0	ZTS	-24.27%	INTU	-14.87%
21.0	CMCSA	-20.98%	NFLX	-10.81%
21.0	AZO	-18.76%	HCA	-10.61%
21.0	INTU	-18.63%	CMCSA	-8.99%
21.0	FIS	-16.8%	MSTR	-8.73%
21.0	HCA	-14.34%	FIS	-8.34%
21.0	META	-13.54%	GBTC	-7.53%
21.0	GLD	-13.12%	T	-7.41%
21.0	GBTC	-11.47%	AZO	-6.61%
21.0	T	-10.14%	SLV	-6.41%
21.0	BHC	-10.06%	POST	-6.16%
21.0	TMUS	-9.39%	NEM	-6.16%
21.0	SNY	-9.32%	ISRG	-6.13%
21.0	PEP	-9.2%	GT	-5.84%
21.0	MSTR	-9.13%	BHC	-5.63%
21.0	IEP	-8.91%	GME	-5.63%
21.0	NAVI	-8.74%	GLD	-5.52%
21.0	GME	-8.69%	VFC	-5.46%
21.0	MSI	-8.33%	LVS	-5.45%
21.0	NEM	-8.15%	META	-5.23%
21.0	AMZN	-7.69%	MOS	-5.2%
21.0	ISRG	-7.51%	PEP	-4.8%
21.0	CMG	-7.45%	CMG	-4.77%
21.0	LVS	-7.4%	CPRT	-4.61%
21.0	VFC	-7.26%	ADBE	-4.5%
21.0	POST	-7.04%	SNY	-4.36%
21.0	PRGO	-6.96%	GSK	-4.16%
21.0	SLV	-6.21%	AZN	-4.14%

P30D: 1d

Results reflect ticker level average ROEDB across all model dates for which actual results for the stated horizon are known.

Period examined: All model dates from 2026-06-01 through 2026-06-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
1.0	ORCL	-6.18%	ORCL	-2.54%
1.0	MSTR	-4.63%	MSTR	-2.51%
1.0	NFLX	-2.79%	AA	-1.89%
1.0	QCOM	-2.52%	CLF	-1.72%
1.0	GBTC	-2.31%	LUMN	-1.55%
1.0	MSFT	-2.01%	INTU	-1.46%
1.0	AVGO	-1.74%	ADBE	-1.4%
1.0	AA	-1.68%	SLV	-1.11%
1.0	NVDA	-1.63%	MSFT	-1.02%
1.0	LVS	-1.55%	FSUGY	-0.97%
1.0	TMUS	-1.53%	OXY	-0.95%
1.0	FIS	-1.42%	GBTC	-0.94%
1.0	GLD	-1.33%	QCOM	-0.94%
1.0	CDNS	-1.3%	NFLX	-0.89%
1.0	CLF	-1.3%	ON	-0.89%
1.0	FSUGY	-1.29%	AVGO	-0.88%
1.0	OXY	-1.24%	T	-0.82%
1.0	INTU	-1.22%	LVS	-0.7%
1.0	ADBE	-1.21%	NEM	-0.68%
1.0	LUMN	-1.13%	RIO	-0.66%
1.0	VZ	-1.04%	B	-0.65%
1.0	BHC	-1.01%	CPRT	-0.65%
1.0	VICI	-0.96%	VZ	-0.57%
1.0	MOS	-0.91%	FIS	-0.55%
1.0	FCX	-0.85%	NVDA	-0.54%
1.0	T	-0.79%	GLD	-0.53%
1.0	XOM	-0.79%	TMUS	-0.51%
1.0	SLV	-0.71%	CDNS	-0.46%
1.0	WYNN	-0.71%	WYNN	-0.45%
1.0	CMCSA	-0.71%	AMZN	-0.43%

P30D: 10d

Results reflect ticker level average ROEDB across all model dates for which actual results for the stated horizon are known.

Period examined: All model dates from 2026-06-01 through 2026-06-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
10.0	MSTR	-41.68%	AA	-22.11%
10.0	ORCL	-39.18%	ORCL	-21.68%
10.0	CLF	-31.03%	MSTR	-18.78%
10.0	NFLX	-27.04%	CLF	-16.34%
10.0	MSFT	-21.94%	ADBE	-16.06%
10.0	AA	-17.99%	LUMN	-11.19%
10.0	OXY	-14.05%	INTU	-11.13%
10.0	ADBE	-13.16%	OXY	-10.1%
10.0	AVGO	-12.16%	SLV	-10.0%
10.0	FIS	-12.03%	MSFT	-9.55%
10.0	META	-11.82%	NFLX	-9.05%
10.0	PRGO	-11.37%	ON	-7.51%
10.0	QCOM	-11.37%	PRGO	-7.38%
10.0	LUMN	-11.3%	XOM	-7.04%
10.0	CDNS	-11.26%	FSUGY	-6.98%
10.0	GLD	-11.13%	AVGO	-6.47%
10.0	INTU	-10.96%	QCOM	-6.4%
10.0	SLV	-10.78%	LVS	-6.38%
10.0	NVDA	-9.6%	RIO	-6.03%
10.0	GBTC	-9.58%	BHC	-4.85%
10.0	ON	-9.3%	FIS	-4.55%
10.0	CMCSA	-8.59%	GLD	-4.4%
10.0	LVS	-8.33%	CSTM	-4.33%
10.0	XOM	-7.84%	NVDA	-4.23%
10.0	AMZN	-7.71%	T	-4.12%
10.0	VICI	-7.35%	META	-4.1%
10.0	SNY	-6.93%	CPRT	-4.03%
10.0	T	-6.49%	B	-3.98%
10.0	FSUGY	-6.06%	AMZN	-3.94%
10.0	B	-5.75%	CDNS	-3.75%

Appendix 1: Calculating “Expected Body” for Sigma

An expected value is a probabilty weighted average. An integral provides the sum of the values of a function of x between two values of x. The “Expected Body” is the expected value between the model date value and the 95%tile for the forecast horizon. “Sigma” is our term to refer to the probability density function of the standard normal distribution, N. We will assume the model date price is the 0 value of the standard normal distributiuon and we know the 95% tile occurs at 1.645 standard deviations (sigmas). Therefore, the Expected Body for Sigma is the integral of x*N between x=0 and x=1.645. Because the Expected Body is conditioned upon forward price residing between 0 and 1.645 sigmas, we then divide that integral by the integral of N between x=0 and x=1.645. See the Python code below, which yields the result “Probability-weighted average value of sigma: 0.6573812144320618”

```
from scipy.stats import norm from scipy.integrate import quad

def prod_integrand(x): return x * norm.pdf(x)

pwa_sigma, _ = quad(prod_integrand, 0, 1.645)

def integrand(x): return norm.pdf(x)

p_sigma, _ = quad(integrand, 0, 1.645)

ev=pwa_sigma/p_sigma

print(“Probability-weighted average value of sigma:”, ev)
```

If you don’t do Python you can still easily check the veracity of the 0.657 expected value for Sigma for yourself by doing Riemann sums using excel’s “NORMDIST” function. Here are the steps: 1) Make column A starting at 0 and going to 1.645 by 0.005 increments. This is your “x”. 2) In column B refer to A as follows: “=NORMDIST(a,0,1,TRUE)”. This is the cumulaive probability of the standard normal distribution up through x. 3) In column C take the differences betwene each value and its prior value in B. These are the probabilties between each value of x. 4) In column D take the average of each value in A and its prior value. This gives you the value of x at the center of each increment. 5) Multiply column D by column C up through A=1.645. This is your probabilty weighted average value of x. It should equal 0.295832. 6) Sum column C. This is your cumulative probabilty that x is between 0 and 1.645. It should equal 0.450002 7) Divide your probabilty weighted average value of x by your cumulative probabilty that x is between 0 and 1.645. You should get a value of 0.657383.

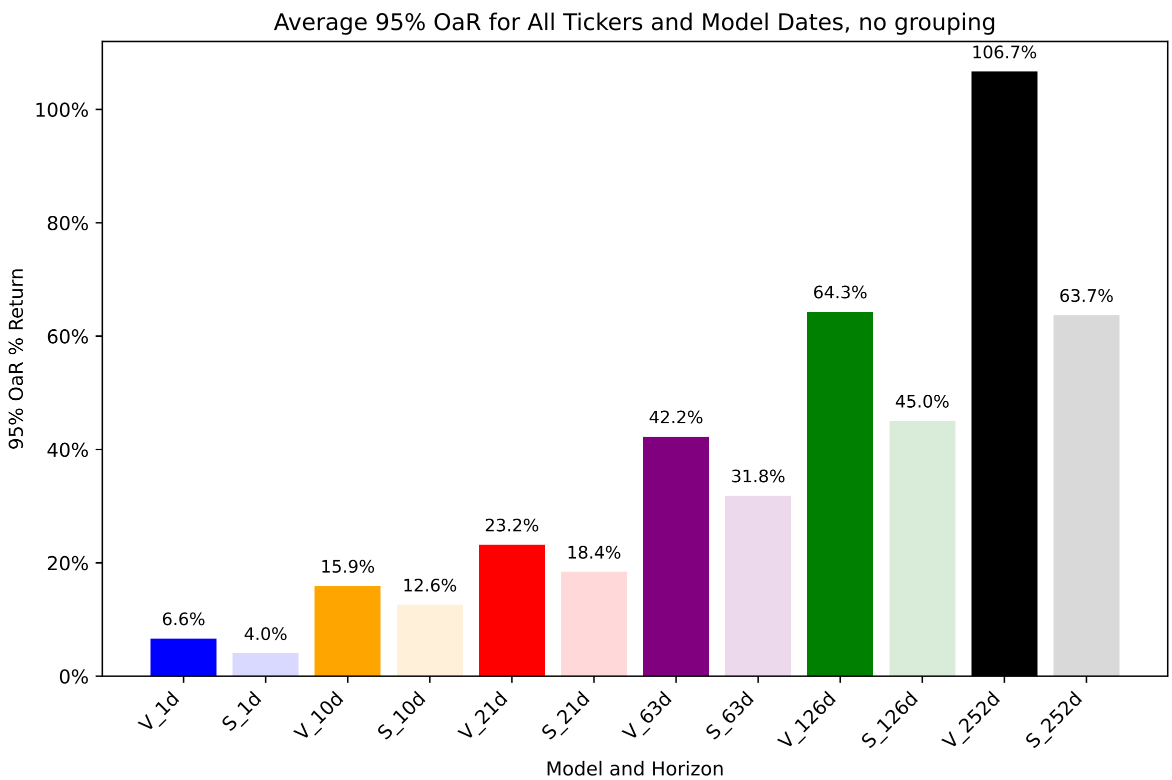
Appendix 2: 95% Opportunity at Risk (OaR)

Historic Average Levels

Here we compare Vector Model ("V", dark shading) and Sigma ("S", light shading) 95% OaR levels by horizon, on average across tickers. We make this comparison on average across tickers for select cohorts of model dates (ex: P30D), and forward horizons (ex: 21d) for all ticker model dates thru the present.

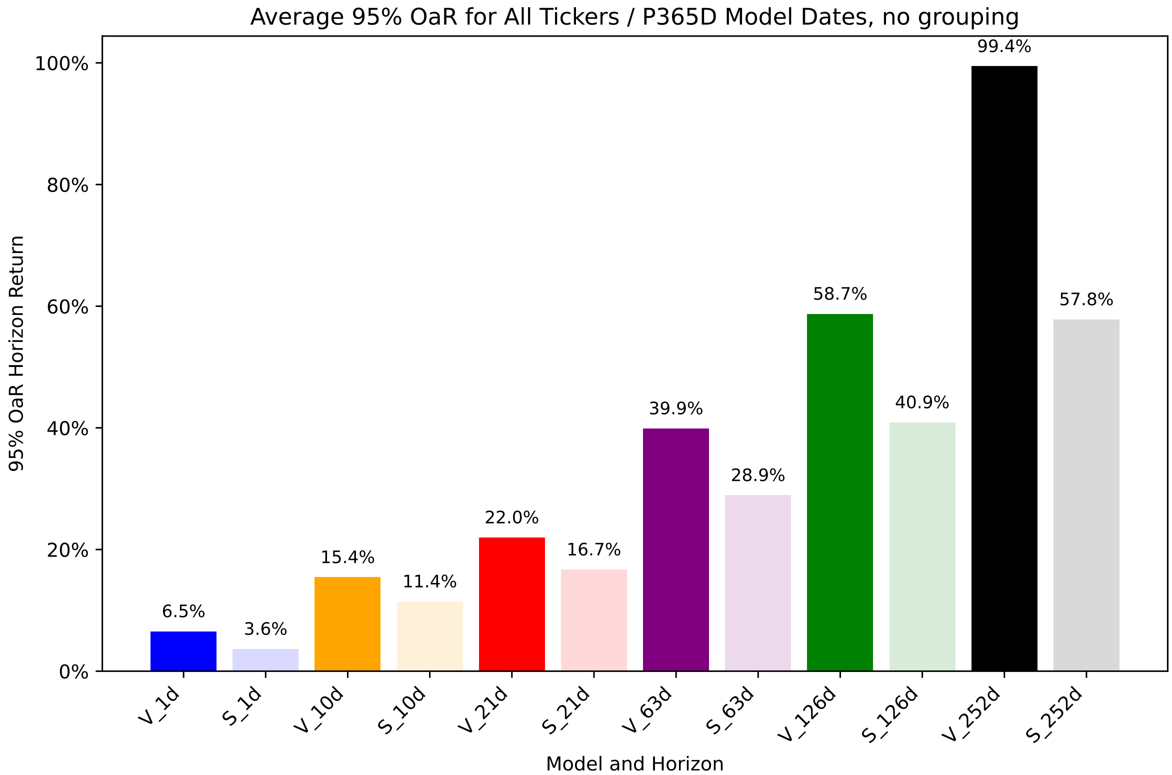
All Out of Sample Model Dates

Period examined: All model dates from 2022-01-31 through 2026-06-29



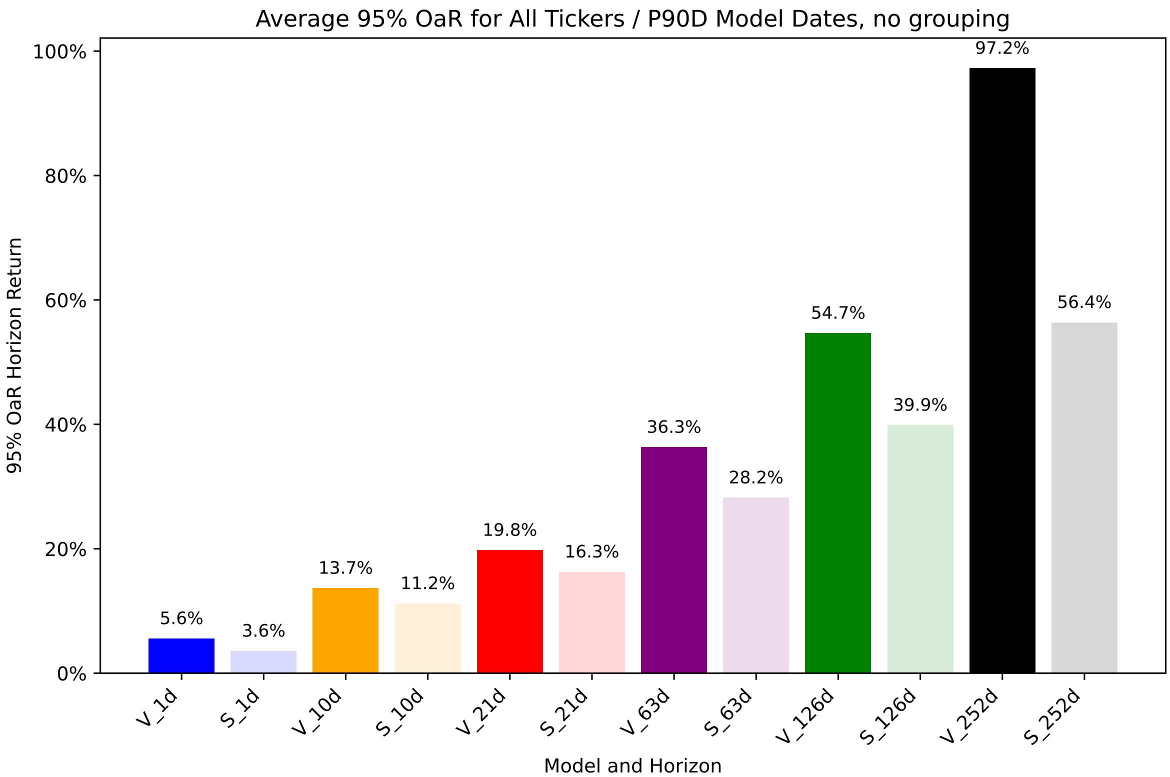
Prior 365 Calendar Days (P365D)

Period examined: All model dates from 2025-07-01 through 2026-06-29



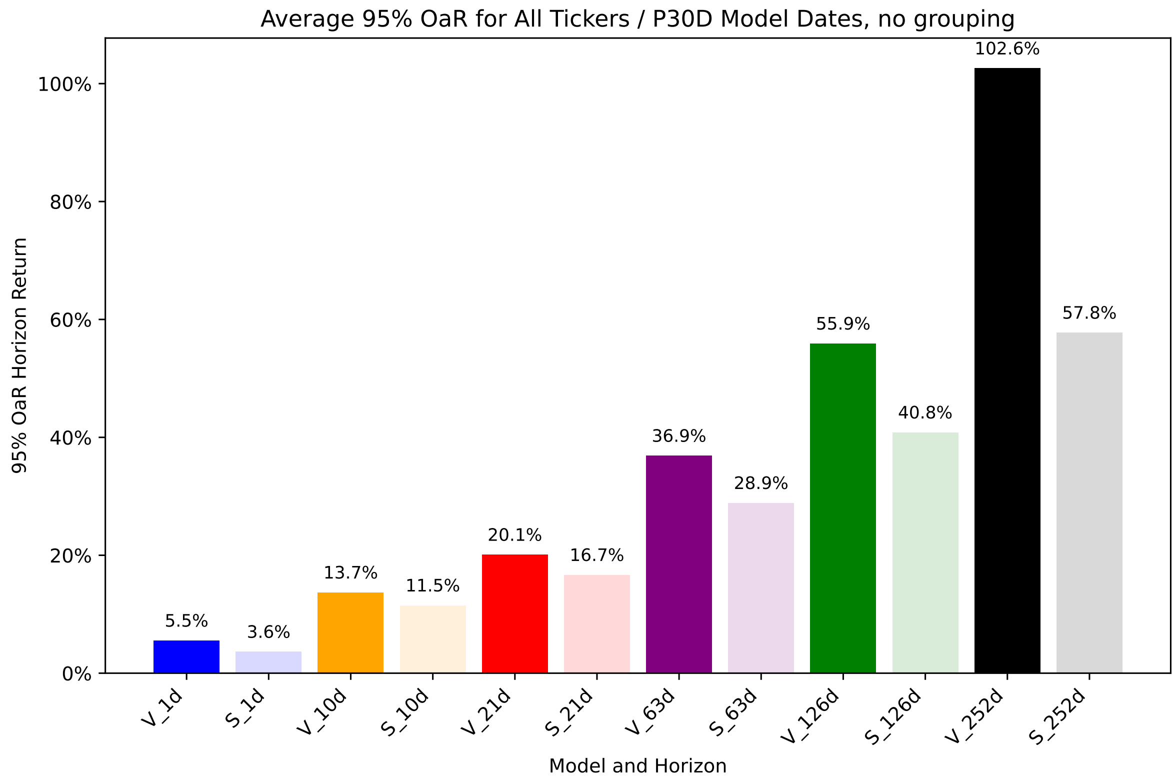
Prior 90 Calendar Days (P90D)

Period examined: All model dates from 2026-04-02 through 2026-06-29



Prior 30 Calendar Days (P30D)

Period examined: All model dates from 2026-06-01 through 2026-06-29



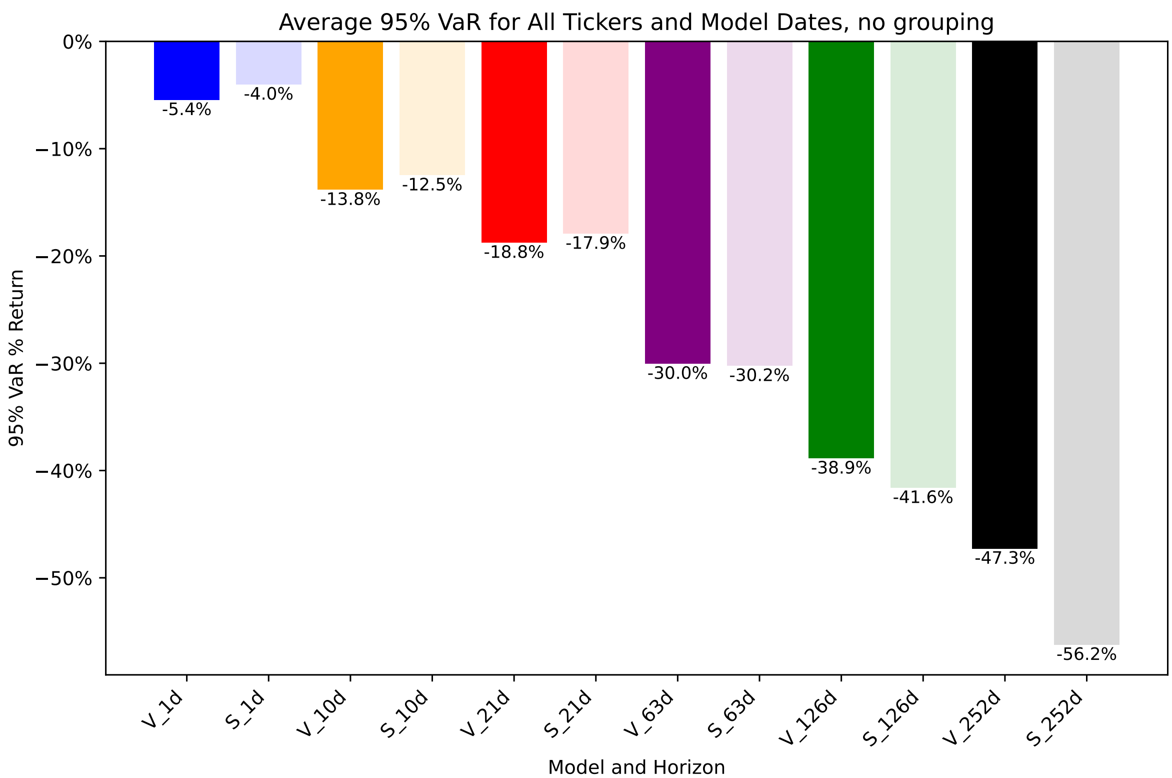
Appendix 3: 95% Value at Risk (VaR)

Historic Average Levels

Here we compare Vector Model ("V", dark shading) and Sigma ("S", light shading) 95% VaR levels by horizon, on average across tickers. We make this comparison on average across tickers for select cohorts of model dates (ex: P30D), and forward horizons (ex: 21d) for all ticker model dates thru the present.

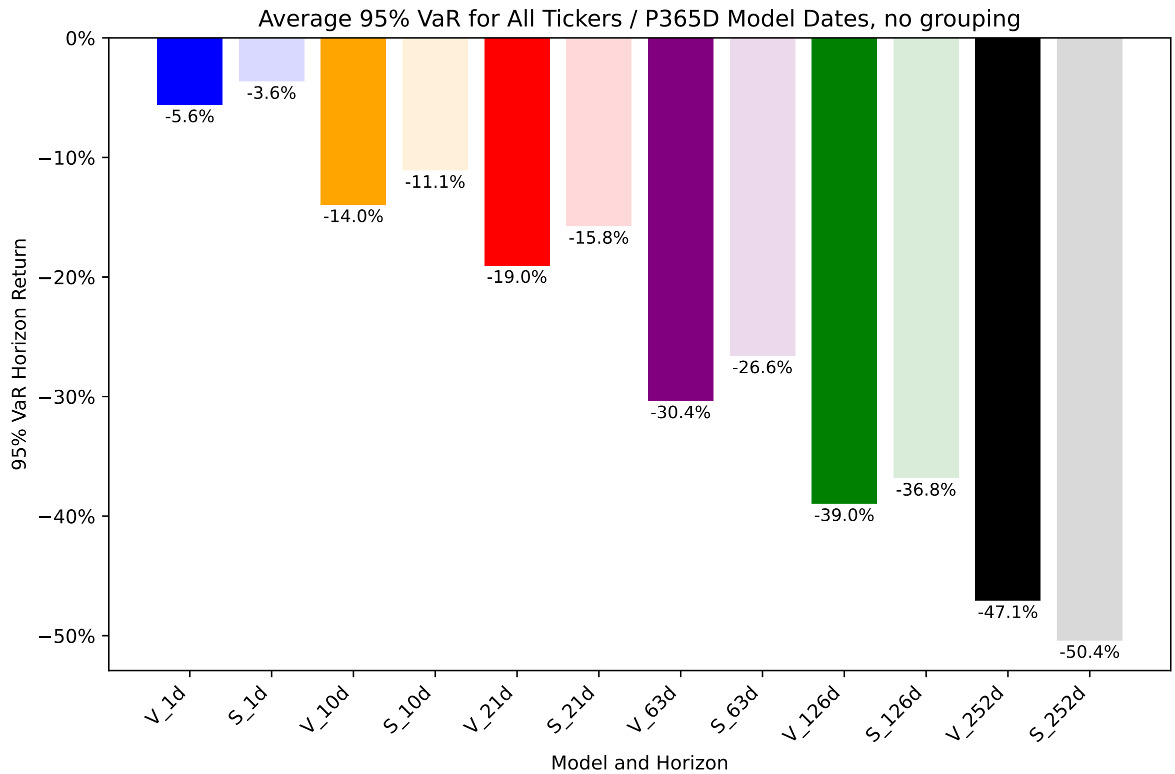
All Out of Sample Model Dates

Period examined: All model dates from 2022-01-31 through 2026-06-29



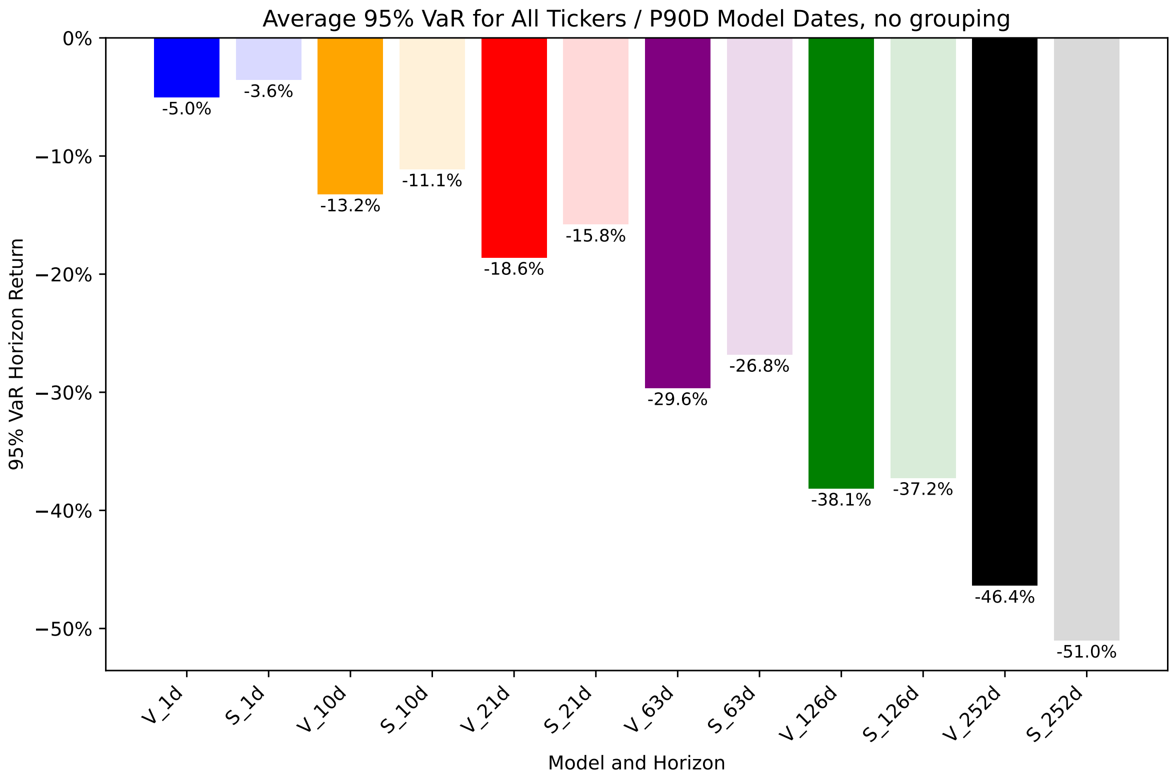
Prior 365 Calendar Days (P365D)

Period examined: All model dates from 2025-07-01 through 2026-06-29



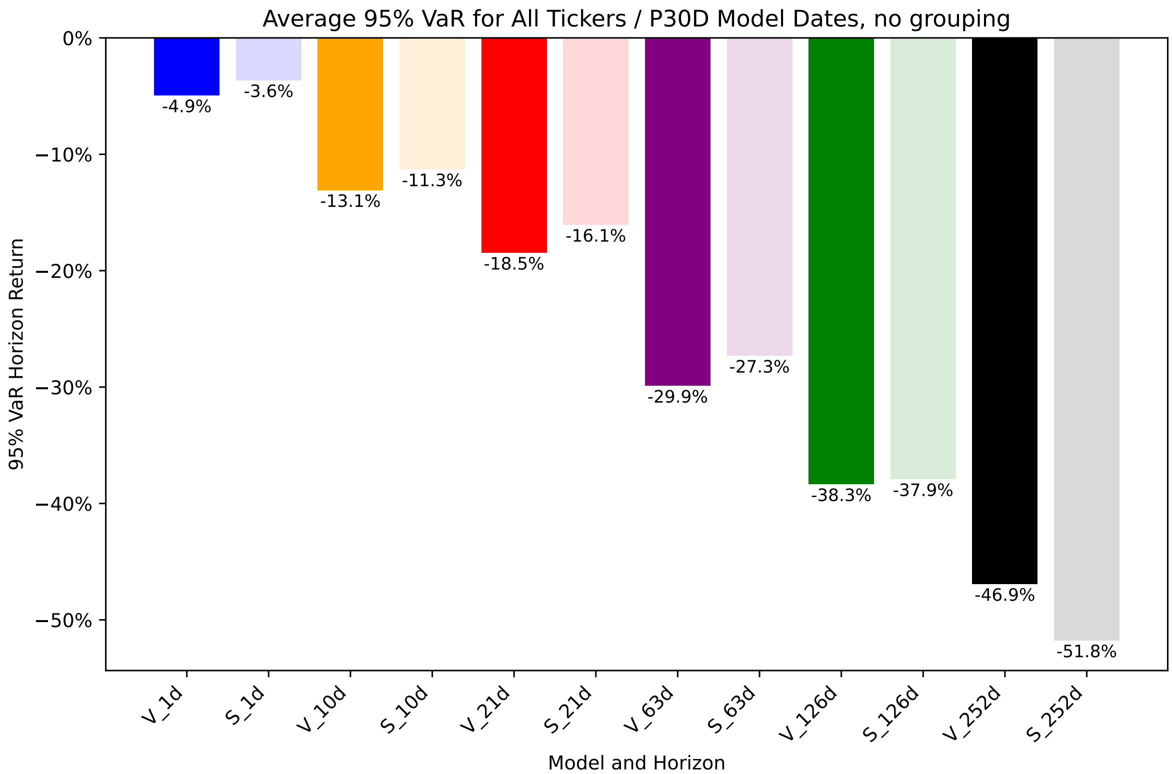
Prior 90 Calendar Days (P90D)

Period examined: All model dates from 2026-04-02 through 2026-06-29



Prior 30 Calendar Days (P30D)

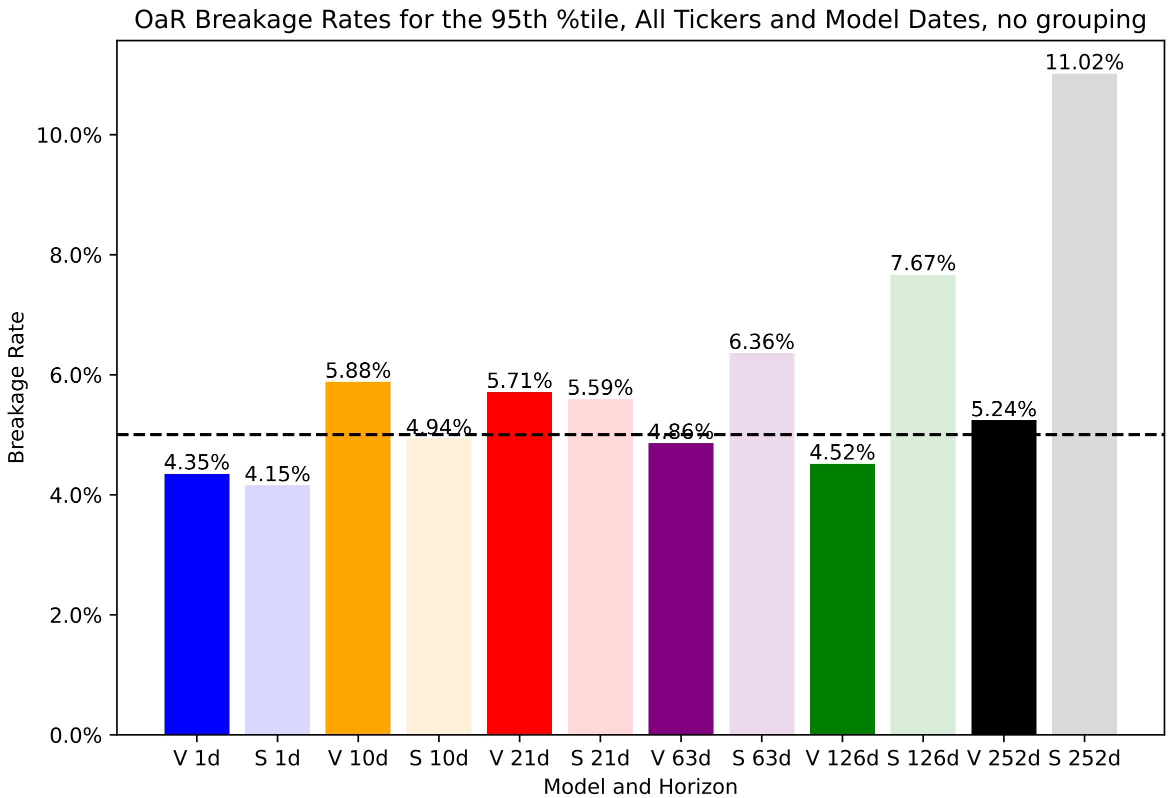
Period examined: All model dates from 2026-06-01 through 2026-06-29



Appendix 4: 95% OaR Breakage Rates

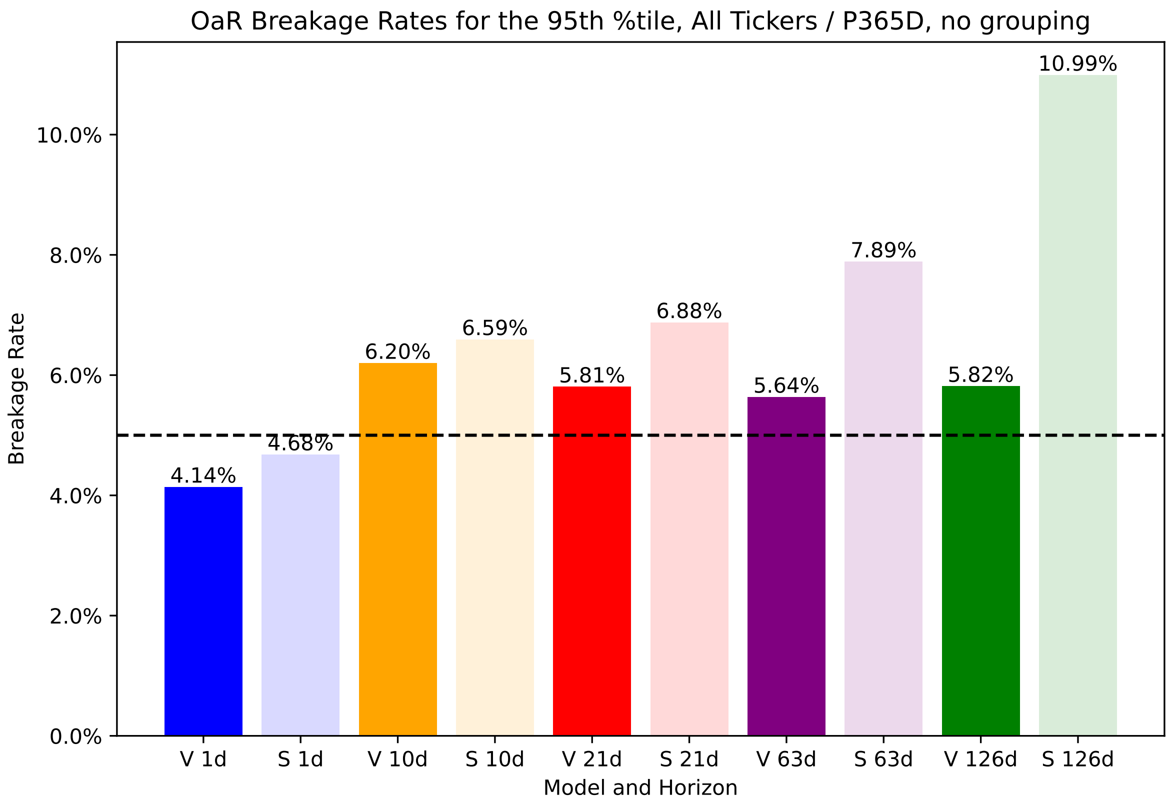
All Out of Sample Model Dates

Period examined: All model dates from 2022-01-31 through 2026-06-29



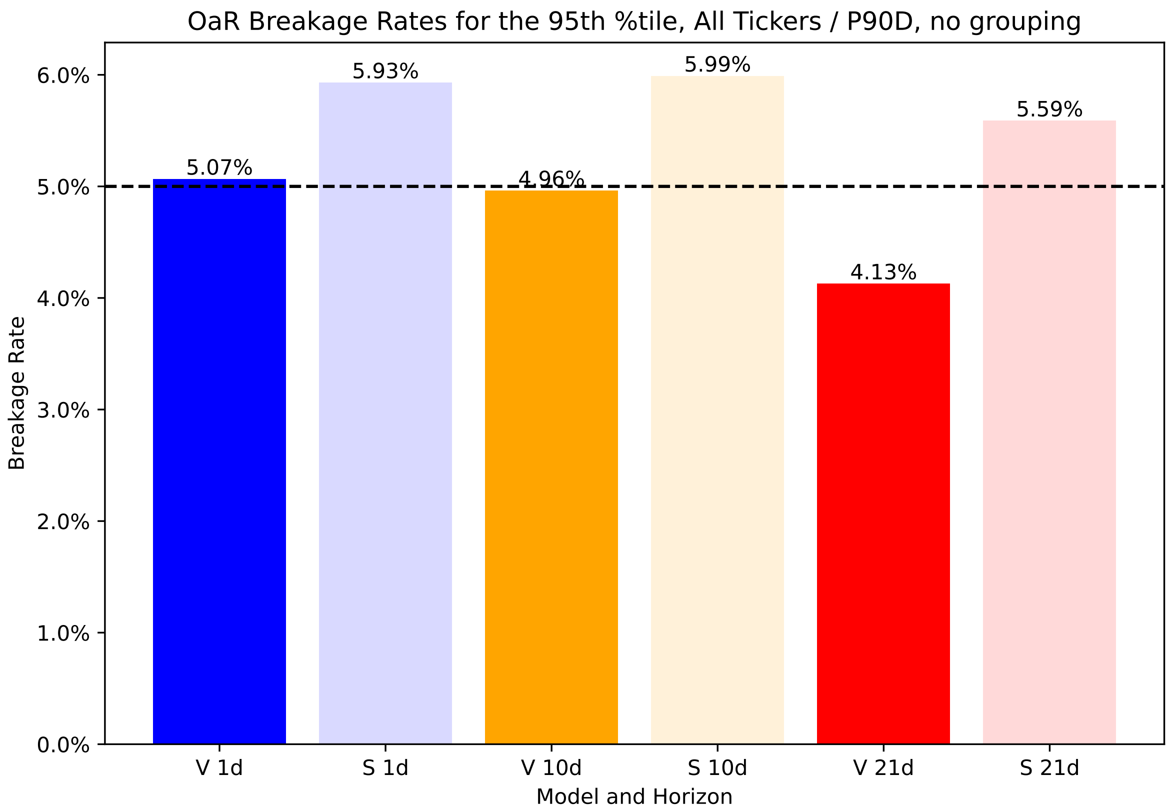
Prior 365 Calendar Days (P365D)

Period examined: All model dates from 2025-07-01 through 2026-06-29



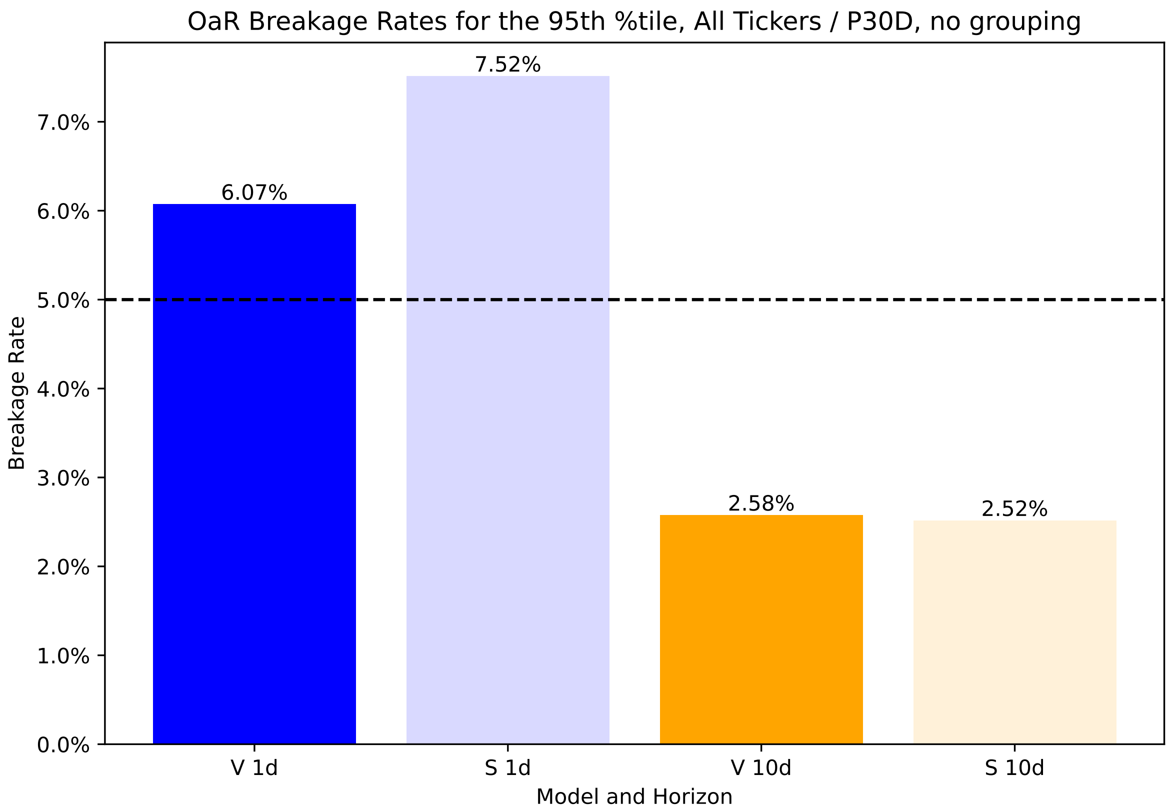
Prior 90 Calendar Days (P90D)

Period examined: All model dates from 2026-04-02 through 2026-06-29



Prior 30 Calendar Days (P30D)

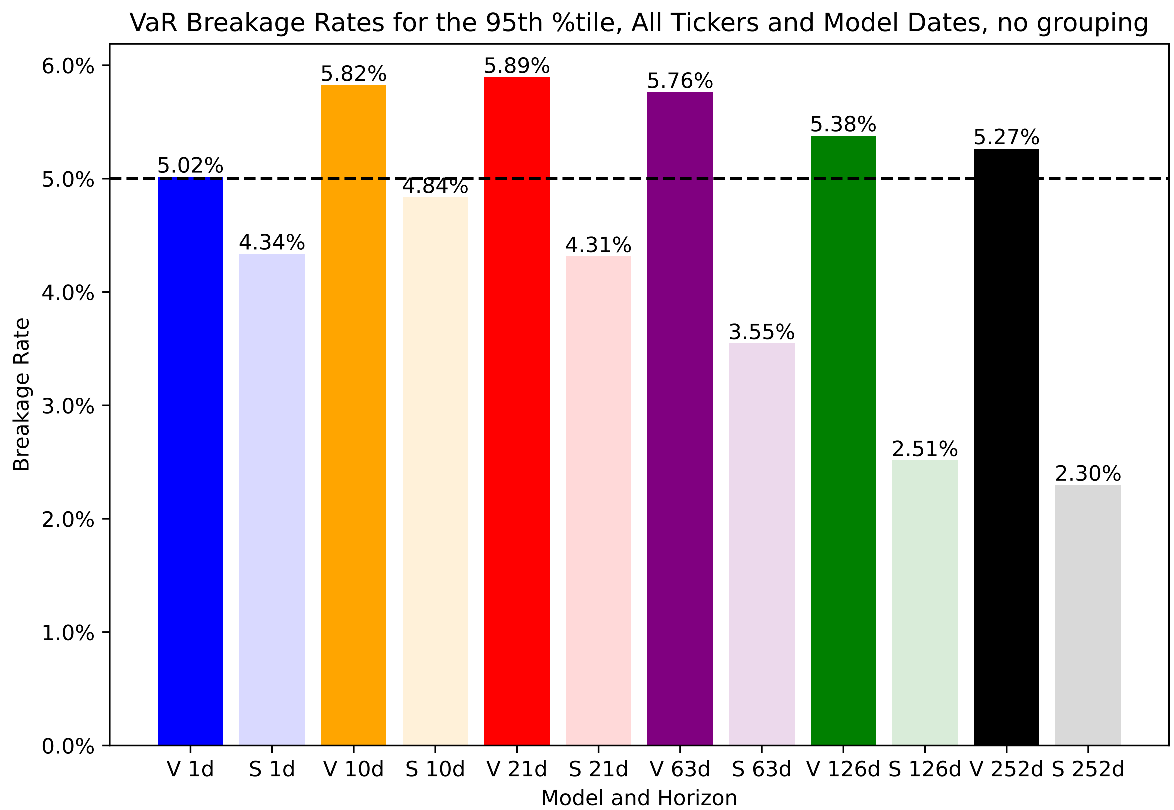
Period examined: All model dates from 2026-06-01 through 2026-06-29



Appendix 5: 95% VaR Breakage Rates

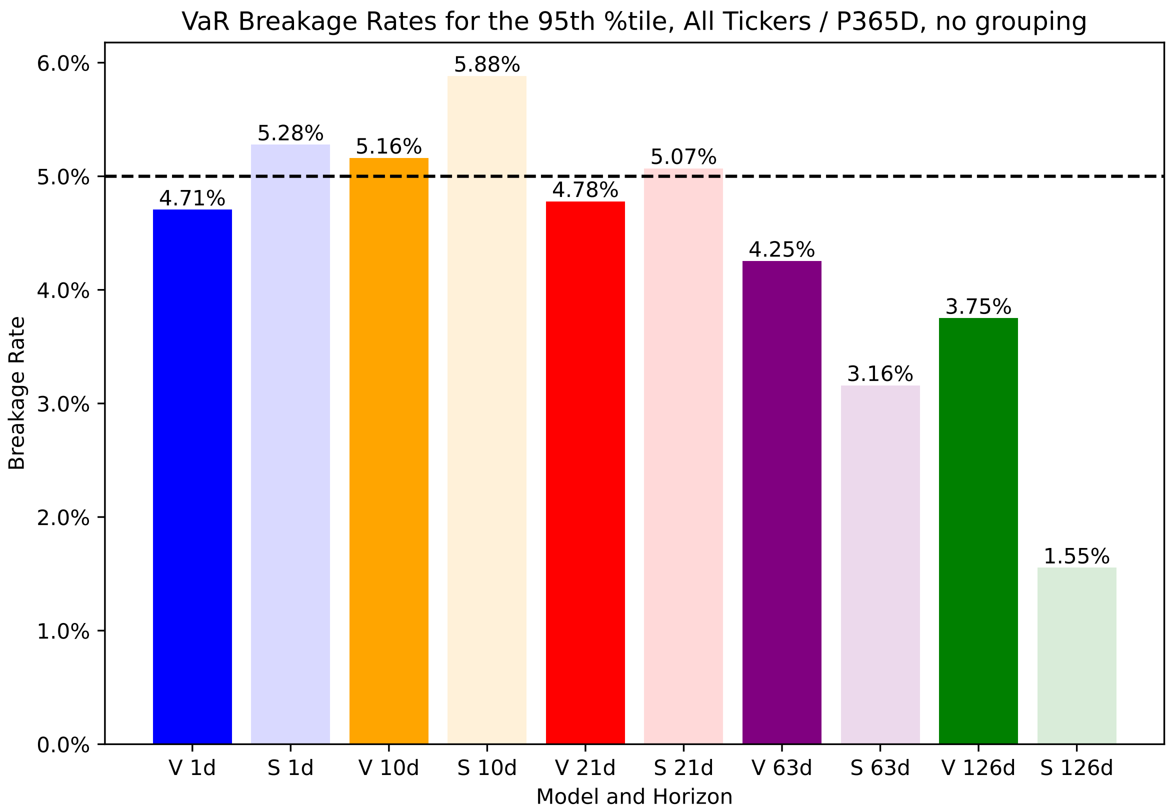
All Out of Sample Model Dates

Period examined: All model dates from 2022-01-31 through 2026-06-29



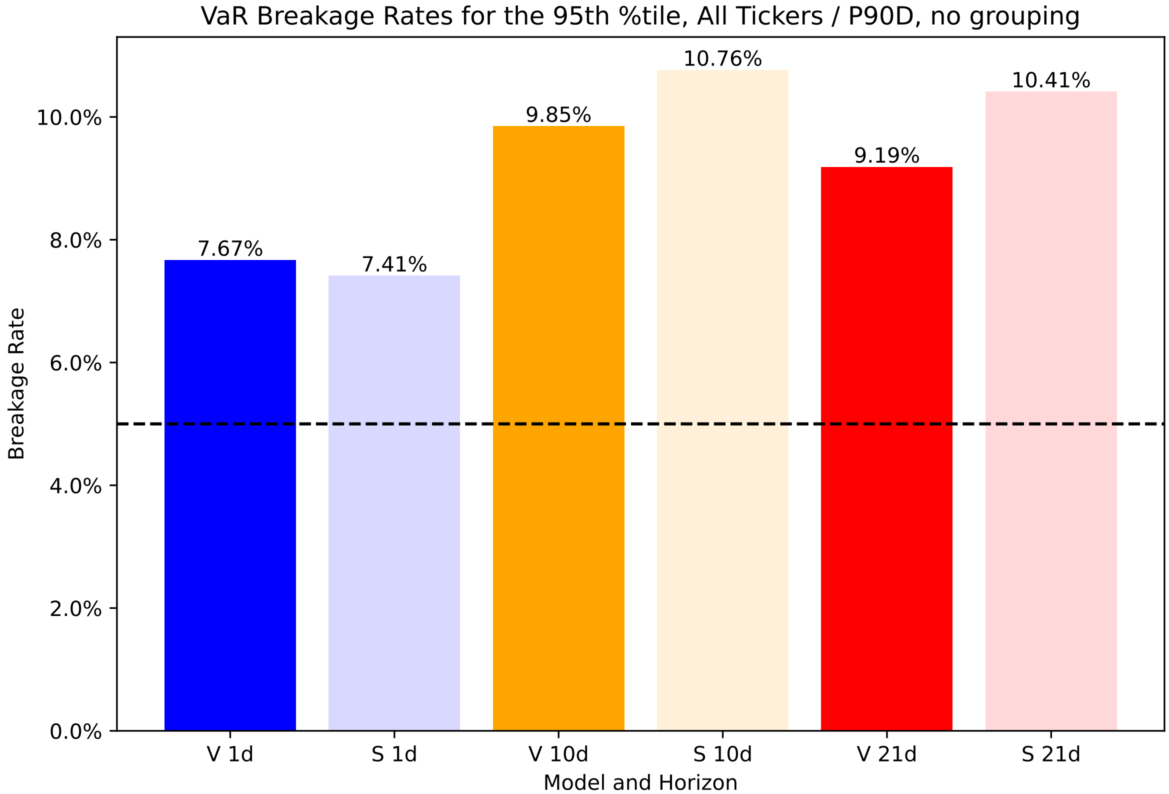
Prior 365 Calendar Days (P365D)

Period examined: All model dates from 2025-07-01 through 2026-06-29



Prior 90 Calendar Days (P90D)

Period examined: All model dates from 2026-04-02 through 2026-06-29



Prior 30 Calendar Days (P30D)

Period examined: All model dates from 2026-06-01 through 2026-06-29