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

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31 May 2025

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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.

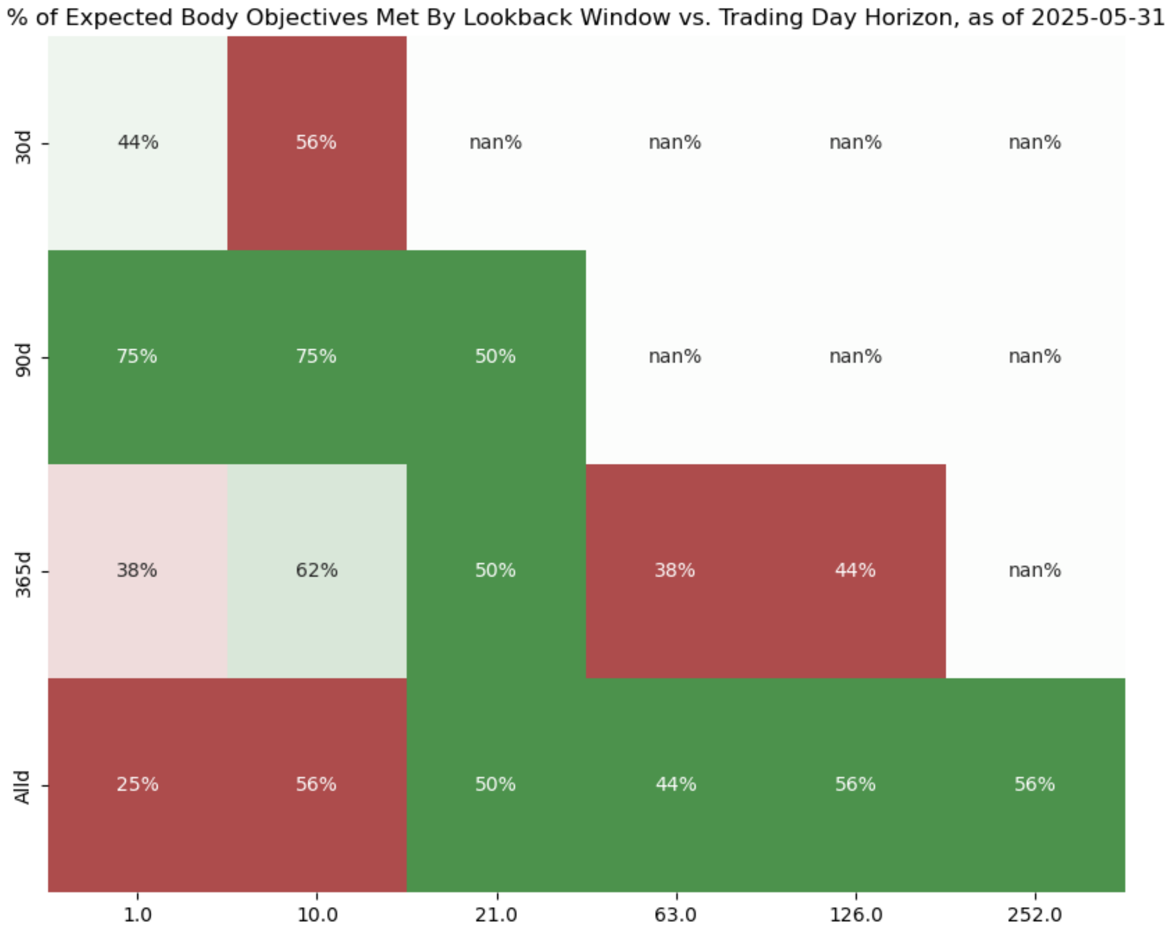
6) We are not considering transaction costs. The turnover and therefore transaction costs experienced by Vector Model ROEUB or ROEDB based investors resulting in the change in the ratio between Vector Model and Sigma ROEUB or ROEDB is completely ignored.

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 2025-05-29 while 365D /90D/ 30D include the 365/90/30 days ended 2025-05-29, respectively.



EB Criteria	Average Score(%)
1. Smaller EUB MAE (mean absolute error)	6.25
2. Smaller EUB MAE after 95%tile adjustment	12.5
3. Less adjusted EUB MAE Variability across dates	18.75
4. Less adjusted EUB MAE Variability across tickers	18.75
5. Smaller EDB MAE	37.5
6. Smaller EDB MAE after 95%tile adjustment	50
7. Less adjusted EDB MAE Variability across dates	43.75
8. Less adjusted EDB MAE Variability across tickers	37.5
9. Greater ROEUB	62.5

EB Criteria	Average Score(%)
10. Greater ROEUB after adjusting for EUB magnitude	68.75
11. ROEUB alpha across tickers and dates > 0	62.5
12. ROEUB alpha across dates > 0	68.75
13. Greater ROEDB	100
14. Greater ROEDB after adjusting for EDB magnitude	87.5
15. ROEDB alpha across tickers and dates > 0	50
16. ROEDB alpha across dates > 0	93.75
Overall Average	51.17

EB and ROEB Criteria by Fwd Hzn	1D	10D	21D	63D	126D	252D
1. Smaller EUB MAE (mean absolute error)	0	25	0	0	0	0
2. Smaller EUB MAE after 95%tile adjustment	0	50	0	0	0	0
3. Less adjusted EUB MAE Variability across dates	25	50	0	0	0	0
4. Less adjusted EUB MAE Variability across tickers	25	25	33.33	0	0	0
5. Smaller EDB MAE	0	50	33.33	50	50	100
6. Smaller EDB MAE after 95%tile adjustment	50	50	33.33	50	50	100
7. Less adjusted EDB MAE Variability across dates	25	75	33.33	0	50	100
8. Less adjusted EDB MAE Variability across tickers	75	50	33.33	0	0	0
9. Greater ROEUB	25	50	66.67	100	100	100
10. Greater ROEUB after adjusting for EUB magnitude	25	75	66.67	100	100	100
11. ROEUB alpha across tickers and dates > 0	25	50	66.67	100	100	100
12. ROEUB alpha across dates > 0	100	100	66.67	50	0	0
13. Greater ROEDB	100	100	100	100	100	100
14. Greater ROEDB after adjusting for EDB magnitude	100	100	100	0	100	100
15. ROEDB alpha across tickers and dates > 0	50	75	66.67	0	50	0
16. ROEDB alpha across dates > 0	100	75	100	100	100	100
TotalScore	45.31	62.5	50	40.62	50	56.25

EB and ROEB Criteria by Lookback Window	30D	90D	365D	AllD
1. Smaller EUB MAE (mean absolute error)	50	0	0	0
2. Smaller EUB MAE after 95%tile adjustment	50	33.33	0	0
3. Less adjusted EUB MAE Variability across dates	0	66.67	0	16.67
4. Less adjusted EUB MAE Variability across tickers	0	100	0	0
5. Smaller EDB MAE	50	66.67	0	50
6. Smaller EDB MAE after 95%tile adjustment	100	100	0	50
7. Less adjusted EDB MAE Variability across dates	100	0	20	66.67
8. Less adjusted EDB MAE Variability across tickers	50	100	40	0
9. Greater ROEUB	0	33.33	80	83.33
10. Greater ROEUB after adjusting for EUB magnitude	0	66.67	80	83.33
11. ROEUB alpha across tickers and dates > 0	0	33.33	80	83.33
12. ROEUB alpha across dates > 0	100	66.67	80	50
13. Greater ROEDB	100	100	100	100
14. Greater ROEDB after adjusting for EDB magnitude	100	100	80	83.33
15. ROEDB alpha across tickers and dates > 0	50	100	80	0
16. ROEDB alpha across dates > 0	50	100	100	100
TotalScore	50	66.67	46.25	47.92

See the prior page for associated definitions of the criteria.

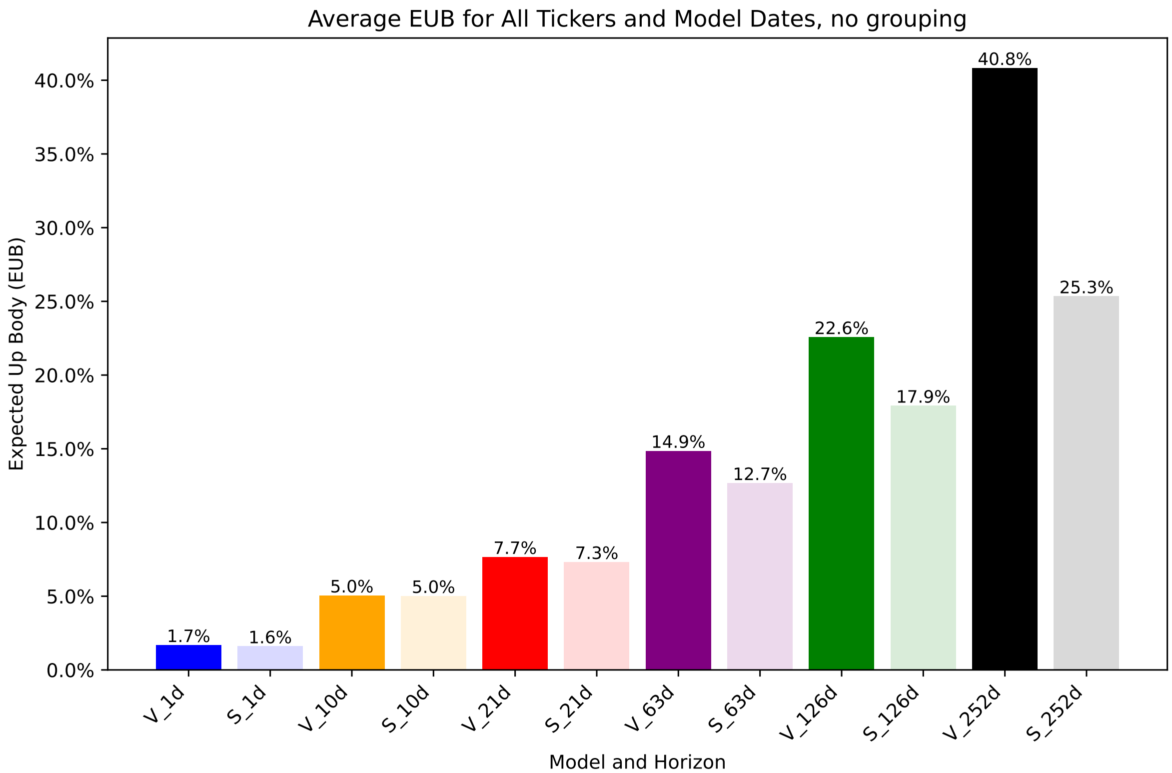
Expected Up Body (EUB)

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.

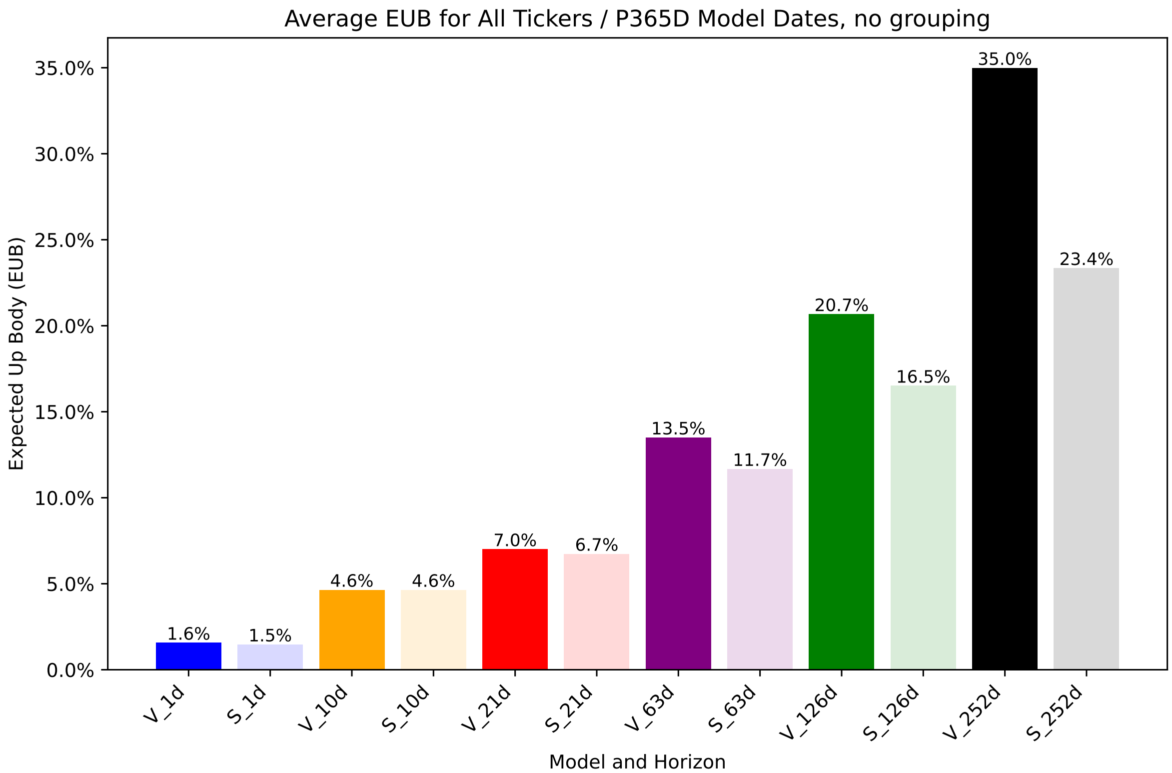
All Out of Sample Model Dates

Period examined: All model dates from 2022-01-31 through 2025-05-29



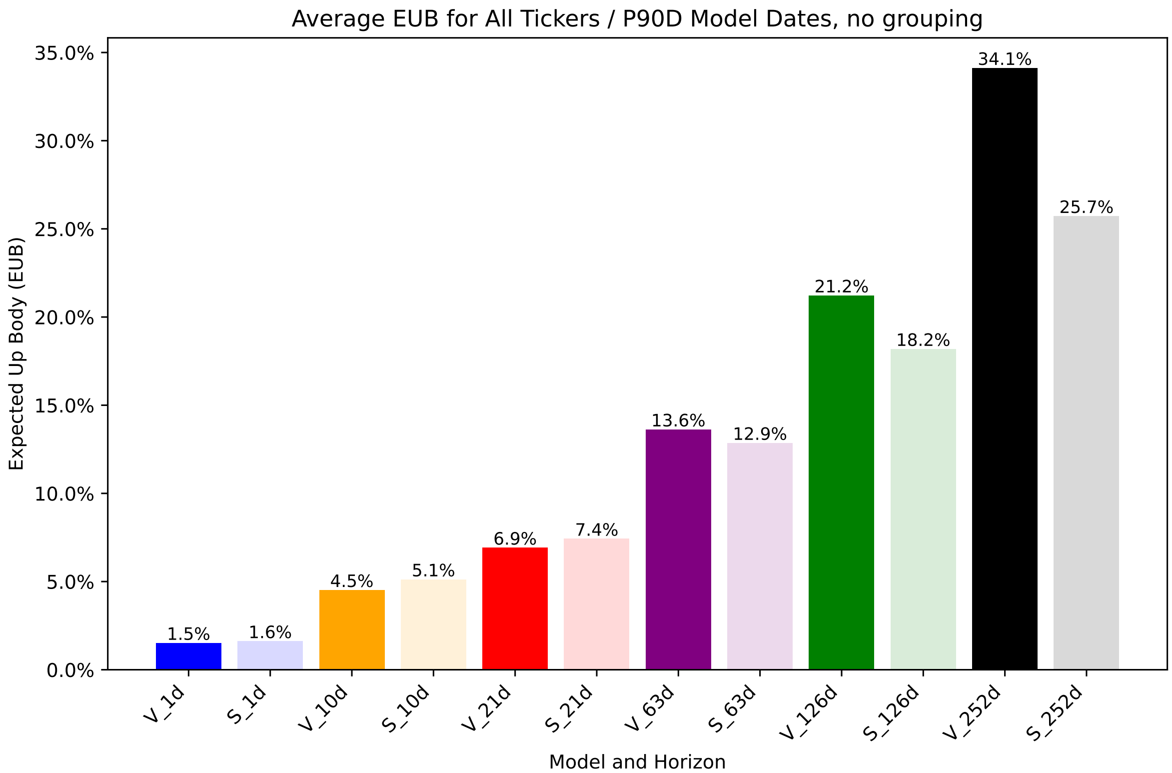
Prior 365 Calendar Days (P365D)

Period examined: All model dates from 2024-06-03 through 2025-05-29



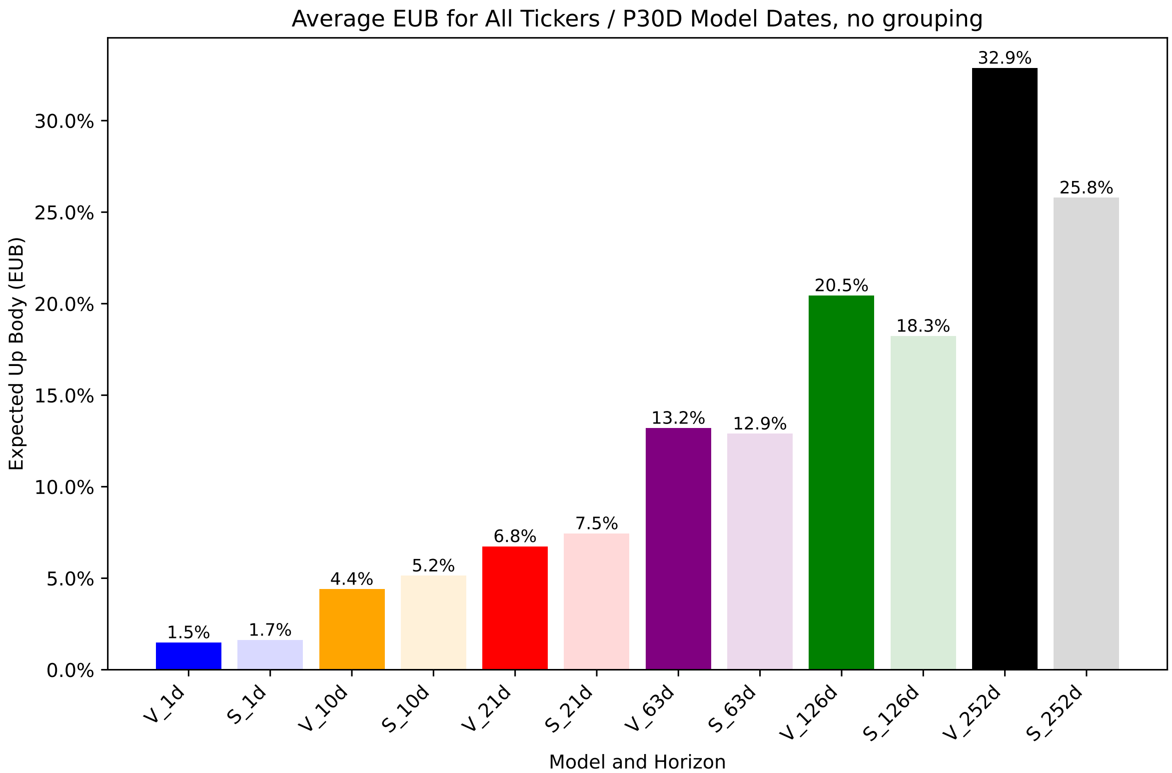
Prior 90 Calendar Days (P90D)

Period examined: All model dates from 2025-03-03 through 2025-05-29



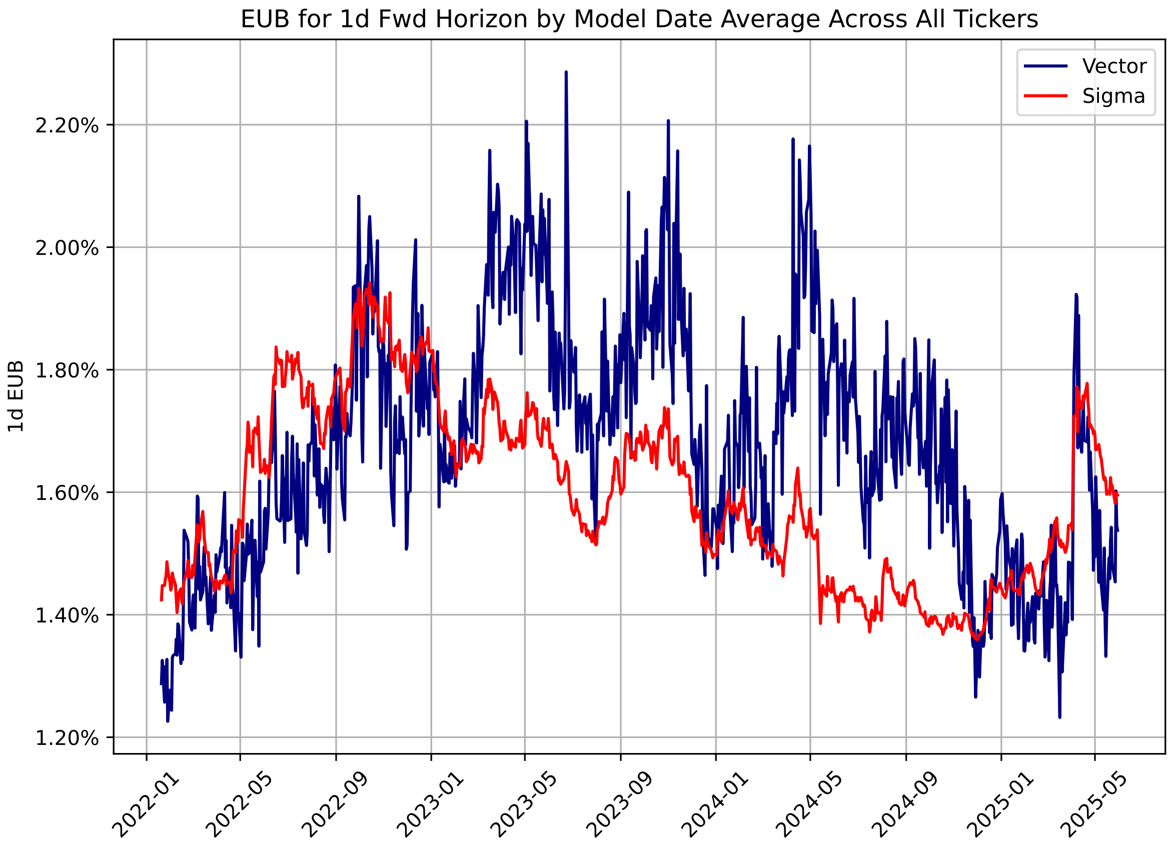
Prior 30 Calendar Days (P30D)

Period examined: All model dates from 2025-05-02 through 2025-05-29

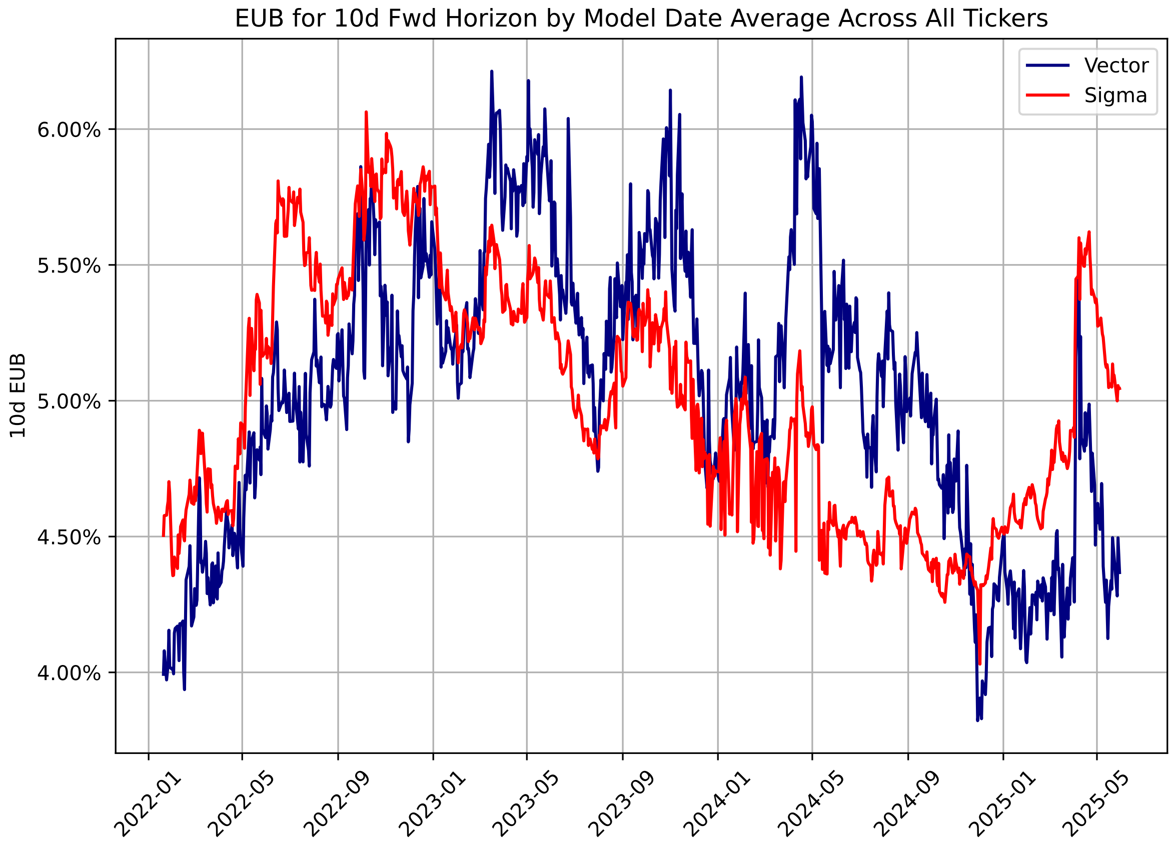


EUB by Model Date Detail

1d Horizon

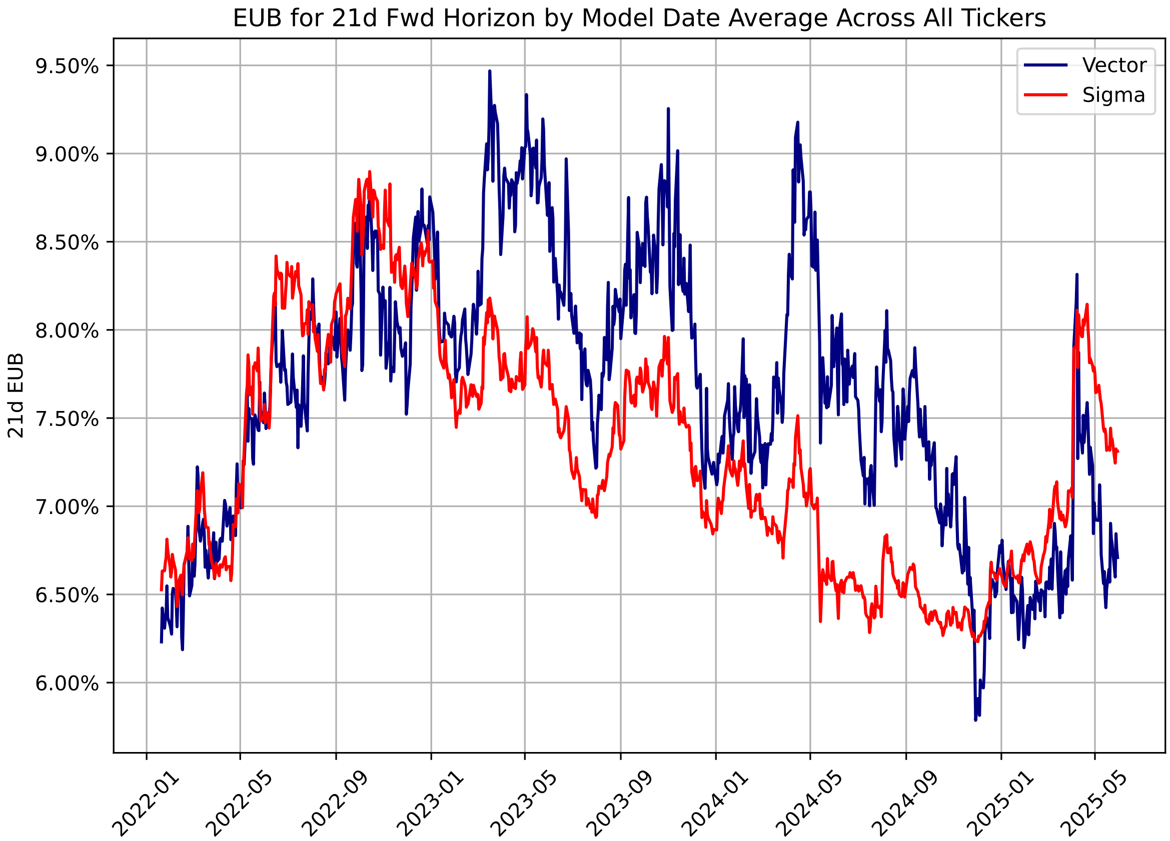


10d Horizon



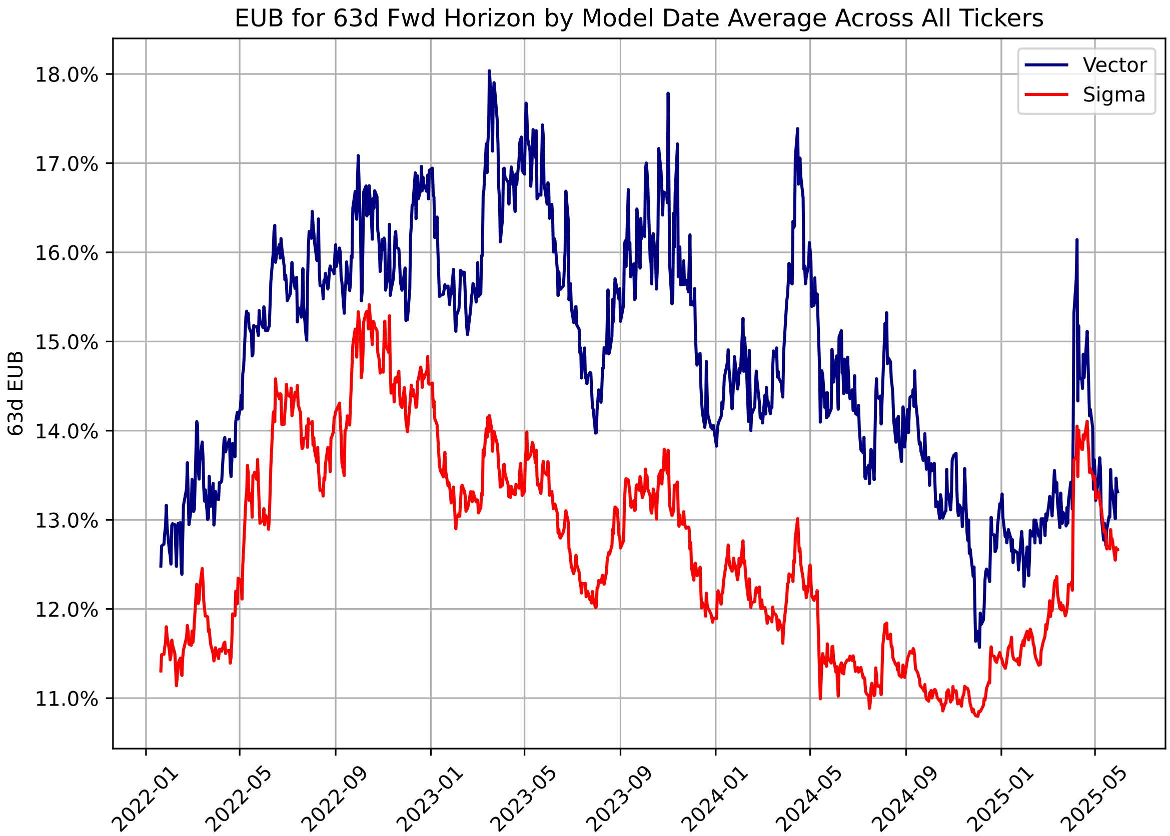
EUB for 10d Fwd Horizon by Model Date Average Across All Tickers
Vector
Sigma
10d EUB
6.00%
5.50%
5.00%
4.50%
4.00%
2022-01
2022-05
2022-09
2023-01
2023-05
2023-09
2024-01
2024-05
2024-09
2025-01
2025-05

21d Horizon

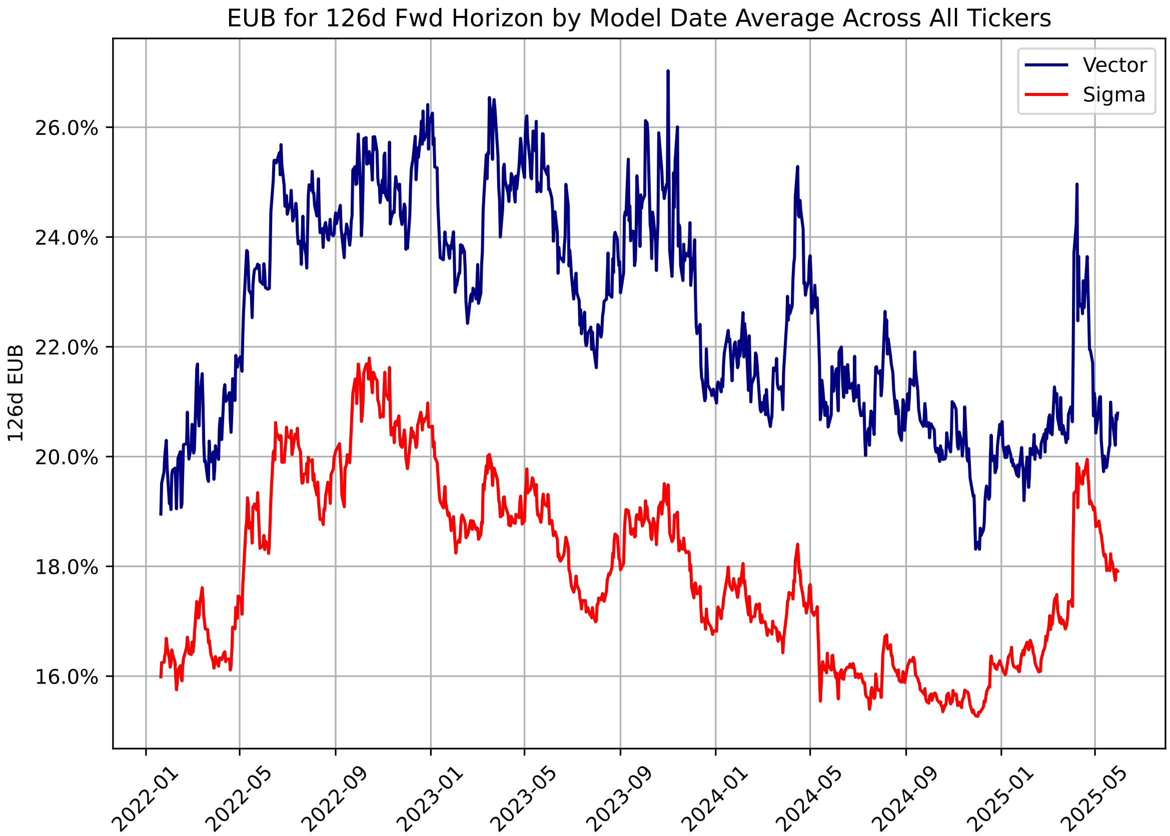


EUB for 21d Fwd Horizon by Model Date Average Across All Tickers
Vector
Sigma
21d EUB
9.50%
9.00%
8.50%
8.00%
7.50%
7.00%
6.50%
6.00%
2022-01
2022-05
2022-09
2023-01
2023-05
2023-09
2024-01
2024-05
2024-09
2025-01
2025-05

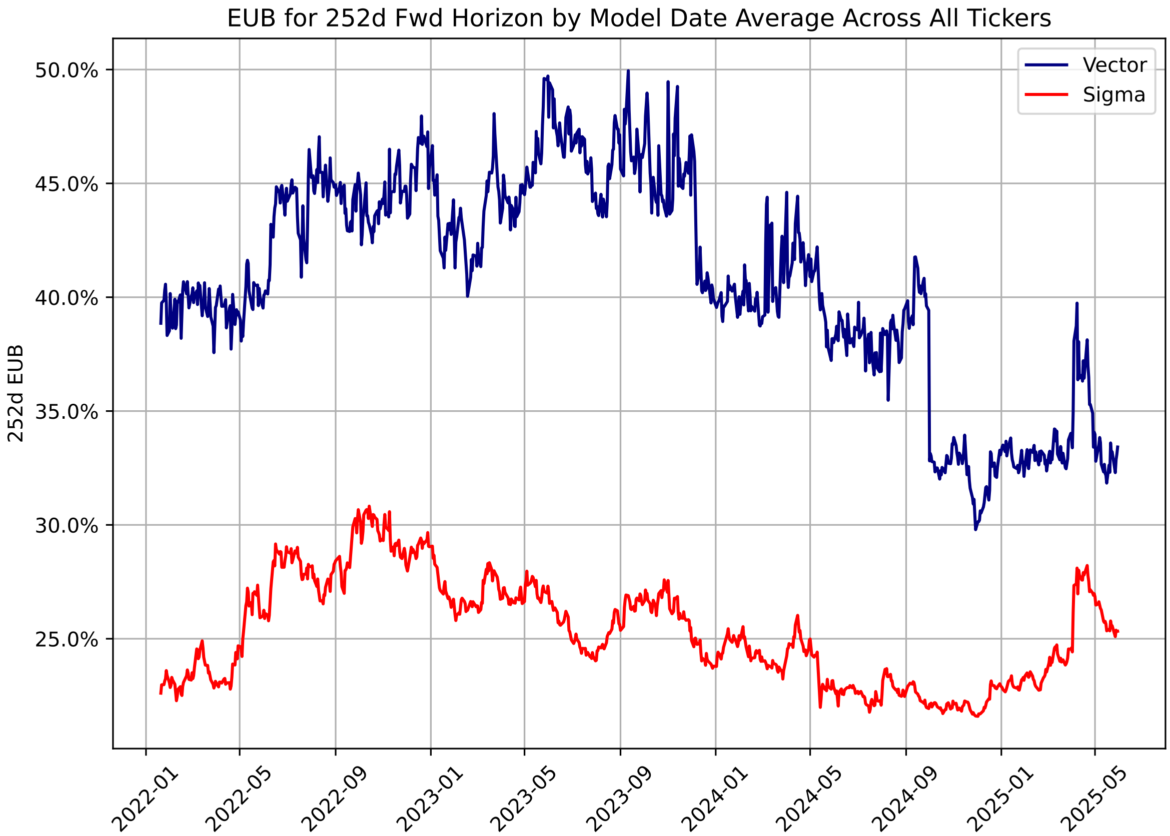
63d Horizon


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
2022-05
2022-09
2023-01
2023-05
2023-09
2024-01
2024-05
2024-09
2025-01
2025-05

126d Horizon



252d Horizon



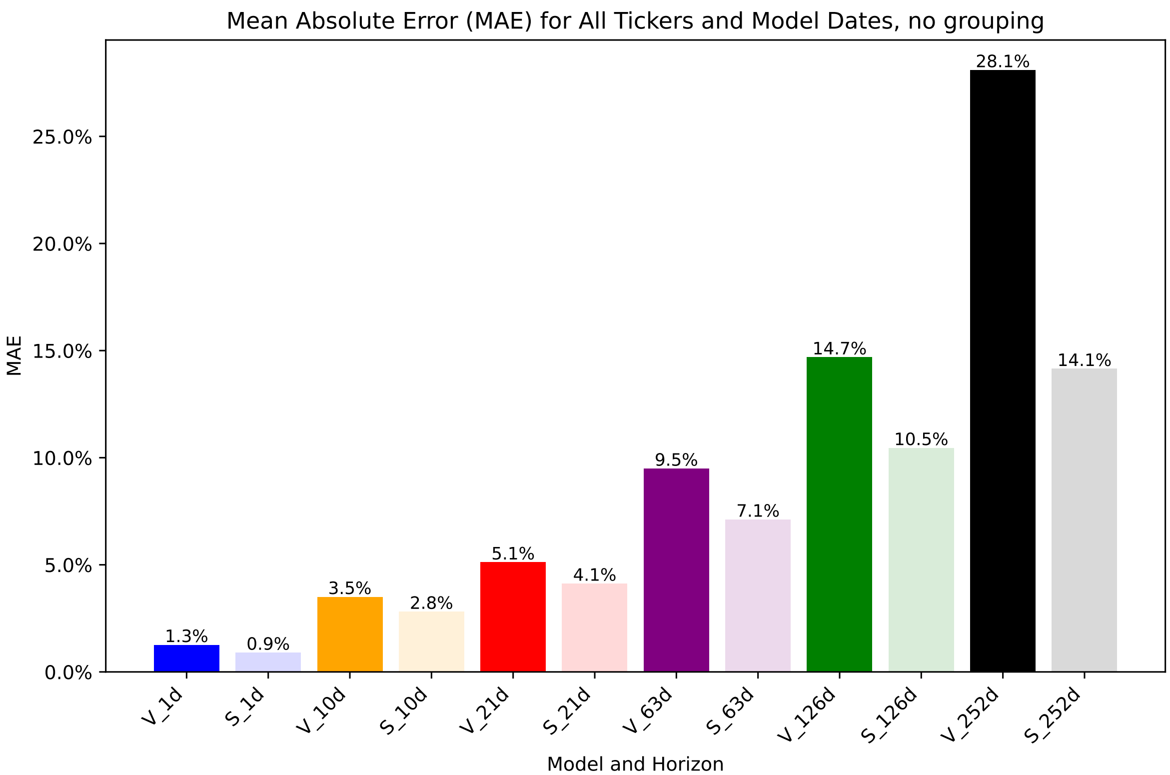
Performance Summary - MAE of EUB vs. Actual Fwd Returns

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).

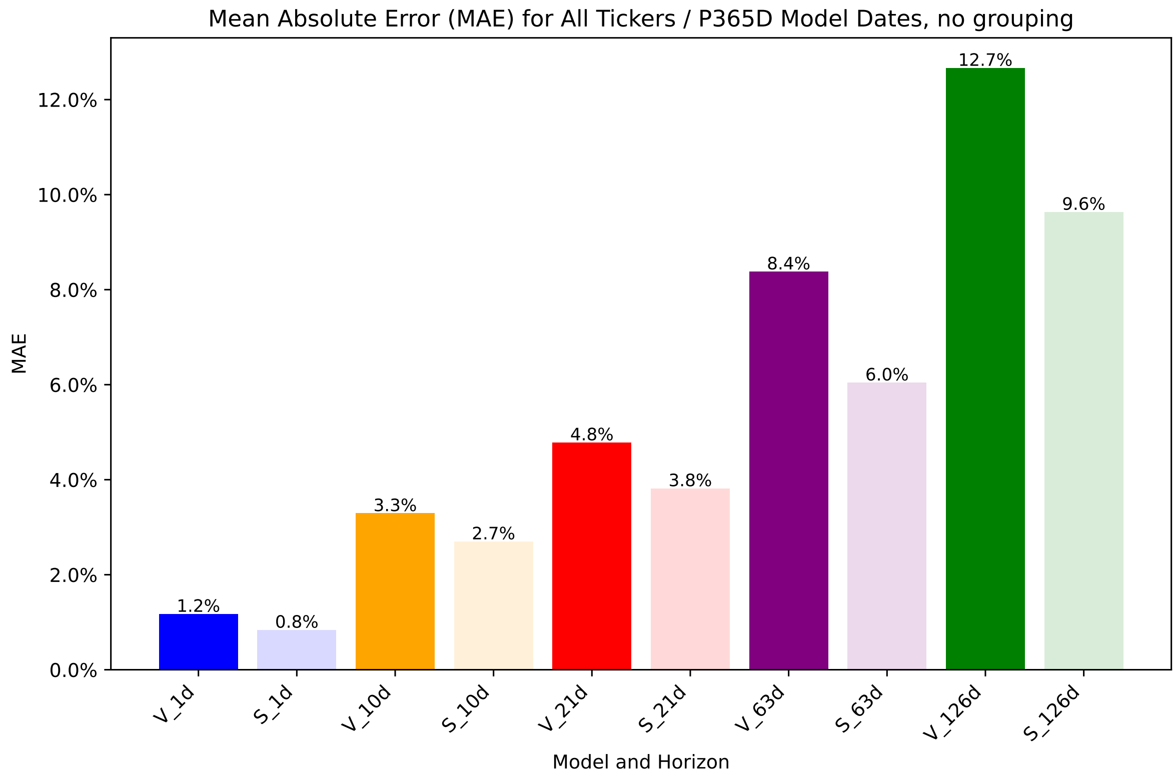
All Out of Sample Model Dates

Period examined: All model dates from 2022-01-31 through 2025-05-29



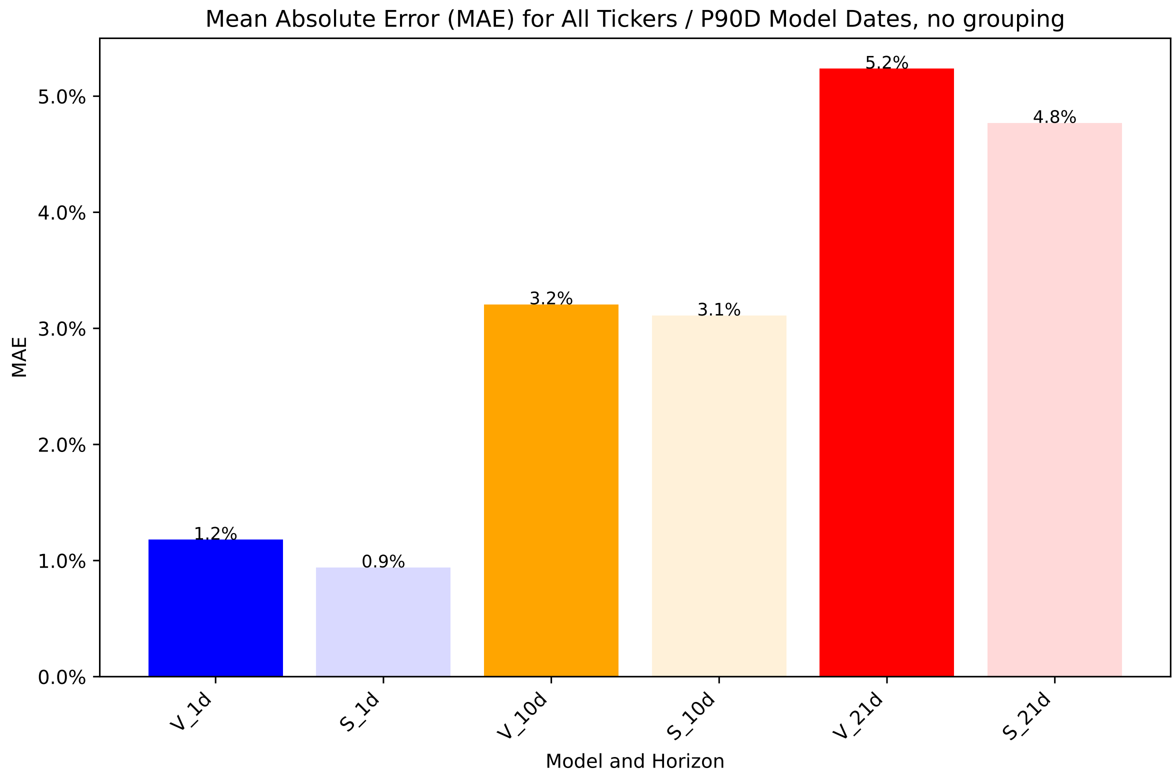
Prior 365 Calendar Days (P365D)

Period examined: All model dates from 2024-06-03 through 2025-05-29



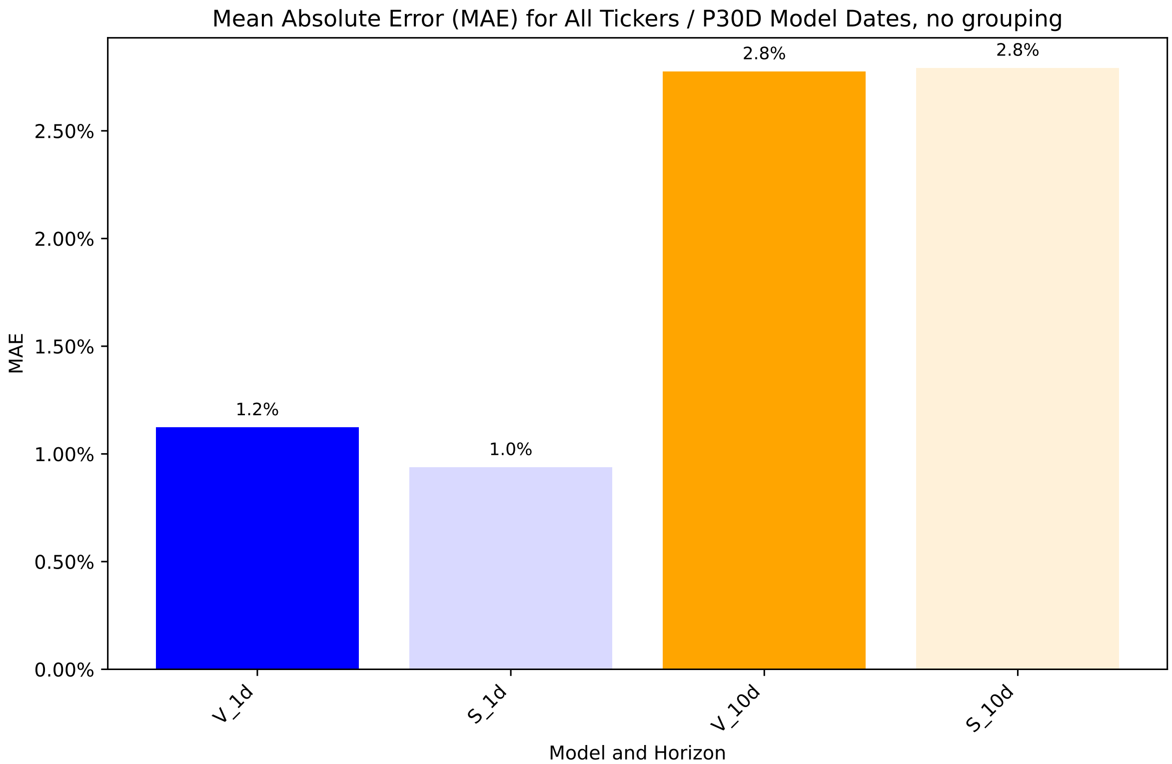
Prior 90 Calendar Days (P90D)

Period examined: All model dates from 2025-03-03 through 2025-05-29



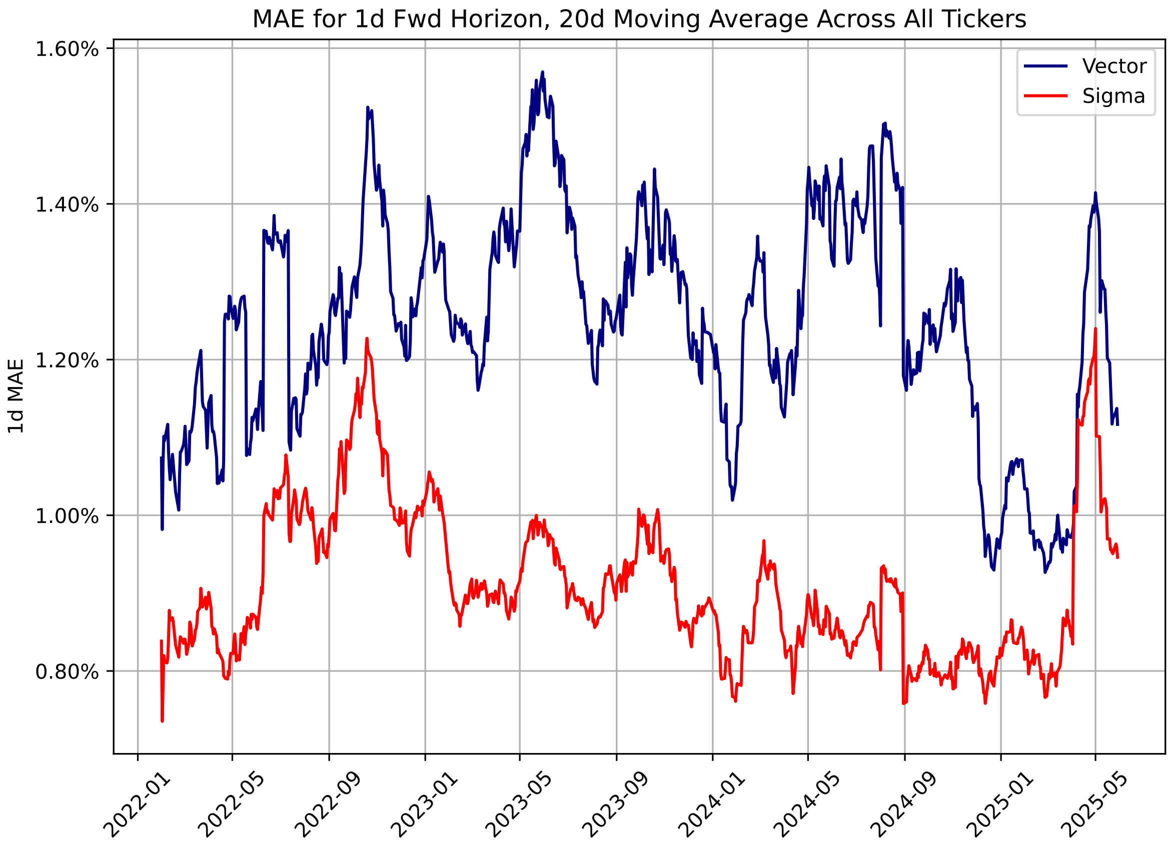
Prior 30 Calendar Days (P30D)

Period examined: All model dates from 2025-05-02 through 2025-05-29

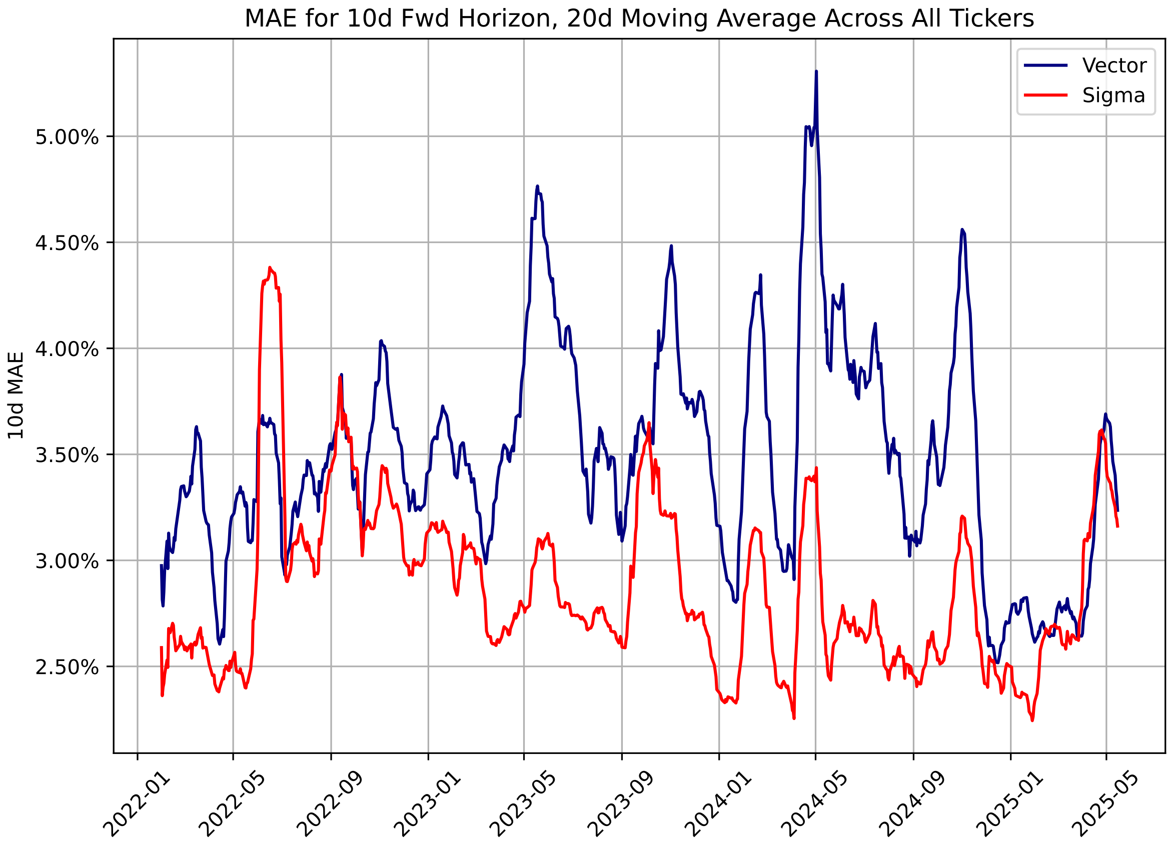


MAE by Model Date Detail

1d Horizon

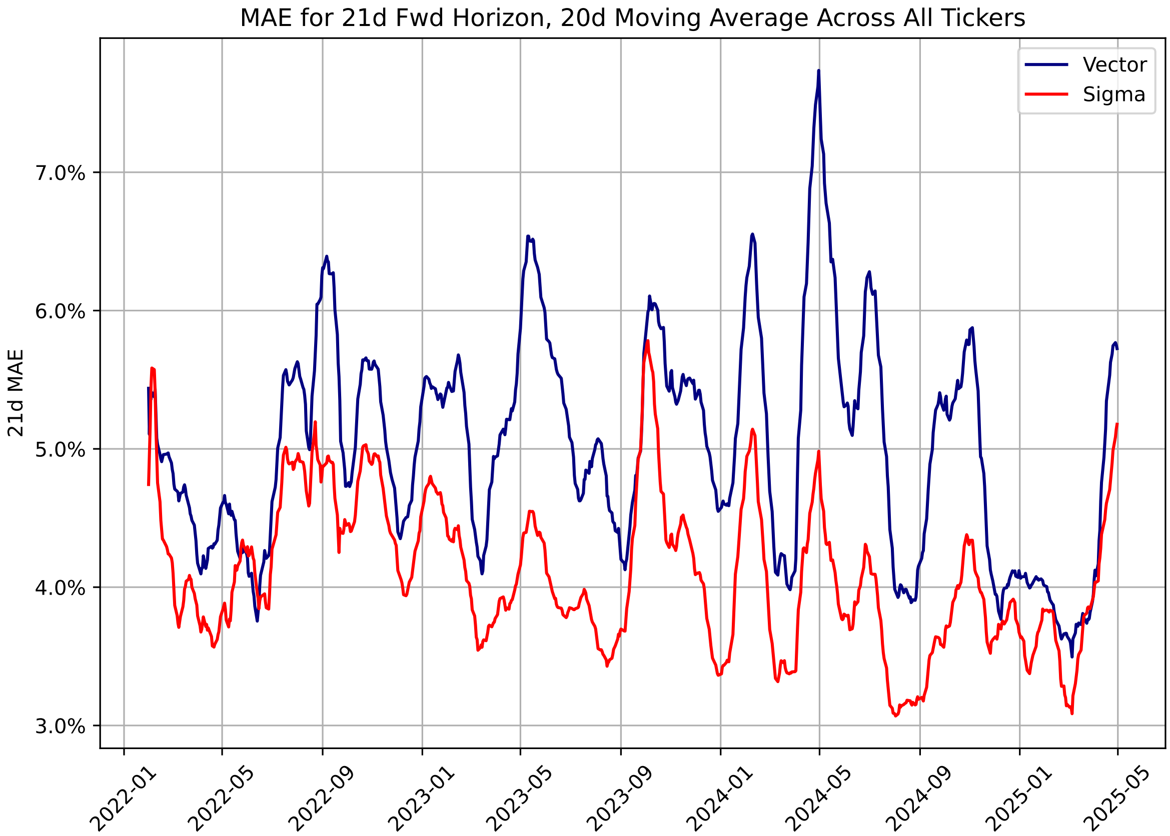


10d Horizon



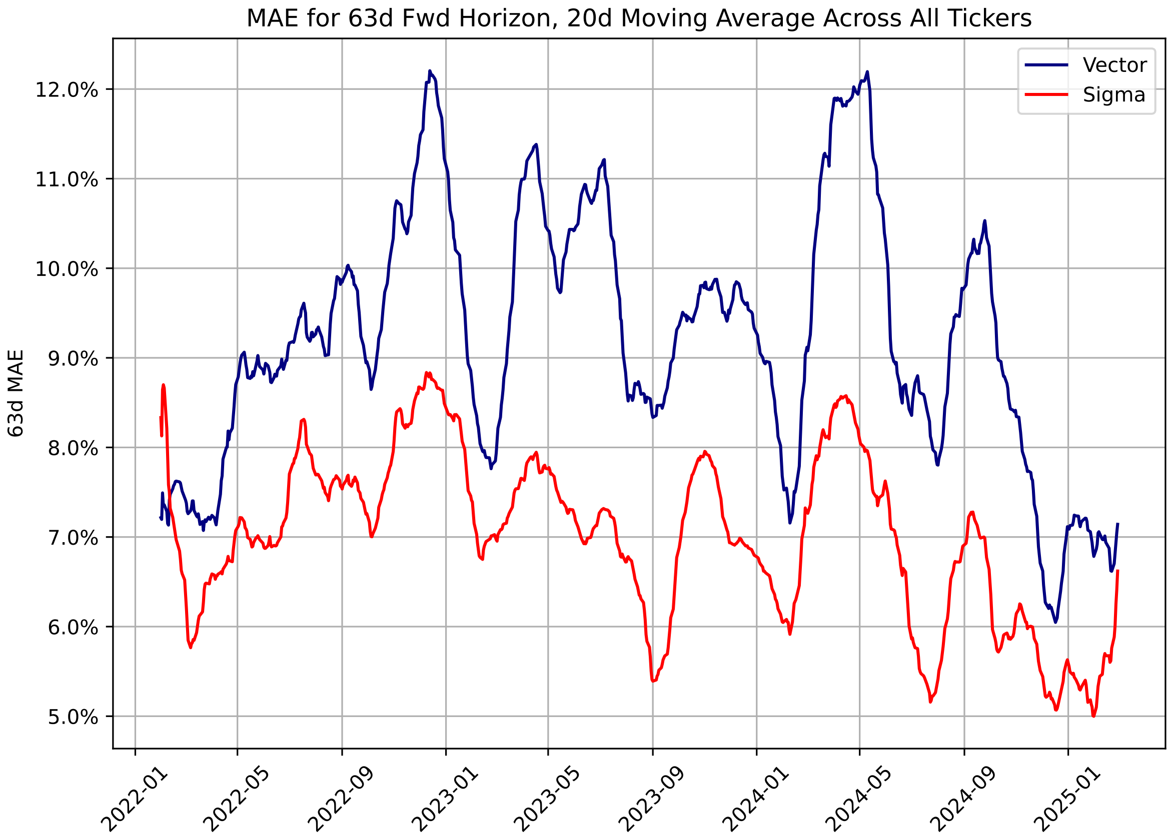
MAE for 10d Fwd Horizon, 20d Moving Average Across All Tickers
Vector
Sigma
10d MAE
5.00%
4.50%
4.00%
3.50%
3.00%
2.50%
2022-01
2022-05
2022-09
2023-01
2023-05
2023-09
2024-01
2024-05
2024-09
2025-01
2025-05

21d Horizon



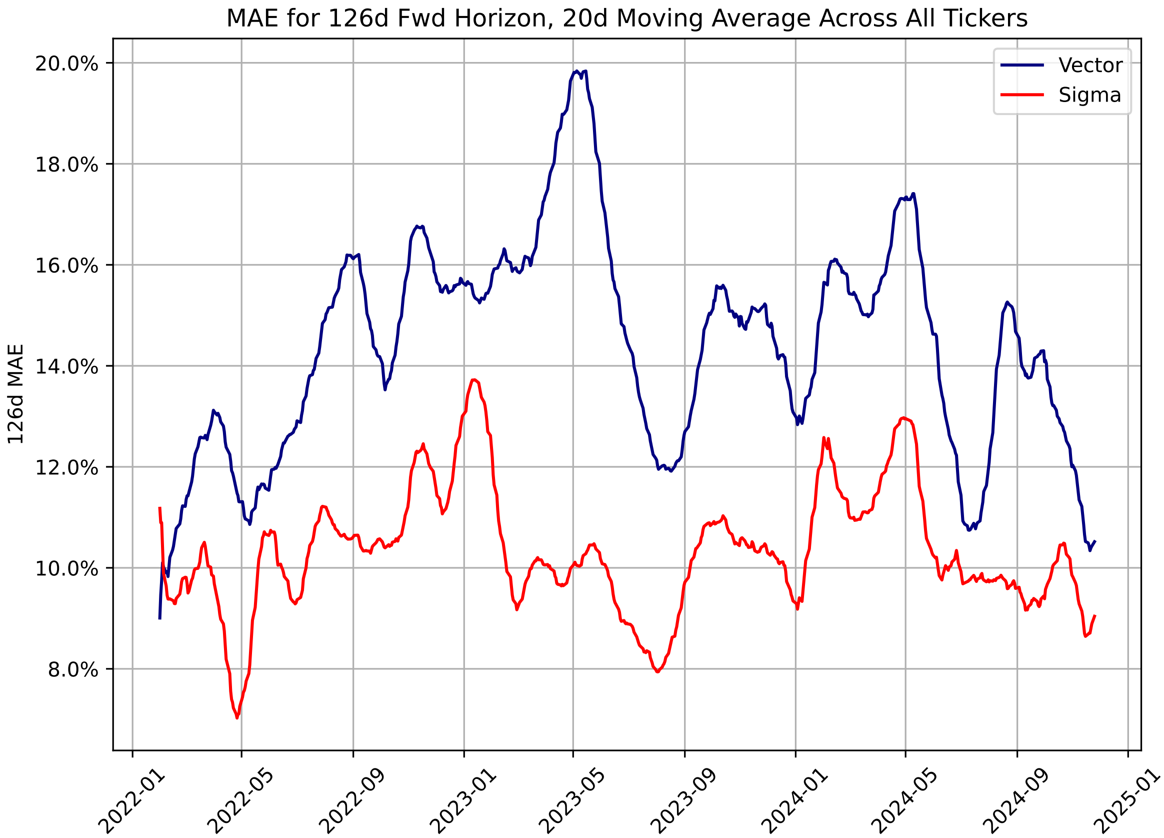
MAE for 21d Fwd Horizon, 20d Moving Average Across All Tickers
Vector
Sigma
21d MAE
7.0%
6.0%
5.0%
4.0%
3.0%
2022-01
2022-05
2022-09
2023-01
2023-05
2023-09
2024-01
2024-05
2024-09
2025-01
2025-05

63d Horizon

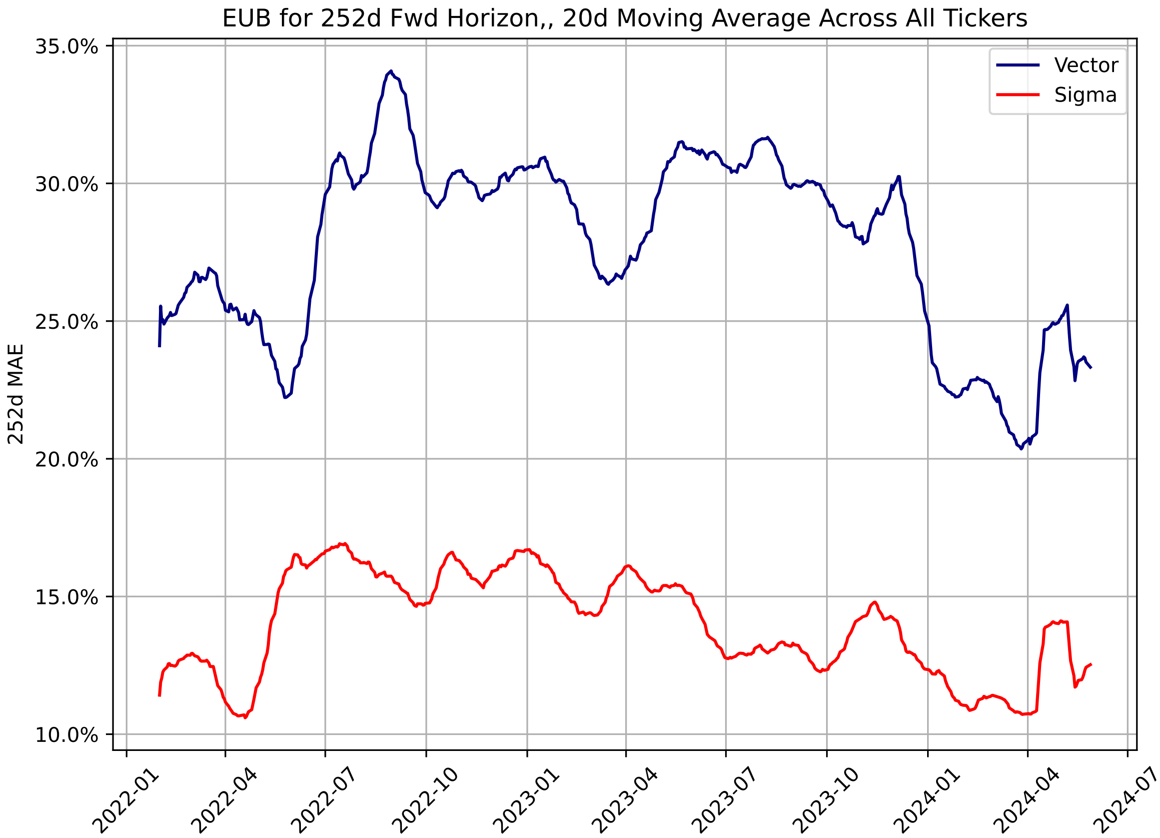


MAE for 63d Fwd Horizon, 20d Moving Average Across All Tickers
Vector
Sigma
63d MAE
12.0%
11.0%
10.0%
9.0%
8.0%
7.0%
6.0%
5.0%
2022-01
2022-05
2022-09
2023-01
2023-05
2023-09
2024-01
2024-05
2024-09
2025-01

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 2025-05-29

Horizon	Ticker_V	EUB-MAE_V	Ticker_S	EUB-MAE_S
1.0	AMC	12.4%	AMC	10.67%
1.0	LUMN	8.01%	GME	3.43%
1.0	IEP	7.47%	CYH	2.96%
1.0	TSLA	4.7%	LUMN	2.48%
1.0	ELAN	4.67%	MSTR	2.28%
1.0	CYH	4.28%	GBTC	2.16%
1.0	BHC	3.18%	BHC	1.88%
1.0	NWL	2.89%	IEP	1.55%
1.0	CCL	2.86%	CTLT	1.49%
1.0	GBTC	2.82%	UAA	1.47%
1.0	GNRC	2.5%	TSLA	1.47%
1.0	VNO	2.41%	AA	1.43%
1.0	CZR	2.39%	CCL	1.41%
1.0	BXP	2.21%	SIVBQ	1.36%
1.0	T	2.18%	CLF	1.36%
1.0	MSTR	2.11%	VFC	1.36%
1.0	NVDA	1.97%	GT	1.36%
1.0	GT	1.97%	GNRC	1.34%
1.0	LNC	1.93%	CZR	1.33%
1.0	UAA	1.81%	NWL	1.28%
1.0	MSFT	1.67%	SBNY	1.22%
1.0	MOS	1.65%	AAP	1.22%
1.0	X	1.58%	AMD	1.2%
1.0	AMD	1.54%	LNC	1.19%
1.0	ON	1.52%	NVDA	1.17%
1.0	AMAT	1.48%	ELAN	1.17%
1.0	AA	1.48%	ON	1.13%
1.0	INTC	1.46%	X	1.09%
1.0	QQQ	1.44%	MU	1.09%
1.0	ETRN	1.43%	CSTM	1.07%

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 2025-05-29

Horizon	Ticker_V	EUB-MAE_V	Ticker_S	EUB-MAE_S
10.0	AMC	47.21%	AMC	32.74%
10.0	LUMN	22.55%	GME	10.71%
10.0	IEP	16.22%	LUMN	8.92%
10.0	ELAN	12.56%	CYH	7.95%
10.0	TSLA	11.54%	MSTR	7.22%
10.0	BHC	9.11%	BHC	6.42%
10.0	CYH	8.85%	GBTC	6.15%
10.0	GBTC	8.51%	AA	4.76%
10.0	NWL	8.17%	SIVBQ	4.75%
10.0	CZR	7.1%	IEP	4.73%
10.0	GNRC	6.87%	UAA	4.56%
10.0	CCL	6.73%	GT	4.53%
10.0	NVDA	6.34%	TSLA	4.46%
10.0	GT	6.1%	CCL	4.4%
10.0	LNC	5.85%	CZR	4.36%
10.0	MSTR	5.55%	GNRC	4.31%
10.0	MSFT	5.12%	AMD	4.12%
10.0	BXP	5.06%	SBNY	4.11%
10.0	AMD	5.03%	LNC	4.07%
10.0	VNO	4.94%	NWL	4.07%
10.0	UAA	4.84%	VFC	4.04%
10.0	X	4.83%	ELAN	3.98%
10.0	MOS	4.66%	CLF	3.97%
10.0	T	4.51%	CTLT	3.94%
10.0	INTC	4.5%	NVDA	3.81%
10.0	AA	4.17%	ON	3.8%
10.0	ON	4.14%	AAP	3.75%
10.0	QQQ	4.01%	INTC	3.7%
10.0	AMAT	3.99%	X	3.55%
10.0	CLF	3.91%	MU	3.41%

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 2025-05-29

Horizon	Ticker_V	EUB-MAE_V	Ticker_S	EUB-MAE_S
21.0	AMC	68.16%	AMC	49.07%
21.0	LUMN	26.23%	GME	15.6%
21.0	IEP	23.12%	CYH	12.23%
21.0	ELAN	20.11%	LUMN	11.64%
21.0	TSLA	16.03%	MSTR	10.06%
21.0	BHC	13.07%	GBTC	8.67%
21.0	CCL	12.05%	BHC	8.05%
21.0	CYH	11.66%	CCL	7.73%
21.0	NWL	10.78%	IEP	7.33%
21.0	GBTC	10.76%	UAA	7.26%
21.0	CZR	10.66%	TSLA	7.06%
21.0	MSTR	9.73%	SIVBQ	7.04%
21.0	NVDA	9.53%	AA	6.48%
21.0	GNRC	9.52%	GT	6.44%
21.0	GT	9.2%	VFC	6.39%
21.0	LNC	8.19%	NWL	6.34%
21.0	MOS	7.84%	AMD	6.27%
21.0	BXP	7.63%	CZR	6.19%
21.0	VNO	7.55%	ELAN	6.14%
21.0	MSFT	7.54%	CLF	6.1%
21.0	UAA	7.49%	GNRC	6.05%
21.0	AMD	7.33%	NVDA	5.77%
21.0	AMAT	7.11%	ON	5.66%
21.0	X	6.82%	CTLT	5.63%
21.0	ON	6.64%	AAP	5.42%
21.0	INTC	6.5%	SBNY	5.33%
21.0	T	6.32%	LNC	5.25%
21.0	AA	6.28%	ZION	5.24%
21.0	SIVBQ	6.2%	VNO	5.23%
21.0	NFLX	6.03%	X	5.22%

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 2025-05-29

Horizon	Ticker_V	EUB-MAE_V	Ticker_S	EUB-MAE_S
63.0	AMC	188.11%	AMC	111.15%
63.0	LUMN	66.67%	LUMN	32.3%
63.0	ELAN	35.25%	GME	31.05%
63.0	IEP	34.84%	CYH	25.54%
63.0	CZR	34.76%	BHC	17.58%
63.0	BHC	34.68%	GBTC	16.21%
63.0	TSLA	34.48%	MSTR	15.89%
63.0	CCL	25.8%	SBNY	14.24%
63.0	GBTC	25.73%	CCL	13.55%
63.0	SIVBQ	22.95%	UAA	13.13%
63.0	CYH	22.79%	IEP	12.71%
63.0	GT	21.47%	CTLT	12.36%
63.0	NWL	21.45%	TSLA	12.08%
63.0	MSTR	21.36%	X	11.8%
63.0	VNO	18.22%	GT	11.73%
63.0	LNC	17.73%	AA	11.64%
63.0	NVDA	17.38%	CZR	11.14%
63.0	AMD	16.19%	AMD	10.86%
63.0	MOS	16.14%	SIVBQ	10.74%
63.0	UAA	14.94%	NVDA	10.71%
63.0	FSUGY	14.67%	CLF	10.42%
63.0	MSFT	13.97%	VFC	10.34%
63.0	BXP	13.93%	MOS	10.27%
63.0	INTC	13.47%	NWL	10.17%
63.0	VFC	13.29%	GNRC	10.01%
63.0	X	12.84%	ELAN	9.91%
63.0	MU	12.05%	META	9.87%
63.0	AA	11.87%	VNO	9.83%
63.0	AMAT	11.61%	AAP	9.79%
63.0	GNRC	11.24%	CMA	9.36%

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 2025-05-29

Horizon	Ticker_V	EUB-MAE_V	Ticker_S	EUB-MAE_S
126.0	AMC	320.05%	AMC	212.77%
126.0	LUMN	85.95%	LUMN	59.95%
126.0	CZR	69.94%	GME	45.62%
126.0	ELAN	64.12%	CYH	41.11%
126.0	BHC	53.72%	BHC	28.69%
126.0	TSLA	45.86%	MSTR	26.81%
126.0	CCL	43.29%	NWL	22.45%
126.0	GT	39.04%	VFC	21.96%
126.0	NWL	38.74%	CZR	21.64%
126.0	CYH	35.73%	GBTC	20.61%
126.0	MSTR	35.61%	CCL	19.7%
126.0	GBTC	34.7%	UAA	19.21%
126.0	IEP	33.11%	CLF	17.08%
126.0	NVDA	32.31%	AA	16.82%
126.0	LNC	31.22%	LNC	16.42%
126.0	VNO	29.58%	CTLT	16.25%
126.0	BXP	25.93%	THC	16.15%
126.0	MOS	24.54%	GT	15.95%
126.0	UAA	24.26%	AMD	15.78%
126.0	VFC	23.24%	ETRN	15.56%
126.0	NFLX	21.96%	BIIB	15.37%
126.0	THC	21.19%	TSLA	15.18%
126.0	GME	20.71%	ELAN	15.14%
126.0	META	20.23%	MOS	15.02%
126.0	CLF	19.74%	IEP	14.94%
126.0	X	19.61%	KALU	14.8%
126.0	ADBE	18.97%	VNO	14.45%
126.0	INTC	18.95%	WRK	14.14%
126.0	AMD	18.86%	EXPE	13.78%
126.0	ETRN	18.77%	NFLX	13.58%

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 2025-05-29

Horizon	Ticker_V	EUB-MAE_V	Ticker_S	EUB-MAE_S
252.0	AMC	848.37%	AMC	549.03%
252.0	LUMN	149.75%	CYH	82.08%
252.0	CZR	106.08%	BHC	56.23%
252.0	ELAN	105.27%	GBTC	49.34%
252.0	BHC	98.48%	AAP	48.4%
252.0	GBTC	89.74%	LUMN	41.48%
252.0	NVDA	87.21%	MSTR	40.84%
252.0	CYH	81.51%	GME	36.28%
252.0	CCL	79.09%	CZR	36.03%
252.0	CDNS	77.63%	CLF	32.15%
252.0	INTU	71.7%	GT	28.93%
252.0	TSLA	69.27%	NFLX	28.44%
252.0	AMZN	68.71%	UAA	27.9%
252.0	NWL	61.15%	TSLA	26.3%
252.0	VNO	51.93%	AA	26.06%
252.0	AAP	50.39%	GNRC	25.6%
252.0	MSFT	49.87%	VFC	24.44%
252.0	LNC	48.64%	META	24.39%
252.0	COST	47.14%	NWL	22.7%
252.0	AMD	46.01%	OXY	22.43%
252.0	CMG	45.47%	AMZN	20.77%
252.0	ORLY	45.01%	X	20.71%
252.0	MS	44.42%	AMD	20.54%
252.0	GT	44.39%	CTLT	20.02%
252.0	AZO	44.28%	VNO	19.98%
252.0	UAA	43.05%	WRK	19.59%
252.0	DHI	42.51%	CCL	19.53%
252.0	CLF	41.03%	DHI	19.5%
252.0	BBY	40.9%	PRGO	19.35%
252.0	AVGO	39.2%	ELAN	19.21%

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 2025-05-29

Horizon	Ticker_V	EUB-MAE_V	Ticker_S	EUB-MAE_S
1.0	MUB	0.15%	VCSH	0.07%
1.0	VCSH	0.16%	MUB	0.1%
1.0	LQD	0.29%	HYG	0.18%
1.0	FRA	0.35%	LQD	0.21%
1.0	HYG	0.35%	EMB	0.24%
1.0	GLD	0.42%	FRA	0.29%
1.0	PEP	0.45%	GLD	0.33%
1.0	NVS	0.49%	TLT	0.39%
1.0	MRK	0.5%	SPY	0.4%
1.0	MSI	0.51%	NVS	0.4%
1.0	HON	0.52%	PEP	0.41%
1.0	POST	0.53%	HON	0.46%
1.0	TMUS	0.53%	MRK	0.46%
1.0	KHC	0.55%	TMUS	0.47%
1.0	SNY	0.55%	ABBV	0.48%
1.0	HD	0.56%	POST	0.48%
1.0	GILD	0.56%	KHC	0.48%
1.0	TLT	0.58%	MSI	0.49%
1.0	BUD	0.58%	VZ	0.5%
1.0	AMGN	0.6%	VICI	0.5%
1.0	MNST	0.6%	AMGN	0.5%
1.0	B	0.6%	BMY	0.51%
1.0	ABBV	0.6%	AZO	0.52%
1.0	SLV	0.61%	GILD	0.52%
1.0	XOM	0.61%	CSCO	0.52%
1.0	SBUX	0.61%	HSBC	0.52%
1.0	ORLY	0.61%	MNST	0.52%
1.0	ZTS	0.62%	AZN	0.52%
1.0	BALL	0.62%	COST	0.52%
1.0	VICI	0.62%	ORLY	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 2025-05-29

Horizon	Ticker_V	EUB-MAE_V	Ticker_S	EUB-MAE_S
10.0	VCSH	0.43%	VCSH	0.23%
10.0	MUB	0.55%	MUB	0.34%
10.0	LQD	0.82%	HYG	0.62%
10.0	FRA	0.94%	LQD	0.74%
10.0	HYG	1.03%	EMB	0.81%
10.0	GLD	1.21%	FRA	0.9%
10.0	PEP	1.24%	SPY	1.15%
10.0	POST	1.48%	GLD	1.18%
10.0	NVS	1.49%	PEP	1.22%
10.0	GILD	1.53%	TLT	1.37%
10.0	HD	1.55%	NVS	1.42%
10.0	TLT	1.56%	HON	1.48%
10.0	SNY	1.56%	MRK	1.48%
10.0	MSI	1.56%	POST	1.49%
10.0	HON	1.58%	VZ	1.54%
10.0	MRK	1.62%	TMUS	1.58%
10.0	XOM	1.66%	ACGL	1.59%
10.0	SPY	1.66%	ORLY	1.59%
10.0	HCA	1.67%	UNH	1.6%
10.0	AMGN	1.68%	QQQ	1.6%
10.0	ZTS	1.69%	BMY	1.6%
10.0	TMUS	1.7%	B	1.6%
10.0	VICI	1.72%	CSCO	1.6%
10.0	ABBV	1.74%	AMGN	1.63%
10.0	BUD	1.75%	ABBV	1.64%
10.0	BALL	1.76%	MSI	1.66%
10.0	ACGL	1.76%	VICI	1.66%
10.0	GWW	1.78%	GILD	1.67%
10.0	ORLY	1.78%	COST	1.69%
10.0	VZ	1.83%	CAH	1.69%

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 2025-05-29

Horizon	Ticker_V	EUB-MAE_V	Ticker_S	EUB-MAE_S
21.0	VCSH	0.64%	VCSH	0.35%
21.0	MUB	0.78%	MUB	0.42%
21.0	LQD	1.19%	HYG	0.88%
21.0	FRA	1.39%	LQD	0.99%
21.0	PEP	1.66%	EMB	1.13%
21.0	HYG	1.76%	FRA	1.35%
21.0	GLD	2.0%	GLD	1.5%
21.0	NVS	2.08%	SPY	1.61%
21.0	GILD	2.28%	PEP	1.68%
21.0	HD	2.32%	TLT	1.94%
21.0	MSI	2.33%	NVS	1.97%
21.0	POST	2.35%	HSBC	2.16%
21.0	BUD	2.37%	HON	2.19%
21.0	SNY	2.45%	BMY	2.25%
21.0	ACGL	2.5%	QQQ	2.27%
21.0	HON	2.5%	TMUS	2.29%
21.0	HSBC	2.51%	MSI	2.31%
21.0	XOM	2.54%	MRK	2.33%
21.0	SPY	2.56%	VZ	2.34%
21.0	TLT	2.56%	CAH	2.34%
21.0	MRK	2.6%	POST	2.35%
21.0	CMCSA	2.64%	GILD	2.36%
21.0	KHC	2.66%	KHC	2.41%
21.0	ZTS	2.67%	ACGL	2.41%
21.0	VICI	2.68%	PCG	2.43%
21.0	VZ	2.68%	ABBV	2.45%
21.0	NAVI	2.69%	CSCO	2.47%
21.0	TMUS	2.69%	UNH	2.49%
21.0	GWW	2.77%	ORLY	2.53%
21.0	FRCB	2.77%	AZN	2.56%

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 2025-05-29

Horizon	Ticker_V	EUB-MAE_V	Ticker_S	EUB-MAE_S
63.0	VCSH	1.16%	VCSH	0.67%
63.0	MUB	1.25%	MUB	0.76%
63.0	LQD	2.14%	HYG	1.67%
63.0	FRA	2.51%	LQD	1.97%
63.0	PEP	2.85%	FRA	2.14%
63.0	GLD	3.18%	EMB	2.33%
63.0	BUD	3.9%	GLD	2.57%
63.0	HYG	4.02%	PEP	2.72%
63.0	CAH	4.24%	SPY	2.74%
63.0	VZ	4.24%	COST	3.36%
63.0	ZTS	4.26%	TLT	3.46%
63.0	POST	4.28%	HON	3.63%
63.0	JAZZ	4.31%	MRK	3.67%
63.0	MSI	4.32%	NVS	3.72%
63.0	SNY	4.35%	VZ	3.74%
63.0	NVS	4.37%	VICI	3.94%
63.0	ORLY	4.51%	AZO	4.11%
63.0	IRM	4.51%	POST	4.23%
63.0	HON	4.55%	ORLY	4.3%
63.0	TMUS	4.56%	QQQ	4.31%
63.0	CMCSA	4.59%	AMGN	4.34%
63.0	AMGN	4.64%	TMUS	4.39%
63.0	TLT	4.66%	JPM	4.44%
63.0	HD	4.66%	ACGL	4.45%
63.0	GILD	4.67%	UNH	4.47%
63.0	MRK	4.78%	MSI	4.48%
63.0	XOM	4.78%	ZTS	4.49%
63.0	VICI	4.79%	HSBC	4.5%
63.0	BMY	4.84%	HD	4.51%
63.0	ACGL	4.86%	GSK	4.55%

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 2025-05-29

Horizon	Ticker_V	EUB-MAE_V	Ticker_S	EUB-MAE_S
126.0	VCSH	1.17%	VCSH	0.82%
126.0	MUB	1.58%	MUB	1.29%
126.0	LQD	1.95%	HYG	1.91%
126.0	FRA	3.44%	LQD	2.11%
126.0	PEP	3.73%	EMB	2.62%
126.0	ABBV	5.11%	FRA	3.06%
126.0	TMUS	5.29%	PEP	3.81%
126.0	ZTS	5.33%	MNST	4.08%
126.0	SPY	5.34%	GLD	4.26%
126.0	AMGN	5.36%	SPY	4.59%
126.0	NVS	5.46%	ABBV	4.61%
126.0	NAVI	5.54%	AMGN	4.8%
126.0	IRM	5.62%	HON	4.9%
126.0	GLD	5.78%	TLT	4.91%
126.0	BALL	5.78%	BUD	5.02%
126.0	MNST	6.03%	NVS	5.15%
126.0	XOM	6.24%	KHC	5.37%
126.0	BUD	6.33%	UNH	5.38%
126.0	SNY	6.34%	AZO	5.47%
126.0	VICI	6.35%	CVS	5.68%
126.0	CAH	6.48%	TMUS	5.69%
126.0	ORLY	6.49%	CSCO	5.7%
126.0	POST	6.59%	ORLY	5.71%
126.0	BMY	6.82%	VICI	5.81%
126.0	JAZZ	6.84%	QQQ	5.86%
126.0	HLT	6.84%	SNY	5.95%
126.0	MSI	6.94%	JPM	5.98%
126.0	VZ	7.1%	ZTS	6.01%
126.0	TFC	7.12%	VZ	6.09%
126.0	CNC	7.2%	XOM	6.16%

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 2025-05-29

Horizon	Ticker_V	EUB-MAE_V	Ticker_S	EUB-MAE_S
252.0	VCSH	1.83%	VCSH	1.08%
252.0	MUB	3.18%	MUB	1.57%
252.0	LQD	4.72%	HYG	3.5%
252.0	NVS	5.19%	FRA	4.19%
252.0	FRA	5.46%	LQD	4.48%
252.0	PEP	6.09%	EMB	4.82%
252.0	BUD	7.07%	PEP	5.0%
252.0	ZTS	8.2%	BMY	5.17%
252.0	MRK	8.22%	GLD	5.2%
252.0	CVS	8.31%	NVS	5.91%
252.0	POST	8.46%	VICI	6.28%
252.0	GLD	8.52%	AZN	6.95%
252.0	VICI	8.57%	TLT	7.32%
252.0	CMCSA	8.92%	AMGN	7.36%
252.0	GILD	8.93%	ABBV	7.55%
252.0	IRM	9.08%	HON	7.56%
252.0	SLV	9.32%	SPY	7.58%
252.0	MSI	9.36%	AZO	7.67%
252.0	BALL	9.79%	GSK	7.97%
252.0	XOM	10.18%	MRK	7.98%
252.0	HYG	10.39%	MNST	7.98%
252.0	SNY	10.63%	VZ	8.07%
252.0	AMGN	10.79%	CSCO	8.14%
252.0	CSTM	10.81%	TMUS	8.36%
252.0	EMB	10.85%	HSBC	8.44%
252.0	NAVI	11.02%	HD	8.58%
252.0	LW	11.19%	BIIB	8.67%
252.0	CHTR	11.22%	POST	8.77%
252.0	GNRC	11.41%	MSI	8.9%
252.0	VZ	11.77%	UNH	8.91%

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.

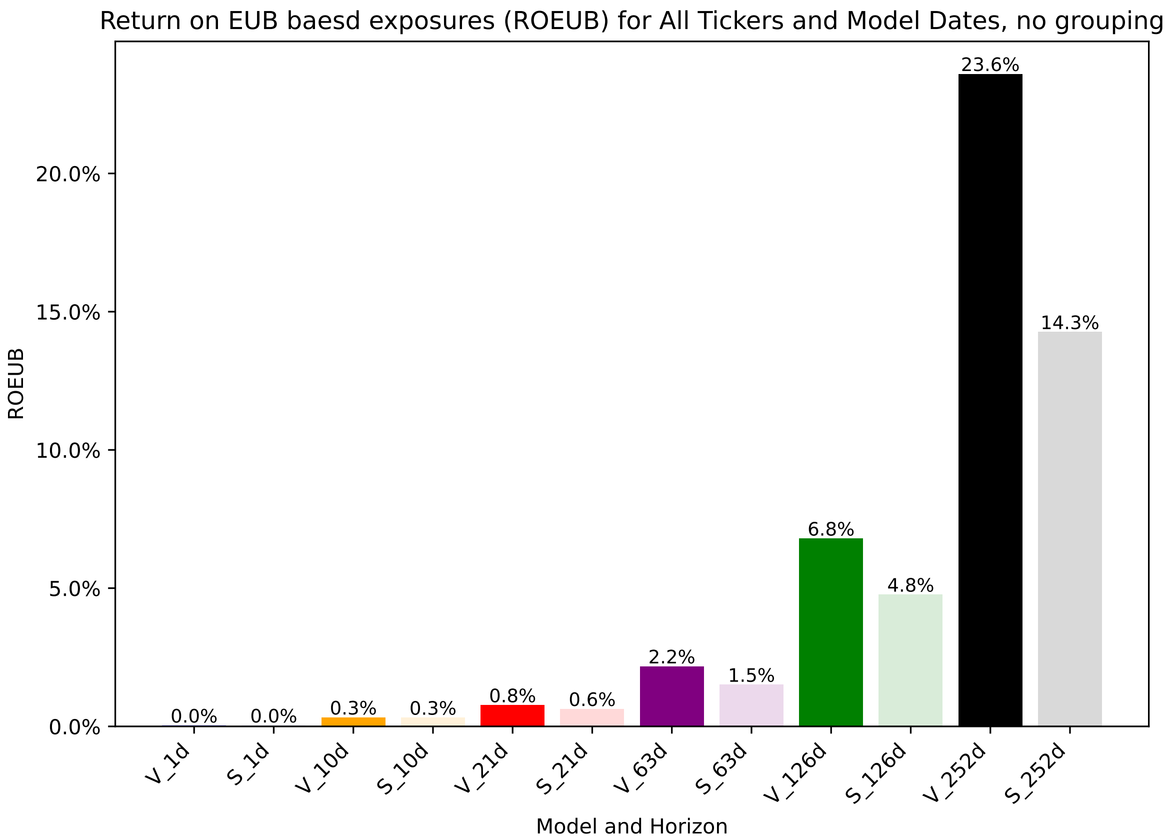
Vector Model based TMD exposures reflect each TMD's underlying horizon price return multiplied by the ratio of Vector Model EUB to Sigma model based EUB for the given horizon. This ratio is capped of 3.0x and floored of 0.333x.

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 2025-05-29



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

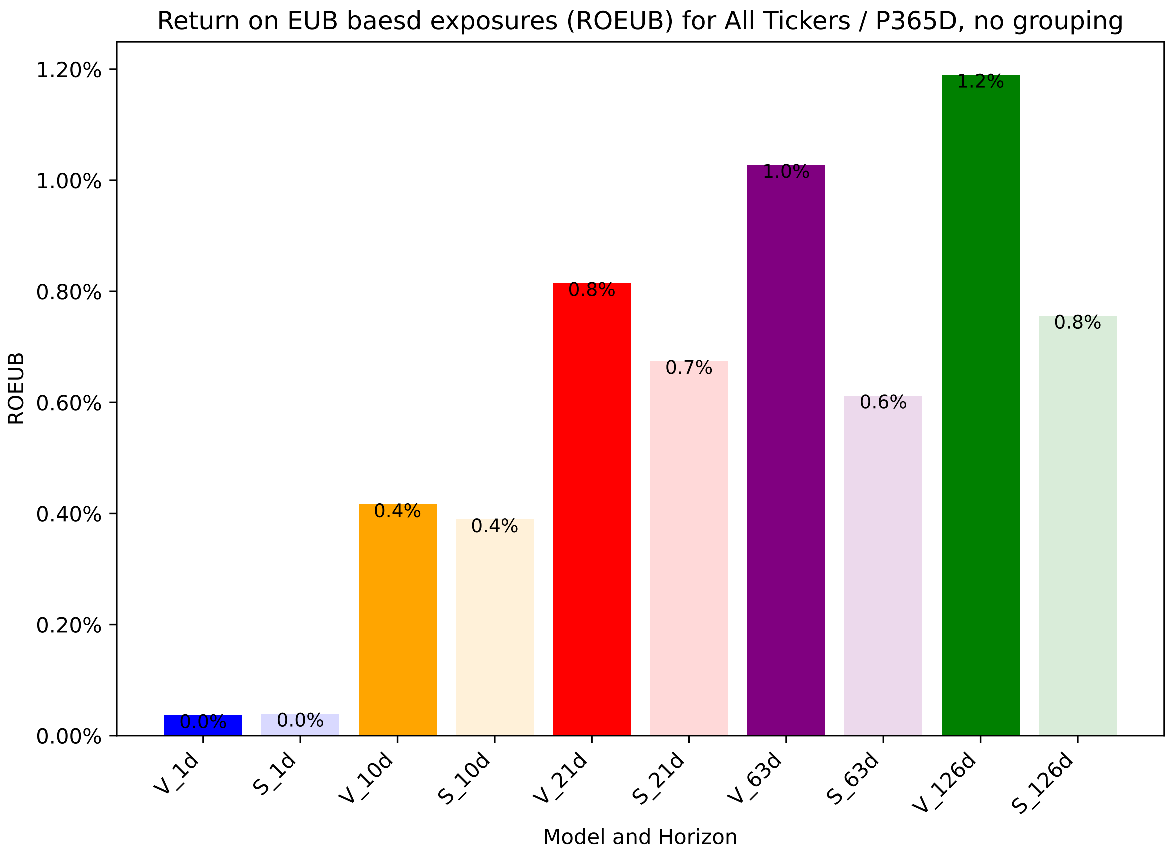
	1d	10d	21d	63d	126d	252d
intercept	-0.00%	0.02%	0.12%	0.38%	0.85%	3.51%
intercept_p_value	65.71%	25.19%	0.00%	0.00%	0.00%	0.00%
slope	99.90%	97.51%	102.63%	119.08%	124.71%	140.84%
slope_p_value	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

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

	1d	10d	21d	63d	126d	252d
intercept	0.00%	0.00%	0.04%	-0.06%	-0.80%	-2.77%
intercept_p_value	46.70%	22.94%	15.75%	5.77%	7.36%	10.62%
slope	100.95%	100.28%	106.75%	121.06%	130.34%	150.78%
slope_p_value	0.00%	0.01%	0.00%	0.00%	0.00%	0.36%

Prior 365 Calendar Days (P365D)

Period examined: All model dates from 2024-06-03 through 2025-05-29



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

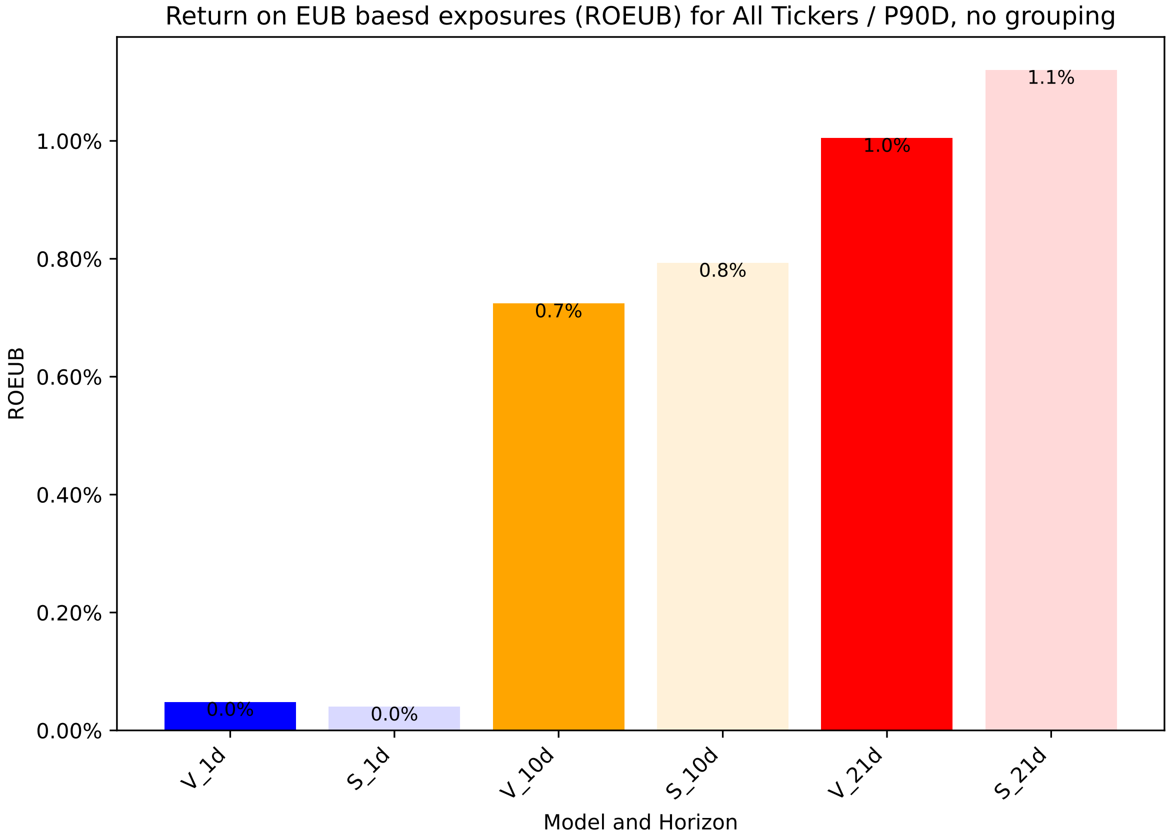
	1d	10d	21d	63d	126d
intercept	-0.00%	0.01%	0.07%	0.24%	0.15%
intercept_p_value	73.52%	69.22%	3.23%	0.02%	15.21%
slope	100.62%	104.55%	109.89%	129.17%	137.01%
slope_p_value	0.00%	0.00%	0.00%	0.00%	0.00%

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

	1d	10d	21d	63d	126d
intercept	0.01%	0.04%	0.12%	0.36%	-0.71%
intercept_p_value	44.47%	23.99%	15.72%	13.27%	15.21%
slope	103.33%	104.68%	110.86%	127.10%	138.14%
slope_p_value	0.00%	0.01%	0.02%	0.00%	0.01%

Prior 90 Calendar Days (P90D)

Period examined: All model dates from 2025-03-03 through 2025-05-29



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

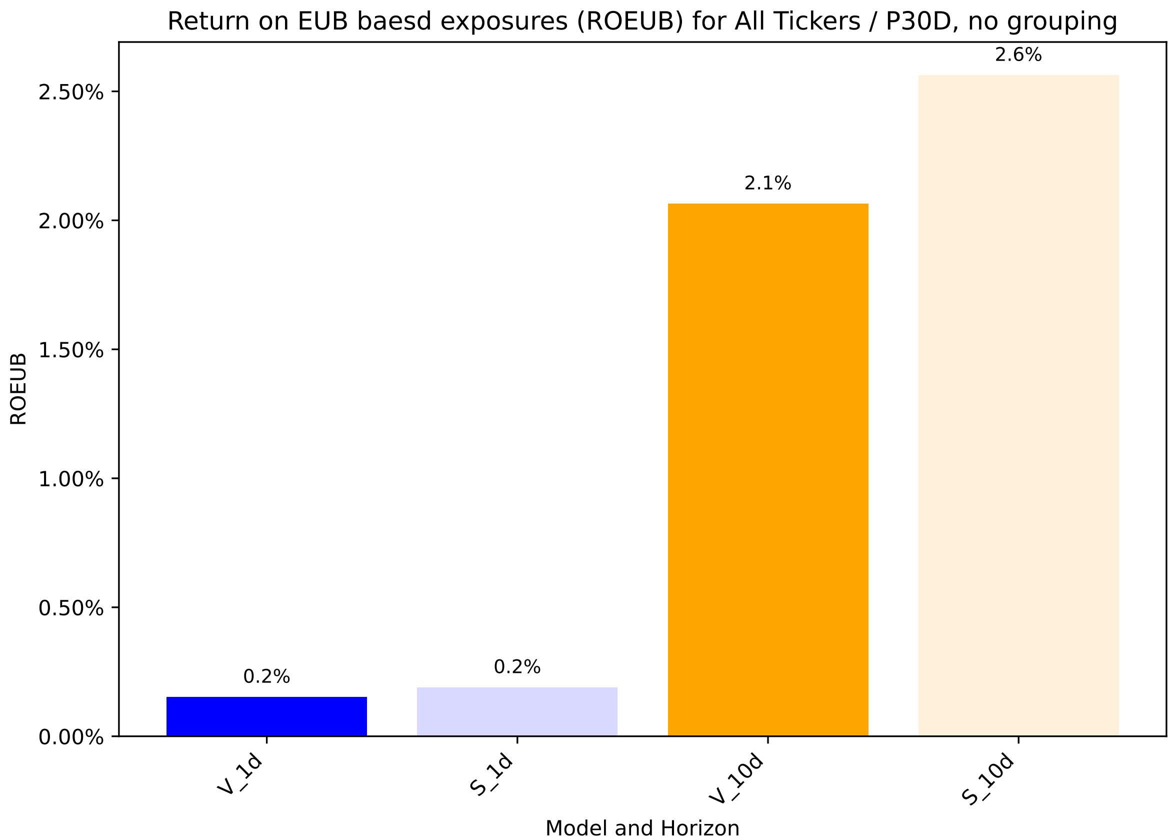
	1d	10d	21d
intercept	0.01%	-0.02%	-0.09%
intercept_p_value	64.25%	68.46%	28.00%
slope	96.48%	93.89%	98.13%
slope_p_value	0.00%	0.00%	0.00%

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

	1d	10d	21d
intercept	0.01%	0.01%	-0.18%
intercept_p_value	45.36%	23.96%	22.80%
slope	99.60%	97.96%	104.49%
slope_p_value	0.00%	0.01%	0.00%

Prior 30 Calendar Days (P30D)

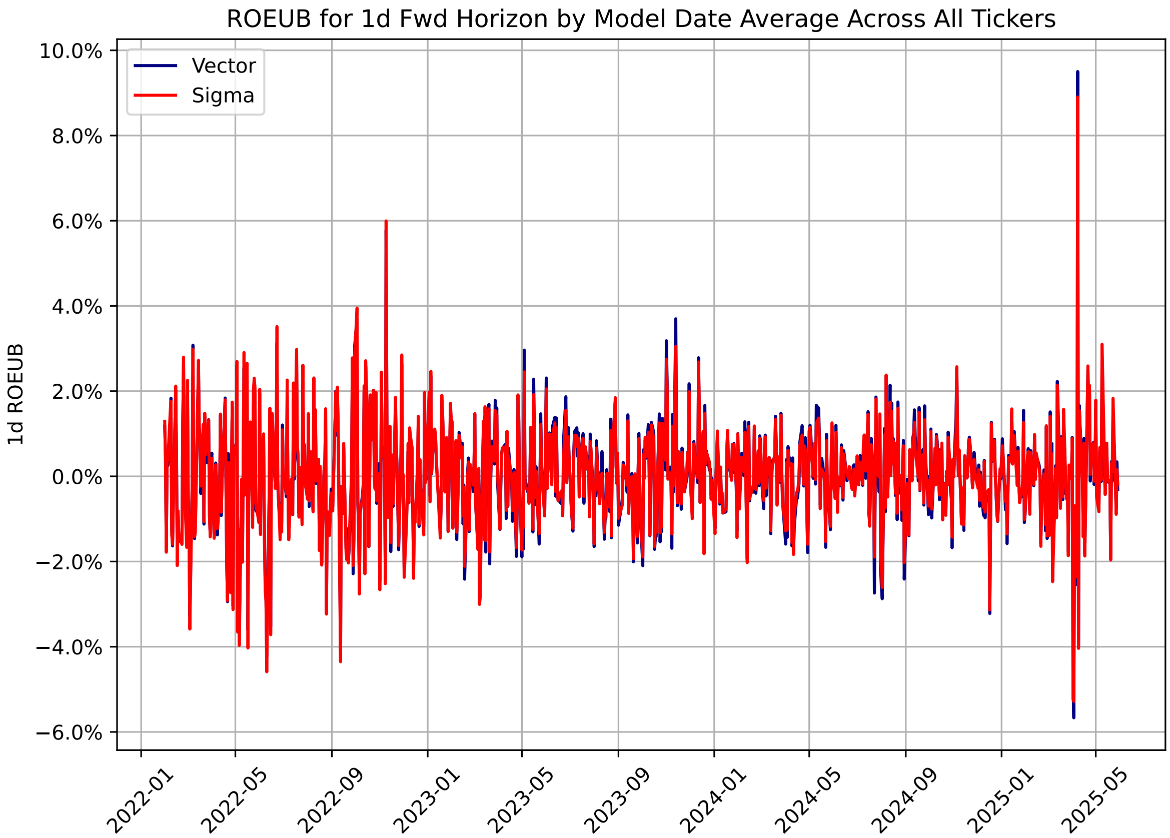
Period examined: All model dates from 2025-05-02 through 2025-05-29



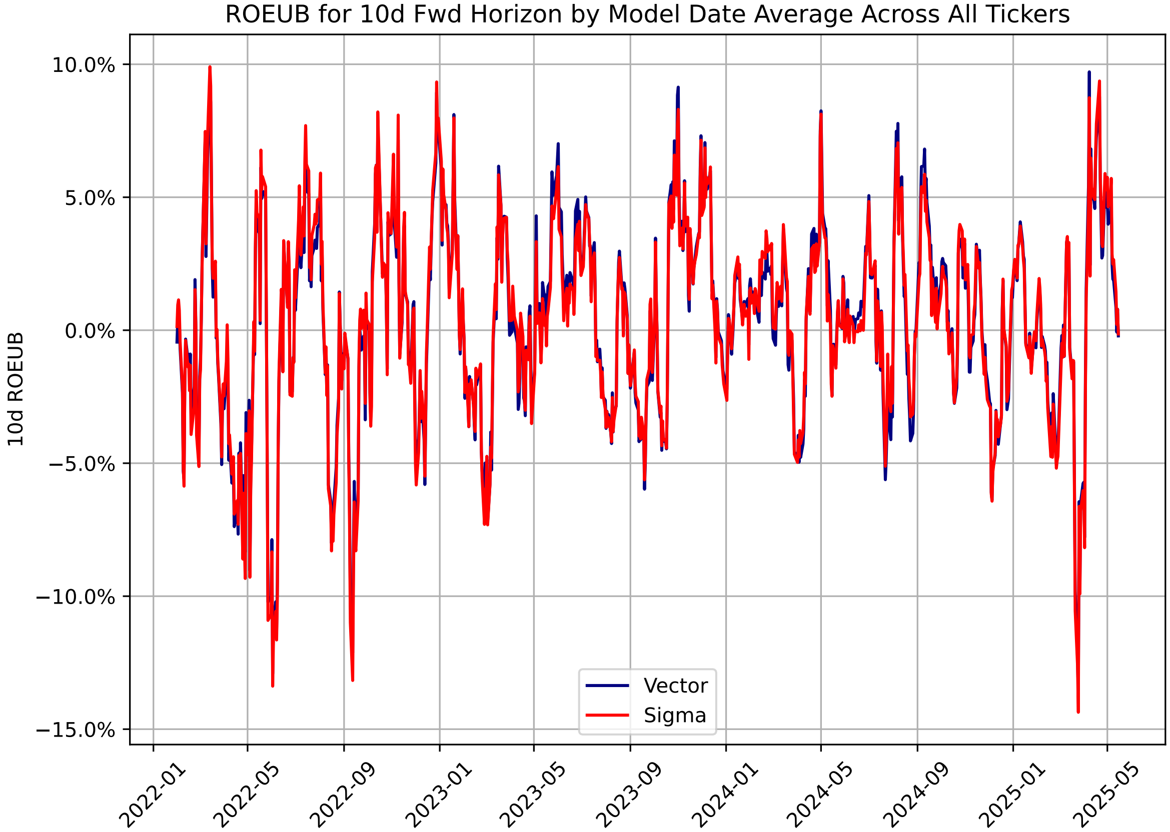

```
Alpha (intercept) and Beta (slope) of Vector Model ROEUB regressed upon
corresponding horizon actual ticker-model date returns:
                       1d      10d
intercept           -0.02%  -0.32%
intercept_p_value   42.18%   0.11%
slope               92.93%  92.91%
slope_p_value        0.00%   0.00%

Same as above, but averaged by Ticker across Model Dates:
                       1d      10d
intercept            0.00%   0.05%
intercept_p_value   45.41%  40.39%
slope               92.81%  91.64%
slope_p_value        0.00%   0.03%
```

ROEUB by Model Date Detail

1d Horizon

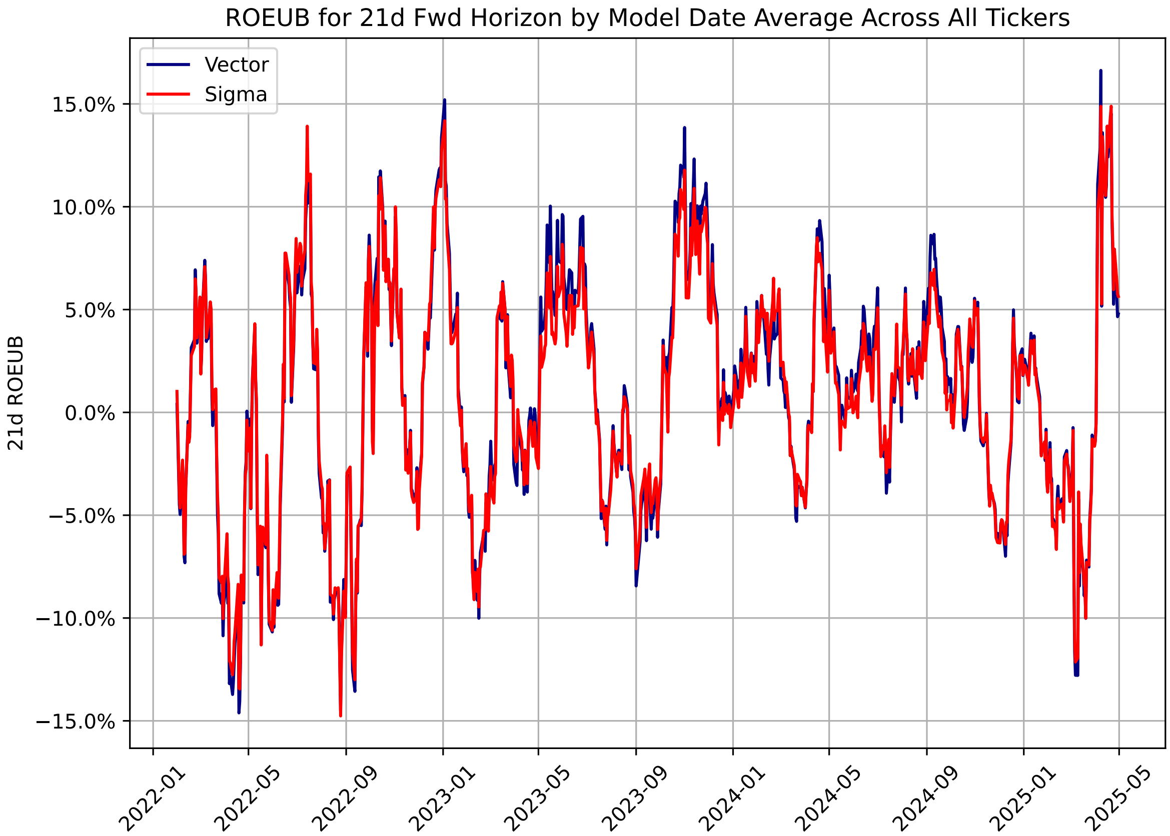


10d Horizon



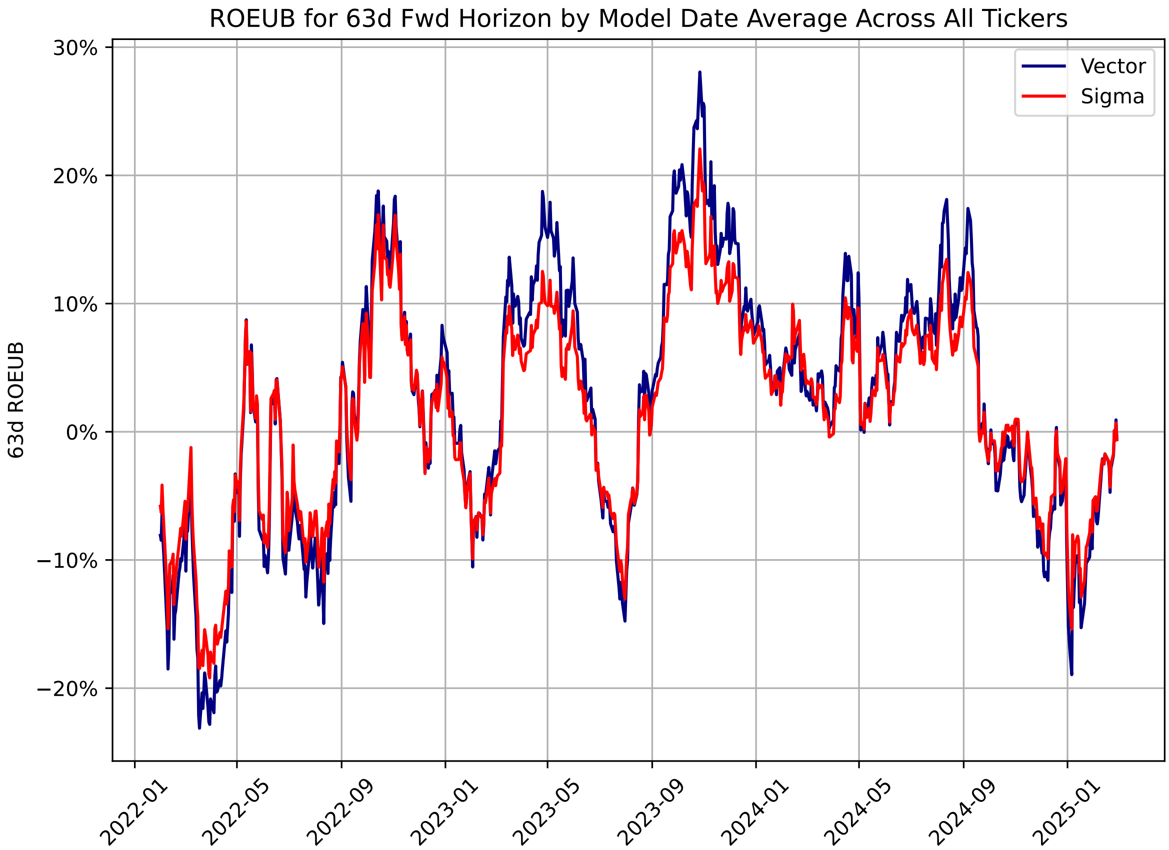
ROEUB for 10d Fwd Horizon by Model Date Average Across All Tickers
10d ROEUB
10.0%
5.0%
0.0%
−5.0%
−10.0%
−15.0%
2022-01
2022-05
2022-09
2023-01
2023-05
2023-09
2024-01
2024-05
2024-09
2025-01
2025-05
Vector
Sigma

21d Horizon



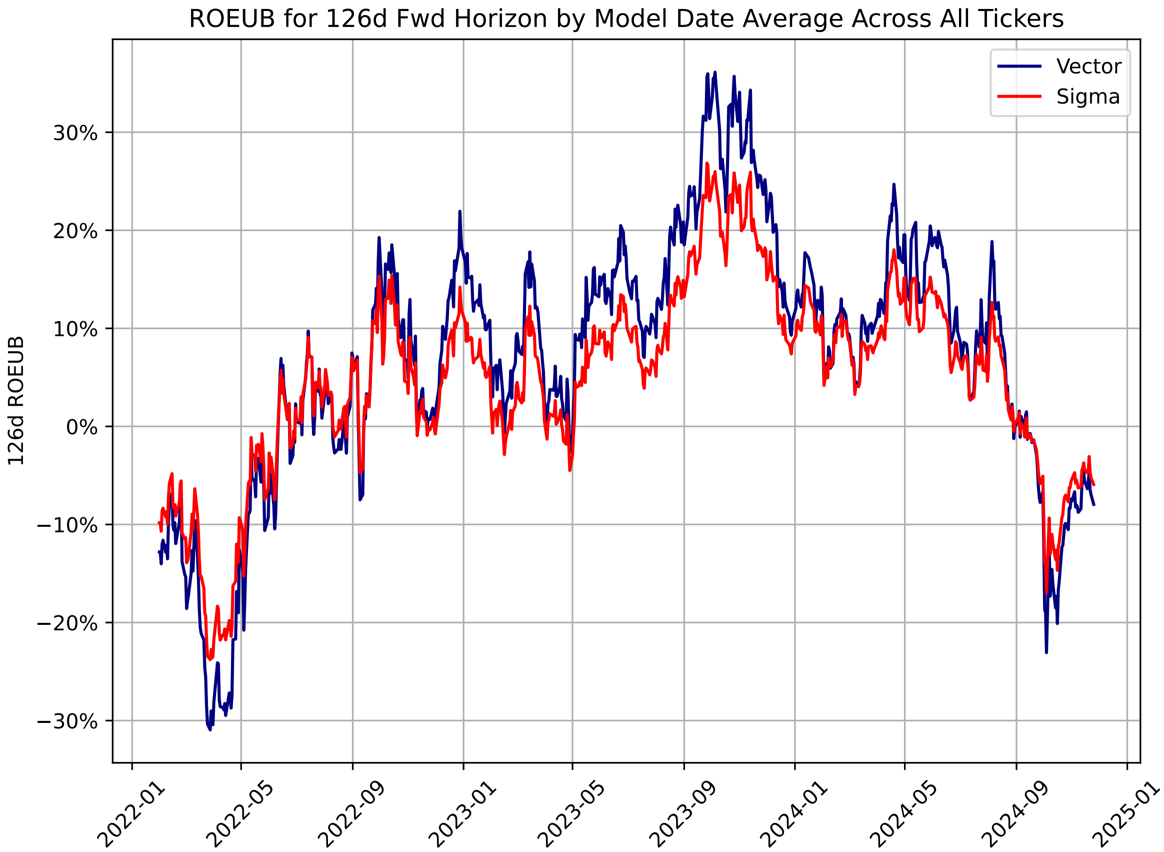
ROEUB for 21d Fwd Horizon by Model Date Average Across All Tickers
Vector
Sigma
21d ROEUB
15.0%
10.0%
5.0%
0.0%
−5.0%
−10.0%
−15.0%
2022-01
2022-05
2022-09
2023-01
2023-05
2023-09
2024-01
2024-05
2024-09
2025-01
2025-05

63d Horizon

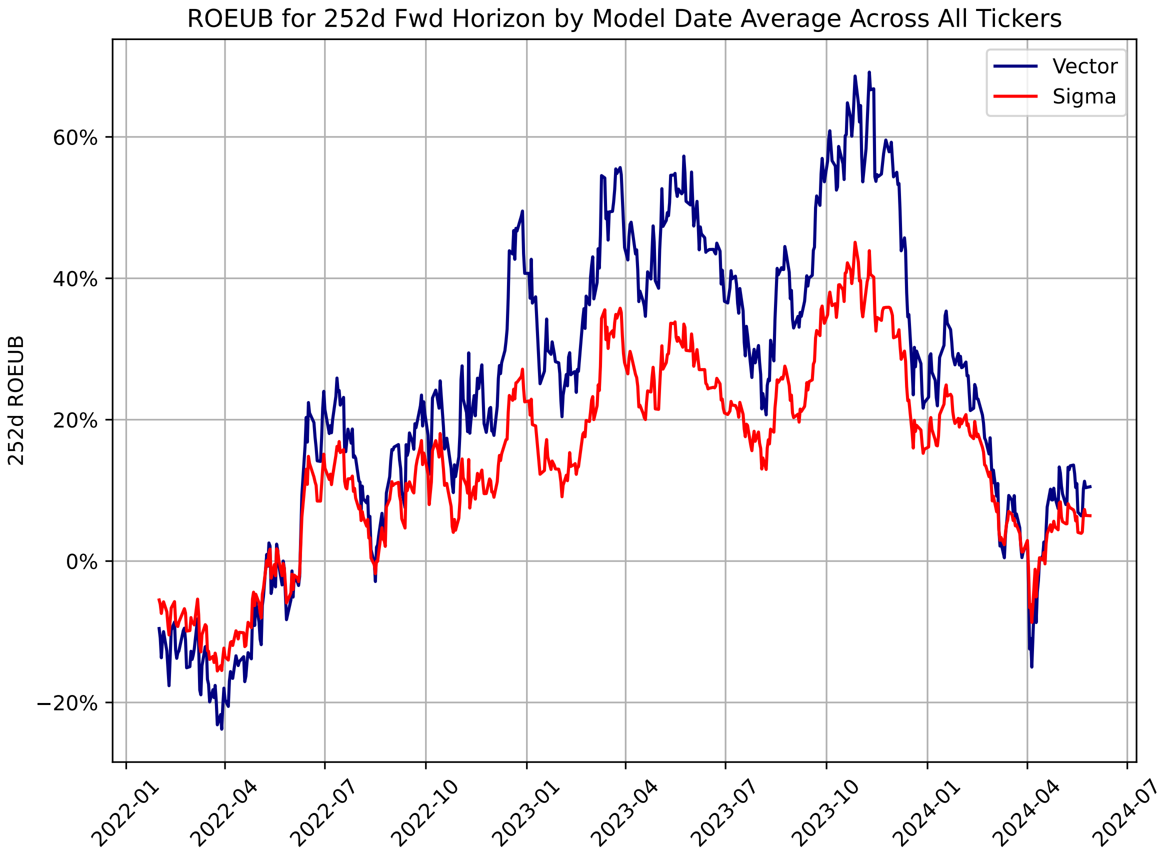


ROEUB for 63d Fwd Horizon by Model Date Average Across All Tickers
30%
20%
10%
0%
−10%
−20%
63d ROEUB
2022-01
2022-05
2022-09
2023-01
2023-05
2023-09
2024-01
2024-05
2024-09
2025-01
Vector
Sigma

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 2025-05-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
1.0	TSLA	0.36%	MSTR	0.47%
1.0	B	0.35%	VST	0.29%
1.0	GBTC	0.29%	NVDA	0.27%
1.0	CCL	0.28%	GME	0.23%
1.0	NVDA	0.28%	GBTC	0.22%
1.0	AVGO	0.27%	AVGO	0.21%
1.0	VST	0.25%	PWR	0.17%
1.0	GE	0.23%	NFLX	0.17%
1.0	X	0.22%	X	0.17%
1.0	LLY	0.2%	GE	0.17%
1.0	MSTR	0.19%	LLY	0.15%
1.0	MSFT	0.17%	THC	0.14%
1.0	PWR	0.15%	CAH	0.14%
1.0	TDG	0.15%	TRGP	0.14%
1.0	TRGP	0.15%	META	0.13%
1.0	THC	0.14%	TEVA	0.12%
1.0	AMC	0.13%	TDG	0.12%
1.0	GME	0.13%	ETRN	0.12%
1.0	PHM	0.12%	IRM	0.11%
1.0	VNO	0.12%	ORCL	0.11%
1.0	CAH	0.12%	TMUS	0.11%
1.0	COST	0.12%	GWW	0.11%
1.0	CMG	0.11%	ISRG	0.1%
1.0	IRM	0.11%	CDNS	0.1%
1.0	CDNS	0.11%	ACGL	0.1%
1.0	WYNN	0.11%	ORLY	0.1%
1.0	AMD	0.1%	PHM	0.1%
1.0	JPM	0.1%	COST	0.1%
1.0	ORLY	0.1%	TSLA	0.09%
1.0	MOS	0.09%	CCL	0.09%

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 2025-05-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
10.0	NVDA	4.02%	MSTR	4.85%
10.0	TSLA	3.77%	B	4.18%
10.0	B	3.71%	VST	2.9%
10.0	VST	3.0%	NVDA	2.66%
10.0	MSTR	2.82%	GBTC	2.14%
10.0	AVGO	2.77%	AVGO	2.03%
10.0	GBTC	2.55%	GME	1.99%
10.0	CCL	2.45%	NFLX	1.77%
10.0	LLY	2.14%	PWR	1.67%
10.0	GE	1.76%	GE	1.6%
10.0	MSFT	1.62%	LLY	1.55%
10.0	PWR	1.59%	META	1.54%
10.0	GME	1.44%	X	1.43%
10.0	CAH	1.39%	CAH	1.43%
10.0	X	1.34%	ETRN	1.41%
10.0	CDNS	1.34%	TRGP	1.38%
10.0	ETRN	1.32%	THC	1.33%
10.0	AZO	1.26%	TEVA	1.32%
10.0	TDG	1.24%	TDG	1.14%
10.0	THC	1.14%	IRM	1.12%
10.0	HLT	1.09%	CDNS	1.12%
10.0	JPM	1.09%	GWW	1.11%
10.0	CMG	1.06%	TSLA	1.06%
10.0	COST	1.05%	ORCL	1.04%
10.0	GS	1.05%	PHM	1.03%
10.0	ORLY	1.01%	ISRG	1.01%
10.0	TRGP	0.98%	ORLY	1.0%
10.0	QQQ	0.93%	TMUS	0.94%
10.0	ACGL	0.89%	COST	0.94%
10.0	IRM	0.89%	ACGL	0.93%

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 2025-05-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
21.0	NVDA	9.37%	MSTR	10.93%
21.0	TSLA	8.92%	VST	6.17%
21.0	MSTR	7.54%	NVDA	5.64%
21.0	VST	6.85%	GBTC	4.6%
21.0	GBTC	6.29%	AVGO	4.17%
21.0	CCL	5.88%	NFLX	3.86%
21.0	AVGO	5.65%	PWR	3.53%
21.0	LLY	4.31%	ETRN	3.5%
21.0	PWR	4.04%	META	3.43%
21.0	GE	3.92%	GE	3.37%
21.0	ETRN	3.92%	LLY	3.31%
21.0	AZO	3.42%	GME	3.14%
21.0	MSFT	3.35%	CAH	2.99%
21.0	CAH	3.26%	TRGP	2.89%
21.0	CDNS	3.18%	TEVA	2.85%
21.0	X	2.8%	X	2.81%
21.0	TDG	2.74%	THC	2.7%
21.0	ORLY	2.63%	GWW	2.4%
21.0	COST	2.62%	IRM	2.36%
21.0	DHI	2.54%	TSLA	2.36%
21.0	HLT	2.47%	CDNS	2.35%
21.0	JPM	2.42%	TDG	2.34%
21.0	PHM	2.42%	PHM	2.29%
21.0	THC	2.28%	ORCL	2.26%
21.0	QQQ	2.26%	ISRG	2.19%
21.0	CMG	2.22%	ORLY	2.09%
21.0	GWW	2.22%	COST	2.04%
21.0	TRGP	2.21%	ACGL	2.0%
21.0	CPRT	2.19%	TMUS	1.96%
21.0	GS	2.14%	CPRT	1.94%

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 2025-05-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
63.0	MSTR	33.98%	MSTR	30.76%
63.0	NVDA	30.16%	VST	18.67%
63.0	VST	20.0%	NVDA	18.34%
63.0	GBTC	19.8%	GBTC	14.7%
63.0	CCL	17.88%	NFLX	12.13%
63.0	TSLA	16.57%	META	11.72%
63.0	GE	14.46%	AVGO	11.61%
63.0	AVGO	14.25%	ETRN	10.28%
63.0	LLY	13.07%	LLY	10.14%
63.0	DHI	12.53%	GE	10.08%
63.0	PWR	12.02%	TRGP	8.84%
63.0	AZO	10.39%	PWR	8.34%
63.0	NFLX	9.68%	CAH	8.18%
63.0	PHM	9.67%	PHM	8.15%
63.0	ETRN	9.47%	THC	7.17%
63.0	CAH	9.39%	TDG	7.0%
63.0	TDG	9.29%	TEVA	6.77%
63.0	MSFT	8.85%	GWW	6.61%
63.0	ORLY	8.81%	ISRG	6.46%
63.0	COST	8.51%	ACGL	6.31%
63.0	TRGP	8.49%	ORLY	6.19%
63.0	CPRT	8.19%	TMUS	6.17%
63.0	ACGL	8.12%	ORCL	6.17%
63.0	CDNS	7.76%	CPRT	5.79%
63.0	THC	7.63%	IRM	5.7%
63.0	GWW	7.61%	CDNS	5.67%
63.0	JPM	7.25%	MSI	5.56%
63.0	X	7.12%	CMG	5.47%
63.0	QQQ	7.1%	GILD	5.45%
63.0	CMG	7.08%	X	5.36%

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 2025-05-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
126.0	NVDA	77.43%	MSTR	75.99%
126.0	MSTR	66.68%	NVDA	50.54%
126.0	GBTC	57.4%	VST	44.6%
126.0	VST	52.18%	GBTC	41.36%
126.0	NFLX	38.86%	META	30.18%
126.0	CCL	37.02%	NFLX	29.96%
126.0	TSLA	36.13%	AVGO	27.93%
126.0	GE	35.9%	GE	24.67%
126.0	AVGO	32.57%	LLY	21.72%
126.0	PHM	29.29%	TRGP	21.33%
126.0	DHI	29.02%	PHM	20.21%
126.0	COST	25.21%	THC	18.94%
126.0	AMZN	24.88%	ETRN	18.49%
126.0	LLY	24.71%	PWR	18.48%
126.0	ISRG	24.27%	CAH	17.11%
126.0	PWR	24.1%	ISRG	16.57%
126.0	AZO	23.59%	TEVA	16.51%
126.0	VNO	23.14%	TDG	16.26%
126.0	THC	22.2%	ORCL	16.03%
126.0	AMAT	22.13%	GWW	15.46%
126.0	QQQ	22.12%	ACGL	14.63%
126.0	CPRT	21.41%	IRM	14.54%
126.0	ORCL	21.4%	CCL	14.21%
126.0	MU	21.2%	CMG	13.84%
126.0	TDG	20.97%	MSI	13.83%
126.0	ORLY	20.85%	CPRT	13.68%
126.0	MSFT	20.77%	ORLY	13.42%
126.0	TRGP	20.71%	JPM	13.35%
126.0	CAH	20.32%	DHI	13.15%
126.0	JPM	20.09%	COST	12.92%

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 2025-05-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
252.0	NVDA	299.73%	MSTR	229.44%
252.0	MSTR	226.34%	NVDA	151.19%
252.0	GBTC	199.72%	VST	127.47%
252.0	NFLX	130.31%	GBTC	123.01%
252.0	VST	115.94%	META	82.56%
252.0	GE	111.81%	AVGO	73.31%
252.0	AVGO	103.41%	NFLX	67.91%
252.0	LLY	98.82%	GE	61.52%
252.0	PWR	98.49%	PHM	58.63%
252.0	PHM	97.35%	LLY	56.85%
252.0	DHI	91.1%	THC	53.06%
252.0	CCL	90.21%	TRGP	50.73%
252.0	AMZN	89.64%	PWR	42.43%
252.0	CDNS	88.46%	TDG	41.72%
252.0	META	84.05%	TEVA	40.35%
252.0	COST	80.5%	ISRG	40.16%
252.0	ISRG	75.01%	IRM	38.04%
252.0	LEN	70.16%	ORCL	37.69%
252.0	QQQ	68.98%	DHI	36.88%
252.0	THC	68.13%	ACGL	36.16%
252.0	ORLY	66.62%	ETRN	35.78%
252.0	AMAT	66.59%	CCL	35.77%
252.0	MSFT	65.67%	GWW	35.03%
252.0	ACGL	64.53%	CMG	34.46%
252.0	VNO	61.74%	CPRT	32.34%
252.0	AMD	61.25%	LEN	32.07%
252.0	TDG	58.68%	COST	31.98%
252.0	CMG	56.34%	CAH	31.6%
252.0	CPRT	55.53%	MSI	31.23%
252.0	MU	53.82%	AMAT	31.14%

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 2024-06-03 through 2025-05-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
1.0	TSLA	0.62%	MSTR	0.52%
1.0	AVGO	0.56%	TSLA	0.38%
1.0	CCL	0.46%	LUMN	0.35%
1.0	LUMN	0.44%	VST	0.33%
1.0	GT	0.35%	AVGO	0.32%
1.0	VNO	0.35%	NFLX	0.28%
1.0	B	0.35%	GILD	0.24%
1.0	VST	0.35%	GME	0.21%
1.0	T	0.32%	VNO	0.21%
1.0	MOS	0.31%	CCL	0.2%
1.0	TRGP	0.26%	GE	0.19%
1.0	GE	0.22%	X	0.19%
1.0	MS	0.21%	EXPE	0.19%
1.0	BMY	0.21%	CAH	0.19%
1.0	NFLX	0.2%	T	0.19%
1.0	AAP	0.2%	GBTC	0.18%
1.0	GBTC	0.19%	ORCL	0.17%
1.0	PRGO	0.19%	CHTR	0.16%
1.0	LVS	0.19%	ORLY	0.15%
1.0	COST	0.19%	TMUS	0.15%
1.0	CAH	0.19%	META	0.15%
1.0	WYNN	0.18%	ISRG	0.15%
1.0	INTU	0.16%	TRGP	0.15%
1.0	NVDA	0.16%	GLD	0.14%
1.0	TDG	0.16%	INTU	0.14%
1.0	GILD	0.15%	GS	0.14%
1.0	NEM	0.14%	NVDA	0.13%
1.0	JPM	0.14%	MS	0.13%
1.0	VICI	0.14%	CSCO	0.13%
1.0	ORLY	0.12%	THC	0.13%

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 2024-06-03 through 2025-05-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
10.0	LUMN	8.2%	MSTR	5.41%
10.0	TSLA	5.44%	LUMN	5.05%
10.0	VST	5.06%	B	4.18%
10.0	AVGO	4.26%	TSLA	3.96%
10.0	MSTR	3.77%	VST	3.48%
10.0	B	3.71%	NFLX	2.83%
10.0	CCL	3.54%	AVGO	2.68%
10.0	T	2.99%	GILD	2.31%
10.0	MOS	2.81%	VNO	2.12%
10.0	NFLX	2.78%	CAH	1.95%
10.0	VNO	2.38%	CHTR	1.93%
10.0	CAH	2.37%	CCL	1.92%
10.0	GT	2.09%	GBTC	1.9%
10.0	CSCO	2.05%	T	1.88%
10.0	COST	1.91%	GE	1.88%
10.0	NVDA	1.85%	EXPE	1.64%
10.0	GLD	1.65%	TRGP	1.57%
10.0	CYH	1.64%	GLD	1.49%
10.0	JPM	1.57%	ORLY	1.46%
10.0	BMY	1.55%	GS	1.45%
10.0	GILD	1.53%	MS	1.45%
10.0	HLT	1.49%	CSCO	1.44%
10.0	GWW	1.47%	TMUS	1.42%
10.0	LVS	1.46%	JPM	1.38%
10.0	TRGP	1.41%	HSBC	1.38%
10.0	GE	1.37%	CYH	1.36%
10.0	AZO	1.37%	AZO	1.34%
10.0	TMUS	1.37%	X	1.34%
10.0	MS	1.36%	META	1.34%
10.0	GBTC	1.31%	ISRG	1.32%

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 2024-06-03 through 2025-05-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
21.0	LUMN	18.07%	MSTR	12.63%
21.0	MSTR	12.02%	LUMN	11.92%
21.0	TSLA	11.7%	TSLA	7.74%
21.0	VST	10.84%	VST	7.34%
21.0	AVGO	7.62%	NFLX	5.8%
21.0	T	6.86%	AVGO	4.61%
21.0	NFLX	6.33%	VNO	4.46%
21.0	CAH	5.52%	GILD	4.45%
21.0	CCL	5.37%	GBTC	4.22%
21.0	NVDA	5.14%	CAH	4.05%
21.0	COST	4.82%	T	3.97%
21.0	MOS	4.65%	CHTR	3.9%
21.0	VNO	4.54%	GE	3.57%
21.0	GLD	4.33%	CCL	3.52%
21.0	CSCO	4.13%	GLD	3.26%
21.0	BMY	3.94%	TMUS	3.25%
21.0	GWW	3.59%	EXPE	3.24%
21.0	HLT	3.33%	CYH	3.07%
21.0	CYH	3.22%	TRGP	3.05%
21.0	GILD	3.2%	MS	2.9%
21.0	JPM	3.1%	GS	2.86%
21.0	WFC	3.1%	HSBC	2.81%
21.0	TRGP	3.07%	ORLY	2.81%
21.0	AZO	3.05%	CSCO	2.81%
21.0	MS	3.01%	JPM	2.79%
21.0	GE	3.0%	NEM	2.73%
21.0	HSBC	2.97%	WFC	2.73%
21.0	GBTC	2.92%	PWR	2.65%
21.0	LVS	2.86%	META	2.63%
21.0	GT	2.82%	ISRG	2.6%

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 2024-06-03 through 2025-05-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
63.0	MSTR	72.73%	MSTR	46.67%
63.0	VST	42.25%	LUMN	25.22%
63.0	LUMN	40.6%	VST	22.51%
63.0	T	24.74%	TSLA	17.74%
63.0	CCL	23.24%	NFLX	16.68%
63.0	NFLX	20.71%	GILD	15.17%
63.0	TSLA	18.48%	GBTC	14.79%
63.0	CAH	16.27%	T	13.35%
63.0	CSCO	15.77%	VNO	11.85%
63.0	GLD	15.69%	TMUS	11.8%
63.0	TRGP	15.6%	TRGP	11.77%
63.0	BMY	14.72%	CAH	11.38%
63.0	GBTC	13.44%	EXPE	10.53%
63.0	VNO	13.28%	CCL	10.42%
63.0	GILD	12.82%	GLD	9.84%
63.0	AVGO	11.51%	HSBC	9.58%
63.0	HSBC	11.41%	AVGO	8.92%
63.0	COST	10.75%	ORLY	8.86%
63.0	GWW	10.68%	CSCO	8.73%
63.0	WFC	10.43%	WFC	8.39%
63.0	TMUS	10.4%	GE	7.96%
63.0	AZO	10.34%	AZO	7.27%
63.0	MNST	10.33%	MS	7.1%
63.0	ORLY	9.61%	BMY	7.1%
63.0	JPM	9.08%	MNST	6.67%
63.0	GOOGL	7.81%	JPM	6.31%
63.0	AMZN	7.42%	META	6.22%
63.0	SBUX	7.04%	GS	5.85%
63.0	MS	6.97%	CHTR	5.73%
63.0	CPRT	6.78%	CVS	5.53%

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 2024-06-03 through 2025-05-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
126.0	VST	113.58%	MSTR	101.1%
126.0	MSTR	93.99%	VST	51.44%
126.0	TSLA	79.78%	TSLA	47.03%
126.0	CCL	58.49%	NFLX	41.0%
126.0	NFLX	56.61%	GBTC	39.07%
126.0	T	47.06%	GILD	30.43%
126.0	GBTC	46.34%	TRGP	27.94%
126.0	CSCO	39.68%	CCL	27.04%
126.0	LUMN	38.32%	AVGO	26.61%
126.0	TRGP	36.58%	EXPE	26.58%
126.0	CAH	36.32%	T	25.56%
126.0	AVGO	34.42%	LUMN	23.18%
126.0	GILD	33.22%	TMUS	22.99%
126.0	BMY	31.41%	WFC	22.88%
126.0	VNO	29.09%	CAH	22.49%
126.0	COST	28.8%	HSBC	22.32%
126.0	WFC	28.6%	VNO	21.33%
126.0	JPM	28.36%	CSCO	19.91%
126.0	AZO	27.9%	MS	18.66%
126.0	HSBC	26.95%	ORLY	17.83%
126.0	AMZN	25.67%	GLD	17.14%
126.0	ORLY	24.35%	JPM	17.02%
126.0	GLD	23.6%	GS	16.89%
126.0	MS	22.94%	META	16.72%
126.0	ISRG	19.95%	BMY	15.54%
126.0	CPRT	19.18%	GME	15.31%
126.0	GS	18.18%	AZO	14.73%
126.0	HLT	17.72%	ISRG	14.38%
126.0	MNST	17.09%	VFC	14.01%
126.0	TMUS	16.44%	GE	13.6%

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 2025-03-03 through 2025-05-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
1.0	MOS	1.6%	MSTR	0.82%
1.0	VST	0.99%	AAP	0.75%
1.0	TSLA	0.83%	MOS	0.74%
1.0	NVDA	0.72%	X	0.61%
1.0	CYH	0.66%	THC	0.55%
1.0	AAP	0.66%	PWR	0.55%
1.0	ELAN	0.62%	VST	0.53%
1.0	LW	0.55%	AVGO	0.49%
1.0	WYNN	0.47%	GT	0.49%
1.0	AMD	0.47%	TSLA	0.47%
1.0	MSFT	0.45%	CYH	0.47%
1.0	INTU	0.41%	GME	0.45%
1.0	PWR	0.41%	INTU	0.4%
1.0	GBTC	0.4%	NEM	0.39%
1.0	AVGO	0.39%	ELAN	0.39%
1.0	CAH	0.37%	NFLX	0.38%
1.0	BA	0.37%	BA	0.38%
1.0	GE	0.37%	GBTC	0.36%
1.0	CDNS	0.37%	GE	0.36%
1.0	B	0.35%	NVDA	0.35%
1.0	THC	0.35%	HCA	0.35%
1.0	NEM	0.33%	AMC	0.34%
1.0	GT	0.33%	CDNS	0.33%
1.0	TDG	0.32%	CAH	0.3%
1.0	MSTR	0.31%	CSTM	0.3%
1.0	NFLX	0.31%	MSFT	0.3%
1.0	HCA	0.3%	AMD	0.29%
1.0	MNST	0.29%	BUD	0.25%
1.0	X	0.28%	MNST	0.25%
1.0	IRM	0.27%	WDC	0.24%

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 2025-03-03 through 2025-05-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
10.0	MOS	17.11%	MSTR	7.98%
10.0	VST	12.25%	CYH	7.91%
10.0	CYH	7.4%	MOS	7.69%
10.0	NVDA	7.32%	TSLA	6.89%
10.0	BA	7.23%	PWR	6.47%
10.0	CDNS	6.02%	VST	6.26%
10.0	AAP	5.54%	THC	6.08%
10.0	TSLA	5.33%	BA	5.58%
10.0	NFLX	5.04%	NFLX	5.37%
10.0	GT	4.85%	GME	5.37%
10.0	X	4.82%	ELAN	5.18%
10.0	GBTC	4.52%	CDNS	5.14%
10.0	PWR	4.4%	X	4.83%
10.0	CSTM	4.35%	GBTC	4.74%
10.0	CAH	4.19%	AVGO	4.69%
10.0	THC	4.15%	AAP	4.62%
10.0	MSFT	3.93%	WDC	4.29%
10.0	AVGO	3.92%	B	4.18%
10.0	GLD	3.75%	GE	4.1%
10.0	B	3.71%	GT	3.95%
10.0	AMD	3.66%	CAH	3.85%
10.0	GE	3.28%	NVDA	3.77%
10.0	MSTR	3.27%	NEM	3.72%
10.0	WYNN	3.22%	HCA	3.45%
10.0	GWW	3.12%	MSFT	3.37%
10.0	NEM	3.09%	INTU	3.24%
10.0	ELAN	3.01%	AMD	3.2%
10.0	IRM	2.8%	CCL	2.79%
10.0	HLT	2.77%	IRM	2.77%
10.0	FIS	2.77%	MNST	2.69%

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 2025-03-03 through 2025-05-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
21.0	MOS	31.06%	CYH	17.82%
21.0	VST	23.88%	MSTR	17.78%
21.0	NVDA	16.01%	MOS	14.72%
21.0	GT	14.86%	PWR	14.7%
21.0	BA	14.24%	TSLA	13.66%
21.0	NFLX	13.79%	THC	12.97%
21.0	CDNS	13.59%	VST	12.53%
21.0	MSFT	12.61%	NFLX	12.0%
21.0	CYH	11.78%	CDNS	11.67%
21.0	GBTC	10.57%	AVGO	10.89%
21.0	PWR	10.39%	GBTC	10.58%
21.0	THC	10.24%	ELAN	10.53%
21.0	CSTM	10.2%	GME	10.49%
21.0	MSTR	9.8%	BA	10.23%
21.0	TSLA	9.71%	GT	10.14%
21.0	CAH	9.66%	WDC	8.6%
21.0	AVGO	9.34%	MSFT	8.13%
21.0	GLD	9.12%	CAH	8.06%
21.0	HLT	8.41%	NEM	7.08%
21.0	COST	7.52%	GE	6.97%
21.0	IRM	7.08%	IRM	6.51%
21.0	AMD	7.0%	NVDA	6.47%
21.0	WYNN	6.93%	HCA	6.3%
21.0	GWW	6.62%	CSTM	6.16%
21.0	ELAN	6.36%	CHTR	6.16%
21.0	GE	6.12%	X	6.16%
21.0	NEM	5.75%	INTU	5.9%
21.0	MNST	5.51%	CPRT	5.39%
21.0	LVS	5.42%	GLD	4.99%
21.0	CPRT	5.39%	TEVA	4.9%

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 2025-05-02 through 2025-05-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
1.0	AAP	2.88%	AAP	2.61%
1.0	CYH	2.48%	ELAN	1.87%
1.0	ELAN	1.7%	CYH	1.79%
1.0	MOS	1.66%	AMC	1.73%
1.0	LVS	1.41%	X	1.18%
1.0	BIIB	1.2%	TSLA	1.04%
1.0	LW	1.15%	INTU	0.97%
1.0	GE	1.01%	CCL	0.95%
1.0	CCL	0.98%	AVGO	0.93%
1.0	AMD	0.97%	MOS	0.91%
1.0	NWL	0.94%	NVDA	0.9%
1.0	BA	0.82%	GE	0.9%
1.0	INTU	0.7%	MU	0.86%
1.0	LUMN	0.7%	VST	0.8%
1.0	NVDA	0.62%	WDC	0.78%
1.0	THC	0.62%	THC	0.71%
1.0	GBTC	0.58%	UAA	0.64%
1.0	AMC	0.57%	AMD	0.63%
1.0	X	0.56%	BA	0.6%
1.0	WDC	0.56%	TXN	0.59%
1.0	VST	0.54%	GME	0.53%
1.0	AVGO	0.53%	WYNN	0.52%
1.0	CSTM	0.52%	ORCL	0.51%
1.0	ORCL	0.43%	HCA	0.49%
1.0	WYNN	0.42%	CSTM	0.49%
1.0	PRGO	0.4%	ADBE	0.46%
1.0	AMZN	0.37%	META	0.45%
1.0	HLT	0.36%	LW	0.44%
1.0	B	0.35%	LVS	0.43%
1.0	GT	0.34%	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 2025-05-02 through 2025-05-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
10.0	AAP	37.33%	AAP	32.99%
10.0	MOS	21.96%	AMC	20.37%
10.0	CYH	18.46%	CYH	16.7%
10.0	NVDA	17.85%	TSLA	14.9%
10.0	X	14.91%	ELAN	13.57%
10.0	BIIB	10.62%	X	12.81%
10.0	CCL	9.91%	NVDA	11.23%
10.0	GE	8.82%	UAA	11.14%
10.0	ELAN	8.73%	MU	10.79%
10.0	GBTC	8.69%	WDC	10.46%
10.0	CSTM	8.2%	GME	10.26%
10.0	AMD	7.91%	MOS	10.17%
10.0	THC	7.67%	GE	10.09%
10.0	UAA	7.54%	CCL	9.87%
10.0	NWL	7.41%	AVGO	9.45%
10.0	INTU	7.07%	VST	9.43%
10.0	VST	6.99%	INTU	8.4%
10.0	AMC	6.78%	THC	7.83%
10.0	BA	6.64%	GILD	7.6%
10.0	WDC	6.17%	AMD	7.46%
10.0	TSLA	5.45%	GBTC	7.31%
10.0	CSCO	5.21%	ADBE	6.66%
10.0	AA	4.94%	AA	6.57%
10.0	LVS	4.85%	TXN	6.54%
10.0	GS	4.71%	BIIB	6.34%
10.0	GSK	4.7%	GOOGL	6.3%
10.0	WYNN	4.65%	HCA	5.8%
10.0	MU	4.59%	BA	5.47%
10.0	ADBE	4.46%	CSTM	5.18%
10.0	LW	4.22%	GS	4.93%

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 2025-05-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
1.0	SIVBQ	-0.53%	SIVBQ	-0.78%
1.0	LUMN	-0.5%	SBNY	-0.45%
1.0	IEP	-0.35%	FRCB	-0.23%
1.0	SBNY	-0.24%	IEP	-0.18%
1.0	CZR	-0.23%	VFC	-0.13%
1.0	NWL	-0.21%	AMC	-0.13%
1.0	GNRC	-0.14%	AAP	-0.13%
1.0	BIIB	-0.1%	NWL	-0.12%
1.0	AA	-0.1%	BHC	-0.11%
1.0	FRCB	-0.1%	LUMN	-0.1%
1.0	UAA	-0.09%	B	-0.08%
1.0	UNH	-0.09%	CLF	-0.07%
1.0	BHC	-0.07%	CZR	-0.07%
1.0	BXP	-0.07%	UAA	-0.07%
1.0	CLF	-0.06%	INTC	-0.06%
1.0	TLT	-0.06%	TLT	-0.05%
1.0	VFC	-0.06%	BALL	-0.05%
1.0	AAP	-0.06%	BIIB	-0.04%
1.0	BALL	-0.06%	LNC	-0.04%
1.0	RIO	-0.05%	CVS	-0.04%
1.0	CHTR	-0.04%	GNRC	-0.04%
1.0	PEP	-0.04%	BXP	-0.04%
1.0	BHP	-0.04%	UNH	-0.03%
1.0	LNC	-0.04%	ELAN	-0.03%
1.0	CMA	-0.04%	TFC	-0.03%
1.0	GSK	-0.04%	CMCSA	-0.03%
1.0	ZION	-0.04%	AA	-0.03%
1.0	NAVI	-0.04%	PEP	-0.03%
1.0	VZ	-0.03%	KHC	-0.03%
1.0	CTLT	-0.03%	GSK	-0.03%

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 2025-05-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
10.0	SIVBQ	-3.66%	SBNY	-4.05%
10.0	LUMN	-3.07%	SIVBQ	-3.9%
10.0	IEP	-3.06%	FRCB	-2.19%
10.0	CZR	-2.72%	IEP	-1.67%
10.0	NWL	-1.8%	AMC	-1.53%
10.0	SBNY	-1.64%	AAP	-1.45%
10.0	GNRC	-1.49%	VFC	-1.33%
10.0	FRCB	-1.18%	NWL	-1.17%
10.0	VFC	-0.96%	BHC	-0.98%
10.0	UAA	-0.94%	CZR	-0.8%
10.0	BIIB	-0.9%	LUMN	-0.79%
10.0	AAP	-0.87%	UAA	-0.79%
10.0	CLF	-0.85%	CLF	-0.65%
10.0	AMC	-0.8%	INTC	-0.57%
10.0	BXP	-0.76%	TLT	-0.54%
10.0	AA	-0.7%	LNC	-0.49%
10.0	UNH	-0.64%	BALL	-0.49%
10.0	INTC	-0.63%	BIIB	-0.49%
10.0	LNC	-0.61%	GNRC	-0.44%
10.0	BALL	-0.6%	CVS	-0.44%
10.0	TLT	-0.48%	BXP	-0.44%
10.0	CMA	-0.38%	ELAN	-0.41%
10.0	FSUGY	-0.36%	ZION	-0.41%
10.0	CVS	-0.35%	AA	-0.39%
10.0	CMCSA	-0.32%	UNH	-0.35%
10.0	KHC	-0.3%	TFC	-0.33%
10.0	VZ	-0.3%	CMCSA	-0.3%
10.0	FIS	-0.27%	GSK	-0.3%
10.0	PEP	-0.26%	BMY	-0.29%
10.0	CTLT	-0.23%	CMA	-0.28%

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 2025-05-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
21.0	SIVBQ	-8.0%	SBNY	-11.16%
21.0	IEP	-7.19%	SIVBQ	-9.37%
21.0	CZR	-5.85%	FRCB	-6.02%
21.0	LUMN	-5.05%	AMC	-3.99%
21.0	SBNY	-4.88%	IEP	-3.56%
21.0	NWL	-3.5%	AAP	-3.39%
21.0	GNRC	-3.29%	VFC	-2.78%
21.0	FRCB	-3.24%	NWL	-2.61%
21.0	VFC	-2.37%	BHC	-2.3%
21.0	AAP	-2.34%	CZR	-1.76%
21.0	CLF	-2.0%	UAA	-1.66%
21.0	UAA	-1.86%	LUMN	-1.36%
21.0	BIIB	-1.5%	INTC	-1.28%
21.0	AMC	-1.5%	CLF	-1.27%
21.0	AA	-1.41%	AA	-1.22%
21.0	BXP	-1.4%	LNC	-1.14%
21.0	INTC	-1.35%	TLT	-1.1%
21.0	BHC	-1.25%	BALL	-1.06%
21.0	BALL	-1.19%	GNRC	-1.05%
21.0	LNC	-1.16%	BIIB	-1.04%
21.0	TLT	-1.13%	BXP	-1.01%
21.0	FSUGY	-0.91%	ELAN	-0.91%
21.0	CVS	-0.86%	CVS	-0.84%
21.0	VZ	-0.83%	TFC	-0.68%
21.0	CMA	-0.8%	ZION	-0.67%
21.0	KHC	-0.74%	BMY	-0.64%
21.0	UNH	-0.68%	CMCSA	-0.6%
21.0	BHP	-0.68%	GSK	-0.58%
21.0	PEP	-0.61%	CMA	-0.58%
21.0	KALU	-0.55%	CNC	-0.55%

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 2025-05-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
63.0	SIVBQ	-30.27%	SBNY	-37.59%
63.0	IEP	-25.24%	SIVBQ	-33.73%
63.0	SBNY	-19.01%	FRCB	-24.04%
63.0	FRCB	-15.74%	AMC	-16.03%
63.0	NWL	-13.72%	IEP	-11.93%
63.0	GNRC	-13.72%	AAP	-11.2%
63.0	LUMN	-13.15%	NWL	-8.22%
63.0	VFC	-10.68%	VFC	-8.1%
63.0	CZR	-10.01%	CLF	-6.35%
63.0	AAP	-9.37%	CZR	-6.18%
63.0	AMC	-8.49%	BHC	-5.97%
63.0	CLF	-8.29%	AA	-5.26%
63.0	UAA	-7.12%	UAA	-4.96%
63.0	BALL	-5.69%	MOS	-4.6%
63.0	AA	-4.76%	ELAN	-4.56%
63.0	BHC	-4.49%	INTC	-4.47%
63.0	INTC	-4.44%	LUMN	-3.73%
63.0	MOS	-4.22%	LNC	-3.48%
63.0	CYH	-4.13%	BALL	-3.46%
63.0	BXP	-3.89%	GNRC	-3.4%
63.0	FSUGY	-3.81%	BXP	-3.35%
63.0	BHP	-3.61%	BIIB	-2.91%
63.0	ON	-3.34%	TLT	-2.9%
63.0	TLT	-3.19%	CVS	-2.72%
63.0	CVS	-3.18%	CSTM	-2.54%
63.0	VZ	-3.17%	BHP	-2.29%
63.0	CSTM	-3.12%	CNC	-2.17%
63.0	BIIB	-3.07%	PRGO	-2.07%
63.0	KHC	-2.71%	KHC	-1.92%
63.0	LNC	-2.59%	TFC	-1.84%

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 2025-05-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
126.0	SIVBQ	-64.31%	SIVBQ	-65.15%
126.0	IEP	-50.82%	SBNY	-64.8%
126.0	FRCB	-39.92%	FRCB	-51.17%
126.0	SBNY	-33.47%	AMC	-29.5%
126.0	NWL	-31.61%	IEP	-22.97%
126.0	GNRC	-25.02%	AAP	-20.71%
126.0	LUMN	-22.77%	NWL	-14.99%
126.0	VFC	-19.95%	VFC	-12.34%
126.0	AAP	-19.21%	MOS	-10.95%
126.0	AMC	-17.7%	CLF	-10.34%
126.0	MOS	-13.08%	CZR	-8.53%
126.0	CLF	-12.74%	CVS	-7.73%
126.0	CZR	-11.46%	INTC	-7.63%
126.0	CVS	-9.98%	ELAN	-7.6%
126.0	BALL	-8.9%	AA	-7.4%
126.0	UAA	-8.44%	BHC	-6.78%
126.0	VZ	-6.68%	UAA	-5.96%
126.0	AA	-6.61%	PRGO	-5.84%
126.0	BHC	-6.31%	CTLT	-5.69%
126.0	LNC	-6.21%	LNC	-5.57%
126.0	BHP	-6.19%	TLT	-5.31%
126.0	CTLT	-6.16%	BXP	-5.17%
126.0	TLT	-6.14%	GNRC	-5.05%
126.0	PRGO	-6.11%	BALL	-4.95%
126.0	INTC	-5.83%	CNC	-4.87%
126.0	KHC	-5.46%	LUMN	-4.73%
126.0	BXP	-5.46%	BIIB	-4.68%
126.0	CNC	-5.29%	GSK	-4.49%
126.0	CYH	-5.06%	KHC	-4.16%
126.0	CSTM	-4.89%	BHP	-3.78%

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 2025-05-29

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	IEP	-88.13%	FRCB	-91.61%
252.0	SBNY	-81.71%	AMC	-57.69%
252.0	NWL	-64.57%	IEP	-44.46%
252.0	AAP	-43.46%	AAP	-42.7%
252.0	CVS	-40.46%	NWL	-28.77%
252.0	VFC	-37.05%	VFC	-24.43%
252.0	MOS	-35.07%	MOS	-23.75%
252.0	AMC	-34.24%	CVS	-18.88%
252.0	GNRC	-33.91%	CLF	-15.69%
252.0	LUMN	-31.73%	CZR	-13.51%
252.0	CLF	-28.5%	PRGO	-13.33%
252.0	CZR	-22.34%	BMY	-12.43%
252.0	GT	-17.69%	UAA	-12.41%
252.0	UAA	-17.34%	AA	-11.09%
252.0	PRGO	-17.22%	JAZZ	-10.13%
252.0	AA	-16.21%	LUMN	-9.96%
252.0	JAZZ	-14.52%	INTC	-9.66%
252.0	BMY	-14.25%	CNC	-9.39%
252.0	CMA	-13.48%	BHC	-9.18%
252.0	KHC	-11.82%	BIIB	-8.8%
252.0	TLT	-11.39%	TLT	-8.52%
252.0	BHC	-10.94%	GT	-7.69%
252.0	CNC	-10.24%	KHC	-7.44%
252.0	CHTR	-9.74%	CHTR	-6.65%
252.0	BALL	-8.55%	OXY	-6.27%
252.0	BHP	-7.75%	CTLT	-6.24%
252.0	CYH	-7.52%	LNC	-5.72%
252.0	VZ	-7.41%	BHP	-5.37%

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 2024-06-03 through 2025-05-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
1.0	IEP	-0.49%	CLF	-0.35%
1.0	BIIB	-0.42%	ETRN	-0.33%
1.0	CLF	-0.27%	WRK	-0.26%
1.0	NWL	-0.25%	IEP	-0.23%
1.0	AMAT	-0.24%	BIIB	-0.21%
1.0	BHC	-0.22%	MRK	-0.19%
1.0	CSTM	-0.21%	CSTM	-0.17%
1.0	OXY	-0.21%	FSUGY	-0.17%
1.0	LEN	-0.2%	UNH	-0.16%
1.0	ON	-0.19%	ON	-0.16%
1.0	ETRN	-0.18%	AA	-0.15%
1.0	FSUGY	-0.17%	LEN	-0.15%
1.0	UAA	-0.17%	OXY	-0.14%
1.0	UNH	-0.17%	LW	-0.13%
1.0	AA	-0.16%	QCOM	-0.1%
1.0	BHP	-0.15%	AMD	-0.1%
1.0	PEP	-0.15%	KHC	-0.1%
1.0	TEVA	-0.13%	PEP	-0.1%
1.0	BBY	-0.12%	INTC	-0.1%
1.0	PHM	-0.12%	BALL	-0.09%
1.0	RIO	-0.1%	B	-0.08%
1.0	CMCSA	-0.09%	WDC	-0.08%
1.0	LW	-0.09%	FCX	-0.08%
1.0	QCOM	-0.09%	AMAT	-0.08%
1.0	MRK	-0.09%	KALU	-0.07%
1.0	CMG	-0.09%	BBY	-0.07%
1.0	WRK	-0.08%	CNC	-0.07%
1.0	CZR	-0.08%	BHC	-0.07%
1.0	PCG	-0.08%	CZR	-0.07%
1.0	AMD	-0.08%	DHI	-0.07%

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 2024-06-03 through 2025-05-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
10.0	IEP	-4.8%	ETRN	-5.36%
10.0	ETRN	-4.4%	CLF	-2.92%
10.0	BIIB	-3.95%	BIIB	-2.29%
10.0	WRK	-2.48%	WRK	-2.2%
10.0	ON	-1.89%	IEP	-2.13%
10.0	INTC	-1.83%	MRK	-2.03%
10.0	CLF	-1.82%	ON	-1.82%
10.0	MRK	-1.8%	LW	-1.63%
10.0	OXY	-1.73%	UNH	-1.58%
10.0	AMAT	-1.48%	CSTM	-1.5%
10.0	UNH	-1.48%	FSUGY	-1.48%
10.0	LEN	-1.38%	AMC	-1.41%
10.0	FSUGY	-1.34%	LEN	-1.36%
10.0	MU	-1.21%	OXY	-1.3%
10.0	QCOM	-1.21%	QCOM	-1.21%
10.0	WDC	-1.11%	AMAT	-1.05%
10.0	KHC	-1.09%	AMD	-1.03%
10.0	AMD	-1.04%	PEP	-0.98%
10.0	LW	-1.02%	AAP	-0.98%
10.0	PEP	-1.01%	AA	-0.95%
10.0	PHM	-1.0%	WDC	-0.91%
10.0	CMG	-0.95%	BALL	-0.88%
10.0	CSTM	-0.92%	KHC	-0.88%
10.0	AA	-0.75%	ELAN	-0.76%
10.0	AMC	-0.74%	CMG	-0.76%
10.0	NWL	-0.74%	INTC	-0.73%
10.0	LNC	-0.72%	CZR	-0.71%
10.0	CMCSA	-0.69%	FCX	-0.67%
10.0	BHP	-0.68%	BBY	-0.62%
10.0	CNC	-0.67%	MU	-0.6%

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 2024-06-03 through 2025-05-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
21.0	IEP	-11.08%	ETRN	-9.38%
21.0	WRK	-9.15%	WRK	-6.87%
21.0	ETRN	-8.51%	CLF	-5.77%
21.0	BIIB	-8.44%	BIIB	-5.25%
21.0	ON	-4.97%	IEP	-4.52%
21.0	INTC	-4.41%	MRK	-4.39%
21.0	CLF	-4.3%	ON	-4.08%
21.0	MRK	-4.26%	AMC	-4.01%
21.0	AMAT	-4.12%	AAP	-3.67%
21.0	MU	-4.08%	LW	-3.55%
21.0	OXY	-4.0%	CSTM	-3.26%
21.0	AMD	-3.84%	OXY	-3.22%
21.0	WDC	-3.8%	FSUGY	-2.87%
21.0	FSUGY	-3.04%	AMD	-2.83%
21.0	QCOM	-2.79%	QCOM	-2.81%
21.0	CSTM	-2.64%	AMAT	-2.75%
21.0	LEN	-2.5%	WDC	-2.7%
21.0	BHC	-2.41%	LEN	-2.68%
21.0	PEP	-2.34%	UNH	-2.47%
21.0	AA	-2.22%	MU	-2.46%
21.0	CMG	-2.17%	AA	-2.39%
21.0	ELAN	-2.01%	PEP	-2.1%
21.0	UNH	-1.93%	INTC	-2.06%
21.0	ADBE	-1.85%	ELAN	-1.9%
21.0	LW	-1.83%	FCX	-1.79%
21.0	CZR	-1.79%	CMG	-1.74%
21.0	KHC	-1.75%	CZR	-1.71%
21.0	BHP	-1.74%	BALL	-1.62%
21.0	AMC	-1.68%	KHC	-1.54%
21.0	KALU	-1.6%	BBY	-1.48%

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 2024-06-03 through 2025-05-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
63.0	IEP	-47.78%	IEP	-17.91%
63.0	ON	-29.23%	CLF	-17.44%
63.0	AMD	-25.17%	ON	-16.62%
63.0	BIIB	-23.66%	BIIB	-16.24%
63.0	AMAT	-20.81%	AMC	-16.23%
63.0	CSTM	-20.03%	CSTM	-15.2%
63.0	MRK	-15.72%	WDC	-13.49%
63.0	WDC	-15.6%	AAP	-13.01%
63.0	CLF	-15.58%	AMD	-12.47%
63.0	OXY	-14.81%	MRK	-12.12%
63.0	ADBE	-14.27%	AMAT	-11.16%
63.0	INTC	-13.8%	LEN	-10.63%
63.0	MU	-13.31%	OXY	-10.36%
63.0	AMC	-13.1%	ELAN	-9.93%
63.0	LEN	-12.08%	ADBE	-9.73%
63.0	CZR	-11.49%	FSUGY	-9.47%
63.0	FSUGY	-11.46%	MU	-8.79%
63.0	ELAN	-9.34%	CZR	-8.35%
63.0	QCOM	-8.68%	QCOM	-7.56%
63.0	BHP	-8.25%	LW	-7.49%
63.0	PEP	-7.5%	KALU	-7.0%
63.0	BBY	-7.01%	FCX	-6.9%
63.0	FCX	-6.64%	BALL	-6.45%
63.0	PCG	-6.35%	INTC	-6.45%
63.0	DHI	-6.0%	DHI	-6.37%
63.0	KHC	-5.6%	BBY	-6.19%
63.0	AAP	-5.37%	PEP	-5.83%
63.0	PHM	-5.07%	UNH	-5.36%
63.0	BALL	-4.98%	NAVI	-5.08%
63.0	UNH	-4.75%	CNC	-4.99%

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 2024-06-03 through 2025-05-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
126.0	IEP	-100.32%	IEP	-35.41%
126.0	ON	-59.16%	CSTM	-32.05%
126.0	AMD	-56.28%	BIIB	-31.53%
126.0	CSTM	-42.69%	CLF	-31.13%
126.0	AMC	-38.03%	ON	-30.97%
126.0	ADBE	-34.88%	AMC	-30.46%
126.0	BIIB	-34.26%	CYH	-28.48%
126.0	MRK	-31.97%	AMD	-27.56%
126.0	DHI	-31.88%	LEN	-26.49%
126.0	AMAT	-31.69%	MRK	-22.47%
126.0	WDC	-31.63%	WDC	-21.77%
126.0	CZR	-31.12%	ELAN	-20.97%
126.0	MU	-29.74%	DHI	-20.73%
126.0	LEN	-29.66%	AMAT	-19.35%
126.0	CLF	-29.44%	ADBE	-19.24%
126.0	CYH	-28.48%	CZR	-18.65%
126.0	INTC	-27.99%	LW	-18.38%
126.0	PHM	-26.14%	OXY	-17.7%
126.0	ELAN	-24.13%	FCX	-17.49%
126.0	BHP	-23.04%	AAP	-16.98%
126.0	FSUGY	-22.58%	BALL	-16.95%
126.0	PCG	-22.51%	FSUGY	-16.36%
126.0	OXY	-21.63%	PHM	-15.0%
126.0	FCX	-19.4%	MU	-14.94%
126.0	BBY	-18.85%	PEP	-14.07%
126.0	UNH	-18.7%	BBY	-13.23%
126.0	PEP	-18.12%	UNH	-12.96%
126.0	KHC	-15.25%	KHC	-12.89%
126.0	QCOM	-15.19%	INTC	-12.81%
126.0	THC	-14.28%	CNC	-12.75%

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 2025-03-03 through 2025-05-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
1.0	LLY	-0.67%	VFC	-0.82%
1.0	BHC	-0.64%	CLF	-0.73%
1.0	UNH	-0.63%	BHC	-0.66%
1.0	CLF	-0.6%	UNH	-0.59%
1.0	VFC	-0.52%	SBUX	-0.46%
1.0	JAZZ	-0.51%	JAZZ	-0.37%
1.0	QQQ	-0.42%	BBY	-0.34%
1.0	LNC	-0.39%	BMY	-0.32%
1.0	PEP	-0.37%	LLY	-0.32%
1.0	OXY	-0.36%	TRGP	-0.29%
1.0	CZR	-0.35%	MRK	-0.29%
1.0	VNO	-0.35%	PEP	-0.27%
1.0	BBY	-0.34%	IEP	-0.26%
1.0	AA	-0.29%	KHC	-0.24%
1.0	ZION	-0.26%	AAPL	-0.22%
1.0	SBUX	-0.25%	LUMN	-0.21%
1.0	TRGP	-0.24%	SNY	-0.2%
1.0	KHC	-0.24%	TFC	-0.19%
1.0	LEN	-0.24%	ABBV	-0.18%
1.0	TMUS	-0.23%	CZR	-0.18%
1.0	ORCL	-0.23%	EXPE	-0.17%
1.0	ON	-0.22%	NWL	-0.17%
1.0	BIIB	-0.22%	AA	-0.17%
1.0	FSUGY	-0.21%	TMUS	-0.17%
1.0	MRK	-0.2%	FITB	-0.16%
1.0	BMY	-0.18%	OXY	-0.16%
1.0	CMCSA	-0.18%	LNC	-0.15%
1.0	EXPE	-0.17%	LEN	-0.15%
1.0	AMZN	-0.17%	INTC	-0.14%
1.0	AAPL	-0.16%	ZION	-0.13%

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 2025-03-03 through 2025-05-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
10.0	UNH	-8.19%	UNH	-7.18%
10.0	BHC	-6.6%	BHC	-6.72%
10.0	BIIB	-5.16%	CLF	-5.99%
10.0	JAZZ	-4.17%	VFC	-4.95%
10.0	CLF	-3.92%	BMY	-4.33%
10.0	MRK	-3.89%	JAZZ	-3.74%
10.0	LNC	-3.74%	SBUX	-3.59%
10.0	KHC	-3.53%	MRK	-3.49%
10.0	BMY	-3.51%	LUMN	-2.89%
10.0	OXY	-3.03%	PEP	-2.79%
10.0	PEP	-3.02%	LLY	-2.56%
10.0	LUMN	-3.0%	KHC	-2.56%
10.0	TRGP	-2.77%	AMGN	-2.44%
10.0	LEN	-2.47%	ABBV	-2.32%
10.0	SBUX	-2.29%	TRGP	-2.2%
10.0	PHM	-2.22%	NWL	-2.12%
10.0	AA	-2.19%	LEN	-2.11%
10.0	VFC	-2.08%	SNY	-1.97%
10.0	ADBE	-2.07%	BIIB	-1.85%
10.0	LLY	-1.95%	AAPL	-1.74%
10.0	AMGN	-1.8%	AA	-1.53%
10.0	AAPL	-1.79%	IEP	-1.51%
10.0	SNY	-1.79%	TMUS	-1.46%
10.0	ABBV	-1.4%	AZN	-1.46%
10.0	SPY	-1.36%	OXY	-1.4%
10.0	TMUS	-1.27%	DHI	-1.26%
10.0	UAA	-1.21%	TLT	-1.11%
10.0	ZION	-1.16%	GILD	-1.06%
10.0	TLT	-1.12%	BBY	-0.94%
10.0	DHI	-1.02%	EXPE	-0.93%

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 2025-03-03 through 2025-05-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
21.0	BHC	-19.24%	BHC	-17.05%
21.0	BIIB	-15.45%	UNH	-15.53%
21.0	UNH	-15.3%	CLF	-11.1%
21.0	JAZZ	-11.19%	BMY	-11.05%
21.0	TRGP	-10.82%	JAZZ	-10.15%
21.0	BMY	-9.96%	VFC	-8.77%
21.0	OXY	-9.64%	TRGP	-8.17%
21.0	LNC	-9.6%	SBUX	-8.11%
21.0	MRK	-9.41%	MRK	-8.1%
21.0	AA	-8.49%	AA	-7.01%
21.0	CLF	-8.27%	PEP	-6.49%
21.0	PEP	-8.02%	AMGN	-6.38%
21.0	LUMN	-7.23%	NWL	-6.19%
21.0	NWL	-6.76%	BIIB	-5.9%
21.0	LLY	-6.65%	LLY	-5.61%
21.0	KHC	-5.49%	OXY	-5.51%
21.0	SBUX	-5.23%	ABBV	-5.42%
21.0	AAPL	-5.0%	KHC	-4.74%
21.0	LEN	-4.97%	SNY	-4.61%
21.0	AMGN	-4.32%	LEN	-4.37%
21.0	SNY	-3.93%	LUMN	-4.34%
21.0	AZN	-3.83%	AAPL	-3.84%
21.0	ABBV	-3.46%	AZN	-3.78%
21.0	PHM	-3.44%	INTC	-3.6%
21.0	ZION	-3.43%	GILD	-3.56%
21.0	TMUS	-3.4%	TMUS	-3.46%
21.0	CMCSA	-3.33%	IEP	-3.16%
21.0	INTC	-3.1%	XOM	-3.09%
21.0	XOM	-3.06%	LNC	-2.97%
21.0	MU	-3.03%	DHI	-2.51%

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 2025-05-02 through 2025-05-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
1.0	UNH	-2.04%	CLF	-2.08%
1.0	CLF	-1.74%	UNH	-1.31%
1.0	MSTR	-1.65%	BHC	-0.9%
1.0	CPRT	-0.86%	CPRT	-0.86%
1.0	PHM	-0.79%	SNY	-0.59%
1.0	JAZZ	-0.75%	LLY	-0.55%
1.0	FSUGY	-0.67%	JAZZ	-0.5%
1.0	BHC	-0.65%	MRK	-0.39%
1.0	CNC	-0.63%	DHI	-0.38%
1.0	MRK	-0.33%	KHC	-0.35%
1.0	KHC	-0.33%	FSUGY	-0.34%
1.0	T	-0.31%	IEP	-0.34%
1.0	LEN	-0.28%	CDNS	-0.34%
1.0	SNY	-0.25%	ABBV	-0.32%
1.0	DHI	-0.24%	PHM	-0.31%
1.0	VFC	-0.22%	MSTR	-0.31%
1.0	GLD	-0.22%	CNC	-0.3%
1.0	ON	-0.21%	INTC	-0.26%
1.0	TEVA	-0.2%	CVS	-0.25%
1.0	PEP	-0.2%	BMY	-0.21%
1.0	CMG	-0.2%	XOM	-0.19%
1.0	INTC	-0.2%	LEN	-0.18%
1.0	LLY	-0.2%	CZR	-0.14%
1.0	CZR	-0.18%	ORLY	-0.14%
1.0	TMUS	-0.18%	CMG	-0.14%
1.0	BMY	-0.17%	TMUS	-0.14%
1.0	CDNS	-0.14%	TRGP	-0.12%
1.0	ABBV	-0.13%	BBY	-0.1%
1.0	FIS	-0.12%	POST	-0.1%
1.0	RIO	-0.11%	AAPL	-0.1%

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 2025-05-02 through 2025-05-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
10.0	UNH	-21.81%	UNH	-15.49%
10.0	CLF	-14.35%	CLF	-15.07%
10.0	LUMN	-8.06%	LUMN	-7.13%
10.0	PHM	-6.85%	CPRT	-6.14%
10.0	IEP	-6.58%	LLY	-4.01%
10.0	MSTR	-6.28%	BHC	-3.99%
10.0	KHC	-6.21%	KHC	-3.82%
10.0	CPRT	-4.66%	IEP	-3.67%
10.0	LLY	-3.82%	CVS	-3.66%
10.0	FSUGY	-3.64%	CNC	-3.56%
10.0	CNC	-3.15%	PHM	-3.3%
10.0	DHI	-2.9%	DHI	-2.87%
10.0	BHC	-2.85%	FSUGY	-2.84%
10.0	XOM	-2.47%	MSTR	-2.83%
10.0	MRK	-2.17%	XOM	-2.56%
10.0	VNO	-1.74%	VFC	-2.29%
10.0	LEN	-1.68%	INTC	-1.94%
10.0	TLT	-1.59%	LEN	-1.88%
10.0	LNC	-1.5%	ABBV	-1.74%
10.0	TMUS	-1.43%	LNC	-1.6%
10.0	ABBV	-1.19%	TLT	-1.56%
10.0	CVS	-1.12%	VNO	-1.47%
10.0	VFC	-1.08%	MRK	-1.44%
10.0	POST	-0.97%	TMUS	-1.16%
10.0	INTC	-0.7%	POST	-1.12%
10.0	CZR	-0.68%	TRGP	-0.97%
10.0	TRGP	-0.5%	EXPE	-0.92%
10.0	EXPE	-0.42%	CZR	-0.87%
10.0	FRA	-0.36%	CDNS	-0.44%
10.0	CMG	-0.29%	FRA	-0.4%

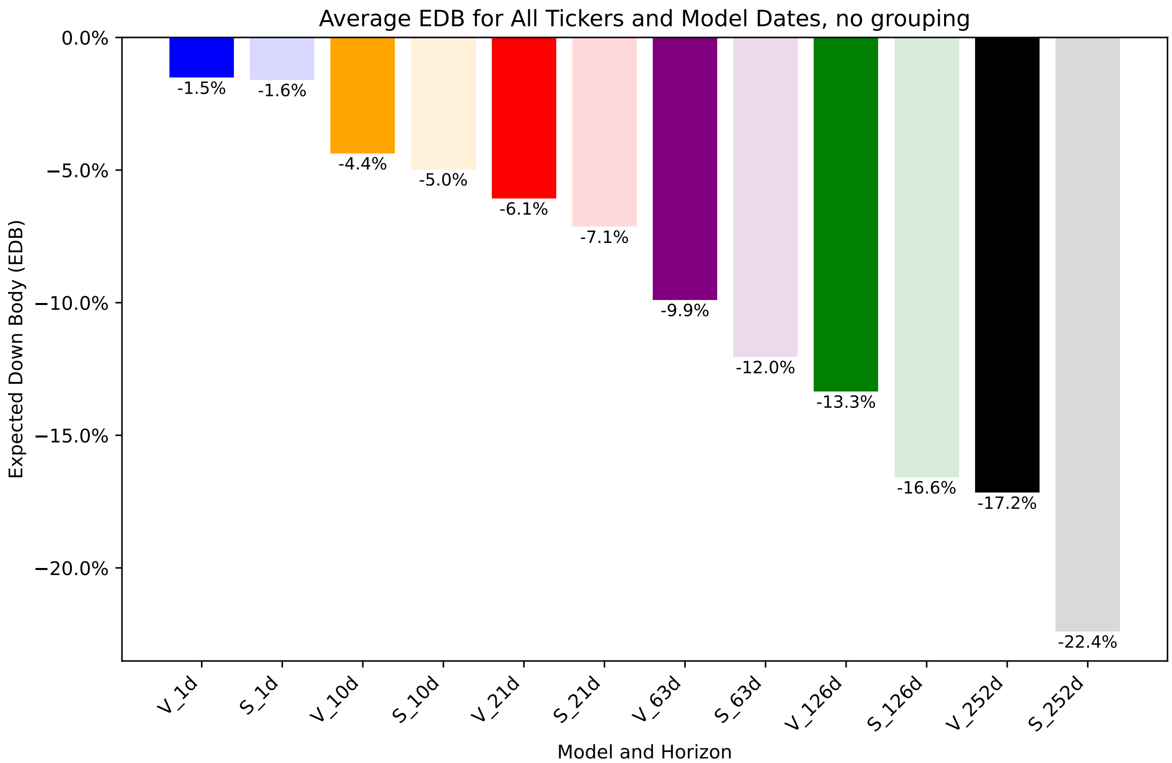
Expected Down Body (EDB)

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.

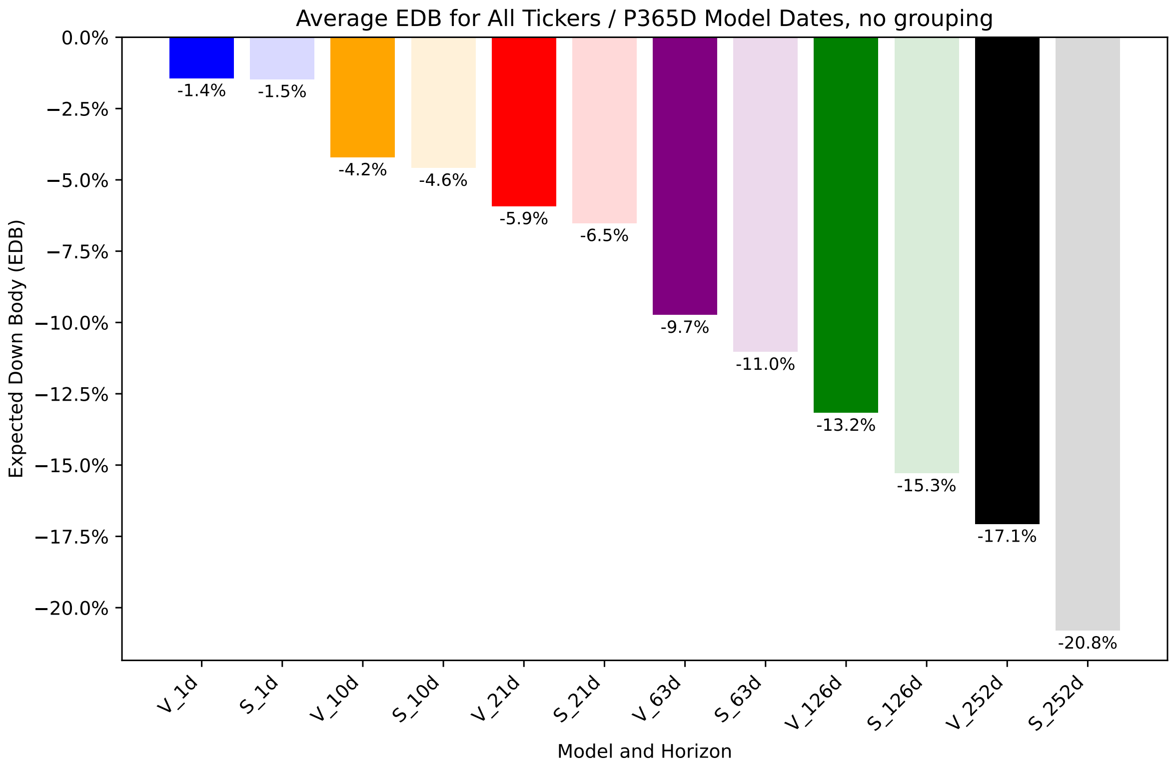
All Out of Sample Model Dates

Period examined: All model dates from 2022-01-31 through 2025-05-29



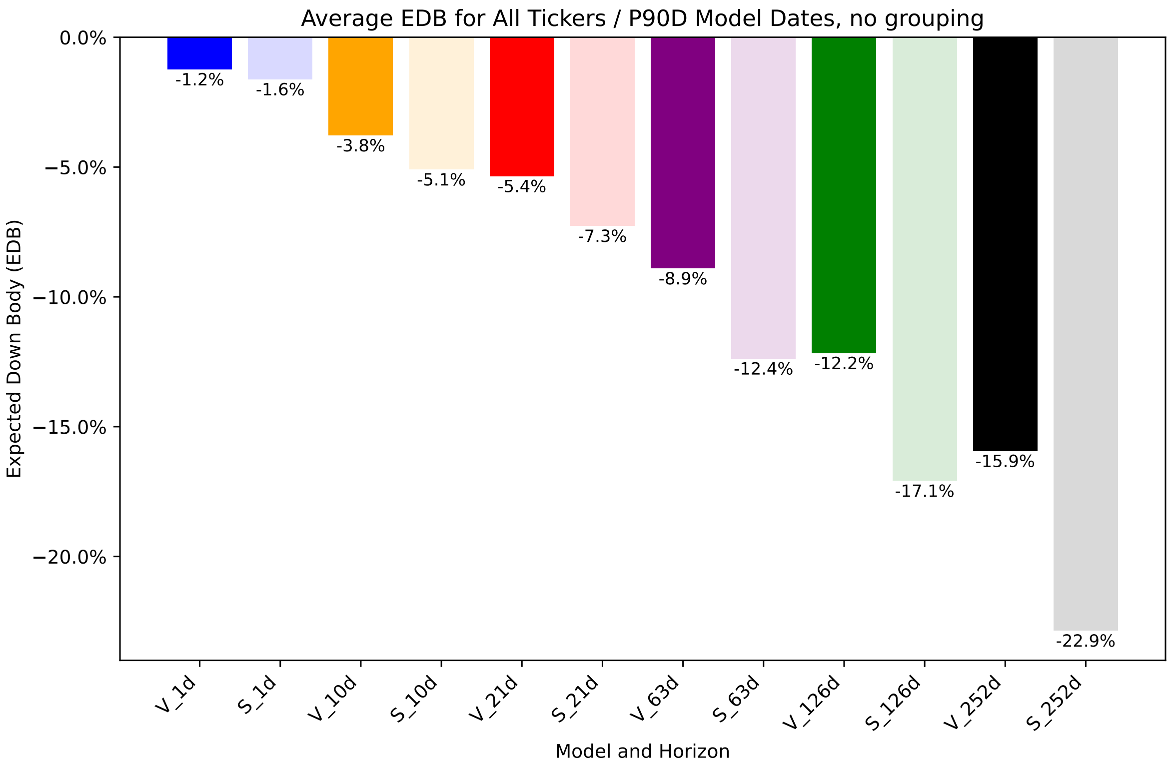
Prior 365 Calendar Days (P365D)

Period examined: All model dates from 2024-06-03 through 2025-05-29



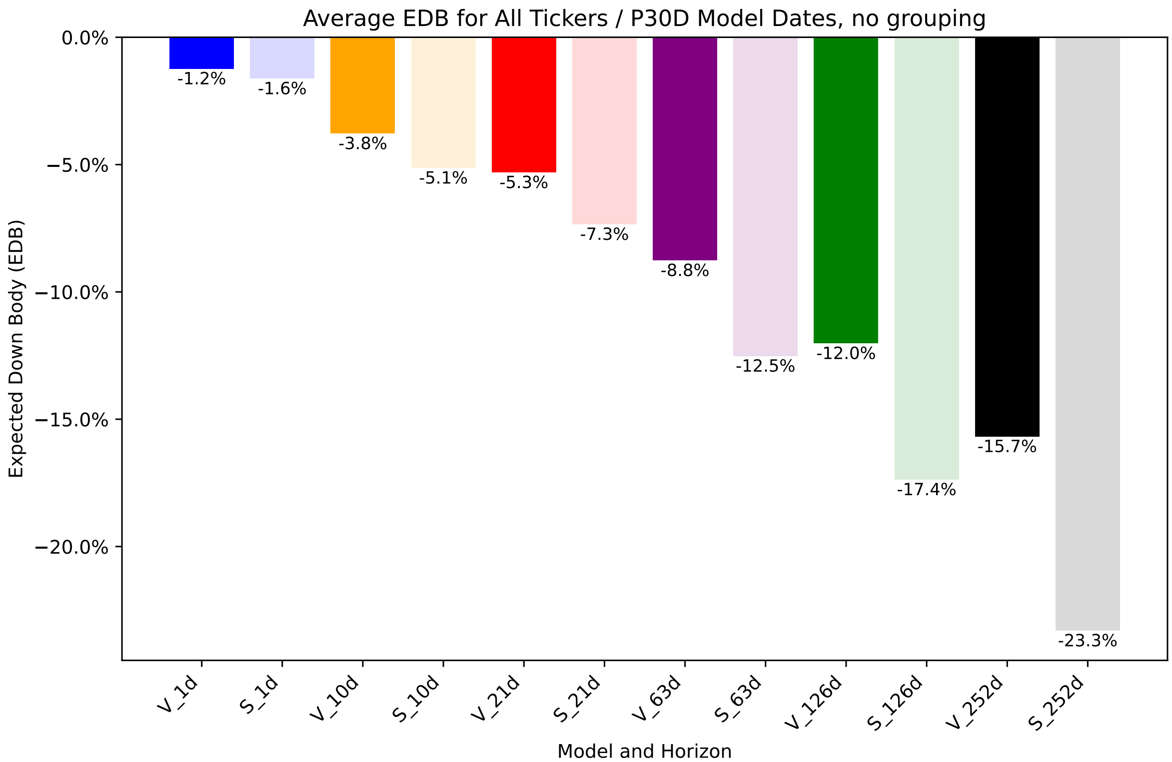
Prior 90 Calendar Days (P90D)

Period examined: All model dates from 2025-03-03 through 2025-05-29



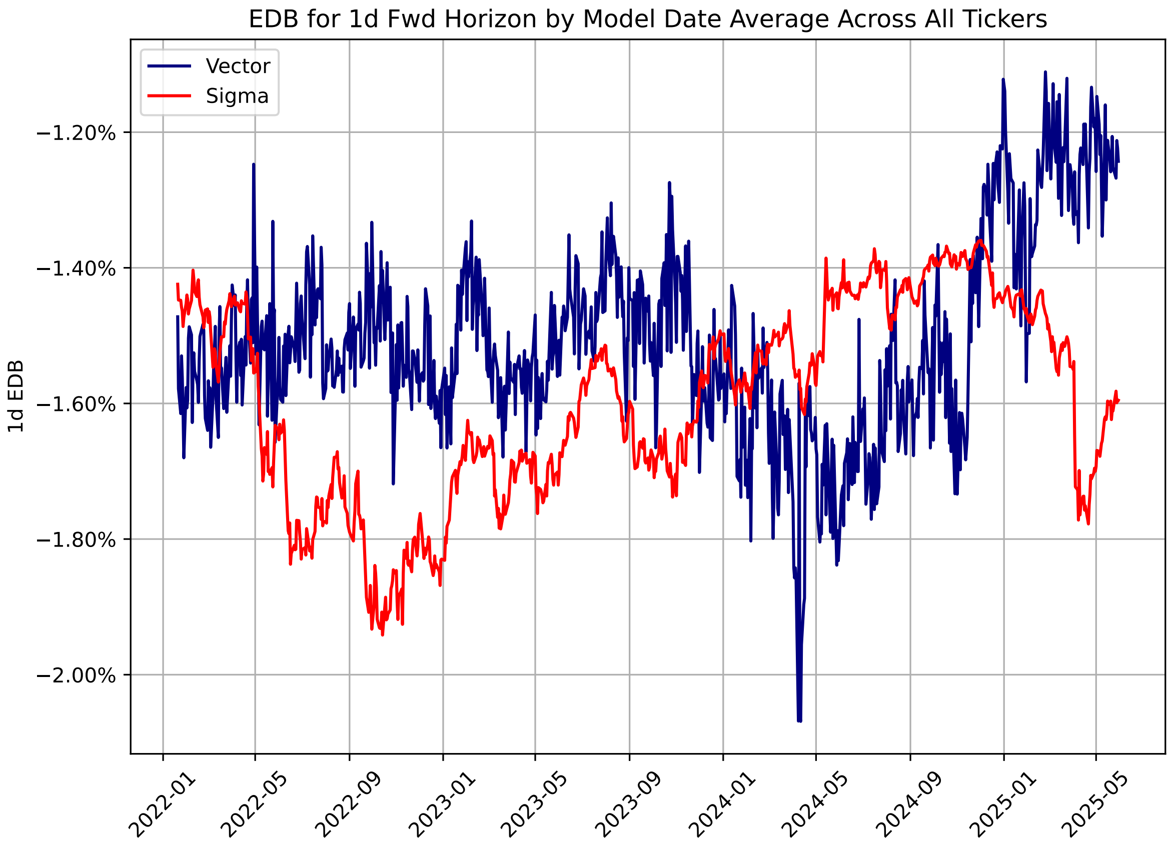
Prior 30 Calendar Days (P30D)

Period examined: All model dates from 2025-05-02 through 2025-05-29

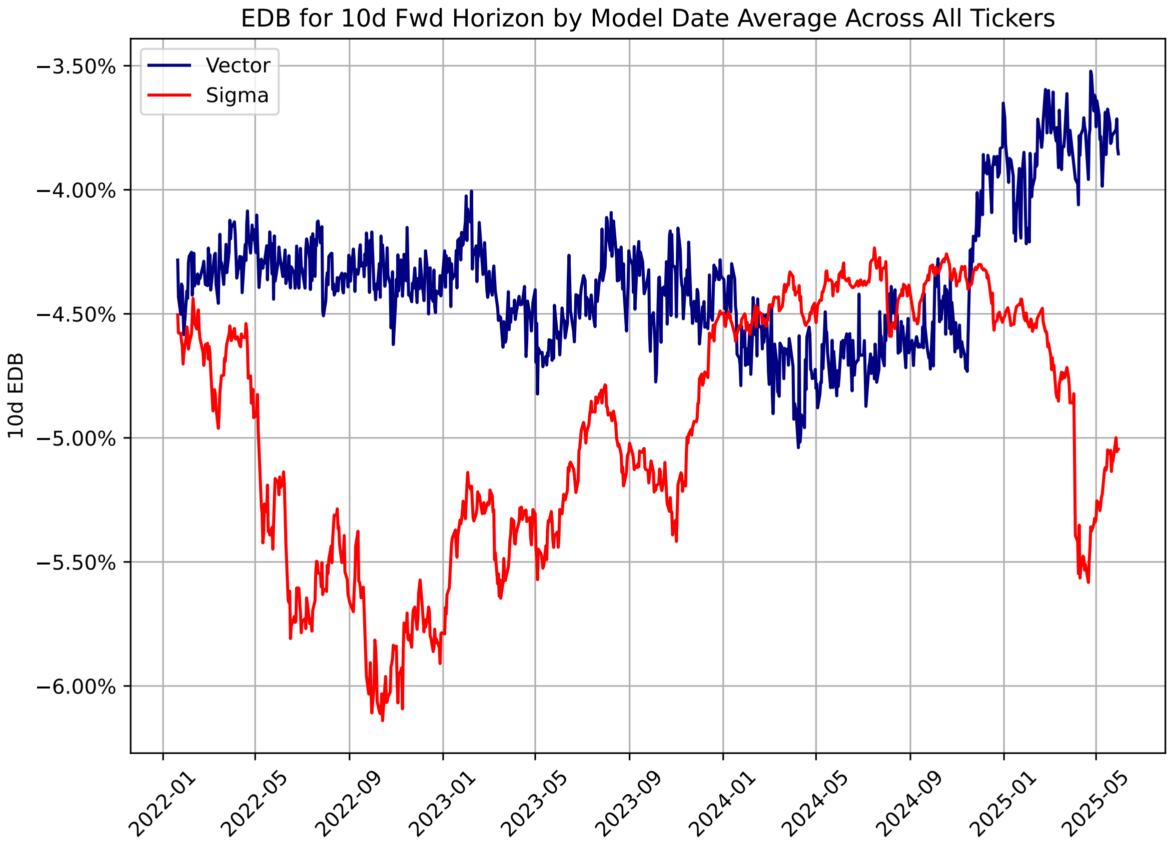


EDB by Model Date Detail

1d Horizon

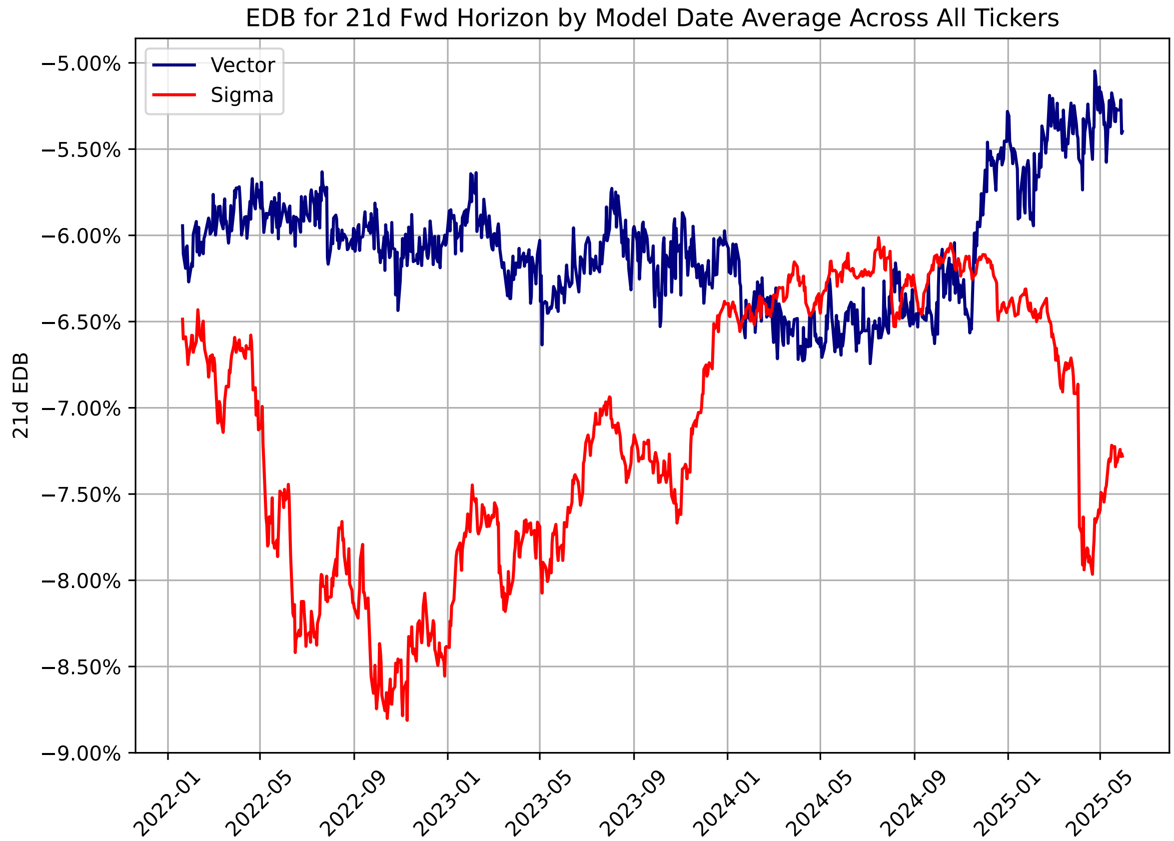


10d Horizon

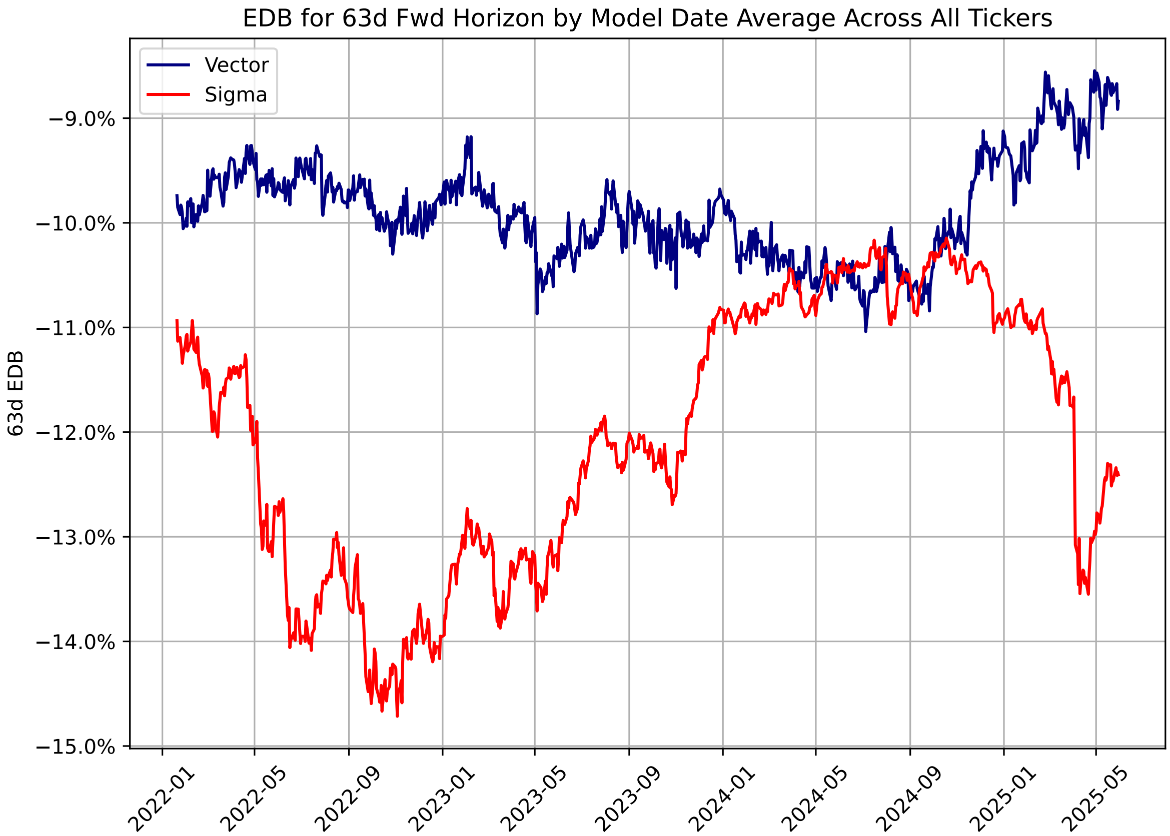


EDB for 10d Fwd Horizon by Model Date Average Across All Tickers
Vector
Sigma
10d EDB
−3.50%
−4.00%
−4.50%
−5.00%
−5.50%
−6.00%
2022-01
2022-05
2022-09
2023-01
2023-05
2023-09
2024-01
2024-05
2024-09
2025-01
2025-05

21d Horizon

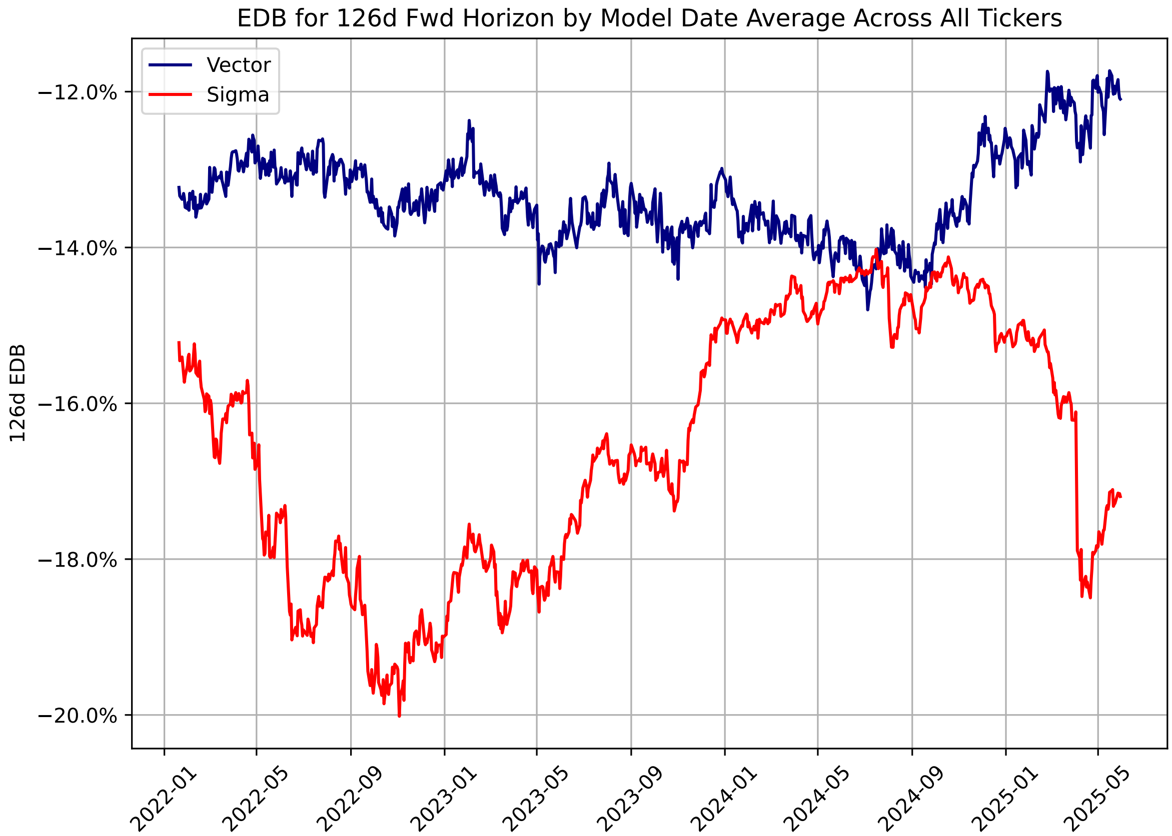

EDB for 21d Fwd Horizon by Model Date Average Across All Tickers
Vector
Sigma
21d EDB
−5.00%
−5.50%
−6.00%
−6.50%
−7.00%
−7.50%
−8.00%
−8.50%
−9.00%
2022-01
2022-05
2022-09
2023-01
2023-05
2023-09
2024-01
2024-05
2024-09
2025-01
2025-05

63d Horizon

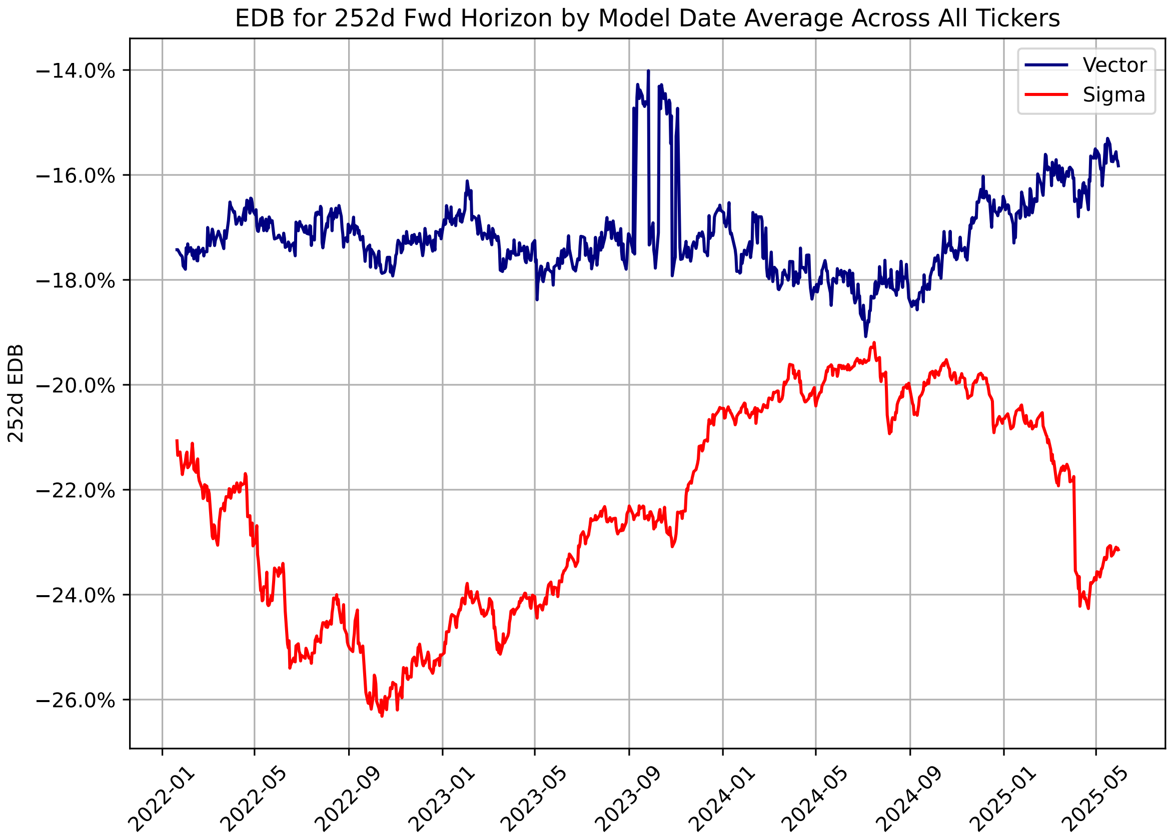


EDB for 63d Fwd Horizon by Model Date Average Across All Tickers
Vector
Sigma
63d EDB
−9.0%
−10.0%
−11.0%
−12.0%
−13.0%
−14.0%
−15.0%
2022-01
2022-05
2022-09
2023-01
2023-05
2023-09
2024-01
2024-05
2024-09
2025-01
2025-05

126d Horizon



252d Horizon



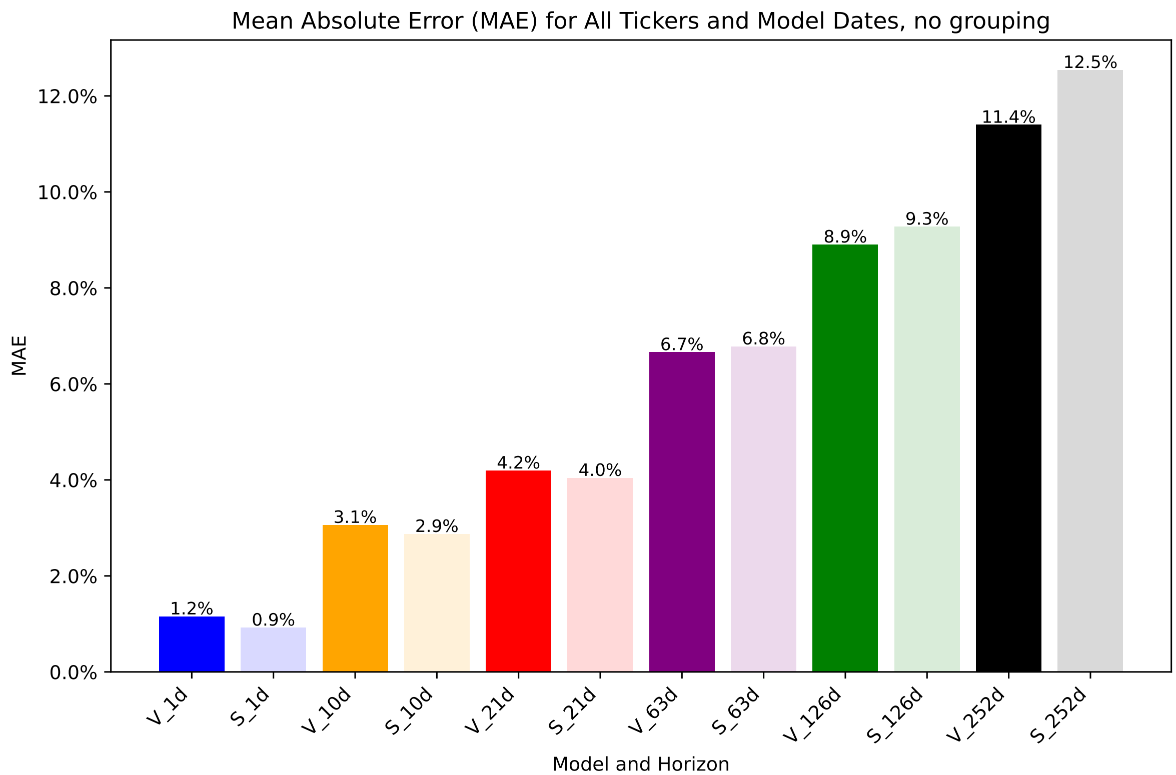
Performance Summary - MAE of EDB vs. Actual Fwd Returns

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).

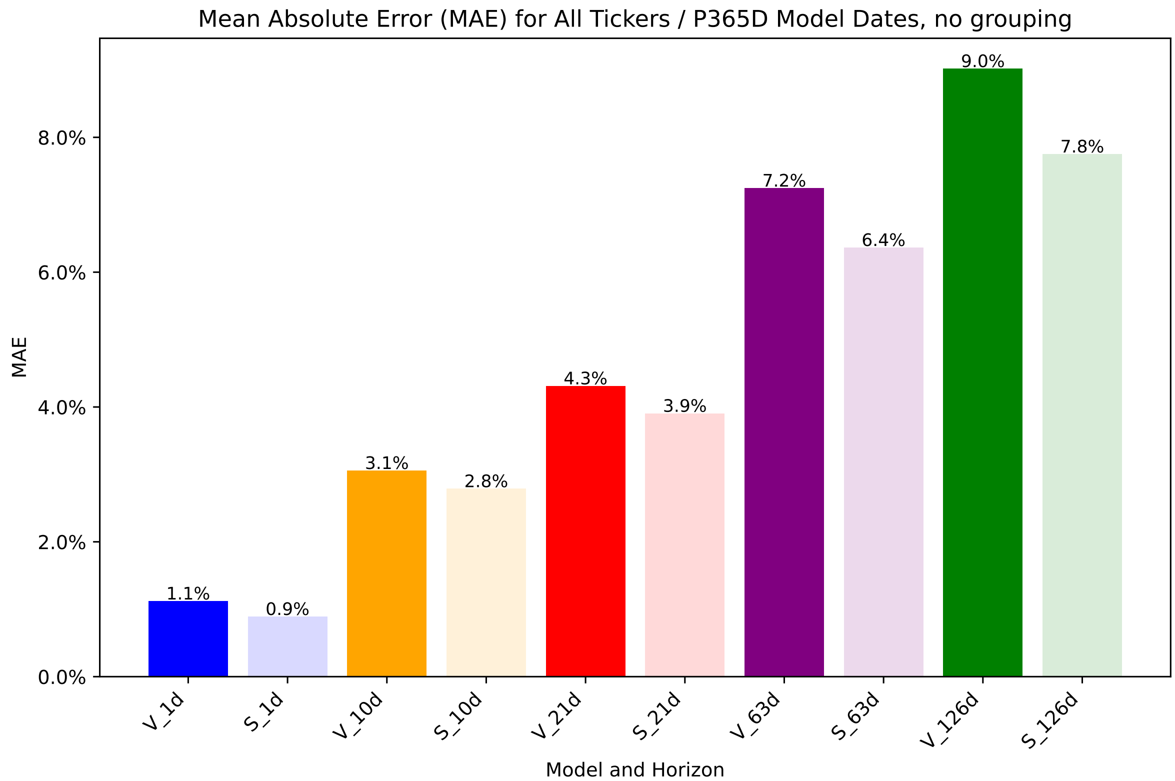
All Out of Sample Model Dates

Period examined: All model dates from 2022-01-31 through 2025-05-29



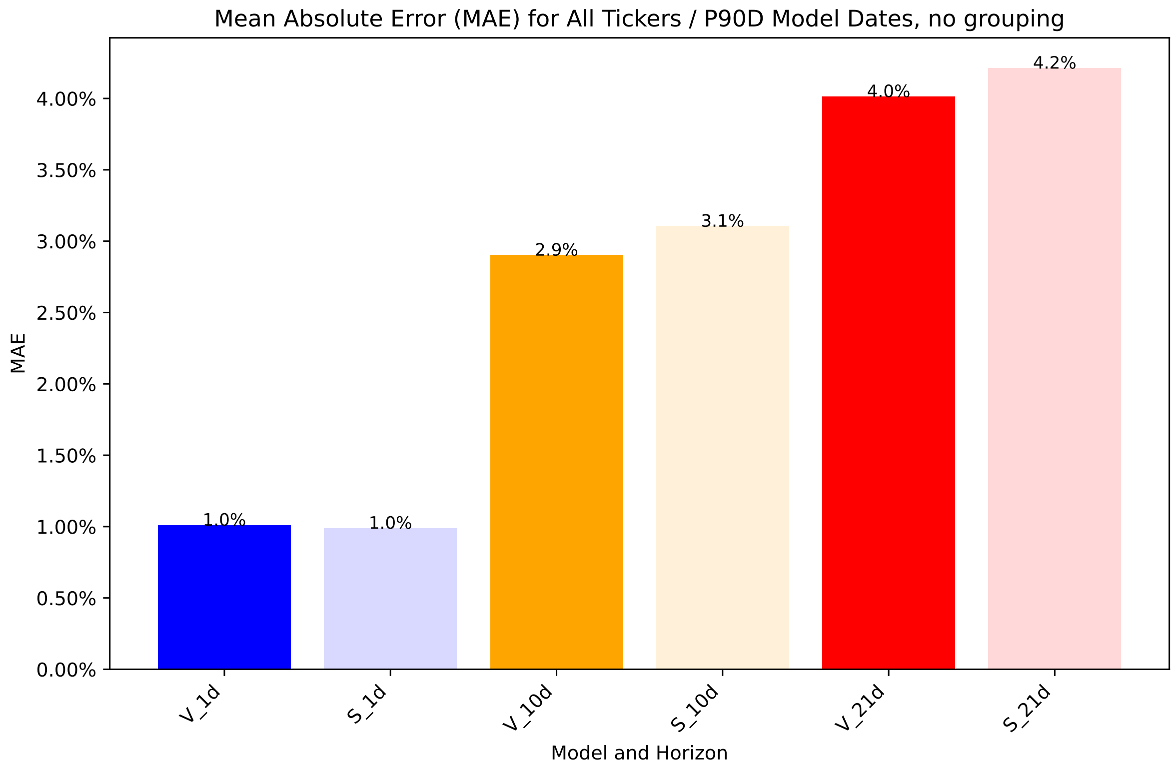
Prior 365 Calendar Days (P365D)

Period examined: All model dates from 2024-06-03 through 2025-05-29



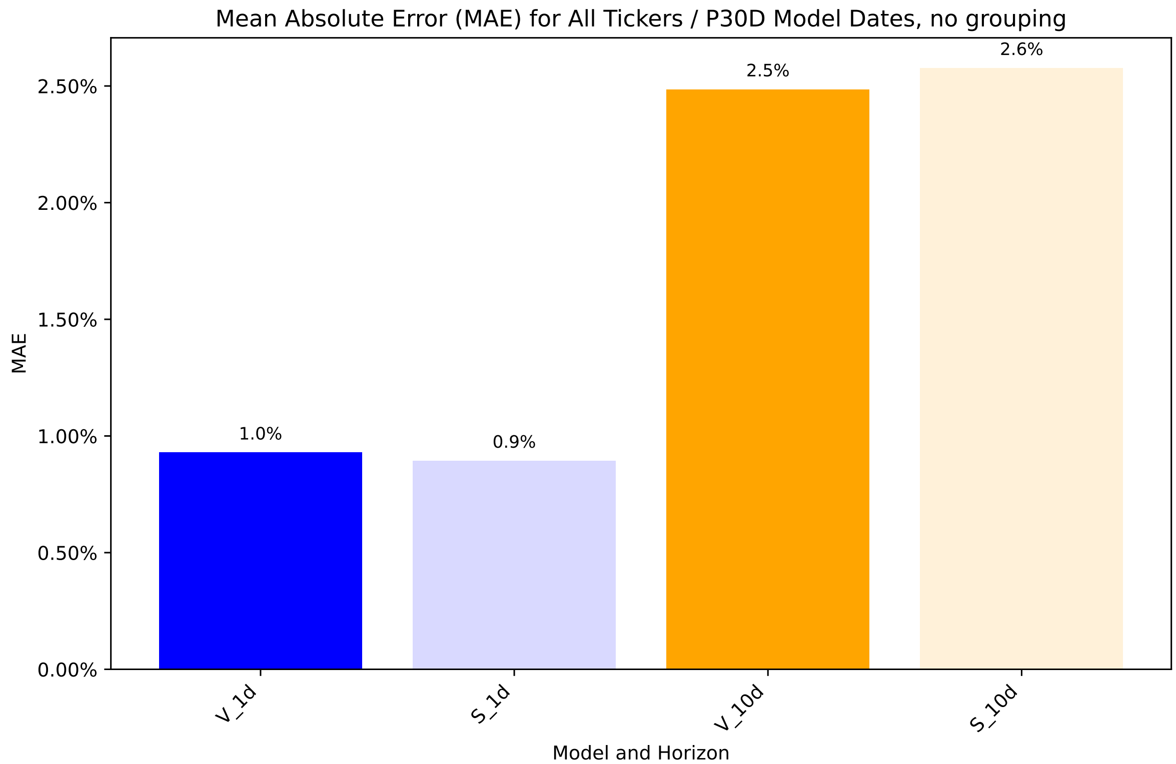
Prior 90 Calendar Days (P90D)

Period examined: All model dates from 2025-03-03 through 2025-05-29



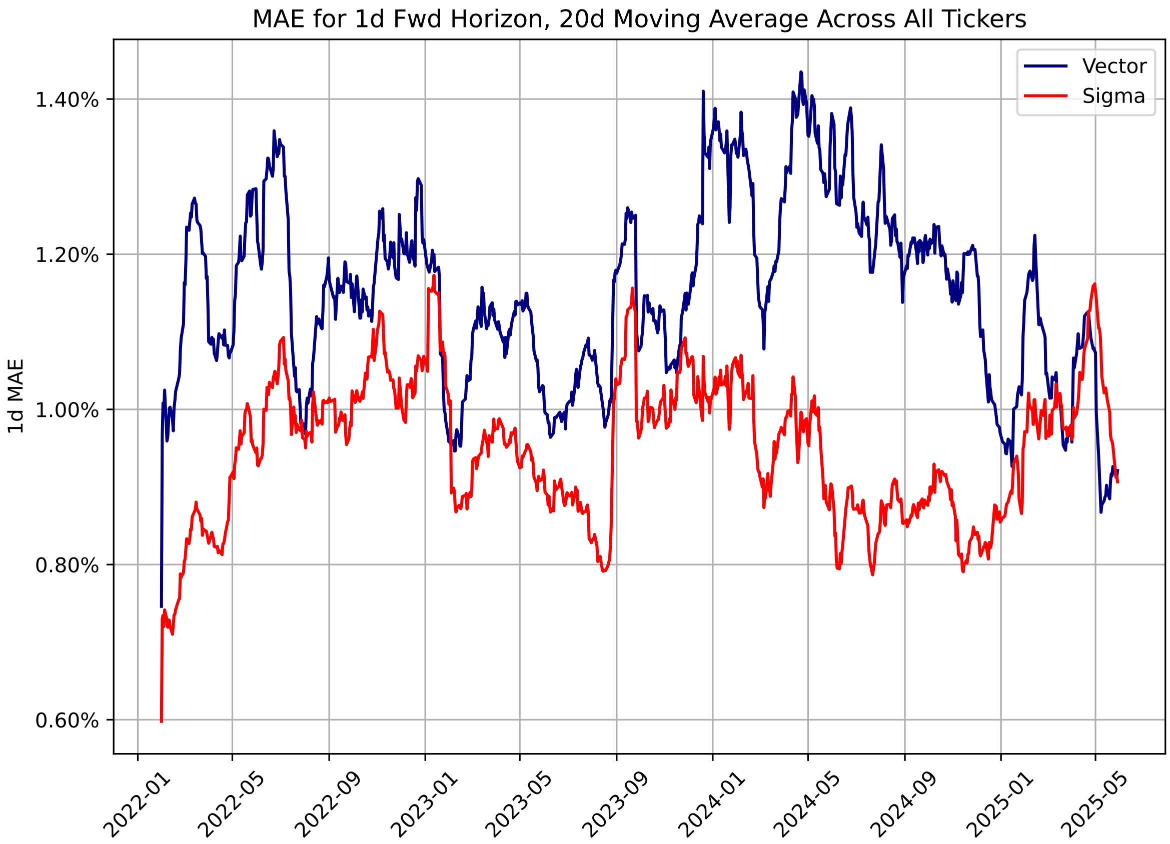
Prior 30 Calendar Days (P30D)

Period examined: All model dates from 2025-05-02 through 2025-05-29

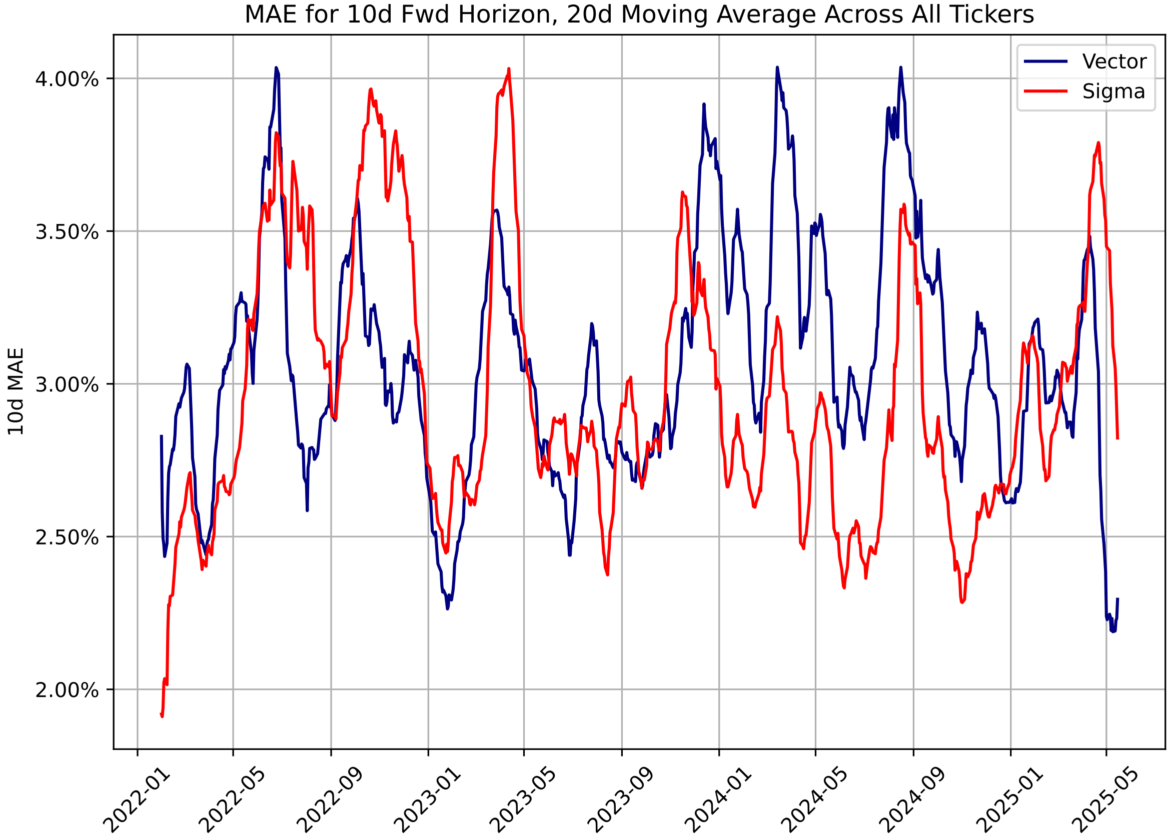


MAE by Model Date Detail

1d Horizon

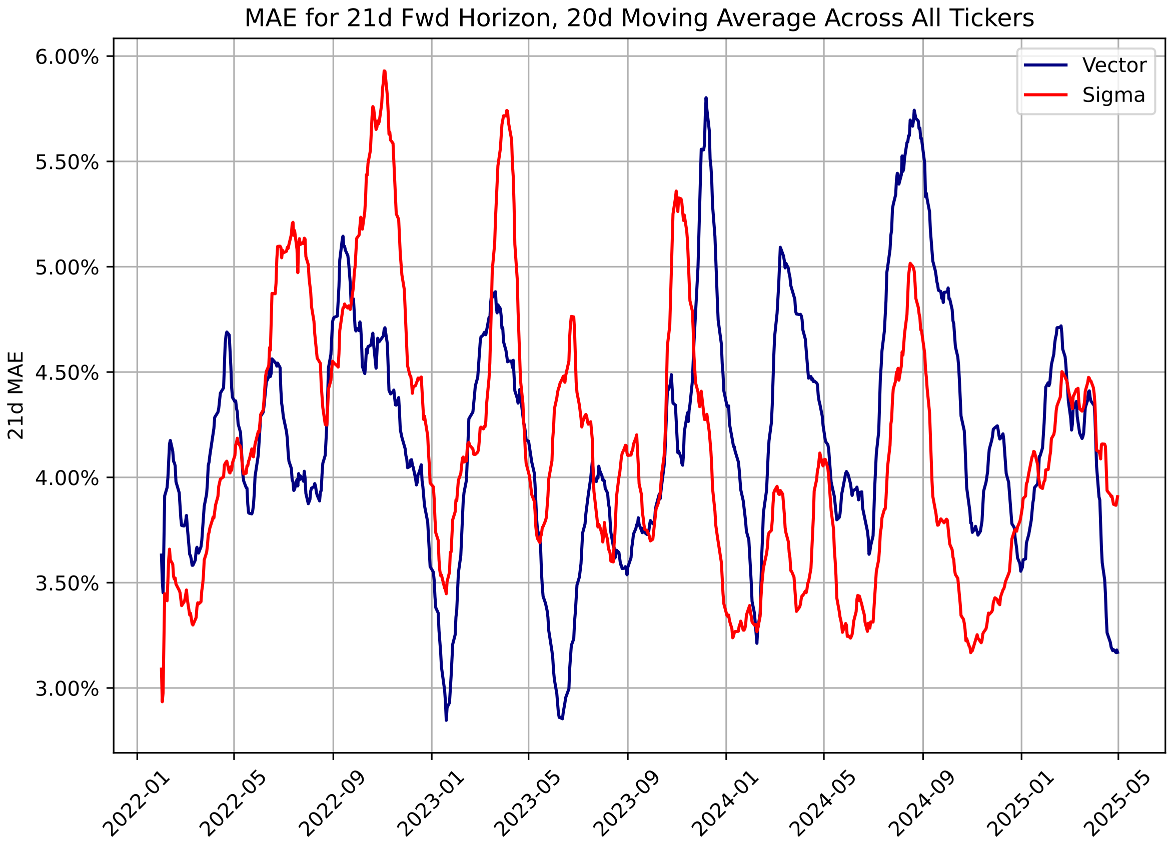


10d Horizon



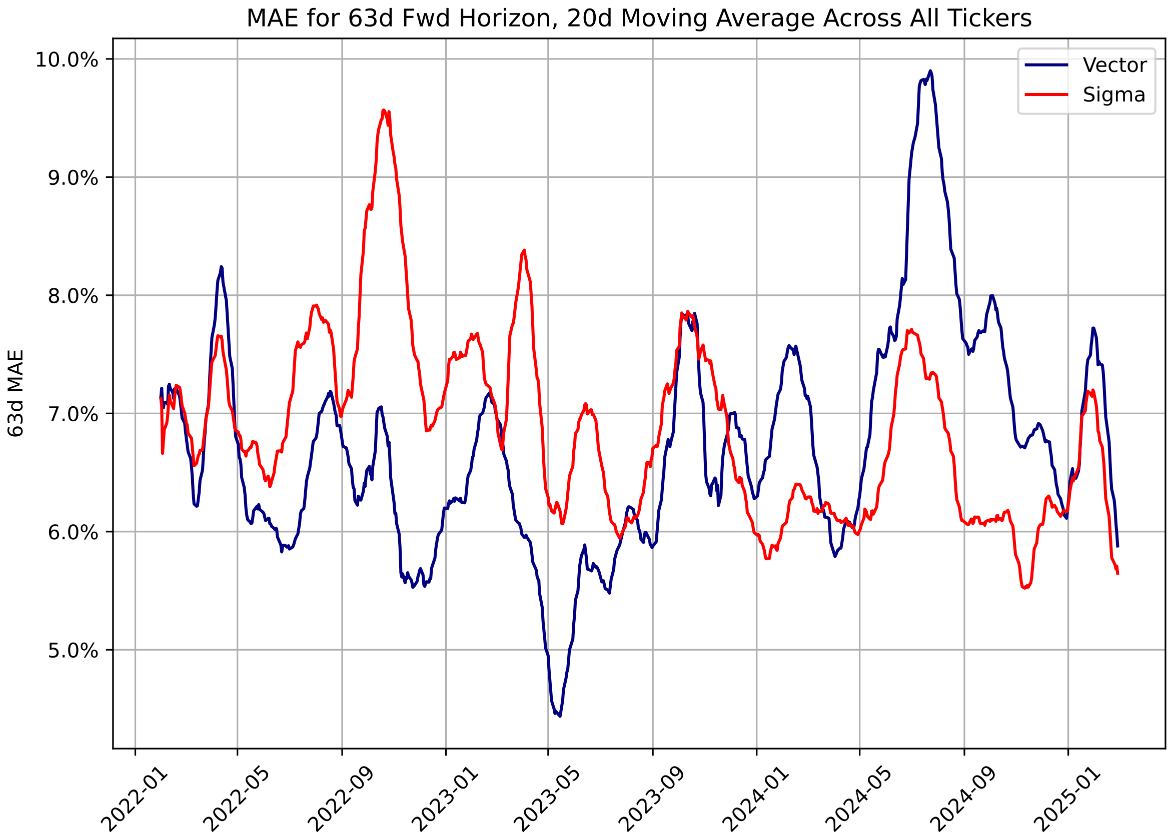
MAE for 10d Fwd Horizon, 20d Moving Average Across All Tickers
Vector
Sigma
10d MAE
4.00%
3.50%
3.00%
2.50%
2.00%
2022-01
2022-05
2022-09
2023-01
2023-05
2023-09
2024-01
2024-05
2024-09
2025-01
2025-05

21d Horizon



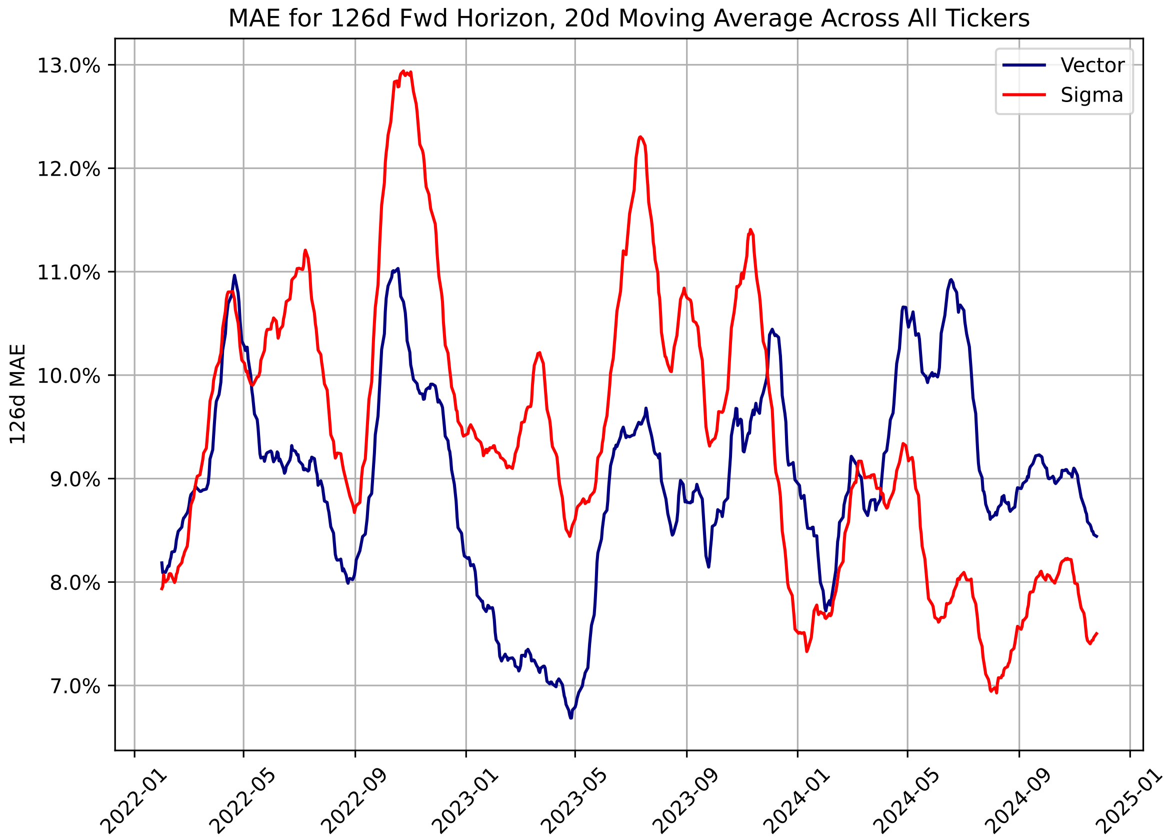
MAE for 21d Fwd Horizon, 20d Moving Average Across All Tickers
Vector
Sigma
21d MAE
6.00%
5.50%
5.00%
4.50%
4.00%
3.50%
3.00%
2022-01
2022-05
2022-09
2023-01
2023-05
2023-09
2024-01
2024-05
2024-09
2025-01
2025-05

63d Horizon

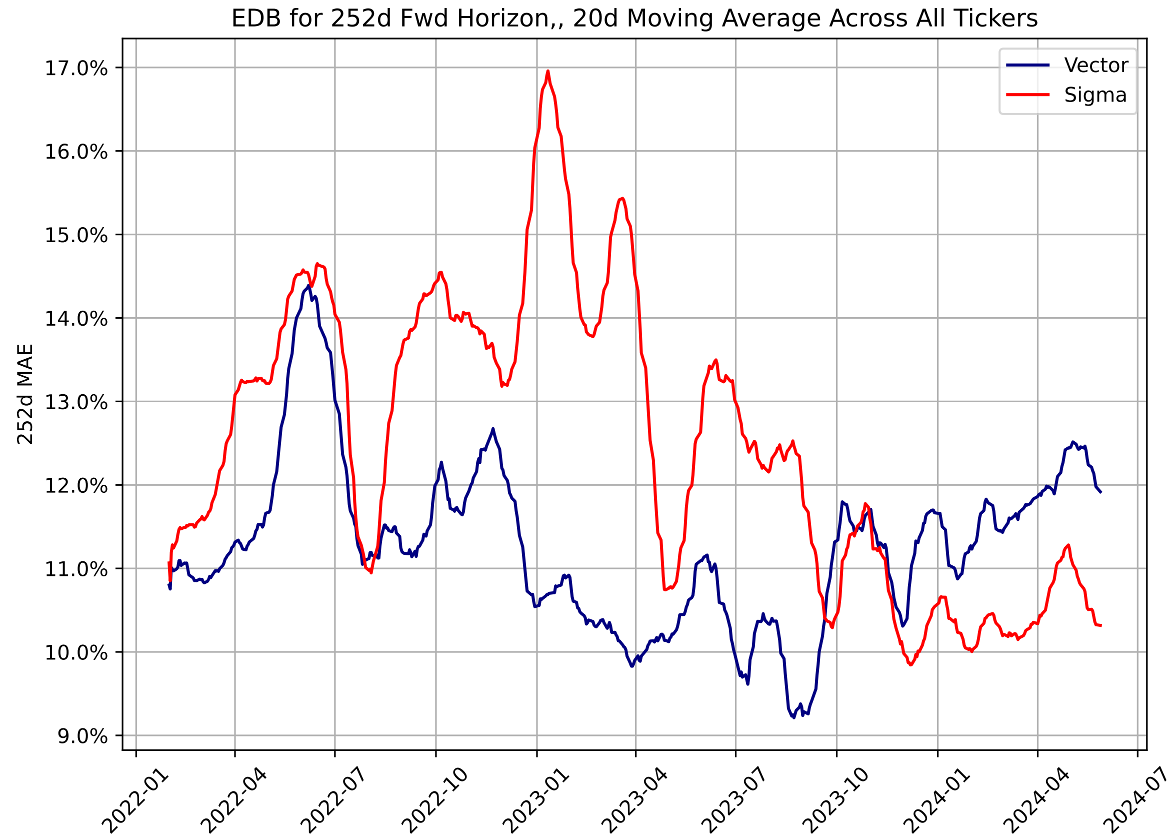


MAE for 63d Fwd Horizon, 20d Moving Average Across All Tickers
Vector
Sigma
63d MAE
10.0%
9.0%
8.0%
7.0%
6.0%
5.0%
2022-01
2022-05
2022-09
2023-01
2023-05
2023-09
2024-01
2024-05
2024-09
2025-01

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 2025-05-29

Horizon	Ticker_V	EDB-MAE_V	Ticker_S	EDB-MAE_S
1.0	AMC	11.99%	AMC	10.5%
1.0	CZR	3.79%	GME	3.01%
1.0	CYH	3.48%	CYH	2.91%
1.0	GBTC	3.4%	LUMN	2.42%
1.0	LUMN	3.22%	MSTR	2.0%
1.0	AMAT	2.94%	GBTC	1.96%
1.0	TSLA	2.71%	BHC	1.82%
1.0	NVDA	2.34%	IEP	1.64%
1.0	PHM	2.29%	TSLA	1.4%
1.0	CCL	2.24%	CTLT	1.4%
1.0	VNO	1.91%	UAA	1.39%
1.0	MSFT	1.89%	CCL	1.38%
1.0	GT	1.83%	AA	1.35%
1.0	GNRC	1.8%	GNRC	1.35%
1.0	BHC	1.78%	SIVBQ	1.34%
1.0	ELAN	1.78%	CLF	1.28%
1.0	IEP	1.76%	VFC	1.28%
1.0	MSTR	1.76%	CZR	1.27%
1.0	THC	1.67%	SBNY	1.27%
1.0	AMD	1.58%	GT	1.24%
1.0	CLF	1.56%	NWL	1.2%
1.0	PWR	1.53%	AAP	1.2%
1.0	MS	1.53%	AMD	1.19%
1.0	MOS	1.53%	LNC	1.18%
1.0	VST	1.51%	NVDA	1.15%
1.0	NWL	1.51%	ON	1.11%
1.0	X	1.5%	KALU	1.1%
1.0	AVGO	1.44%	X	1.08%
1.0	GME	1.41%	ELAN	1.08%
1.0	ETRN	1.39%	META	1.08%

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 2025-05-29

Horizon	Ticker_V	EDB-MAE_V	Ticker_S	EDB-MAE_S
10.0	AMC	25.26%	AMC	20.51%
10.0	GBTC	9.85%	CYH	9.44%
10.0	CYH	9.12%	GME	9.23%
10.0	LUMN	7.4%	LUMN	7.94%
10.0	CZR	6.14%	GBTC	7.02%
10.0	GT	5.71%	MSTR	6.49%
10.0	CCL	5.61%	BHC	5.61%
10.0	NVDA	5.58%	IEP	4.62%
10.0	AMAT	5.13%	UAA	4.58%
10.0	IEP	5.06%	GNRC	4.51%
10.0	VNO	5.04%	TSLA	4.46%
10.0	PHM	4.95%	AA	4.44%
10.0	LNC	4.76%	CCL	4.41%
10.0	BHC	4.7%	CTLT	4.36%
10.0	X	4.54%	GT	4.34%
10.0	MSTR	4.54%	LNC	4.29%
10.0	TSLA	4.53%	CLF	4.27%
10.0	NWL	4.29%	VFC	4.23%
10.0	MU	4.2%	NWL	4.2%
10.0	CLF	4.16%	SBNY	4.13%
10.0	SIVBQ	4.01%	CZR	3.97%
10.0	THC	3.94%	NVDA	3.84%
10.0	AA	3.92%	SIVBQ	3.83%
10.0	GME	3.86%	AAP	3.83%
10.0	AMD	3.86%	INTC	3.56%
10.0	MSFT	3.85%	ELAN	3.52%
10.0	ELAN	3.84%	AMD	3.49%
10.0	VST	3.79%	EXPE	3.48%
10.0	ON	3.77%	ON	3.42%
10.0	TEVA	3.74%	X	3.38%

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 2025-05-29

Horizon	Ticker_V	EDB-MAE_V	Ticker_S	EDB-MAE_S
21.0	AMC	32.21%	AMC	20.43%
21.0	GBTC	11.91%	GME	12.49%
21.0	CYH	10.05%	LUMN	12.06%
21.0	LUMN	9.5%	CYH	10.52%
21.0	NVDA	8.1%	GBTC	9.8%
21.0	CZR	7.29%	MSTR	8.62%
21.0	CCL	7.1%	BHC	8.34%
21.0	AMAT	6.97%	CTLT	6.81%
21.0	GT	6.97%	CCL	6.59%
21.0	IEP	6.89%	NWL	6.34%
21.0	BHC	6.7%	LNC	6.33%
21.0	TSLA	6.5%	IEP	6.23%
21.0	VNO	6.47%	GNRC	6.18%
21.0	NWL	6.41%	AA	6.17%
21.0	PHM	6.4%	CLF	6.17%
21.0	LNC	6.38%	UAA	6.08%
21.0	MSTR	6.13%	GT	6.08%
21.0	CLF	6.13%	TSLA	5.95%
21.0	ELAN	6.12%	ELAN	5.83%
21.0	GME	5.82%	VFC	5.8%
21.0	TEVA	5.72%	SIVBQ	5.75%
21.0	X	5.58%	CZR	5.7%
21.0	UAA	5.33%	X	5.59%
21.0	MOS	5.32%	NVDA	5.44%
21.0	ETRN	5.26%	NFLX	5.37%
21.0	AVGO	5.25%	INTC	5.15%
21.0	ON	5.25%	AMD	5.08%
21.0	THC	5.23%	ON	5.0%
21.0	MU	5.15%	AAP	4.93%
21.0	MSFT	5.11%	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 2025-05-29

Horizon	Ticker_V	EDB-MAE_V	Ticker_S	EDB-MAE_S
63.0	AMC	37.55%	AMC	20.66%
63.0	CYH	15.91%	GME	17.55%
63.0	LUMN	14.91%	MSTR	17.53%
63.0	IEP	14.9%	CYH	15.58%
63.0	GBTC	14.37%	LUMN	14.98%
63.0	AMAT	10.97%	BHC	14.23%
63.0	PHM	10.96%	CCL	13.46%
63.0	CCL	10.49%	IEP	12.82%
63.0	TSLA	10.47%	CTLT	12.64%
63.0	GME	10.39%	GNRC	12.33%
63.0	NVDA	10.26%	GBTC	12.31%
63.0	X	10.15%	UAA	11.58%
63.0	VNO	9.86%	TSLA	10.99%
63.0	UAA	9.83%	GT	10.3%
63.0	CTLT	9.82%	INTC	10.28%
63.0	MU	9.81%	LNC	10.06%
63.0	ELAN	9.64%	CZR	10.01%
63.0	GT	9.31%	SIVBQ	9.95%
63.0	SIVBQ	9.14%	NFLX	9.73%
63.0	CZR	9.1%	AA	9.54%
63.0	INTC	9.03%	CLF	9.31%
63.0	BHC	8.99%	NWL	9.2%
63.0	LNC	8.82%	ON	9.05%
63.0	THC	8.75%	X	8.7%
63.0	MSFT	8.69%	VFC	8.67%
63.0	NWL	8.68%	AMZN	8.65%
63.0	MOS	8.58%	MU	8.5%
63.0	ON	8.48%	SBNY	8.42%
63.0	WDC	8.23%	KALU	8.37%
63.0	PWR	8.22%	THC	8.36%

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 2025-05-29

Horizon	Ticker_V	EDB-MAE_V	Ticker_S	EDB-MAE_S
126.0	AMC	39.69%	AMC	21.07%
126.0	CYH	27.02%	CYH	21.02%
126.0	LUMN	24.73%	BHC	20.85%
126.0	IEP	23.3%	GNRC	20.28%
126.0	NFLX	20.75%	MSTR	20.26%
126.0	GBTC	18.83%	LUMN	19.49%
126.0	SIVBQ	18.52%	NFLX	16.37%
126.0	ETRN	15.25%	UAA	16.14%
126.0	AMAT	14.78%	CCL	16.12%
126.0	TSLA	14.67%	IEP	15.64%
126.0	LNC	14.43%	SBNY	15.33%
126.0	CSTM	14.33%	GT	15.21%
126.0	ELAN	14.31%	ETRN	15.13%
126.0	VNO	13.69%	EXPE	15.01%
126.0	NWL	13.56%	CZR	14.91%
126.0	NVDA	13.24%	SIVBQ	14.87%
126.0	GME	12.93%	GME	14.7%
126.0	PWR	12.78%	GBTC	14.41%
126.0	BHC	12.74%	LNC	14.39%
126.0	UAA	12.65%	NVDA	14.19%
126.0	INTC	12.58%	CTLT	14.12%
126.0	MU	12.43%	AA	13.9%
126.0	AA	12.39%	AAP	13.57%
126.0	CLF	12.37%	CLF	13.21%
126.0	AZO	12.13%	VFC	13.01%
126.0	BBY	11.7%	KEY	12.89%
126.0	ISRG	11.46%	INTC	12.54%
126.0	X	11.35%	NWL	12.01%
126.0	EXPE	11.33%	CSTM	11.96%
126.0	CMG	11.33%	THC	11.64%

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 2025-05-29

Horizon	Ticker_V	EDB-MAE_V	Ticker_S	EDB-MAE_S
252.0	AMC	46.2%	SBNY	53.5%
252.0	CYH	37.64%	AMC	28.43%
252.0	NVDA	36.82%	LUMN	25.71%
252.0	LUMN	32.64%	BHC	23.52%
252.0	PHM	28.72%	SIVBQ	23.37%
252.0	LNC	26.64%	CTLT	22.33%
252.0	SIVBQ	24.89%	META	21.76%
252.0	AMAT	22.79%	LNC	21.71%
252.0	CPRT	21.71%	CLF	21.65%
252.0	CCL	20.37%	TSLA	21.64%
252.0	GBTC	20.03%	NVDA	21.3%
252.0	ORCL	19.87%	UAA	20.83%
252.0	AVGO	19.63%	EXPE	20.7%
252.0	AZO	19.46%	TEVA	20.44%
252.0	IEP	18.35%	VFC	19.68%
252.0	ELAN	18.34%	VNO	19.62%
252.0	EXPE	18.27%	AVGO	19.62%
252.0	LLY	18.25%	GNRC	19.38%
252.0	VFC	18.19%	AAP	19.2%
252.0	NWL	18.13%	ORCL	18.82%
252.0	TXN	17.99%	CYH	18.76%
252.0	ACGL	17.17%	NFLX	18.57%
252.0	PWR	16.74%	ELAN	17.71%
252.0	TRGP	16.72%	FSUGY	17.55%
252.0	INTC	16.48%	FIS	17.43%
252.0	CSTM	16.26%	AZO	17.06%
252.0	ETRN	16.26%	CSTM	16.91%
252.0	AA	16.21%	INTC	16.28%
252.0	TDG	16.03%	CZR	16.19%
252.0	HCA	15.95%	FCX	16.16%

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 2025-05-29

Horizon	Ticker_V	EDB-MAE_V	Ticker_S	EDB-MAE_S
1.0	VCSH	0.08%	VCSH	0.07%
1.0	MUB	0.11%	MUB	0.09%
1.0	LQD	0.18%	HYG	0.2%
1.0	B	0.25%	LQD	0.23%
1.0	HYG	0.27%	EMB	0.26%
1.0	EMB	0.31%	FRA	0.29%
1.0	FRA	0.36%	GLD	0.32%
1.0	TLT	0.43%	PEP	0.38%
1.0	VZ	0.49%	TLT	0.39%
1.0	NVS	0.5%	SPY	0.41%
1.0	AMGN	0.5%	NVS	0.44%
1.0	PEP	0.5%	POST	0.44%
1.0	SNY	0.51%	ABBV	0.46%
1.0	GILD	0.52%	BMY	0.48%
1.0	GSK	0.53%	HON	0.48%
1.0	POST	0.53%	MRK	0.48%
1.0	HD	0.54%	AMGN	0.48%
1.0	CHTR	0.54%	KHC	0.49%
1.0	SBUX	0.54%	ORLY	0.51%
1.0	BMY	0.56%	AZN	0.51%
1.0	BUD	0.57%	TMUS	0.51%
1.0	ABBV	0.58%	CSCO	0.51%
1.0	HON	0.58%	VZ	0.51%
1.0	GLD	0.59%	MNST	0.51%
1.0	XOM	0.59%	VICI	0.52%
1.0	ZTS	0.6%	MSI	0.52%
1.0	ORLY	0.6%	COST	0.52%
1.0	JAZZ	0.6%	GILD	0.52%
1.0	VICI	0.6%	CAH	0.53%
1.0	SLV	0.6%	AZO	0.55%

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 2025-05-29

Horizon	Ticker_V	EDB-MAE_V	Ticker_S	EDB-MAE_S
10.0	VCSH	0.22%	VCSH	0.24%
10.0	MUB	0.41%	MUB	0.32%
10.0	HYG	0.64%	HYG	0.66%
10.0	LQD	0.66%	LQD	0.7%
10.0	EMB	0.91%	EMB	0.77%
10.0	FRA	1.03%	GLD	0.95%
10.0	B	1.13%	FRA	0.96%
10.0	TLT	1.15%	TLT	1.25%
10.0	GLD	1.31%	SPY	1.31%
10.0	NVS	1.43%	PEP	1.36%
10.0	POST	1.47%	POST	1.36%
10.0	GILD	1.48%	NVS	1.44%
10.0	SNY	1.49%	ABBV	1.44%
10.0	BMY	1.51%	ORLY	1.47%
10.0	BUD	1.53%	BMY	1.52%
10.0	VZ	1.56%	HON	1.52%
10.0	ZTS	1.58%	MRK	1.54%
10.0	CHTR	1.61%	TMUS	1.55%
10.0	PEP	1.61%	VICI	1.56%
10.0	GSK	1.62%	KHC	1.56%
10.0	TMUS	1.62%	VZ	1.59%
10.0	XOM	1.69%	GILD	1.6%
10.0	AMGN	1.71%	UNH	1.63%
10.0	SLV	1.75%	CAH	1.65%
10.0	JAZZ	1.77%	AMGN	1.65%
10.0	ABBV	1.79%	CSCO	1.65%
10.0	MSI	1.81%	COST	1.68%
10.0	OXY	1.81%	GSK	1.68%
10.0	VICI	1.82%	AZO	1.68%
10.0	ORLY	1.82%	PCG	1.7%

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 2025-05-29

Horizon	Ticker_V	EDB-MAE_V	Ticker_S	EDB-MAE_S
21.0	VCSH	0.28%	VCSH	0.35%
21.0	MUB	0.71%	MUB	0.48%
21.0	HYG	0.95%	HYG	0.9%
21.0	LQD	0.95%	LQD	1.04%
21.0	EMB	1.45%	EMB	1.24%
21.0	FRA	1.58%	FRA	1.46%
21.0	TLT	1.76%	GLD	1.48%
21.0	GLD	1.76%	SPY	1.91%
21.0	SNY	1.97%	PEP	1.93%
21.0	BUD	1.98%	TLT	1.98%
21.0	GILD	2.0%	POST	2.05%
21.0	NVS	2.02%	BMY	2.06%
21.0	POST	2.11%	NVS	2.06%
21.0	BMY	2.11%	MRK	2.07%
21.0	CHTR	2.15%	VICI	2.17%
21.0	GSK	2.17%	HON	2.18%
21.0	MSI	2.27%	ACGL	2.22%
21.0	CVS	2.27%	ORLY	2.26%
21.0	VICI	2.29%	UNH	2.28%
21.0	PEP	2.31%	MSI	2.31%
21.0	ZTS	2.33%	GILD	2.33%
21.0	BIIB	2.39%	MNST	2.34%
21.0	XOM	2.4%	TMUS	2.34%
21.0	HON	2.41%	AMGN	2.37%
21.0	AMGN	2.43%	ABBV	2.37%
21.0	TMUS	2.44%	KHC	2.39%
21.0	MRK	2.47%	CAH	2.41%
21.0	SLV	2.48%	BUD	2.41%
21.0	JAZZ	2.49%	SNY	2.45%
21.0	GWW	2.51%	QQQ	2.47%

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 2025-05-29

Horizon	Ticker_V	EDB-MAE_V	Ticker_S	EDB-MAE_S
63.0	VCSH	0.41%	VCSH	0.63%
63.0	MUB	0.93%	MUB	0.74%
63.0	LQD	1.2%	LQD	1.77%
63.0	HYG	1.57%	HYG	1.82%
63.0	EMB	2.23%	EMB	2.2%
63.0	TLT	2.42%	GLD	2.36%
63.0	FRA	2.5%	FRA	2.47%
63.0	POST	2.6%	PEP	3.1%
63.0	GLD	2.72%	SPY	3.19%
63.0	TMUS	2.83%	TLT	3.27%
63.0	GSK	2.88%	ABBV	3.27%
63.0	ABBV	3.17%	POST	3.29%
63.0	CHTR	3.19%	HON	3.39%
63.0	VICI	3.22%	VICI	3.47%
63.0	GILD	3.29%	NVS	3.48%
63.0	BUD	3.31%	BMY	3.66%
63.0	PEP	3.5%	BUD	3.74%
63.0	SPY	3.52%	VZ	3.75%
63.0	NVS	3.56%	GILD	3.75%
63.0	HON	3.66%	CPRT	3.77%
63.0	CAH	3.69%	ORLY	3.89%
63.0	MSI	3.7%	HD	3.94%
63.0	BMY	3.72%	MRK	3.94%
63.0	HD	3.74%	MNST	3.97%
63.0	ORLY	3.79%	AMGN	3.99%
63.0	XOM	3.89%	ACGL	4.0%
63.0	SBNY	3.89%	CAH	4.01%
63.0	OXY	3.99%	AZN	4.06%
63.0	AMGN	4.03%	GWW	4.07%
63.0	KHC	4.07%	KHC	4.17%

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 2025-05-29

Horizon	Ticker_V	EDB-MAE_V	Ticker_S	EDB-MAE_S
126.0	VCSH	0.68%	VCSH	0.9%
126.0	MUB	1.63%	MUB	1.28%
126.0	HYG	2.05%	LQD	2.53%
126.0	LQD	2.07%	HYG	2.81%
126.0	NVS	2.93%	EMB	3.57%
126.0	TLT	3.17%	CAH	3.99%
126.0	FRA	3.44%	NVS	4.03%
126.0	HON	3.63%	UNH	4.21%
126.0	SNY	3.73%	FRA	4.27%
126.0	GSK	4.23%	GLD	4.4%
126.0	EMB	4.26%	PEP	4.5%
126.0	ZTS	4.26%	TLT	4.51%
126.0	HD	4.29%	KHC	4.63%
126.0	BUD	4.31%	MNST	4.79%
126.0	TMUS	4.37%	GILD	4.87%
126.0	GLD	4.46%	HON	5.14%
126.0	GILD	4.54%	ABBV	5.16%
126.0	VST	4.65%	SPY	5.2%
126.0	COST	4.65%	FRCB	5.39%
126.0	KHC	4.73%	AMGN	5.44%
126.0	AZN	4.77%	CSCO	5.45%
126.0	GWW	4.88%	VICI	5.45%
126.0	BHP	4.92%	JAZZ	5.48%
126.0	GS	4.95%	GWW	5.52%
126.0	OXY	4.95%	POST	5.58%
126.0	MSI	5.05%	AZN	5.67%
126.0	CHTR	5.14%	CMCSA	5.7%
126.0	VICI	5.17%	MSI	5.74%
126.0	JAZZ	5.21%	MSFT	5.82%
126.0	SBUX	5.25%	ZTS	5.86%

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 2025-05-29

Horizon	Ticker_V	EDB-MAE_V	Ticker_S	EDB-MAE_S
252.0	VCSH	1.04%	VCSH	1.12%
252.0	LQD	2.83%	MUB	1.63%
252.0	MUB	3.11%	HYG	3.65%
252.0	HYG	3.46%	FRA	3.78%
252.0	FRA	3.54%	SPY	4.18%
252.0	QQQ	3.88%	LQD	4.38%
252.0	ISRG	3.93%	QQQ	4.72%
252.0	GLD	4.02%	TLT	4.87%
252.0	ZTS	4.13%	EMB	4.98%
252.0	GILD	4.47%	PEP	5.15%
252.0	VICI	4.51%	GLD	5.17%
252.0	BHP	4.56%	GILD	5.64%
252.0	TLT	4.57%	MNST	5.71%
252.0	XOM	4.75%	CDNS	5.87%
252.0	COST	4.86%	CMCSA	6.11%
252.0	SPY	5.14%	CMG	6.21%
252.0	SNY	5.21%	DHI	6.28%
252.0	OXY	5.29%	JAZZ	6.42%
252.0	CNC	5.35%	FRCB	6.47%
252.0	CHTR	5.4%	COST	6.88%
252.0	NVS	5.41%	GSK	6.91%
252.0	T	5.68%	VICI	6.99%
252.0	KHC	5.74%	PHM	7.05%
252.0	META	5.85%	CNC	7.11%
252.0	DHI	6.0%	AMGN	7.13%
252.0	CMCSA	6.1%	ISRG	7.24%
252.0	CMG	6.28%	ABBV	7.6%
252.0	BUD	6.47%	KHC	7.62%
252.0	AMGN	6.55%	MSFT	7.64%
252.0	PEP	6.59%	BMY	7.85%

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.

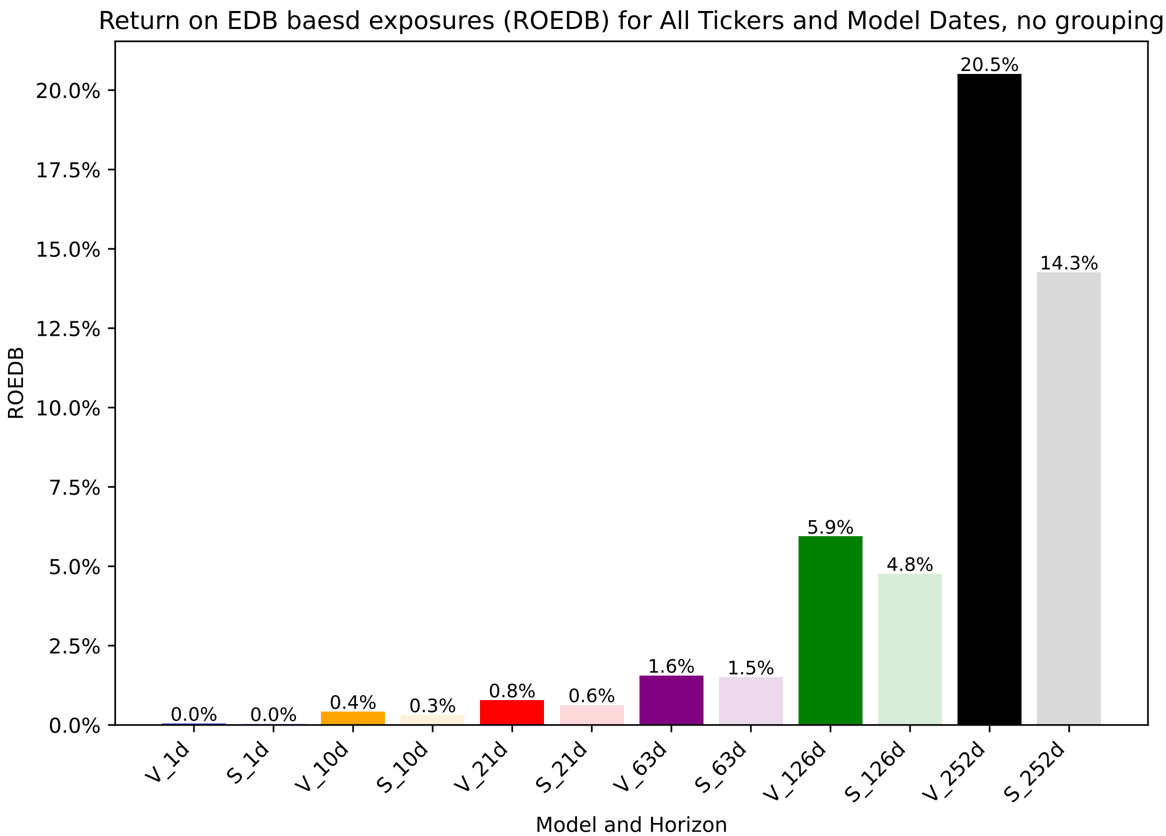
Vector Model based TMD exposures reflect each TMD's underlying horizon price return multiplied by the ratio of Sigma model based EDB to Vector Model EDB for the given horizon. This ratio is capped of 3.0x and floored of 0.333x.

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 2025-05-29



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

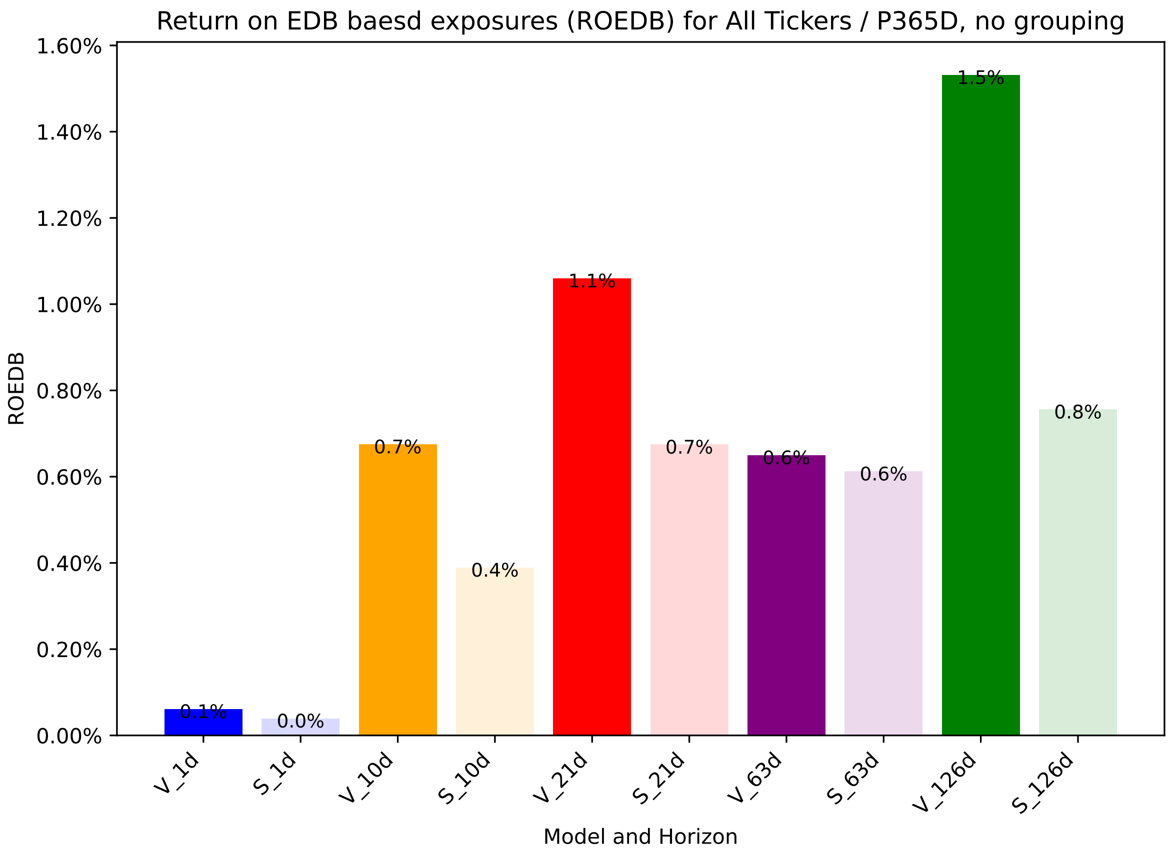
	1d	10d	21d	63d	126d	252d
intercept	-0.01%	-0.08%	-0.22%	-0.78%	-1.43%	-2.67%
intercept_p_value	10.81%	0.00%	0.00%	0.00%	0.00%	0.00%
slope	164.72%	159.38%	159.58%	155.09%	154.55%	162.53%
slope_p_value	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

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

	1d	10d	21d	63d	126d	252d
intercept	0.01%	0.12%	0.22%	0.65%	1.64%	2.72%
intercept_p_value	48.38%	19.89%	13.72%	11.68%	7.72%	11.44%
slope	152.91%	144.84%	145.67%	144.85%	148.42%	162.34%
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 2024-06-03 through 2025-05-29



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

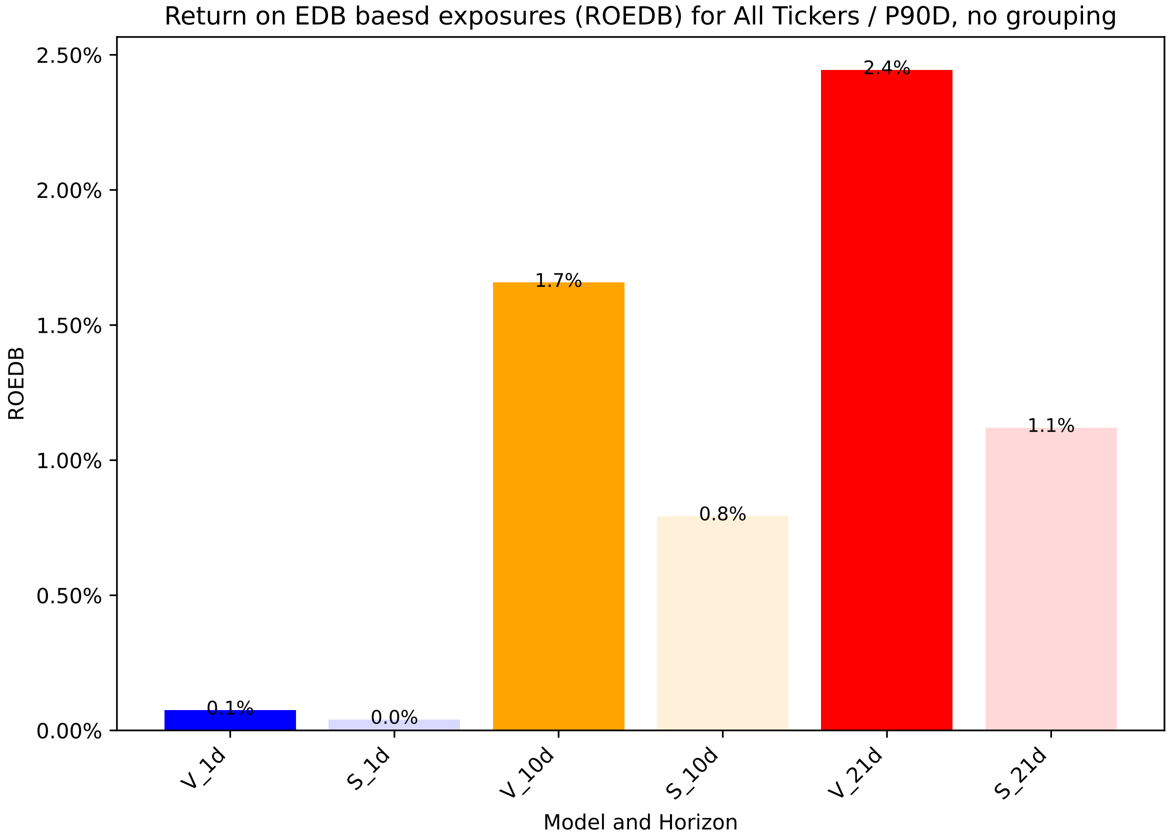
	1d	10d	21d	63d	126d
intercept	0.00%	0.13%	0.09%	-0.21%	0.49%
intercept_p_value	96.79%	0.01%	4.07%	0.41%	0.01%
slope	154.57%	140.19%	143.07%	140.63%	137.98%
slope_p_value	0.00%	0.00%	0.00%	0.00%	0.00%

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

	1d	10d	21d	63d	126d
intercept	0.02%	0.24%	0.32%	0.14%	0.62%
intercept_p_value	48.78%	21.43%	18.11%	14.41%	21.17%
slope	143.29%	132.02%	131.19%	125.84%	127.03%
slope_p_value	0.00%	0.00%	0.04%	0.00%	0.00%

Prior 90 Calendar Days (P90D)

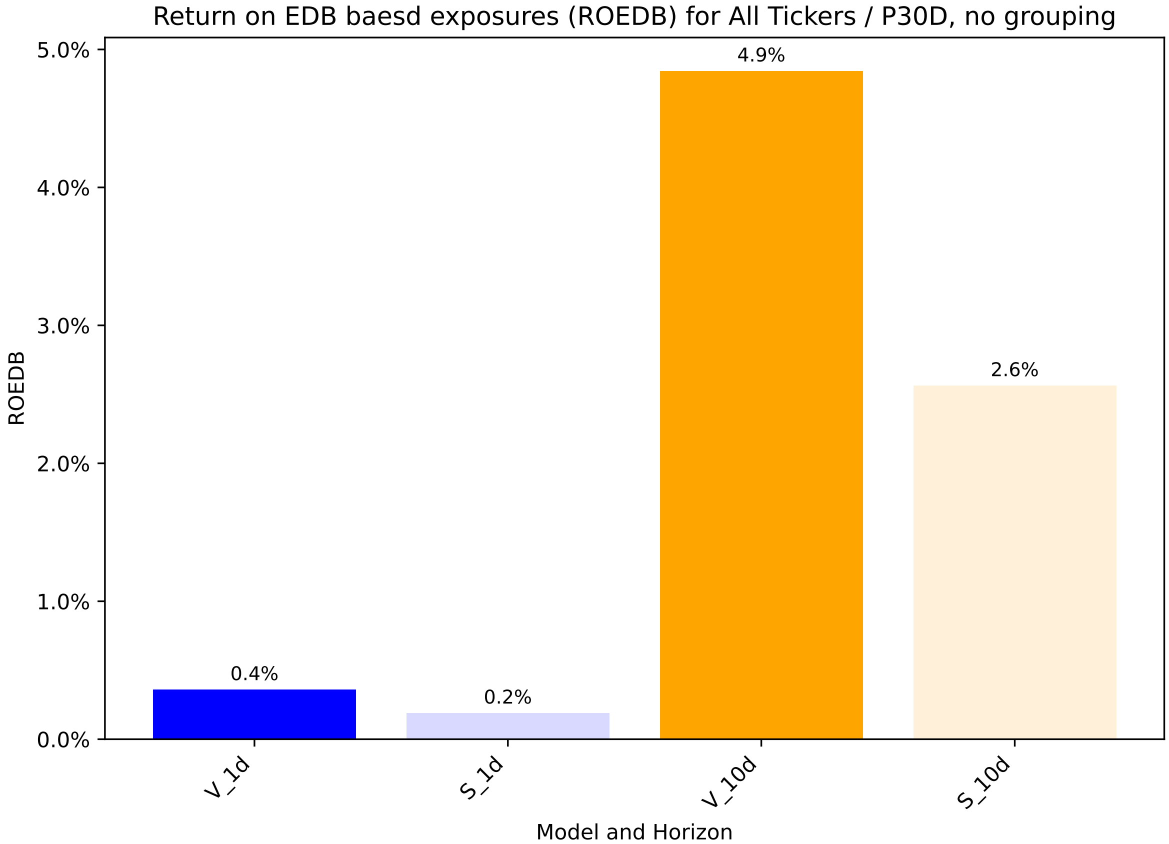
Period examined: All model dates from 2025-03-03 through 2025-05-29




```
Alpha (intercept) and Beta (slope) of Vector Model ROEDB regressed upon
corresponding horizon actual ticker-model date returns:
                         1d       10d       21d
intercept             0.00%     0.36%     0.60%
intercept_p_value    89.09%     0.00%     0.00%
slope               174.77%   163.91%   164.30%
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%     0.41%     0.82%
intercept_p_value    48.01%    21.33%    25.87%
slope               163.15%   152.00%   150.56%
slope_p_value         0.00%     0.00%     0.00%
```

Prior 30 Calendar Days (P30D)

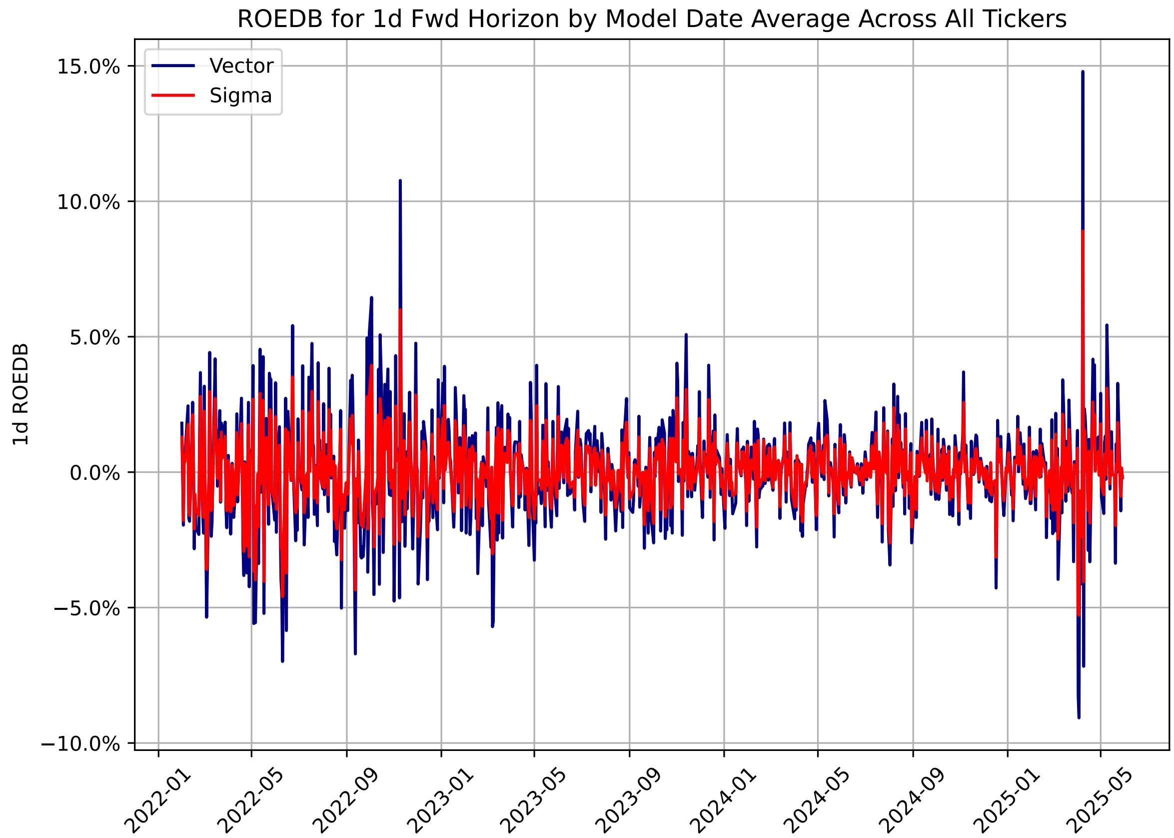
Period examined: All model dates from 2025-05-02 through 2025-05-29



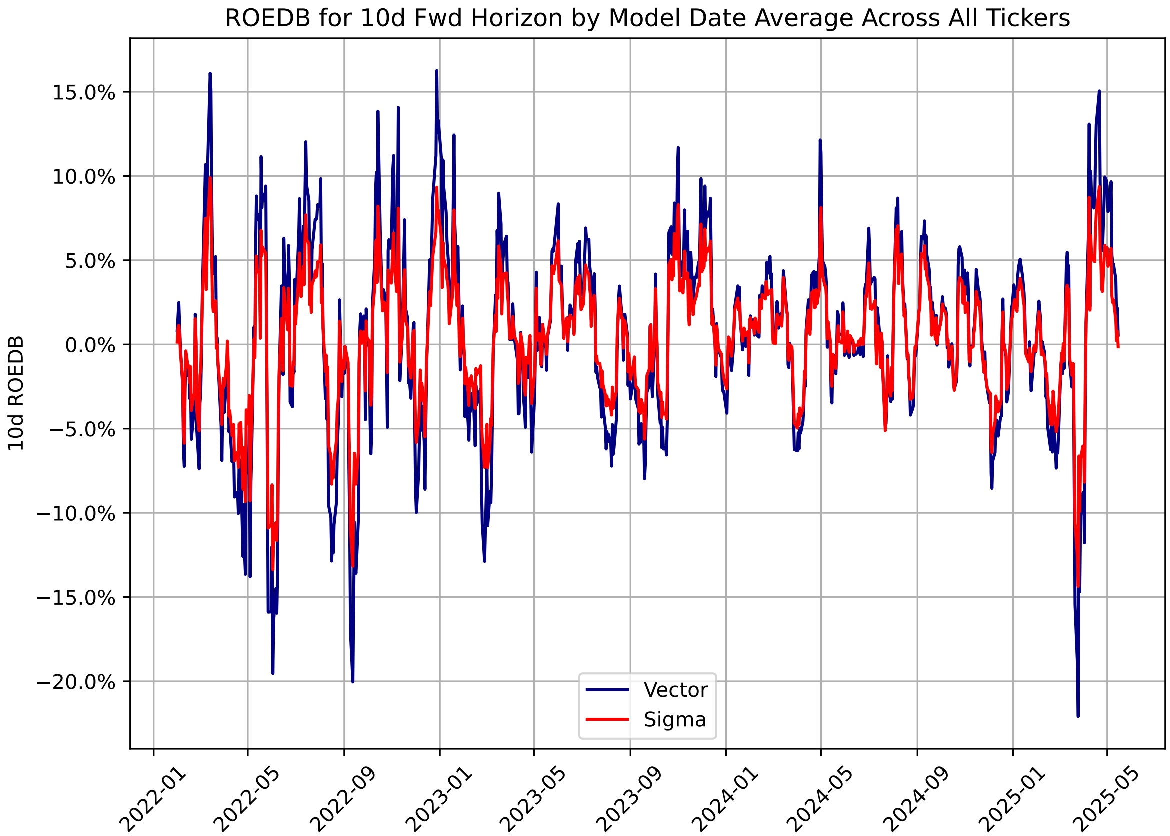

```
Alpha (intercept) and Beta (slope) of Vector Model ROEDB regressed upon
corresponding horizon actual ticker-model date returns:
                        1d      10d
intercept           -0.00%    0.14%
intercept_p_value   92.98%   44.16%
slope              191.75%  183.34%
slope_p_value        0.00%    0.00%

Same as above, but averaged by Ticker across Model Dates:
                        1d      10d
intercept            0.02%   -0.16%
intercept_p_value   46.53%   44.88%
slope              167.87%  159.08%
slope_p_value        0.00%    0.09%
```

ROEDB by Model Date Detail

1d Horizon

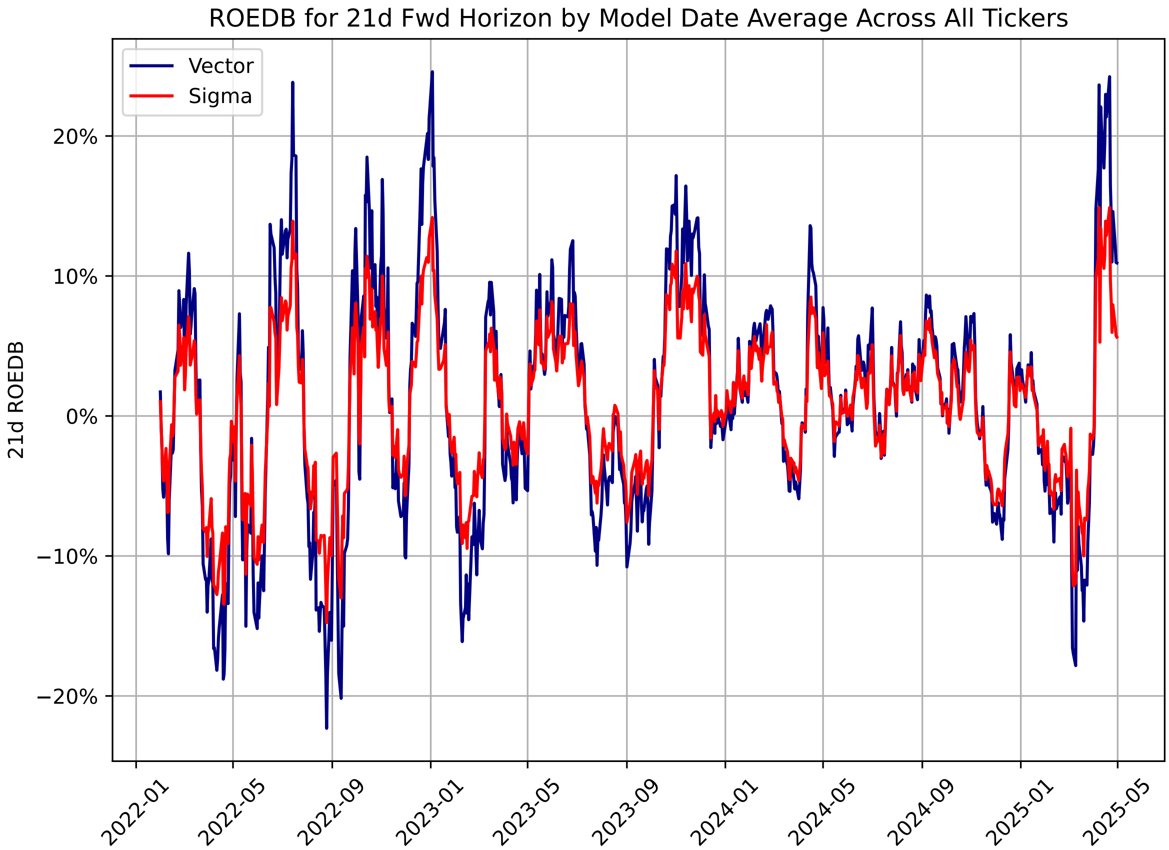


10d Horizon



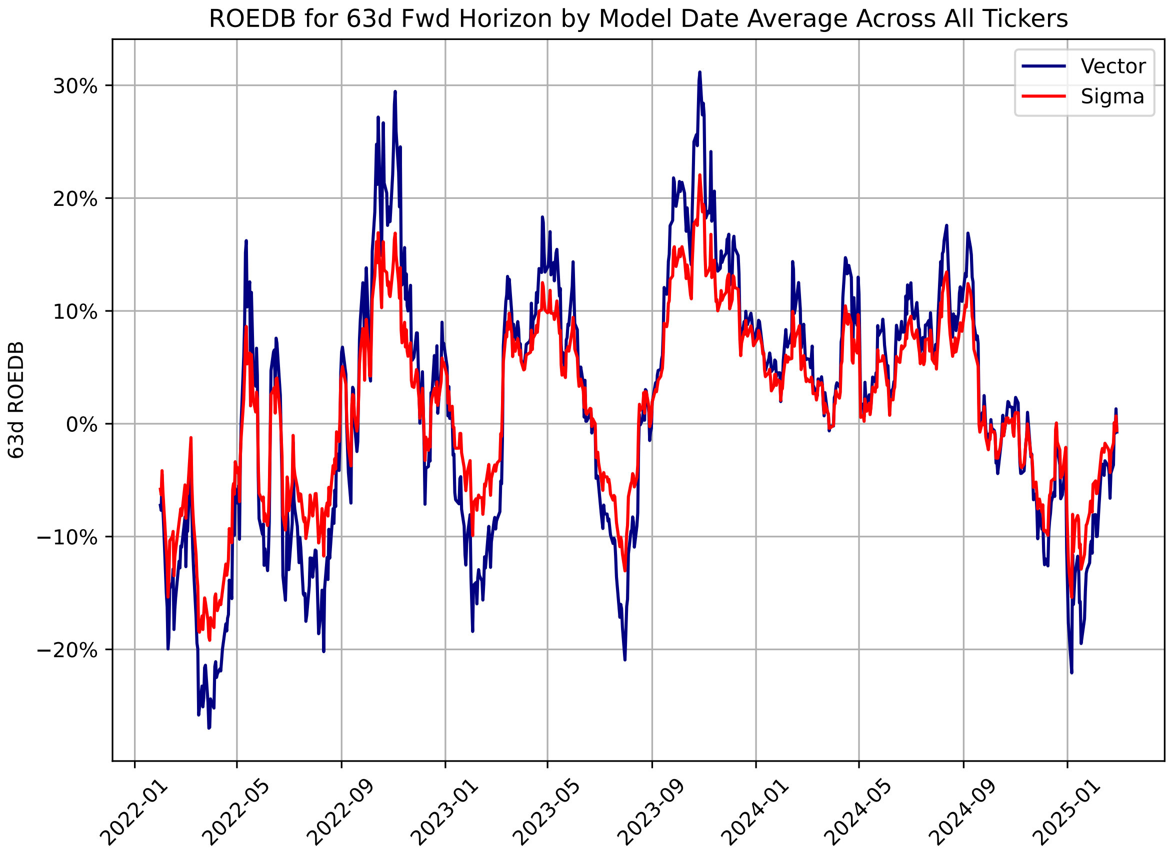
ROEDB for 10d Fwd Horizon by Model Date Average Across All Tickers
10d ROEDB
15.0%
10.0%
5.0%
0.0%
−5.0%
−10.0%
−15.0%
−20.0%
2022-01
2022-05
2022-09
2023-01
2023-05
2023-09
2024-01
2024-05
2024-09
2025-01
2025-05
Vector
Sigma

21d Horizon



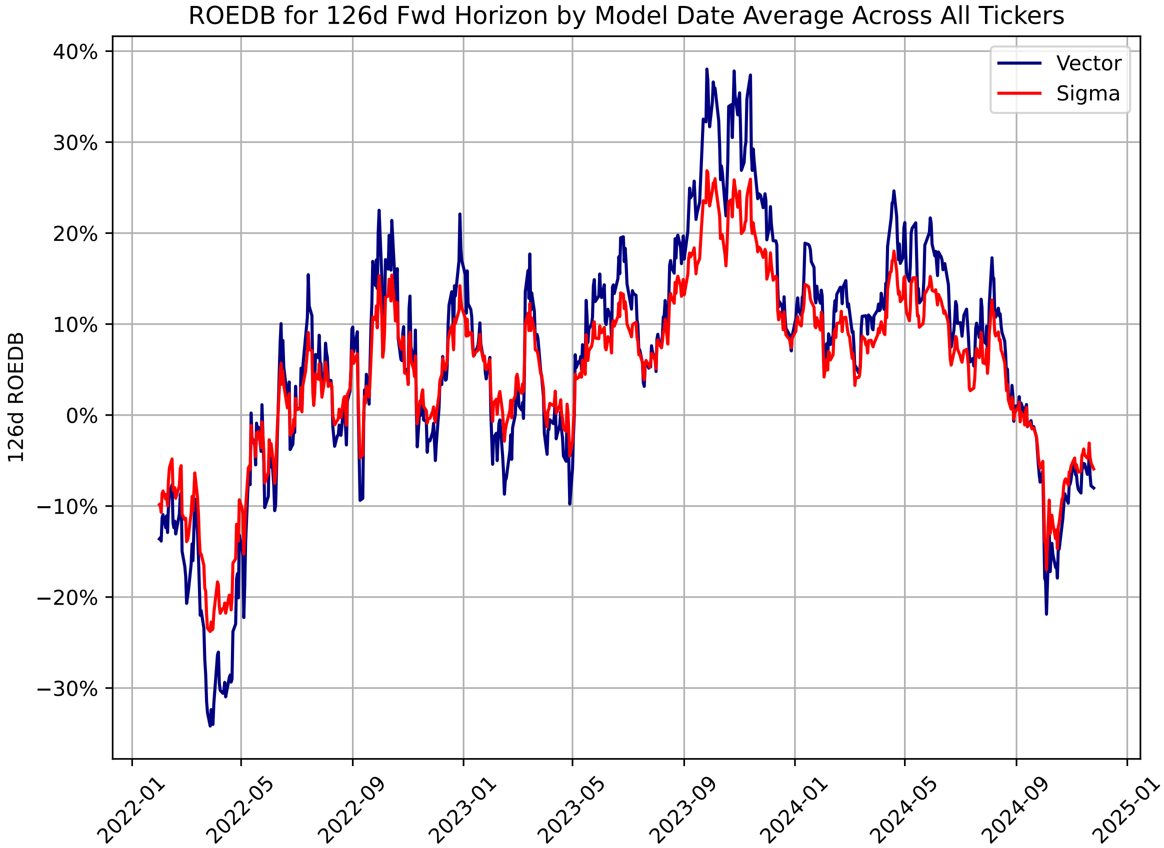
ROEDB for 21d Fwd Horizon by Model Date Average Across All Tickers
Vector
Sigma
21d ROEDB
20%
10%
0%
−10%
−20%
2022-01
2022-05
2022-09
2023-01
2023-05
2023-09
2024-01
2024-05
2024-09
2025-01
2025-05

63d Horizon

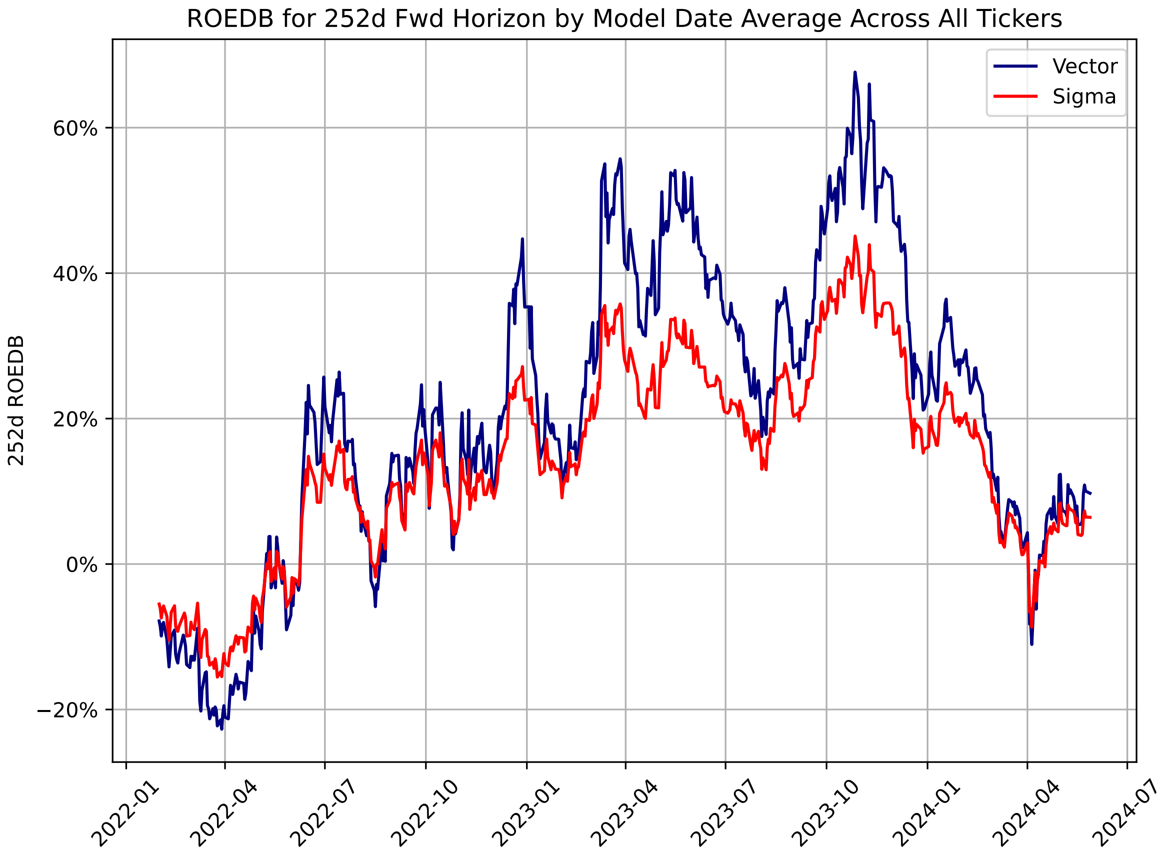


ROEDB for 63d Fwd Horizon by Model Date Average Across All Tickers
Vector
Sigma
63d ROEDB
30%
20%
10%
0%
−10%
−20%
2022-01
2022-05
2022-09
2023-01
2023-05
2023-09
2024-01
2024-05
2024-09
2025-01

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 2025-05-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
1.0	MSTR	1.0%	MSTR	0.47%
1.0	GME	0.72%	VST	0.29%
1.0	NFLX	0.47%	NVDA	0.27%
1.0	META	0.37%	GME	0.23%
1.0	AVGO	0.33%	GBTC	0.22%
1.0	B	0.29%	AVGO	0.21%
1.0	ORCL	0.23%	PWR	0.17%
1.0	NVDA	0.22%	NFLX	0.17%
1.0	PWR	0.21%	X	0.17%
1.0	GWW	0.21%	GE	0.17%
1.0	XOM	0.21%	LLY	0.15%
1.0	INTU	0.19%	THC	0.14%
1.0	ORLY	0.19%	CAH	0.14%
1.0	CDNS	0.19%	TRGP	0.14%
1.0	VST	0.19%	META	0.13%
1.0	MSI	0.17%	TEVA	0.12%
1.0	ISRG	0.16%	TDG	0.12%
1.0	AZO	0.16%	ETRN	0.12%
1.0	X	0.16%	IRM	0.11%
1.0	AMZN	0.15%	ORCL	0.11%
1.0	LLY	0.15%	TMUS	0.11%
1.0	JPM	0.15%	GWW	0.11%
1.0	CAH	0.14%	ISRG	0.1%
1.0	AAPL	0.14%	CDNS	0.1%
1.0	GOOGL	0.14%	ACGL	0.1%
1.0	IRM	0.14%	ORLY	0.1%
1.0	TDG	0.14%	PHM	0.1%
1.0	THC	0.13%	COST	0.1%
1.0	GE	0.13%	TSLA	0.09%
1.0	WDC	0.13%	CCL	0.09%

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 2025-05-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
10.0	MSTR	11.24%	MSTR	4.85%
10.0	B	10.97%	B	4.18%
10.0	GME	6.18%	VST	2.9%
10.0	META	3.69%	NVDA	2.66%
10.0	NFLX	3.69%	GBTC	2.14%
10.0	TEVA	2.52%	AVGO	2.03%
10.0	AVGO	2.49%	GME	1.99%
10.0	VST	2.43%	NFLX	1.77%
10.0	ORCL	2.11%	PWR	1.67%
10.0	NVDA	2.1%	GE	1.6%
10.0	GWW	1.87%	LLY	1.55%
10.0	CDNS	1.64%	META	1.54%
10.0	CAH	1.63%	X	1.43%
10.0	PWR	1.62%	CAH	1.43%
10.0	GE	1.61%	ETRN	1.41%
10.0	SLV	1.55%	TRGP	1.38%
10.0	AMZN	1.45%	THC	1.33%
10.0	THC	1.44%	TEVA	1.32%
10.0	ETRN	1.4%	TDG	1.14%
10.0	MSI	1.39%	IRM	1.12%
10.0	GILD	1.39%	CDNS	1.12%
10.0	XOM	1.37%	GWW	1.11%
10.0	HCA	1.36%	TSLA	1.06%
10.0	AZO	1.35%	ORCL	1.04%
10.0	ISRG	1.34%	PHM	1.03%
10.0	X	1.32%	ISRG	1.01%
10.0	AAPL	1.28%	ORLY	1.0%
10.0	INTU	1.27%	TMUS	0.94%
10.0	ORLY	1.26%	COST	0.94%
10.0	GBTC	1.25%	ACGL	0.93%

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 2025-05-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
21.0	MSTR	24.15%	MSTR	10.93%
21.0	GME	9.94%	VST	6.17%
21.0	META	8.43%	NVDA	5.64%
21.0	NFLX	7.39%	GBTC	4.6%
21.0	TEVA	6.21%	AVGO	4.17%
21.0	AVGO	5.12%	NFLX	3.86%
21.0	VST	4.91%	PWR	3.53%
21.0	NVDA	4.42%	ETRN	3.5%
21.0	ETRN	4.25%	META	3.43%
21.0	ORCL	4.25%	GE	3.37%
21.0	GWW	3.74%	LLY	3.31%
21.0	PWR	3.54%	GME	3.14%
21.0	CAH	3.54%	CAH	2.99%
21.0	GE	3.53%	TRGP	2.89%
21.0	CDNS	3.25%	TEVA	2.85%
21.0	GBTC	3.18%	X	2.81%
21.0	GILD	3.16%	THC	2.7%
21.0	THC	3.11%	GWW	2.4%
21.0	XOM	3.02%	IRM	2.36%
21.0	SLV	2.97%	TSLA	2.36%
21.0	AMZN	2.93%	CDNS	2.35%
21.0	MSI	2.85%	TDG	2.34%
21.0	INTU	2.75%	PHM	2.29%
21.0	AZO	2.74%	ORCL	2.26%
21.0	CTLT	2.74%	ISRG	2.19%
21.0	ISRG	2.62%	ORLY	2.09%
21.0	ORLY	2.61%	COST	2.04%
21.0	HCA	2.54%	ACGL	2.0%
21.0	GS	2.52%	TMUS	1.96%
21.0	X	2.49%	CPRT	1.94%

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 2025-05-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
63.0	MSTR	58.93%	MSTR	30.76%
63.0	META	29.76%	VST	18.67%
63.0	NFLX	26.21%	NVDA	18.34%
63.0	VST	17.34%	GBTC	14.7%
63.0	NVDA	15.72%	NFLX	12.13%
63.0	AVGO	14.1%	META	11.72%
63.0	TEVA	12.37%	AVGO	11.61%
63.0	GE	11.13%	ETRN	10.28%
63.0	GWW	10.95%	LLY	10.14%
63.0	ORCL	10.93%	GE	10.08%
63.0	GBTC	10.85%	TRGP	8.84%
63.0	GME	10.75%	PWR	8.34%
63.0	GILD	10.73%	CAH	8.18%
63.0	ETRN	10.51%	PHM	8.15%
63.0	CTLT	10.48%	THC	7.17%
63.0	CAH	10.19%	TDG	7.0%
63.0	ISRG	9.65%	TEVA	6.77%
63.0	LLY	9.02%	GWW	6.61%
63.0	MSI	8.79%	ISRG	6.46%
63.0	TDG	8.54%	ACGL	6.31%
63.0	TRGP	7.79%	ORLY	6.19%
63.0	CDNS	7.64%	TMUS	6.17%
63.0	THC	7.61%	ORCL	6.17%
63.0	INTU	7.34%	CPRT	5.79%
63.0	TMUS	6.98%	IRM	5.7%
63.0	ACGL	6.98%	CDNS	5.67%
63.0	SLV	6.97%	MSI	5.56%
63.0	ORLY	6.87%	CMG	5.47%
63.0	AZO	6.76%	GILD	5.45%
63.0	PWR	6.72%	X	5.36%

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 2025-05-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
126.0	MSTR	164.77%	MSTR	75.99%
126.0	META	79.87%	NVDA	50.54%
126.0	NFLX	65.53%	VST	44.6%
126.0	NVDA	50.15%	GBTC	41.36%
126.0	VST	47.53%	META	30.18%
126.0	AVGO	40.31%	NFLX	29.96%
126.0	GBTC	31.64%	AVGO	27.93%
126.0	ORCL	30.45%	GE	24.67%
126.0	TEVA	29.58%	LLY	21.72%
126.0	GE	28.45%	TRGP	21.33%
126.0	ISRG	27.82%	PHM	20.21%
126.0	CAH	24.69%	THC	18.94%
126.0	GILD	24.67%	ETRN	18.49%
126.0	GWW	23.3%	PWR	18.48%
126.0	TDG	22.7%	CAH	17.11%
126.0	LLY	22.3%	ISRG	16.57%
126.0	MSI	22.28%	TEVA	16.51%
126.0	INTU	20.13%	TDG	16.26%
126.0	CDNS	19.35%	ORCL	16.03%
126.0	TRGP	19.28%	GWW	15.46%
126.0	ETRN	19.22%	ACGL	14.63%
126.0	THC	19.02%	IRM	14.54%
126.0	AMZN	17.68%	CCL	14.21%
126.0	LEN	17.4%	CMG	13.84%
126.0	ORLY	17.11%	MSI	13.83%
126.0	PHM	16.78%	CPRT	13.68%
126.0	DHI	16.7%	ORLY	13.42%
126.0	GOOGL	16.47%	JPM	13.35%
126.0	ACGL	16.13%	DHI	13.15%
126.0	TMUS	15.79%	COST	12.92%

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 2025-05-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
252.0	MSTR	481.47%	MSTR	229.44%
252.0	META	214.53%	NVDA	151.19%
252.0	VST	180.72%	VST	127.47%
252.0	NFLX	155.17%	GBTC	123.01%
252.0	NVDA	135.79%	META	82.56%
252.0	AVGO	117.71%	AVGO	73.31%
252.0	GBTC	99.1%	NFLX	67.91%
252.0	TEVA	77.74%	GE	61.52%
252.0	ORCL	76.97%	PHM	58.63%
252.0	ISRG	75.63%	LLY	56.85%
252.0	GE	73.27%	THC	53.06%
252.0	LLY	68.52%	TRGP	50.73%
252.0	TDG	67.82%	PWR	42.43%
252.0	AMZN	67.51%	TDG	41.72%
252.0	THC	64.85%	TEVA	40.35%
252.0	MSI	61.89%	ISRG	40.16%
252.0	INTU	59.87%	IRM	38.04%
252.0	GWW	55.45%	ORCL	37.69%
252.0	TRGP	54.44%	DHI	36.88%
252.0	LEN	54.43%	ACGL	36.16%
252.0	PHM	52.5%	ETRN	35.78%
252.0	DHI	51.89%	CCL	35.77%
252.0	AMD	51.19%	GWW	35.03%
252.0	COST	50.94%	CMG	34.46%
252.0	CAH	50.9%	CPRT	32.34%
252.0	ACGL	50.56%	LEN	32.07%
252.0	WDC	50.06%	COST	31.98%
252.0	GOOGL	44.06%	CAH	31.6%
252.0	IRM	41.99%	MSI	31.23%
252.0	AMAT	40.29%	AMAT	31.14%

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 2024-06-03 through 2025-05-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
1.0	MSTR	1.32%	MSTR	0.52%
1.0	GME	0.71%	TSLA	0.38%
1.0	TSLA	0.61%	LUMN	0.35%
1.0	META	0.51%	VST	0.33%
1.0	NFLX	0.45%	AVGO	0.32%
1.0	GILD	0.4%	NFLX	0.28%
1.0	CHTR	0.39%	GILD	0.24%
1.0	PWR	0.38%	GME	0.21%
1.0	NEM	0.36%	VNO	0.21%
1.0	ORCL	0.34%	CCL	0.2%
1.0	PRGO	0.33%	GE	0.19%
1.0	AMZN	0.29%	X	0.19%
1.0	EXPE	0.29%	EXPE	0.19%
1.0	GBTC	0.29%	CAH	0.19%
1.0	GS	0.29%	T	0.19%
1.0	B	0.29%	GBTC	0.18%
1.0	AAP	0.29%	ORCL	0.17%
1.0	AZO	0.28%	CHTR	0.16%
1.0	LNC	0.26%	ORLY	0.15%
1.0	VFC	0.25%	TMUS	0.15%
1.0	ORLY	0.24%	META	0.15%
1.0	AVGO	0.24%	ISRG	0.15%
1.0	X	0.22%	TRGP	0.15%
1.0	NVDA	0.22%	GLD	0.14%
1.0	ELAN	0.21%	INTU	0.14%
1.0	GE	0.21%	GS	0.14%
1.0	HD	0.21%	NVDA	0.13%
1.0	BXP	0.2%	MS	0.13%
1.0	SLV	0.2%	CSCO	0.13%
1.0	VICI	0.2%	THC	0.13%

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 2024-06-03 through 2025-05-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
10.0	MSTR	14.29%	MSTR	5.41%
10.0	B	10.97%	LUMN	5.05%
10.0	TSLA	5.22%	B	4.18%
10.0	VFC	4.76%	TSLA	3.96%
10.0	LUMN	4.29%	VST	3.48%
10.0	META	4.04%	NFLX	2.83%
10.0	GILD	4.04%	AVGO	2.68%
10.0	CHTR	3.86%	GILD	2.31%
10.0	NFLX	3.32%	VNO	2.12%
10.0	AVGO	2.99%	CAH	1.95%
10.0	PWR	2.89%	CHTR	1.93%
10.0	EXPE	2.87%	CCL	1.92%
10.0	AMZN	2.71%	GBTC	1.9%
10.0	GME	2.26%	T	1.88%
10.0	NWL	2.24%	GE	1.88%
10.0	NEM	2.22%	EXPE	1.64%
10.0	ORCL	2.17%	TRGP	1.57%
10.0	GS	2.07%	GLD	1.49%
10.0	ORLY	2.01%	ORLY	1.46%
10.0	GE	1.99%	GS	1.45%
10.0	VST	1.99%	MS	1.45%
10.0	AZO	1.98%	CSCO	1.44%
10.0	GBTC	1.98%	TMUS	1.42%
10.0	GWW	1.94%	JPM	1.38%
10.0	CCL	1.94%	HSBC	1.38%
10.0	SLV	1.9%	CYH	1.36%
10.0	JPM	1.84%	AZO	1.34%
10.0	CAH	1.68%	X	1.34%
10.0	ABBV	1.65%	META	1.34%
10.0	VNO	1.54%	ISRG	1.32%

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 2024-06-03 through 2025-05-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
21.0	MSTR	30.04%	MSTR	12.63%
21.0	LUMN	14.27%	LUMN	11.92%
21.0	TSLA	11.45%	TSLA	7.74%
21.0	CHTR	8.72%	VST	7.34%
21.0	VFC	8.44%	NFLX	5.8%
21.0	GILD	7.84%	AVGO	4.61%
21.0	META	7.53%	VNO	4.46%
21.0	NFLX	7.03%	GILD	4.45%
21.0	PWR	6.29%	GBTC	4.22%
21.0	EXPE	6.07%	CAH	4.05%
21.0	GME	5.65%	T	3.97%
21.0	AVGO	5.15%	CHTR	3.9%
21.0	AMZN	4.59%	GE	3.57%
21.0	CCL	4.53%	CCL	3.52%
21.0	NEM	4.45%	GLD	3.26%
21.0	GS	4.24%	TMUS	3.25%
21.0	GBTC	4.22%	EXPE	3.24%
21.0	GE	3.84%	CYH	3.07%
21.0	GWW	3.69%	TRGP	3.05%
21.0	AZO	3.62%	MS	2.9%
21.0	ORLY	3.62%	GS	2.86%
21.0	CAH	3.62%	HSBC	2.81%
21.0	JPM	3.59%	ORLY	2.81%
21.0	SLV	3.33%	CSCO	2.81%
21.0	KEY	3.33%	JPM	2.79%
21.0	ORCL	3.31%	NEM	2.73%
21.0	VST	3.3%	WFC	2.73%
21.0	VNO	3.28%	PWR	2.65%
21.0	TEVA	3.12%	META	2.63%
21.0	WFC	3.09%	ISRG	2.6%

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 2024-06-03 through 2025-05-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
63.0	MSTR	89.97%	MSTR	46.67%
63.0	TSLA	34.31%	LUMN	25.22%
63.0	LUMN	27.36%	VST	22.51%
63.0	GILD	25.35%	TSLA	17.74%
63.0	NFLX	23.29%	NFLX	16.68%
63.0	EXPE	19.84%	GILD	15.17%
63.0	CCL	17.23%	GBTC	14.79%
63.0	VST	16.52%	T	13.35%
63.0	VFC	15.89%	VNO	11.85%
63.0	GBTC	15.31%	TMUS	11.8%
63.0	CVS	14.88%	TRGP	11.77%
63.0	CHTR	14.29%	CAH	11.38%
63.0	GME	13.34%	EXPE	10.53%
63.0	CAH	10.67%	CCL	10.42%
63.0	ORLY	10.26%	GLD	9.84%
63.0	META	10.19%	HSBC	9.58%
63.0	BXP	10.15%	AVGO	8.92%
63.0	GE	9.94%	ORLY	8.86%
63.0	AZO	9.84%	CSCO	8.73%
63.0	WFC	9.73%	WFC	8.39%
63.0	T	9.49%	GE	7.96%
63.0	NEM	9.05%	AZO	7.27%
63.0	UAA	9.0%	MS	7.1%
63.0	SLV	8.09%	BMY	7.1%
63.0	HSBC	7.87%	MNST	6.67%
63.0	GLD	7.84%	JPM	6.31%
63.0	VNO	7.82%	META	6.22%
63.0	GS	7.75%	GS	5.85%
63.0	BUD	7.58%	CHTR	5.73%
63.0	ABBV	7.57%	CVS	5.53%

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 2024-06-03 through 2025-05-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
126.0	MSTR	218.68%	MSTR	101.1%
126.0	TSLA	89.58%	VST	51.44%
126.0	GILD	61.61%	TSLA	47.03%
126.0	NFLX	54.22%	NFLX	41.0%
126.0	EXPE	49.44%	GBTC	39.07%
126.0	VST	47.96%	GILD	30.43%
126.0	VFC	43.06%	TRGP	27.94%
126.0	CCL	40.59%	CCL	27.04%
126.0	GME	34.83%	AVGO	26.61%
126.0	GBTC	32.08%	EXPE	26.58%
126.0	CHTR	30.86%	T	25.56%
126.0	META	26.84%	LUMN	23.18%
126.0	AVGO	25.78%	TMUS	22.99%
126.0	AZO	25.73%	WFC	22.88%
126.0	WFC	23.29%	CAH	22.49%
126.0	ORLY	23.26%	HSBC	22.32%
126.0	CAH	22.68%	VNO	21.33%
126.0	GS	21.23%	CSCO	19.91%
126.0	HSBC	20.2%	MS	18.66%
126.0	T	18.27%	ORLY	17.83%
126.0	VNO	17.92%	GLD	17.14%
126.0	TRGP	16.68%	JPM	17.02%
126.0	CMA	16.57%	GS	16.89%
126.0	GE	16.47%	META	16.72%
126.0	BMY	16.15%	BMY	15.54%
126.0	AMZN	16.06%	GME	15.31%
126.0	JPM	15.83%	AZO	14.73%
126.0	GLD	15.19%	ISRG	14.38%
126.0	CTLT	14.94%	VFC	14.01%
126.0	LUMN	13.9%	GE	13.6%

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 2025-03-03 through 2025-05-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
1.0	AAP	2.54%	MSTR	0.82%
1.0	PWR	1.64%	AAP	0.75%
1.0	GME	1.54%	MOS	0.74%
1.0	AMC	1.18%	X	0.61%
1.0	MSTR	1.05%	THC	0.55%
1.0	CDNS	0.9%	PWR	0.55%
1.0	WDC	0.9%	VST	0.53%
1.0	NFLX	0.85%	AVGO	0.49%
1.0	ELAN	0.84%	GT	0.49%
1.0	HCA	0.8%	TSLA	0.47%
1.0	AVGO	0.8%	CYH	0.47%
1.0	X	0.73%	GME	0.45%
1.0	INTU	0.72%	INTU	0.4%
1.0	BA	0.71%	NEM	0.39%
1.0	NVDA	0.71%	ELAN	0.39%
1.0	MU	0.66%	NFLX	0.38%
1.0	NEM	0.64%	BA	0.38%
1.0	GS	0.63%	GBTC	0.36%
1.0	MSFT	0.58%	GE	0.36%
1.0	HON	0.55%	NVDA	0.35%
1.0	MOS	0.53%	HCA	0.35%
1.0	META	0.53%	AMC	0.34%
1.0	LW	0.53%	CDNS	0.33%
1.0	THC	0.47%	CAH	0.3%
1.0	IRM	0.47%	CSTM	0.3%
1.0	GE	0.45%	MSFT	0.3%
1.0	BUD	0.43%	AMD	0.29%
1.0	GNRC	0.38%	BUD	0.25%
1.0	GWW	0.35%	MNST	0.25%
1.0	GBTC	0.34%	WDC	0.24%

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 2025-03-03 through 2025-05-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
10.0	MSTR	17.19%	MSTR	7.98%
10.0	PWR	14.75%	CYH	7.91%
10.0	GME	14.65%	MOS	7.69%
10.0	WDC	13.58%	TSLA	6.89%
10.0	AAP	13.3%	PWR	6.47%
10.0	CDNS	12.87%	VST	6.26%
10.0	TSLA	12.43%	THC	6.08%
10.0	B	10.97%	BA	5.58%
10.0	ELAN	10.34%	NFLX	5.37%
10.0	MU	9.29%	GME	5.37%
10.0	CYH	7.96%	ELAN	5.18%
10.0	AVGO	7.82%	CDNS	5.14%
10.0	THC	7.73%	X	4.83%
10.0	BA	7.59%	GBTC	4.74%
10.0	NFLX	7.07%	AVGO	4.69%
10.0	MSFT	6.98%	AAP	4.62%
10.0	MOS	6.65%	WDC	4.29%
10.0	NEM	6.37%	B	4.18%
10.0	AMC	6.31%	GE	4.1%
10.0	AMD	6.29%	GT	3.95%
10.0	TEVA	6.13%	CAH	3.85%
10.0	HCA	5.99%	NVDA	3.77%
10.0	X	5.84%	NEM	3.72%
10.0	GE	5.58%	HCA	3.45%
10.0	META	5.36%	MSFT	3.37%
10.0	KALU	5.04%	INTU	3.24%
10.0	INTU	4.93%	AMD	3.2%
10.0	ORCL	4.77%	CCL	2.79%
10.0	QQQ	4.61%	IRM	2.77%
10.0	HON	4.48%	MNST	2.69%

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 2025-03-03 through 2025-05-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
21.0	PWR	34.81%	CYH	17.82%
21.0	MSTR	33.42%	MSTR	17.78%
21.0	ELAN	30.67%	MOS	14.72%
21.0	TSLA	28.84%	PWR	14.7%
21.0	GME	28.83%	TSLA	13.66%
21.0	WDC	26.44%	THC	12.97%
21.0	CDNS	24.28%	VST	12.53%
21.0	THC	16.91%	NFLX	12.0%
21.0	TEVA	16.88%	CDNS	11.67%
21.0	AVGO	16.86%	AVGO	10.89%
21.0	MSFT	16.79%	GBTC	10.58%
21.0	KALU	15.92%	ELAN	10.53%
21.0	BA	15.19%	GME	10.49%
21.0	MU	14.94%	BA	10.23%
21.0	NFLX	14.29%	GT	10.14%
21.0	META	13.47%	WDC	8.6%
21.0	CYH	12.76%	MSFT	8.13%
21.0	NEM	12.0%	CAH	8.06%
21.0	MOS	11.94%	NEM	7.08%
21.0	ORCL	11.24%	GE	6.97%
21.0	AMAT	10.67%	IRM	6.51%
21.0	INTU	10.25%	NVDA	6.47%
21.0	HCA	9.75%	HCA	6.3%
21.0	GE	9.74%	CSTM	6.16%
21.0	CHTR	9.54%	CHTR	6.16%
21.0	HON	9.49%	X	6.16%
21.0	VST	9.17%	INTU	5.9%
21.0	GS	9.13%	CPRT	5.39%
21.0	IRM	8.55%	GLD	4.99%
21.0	GBTC	8.52%	TEVA	4.9%

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 2025-05-02 through 2025-05-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
1.0	AAP	8.87%	AAP	2.61%
1.0	AMC	5.34%	ELAN	1.87%
1.0	TSLA	2.89%	CYH	1.79%
1.0	MU	2.53%	AMC	1.73%
1.0	ELAN	2.21%	X	1.18%
1.0	WDC	2.18%	TSLA	1.04%
1.0	AVGO	1.76%	INTU	0.97%
1.0	AMD	1.66%	CCL	0.95%
1.0	TXN	1.47%	AVGO	0.93%
1.0	META	1.45%	MOS	0.91%
1.0	LW	1.44%	NVDA	0.9%
1.0	GME	1.43%	GE	0.9%
1.0	CYH	1.43%	MU	0.86%
1.0	AMZN	1.42%	VST	0.8%
1.0	INTU	1.38%	WDC	0.78%
1.0	CSTM	1.26%	THC	0.71%
1.0	ORCL	1.23%	UAA	0.64%
1.0	ADBE	1.19%	AMD	0.63%
1.0	BIIB	1.17%	BA	0.6%
1.0	GNRC	1.13%	TXN	0.59%
1.0	BAC	1.12%	GME	0.53%
1.0	HCA	1.09%	WYNN	0.52%
1.0	GE	1.08%	ORCL	0.51%
1.0	PWR	1.04%	HCA	0.49%
1.0	NVDA	0.95%	CSTM	0.49%
1.0	BA	0.95%	ADBE	0.46%
1.0	PRGO	0.91%	META	0.45%
1.0	HLT	0.77%	LW	0.44%
1.0	QCOM	0.75%	LVS	0.43%
1.0	X	0.74%	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 2025-05-02 through 2025-05-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
10.0	AAP	87.73%	AAP	32.99%
10.0	AMC	61.11%	AMC	20.37%
10.0	TSLA	44.18%	CYH	16.7%
10.0	MU	32.22%	TSLA	14.9%
10.0	WDC	30.42%	ELAN	13.57%
10.0	GME	22.72%	X	12.81%
10.0	GE	19.61%	NVDA	11.23%
10.0	CYH	18.3%	UAA	11.14%
10.0	AVGO	18.13%	MU	10.79%
10.0	ELAN	16.45%	WDC	10.46%
10.0	X	15.86%	GME	10.26%
10.0	GOOGL	15.62%	MOS	10.17%
10.0	AA	15.44%	GE	10.09%
10.0	TXN	14.77%	CCL	9.87%
10.0	UAA	14.1%	AVGO	9.45%
10.0	INTU	14.03%	VST	9.43%
10.0	AMD	12.94%	INTU	8.4%
10.0	ADBE	12.71%	THC	7.83%
10.0	GILD	12.58%	GILD	7.6%
10.0	QQQ	12.33%	AMD	7.46%
10.0	CSTM	11.55%	GBTC	7.31%
10.0	HCA	11.34%	ADBE	6.66%
10.0	BUD	11.14%	AA	6.57%
10.0	B	10.97%	TXN	6.54%
10.0	META	10.66%	BIIB	6.34%
10.0	ZTS	10.46%	GOOGL	6.3%
10.0	CCL	9.58%	HCA	5.8%
10.0	BIIB	9.38%	BA	5.47%
10.0	NVDA	9.23%	CSTM	5.18%
10.0	AMZN	8.89%	GS	4.93%

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 2025-05-29

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	LUMN	-0.35%	IEP	-0.18%
1.0	IEP	-0.34%	VFC	-0.13%
1.0	AAP	-0.2%	AMC	-0.13%
1.0	VFC	-0.18%	AAP	-0.13%
1.0	CYH	-0.16%	NWL	-0.12%
1.0	USB	-0.15%	BHC	-0.11%
1.0	NWL	-0.14%	LUMN	-0.1%
1.0	CHTR	-0.13%	B	-0.08%
1.0	UAA	-0.13%	CLF	-0.07%
1.0	TLT	-0.12%	CZR	-0.07%
1.0	CSTM	-0.12%	UAA	-0.07%
1.0	BHC	-0.11%	INTC	-0.06%
1.0	GSK	-0.11%	TLT	-0.05%
1.0	FIS	-0.1%	BALL	-0.05%
1.0	T	-0.1%	BIIB	-0.04%
1.0	ZION	-0.1%	LNC	-0.04%
1.0	PEP	-0.08%	CVS	-0.04%
1.0	CVS	-0.07%	GNRC	-0.04%
1.0	VZ	-0.07%	BXP	-0.04%
1.0	EMB	-0.06%	UNH	-0.03%
1.0	WRK	-0.05%	ELAN	-0.03%
1.0	GT	-0.05%	TFC	-0.03%
1.0	AMC	-0.05%	CMCSA	-0.03%
1.0	BBY	-0.04%	AA	-0.03%
1.0	BXP	-0.04%	PEP	-0.03%
1.0	NAVI	-0.04%	KHC	-0.03%
1.0	UNH	-0.04%	GSK	-0.03%

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 2025-05-29

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	-3.8%	IEP	-1.67%
10.0	AAP	-2.68%	AMC	-1.53%
10.0	IEP	-2.4%	AAP	-1.45%
10.0	VFC	-1.83%	VFC	-1.33%
10.0	BHC	-1.79%	NWL	-1.17%
10.0	LUMN	-1.66%	BHC	-0.98%
10.0	CHTR	-1.42%	CZR	-0.8%
10.0	NWL	-1.32%	LUMN	-0.79%
10.0	ELAN	-1.21%	UAA	-0.79%
10.0	PRGO	-1.03%	CLF	-0.65%
10.0	TLT	-1.03%	INTC	-0.57%
10.0	FIS	-1.01%	TLT	-0.54%
10.0	GSK	-0.96%	LNC	-0.49%
10.0	ZION	-0.9%	BALL	-0.49%
10.0	BXP	-0.88%	BIIB	-0.49%
10.0	CVS	-0.86%	GNRC	-0.44%
10.0	GT	-0.81%	CVS	-0.44%
10.0	BIIB	-0.79%	BXP	-0.44%
10.0	LNC	-0.75%	ELAN	-0.41%
10.0	CLF	-0.75%	ZION	-0.41%
10.0	UAA	-0.73%	AA	-0.39%
10.0	BMY	-0.72%	UNH	-0.35%
10.0	ON	-0.68%	TFC	-0.33%
10.0	CYH	-0.67%	CMCSA	-0.3%
10.0	BALL	-0.58%	GSK	-0.3%
10.0	VZ	-0.56%	BMY	-0.29%
10.0	CMA	-0.49%	CMA	-0.28%

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 2025-05-29

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	-9.85%	AMC	-3.99%
21.0	AAP	-7.1%	IEP	-3.56%
21.0	BHC	-4.46%	AAP	-3.39%
21.0	IEP	-4.1%	VFC	-2.78%
21.0	NWL	-4.03%	NWL	-2.61%
21.0	VFC	-3.88%	BHC	-2.3%
21.0	LUMN	-2.86%	CZR	-1.76%
21.0	ELAN	-2.66%	UAA	-1.66%
21.0	CHTR	-2.51%	LUMN	-1.36%
21.0	TLT	-2.5%	INTC	-1.28%
21.0	LNC	-2.07%	CLF	-1.27%
21.0	BIIB	-1.95%	AA	-1.22%
21.0	GSK	-1.9%	LNC	-1.14%
21.0	FIS	-1.87%	TLT	-1.1%
21.0	CVS	-1.84%	BALL	-1.06%
21.0	PRGO	-1.81%	GNRC	-1.05%
21.0	BXP	-1.8%	BIIB	-1.04%
21.0	ON	-1.68%	BXP	-1.01%
21.0	BMY	-1.4%	ELAN	-0.91%
21.0	ZION	-1.32%	CVS	-0.84%
21.0	CYH	-1.26%	TFC	-0.68%
21.0	CLF	-1.22%	ZION	-0.67%
21.0	BALL	-1.11%	BMY	-0.64%
21.0	VNO	-0.97%	CMCSA	-0.6%
21.0	VZ	-0.93%	GSK	-0.58%
21.0	GT	-0.91%	CMA	-0.58%
21.0	UAA	-0.87%	CNC	-0.55%

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 2025-05-29

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	-31.89%	AMC	-16.03%
63.0	AAP	-25.88%	IEP	-11.93%
63.0	VFC	-14.93%	AAP	-11.2%
63.0	IEP	-14.5%	NWL	-8.22%
63.0	NWL	-12.57%	VFC	-8.1%
63.0	BHC	-10.11%	CLF	-6.35%
63.0	ELAN	-9.11%	CZR	-6.18%
63.0	ON	-6.94%	BHC	-5.97%
63.0	CLF	-6.84%	AA	-5.26%
63.0	TLT	-6.47%	UAA	-4.96%
63.0	CHTR	-6.14%	MOS	-4.6%
63.0	CYH	-5.91%	ELAN	-4.56%
63.0	LNC	-5.76%	INTC	-4.47%
63.0	BALL	-5.19%	LUMN	-3.73%
63.0	FIS	-5.12%	LNC	-3.48%
63.0	MOS	-5.12%	BALL	-3.46%
63.0	LUMN	-4.91%	GNRC	-3.4%
63.0	AA	-4.71%	BXP	-3.35%
63.0	CZR	-4.66%	BIIB	-2.91%
63.0	JAZZ	-4.51%	TLT	-2.9%
63.0	BIIB	-4.29%	CVS	-2.72%
63.0	INTC	-4.26%	CSTM	-2.54%
63.0	GSK	-3.91%	BHP	-2.29%
63.0	CNC	-3.88%	CNC	-2.17%
63.0	BXP	-3.82%	PRGO	-2.07%
63.0	PRGO	-3.68%	KHC	-1.92%
63.0	VNO	-3.18%	TFC	-1.84%

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 2025-05-29

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	-52.36%	AMC	-29.5%
126.0	AAP	-44.95%	IEP	-22.97%
126.0	IEP	-30.35%	AAP	-20.71%
126.0	VFC	-26.96%	NWL	-14.99%
126.0	NWL	-21.15%	VFC	-12.34%
126.0	BHC	-15.32%	MOS	-10.95%
126.0	ELAN	-14.51%	CLF	-10.34%
126.0	MOS	-14.18%	CZR	-8.53%
126.0	CVS	-12.46%	CVS	-7.73%
126.0	PRGO	-11.3%	INTC	-7.63%
126.0	LNC	-11.06%	ELAN	-7.6%
126.0	CHTR	-10.76%	AA	-7.4%
126.0	TLT	-10.49%	BHC	-6.78%
126.0	CLF	-10.33%	UAA	-5.96%
126.0	AA	-10.22%	PRGO	-5.84%
126.0	GSK	-9.54%	CTLT	-5.69%
126.0	CZR	-9.49%	LNC	-5.57%
126.0	JAZZ	-9.28%	TLT	-5.31%
126.0	CYH	-8.78%	BXP	-5.17%
126.0	INTC	-7.97%	GNRC	-5.05%
126.0	CNC	-7.2%	BALL	-4.95%
126.0	LUMN	-7.09%	CNC	-4.87%
126.0	BIIB	-6.38%	LUMN	-4.73%
126.0	FIS	-6.01%	BIIB	-4.68%
126.0	BALL	-5.36%	GSK	-4.49%
126.0	BXP	-5.17%	KHC	-4.16%
126.0	BMY	-5.07%	BHP	-3.78%

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 2025-05-29

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	-100.92%	AMC	-57.69%
252.0	AAP	-96.33%	IEP	-44.46%
252.0	IEP	-65.47%	AAP	-42.7%
252.0	VFC	-61.23%	NWL	-28.77%
252.0	NWL	-47.17%	VFC	-24.43%
252.0	MOS	-36.27%	MOS	-23.75%
252.0	CVS	-36.1%	CVS	-18.88%
252.0	PRGO	-27.05%	CLF	-15.69%
252.0	UAA	-25.65%	CZR	-13.51%
252.0	BHC	-22.59%	PRGO	-13.33%
252.0	JAZZ	-22.51%	BMY	-12.43%
252.0	CLF	-22.44%	UAA	-12.41%
252.0	CHTR	-21.02%	AA	-11.09%
252.0	AA	-20.78%	JAZZ	-10.13%
252.0	TLT	-19.32%	LUMN	-9.96%
252.0	BIIB	-19.17%	INTC	-9.66%
252.0	LNC	-19.0%	CNC	-9.39%
252.0	CZR	-17.75%	BHC	-9.18%
252.0	BMY	-13.68%	BIIB	-8.8%
252.0	OXY	-13.68%	TLT	-8.52%
252.0	LUMN	-13.61%	GT	-7.69%
252.0	GT	-10.3%	KHC	-7.44%
252.0	BXP	-10.07%	CHTR	-6.65%
252.0	CNC	-9.95%	OXY	-6.27%
252.0	KHC	-9.86%	CTLT	-6.24%
252.0	ELAN	-9.78%	LNC	-5.72%
252.0	BHP	-9.04%	BHP	-5.37%

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 2024-06-03 through 2025-05-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
1.0	CLF	-0.53%	CLF	-0.35%
1.0	CSTM	-0.52%	ETRN	-0.33%
1.0	ON	-0.52%	WRK	-0.26%
1.0	OXY	-0.29%	IEP	-0.23%
1.0	PEP	-0.29%	BIIB	-0.21%
1.0	IEP	-0.27%	MRK	-0.19%
1.0	UAA	-0.25%	CSTM	-0.17%
1.0	BIIB	-0.24%	FSUGY	-0.17%
1.0	UNH	-0.24%	UNH	-0.16%
1.0	LW	-0.23%	ON	-0.16%
1.0	NAVI	-0.22%	AA	-0.15%
1.0	AA	-0.22%	LEN	-0.15%
1.0	BBY	-0.21%	OXY	-0.14%
1.0	QCOM	-0.19%	LW	-0.13%
1.0	KHC	-0.19%	QCOM	-0.1%
1.0	MRK	-0.19%	AMD	-0.1%
1.0	WRK	-0.19%	KHC	-0.1%
1.0	AMD	-0.18%	PEP	-0.1%
1.0	BHP	-0.18%	INTC	-0.1%
1.0	BALL	-0.16%	BALL	-0.09%
1.0	ACGL	-0.16%	B	-0.08%
1.0	CYH	-0.16%	WDC	-0.08%
1.0	LEN	-0.15%	FCX	-0.08%
1.0	INTC	-0.14%	AMAT	-0.08%
1.0	KALU	-0.13%	KALU	-0.07%
1.0	ETRN	-0.13%	BBY	-0.07%
1.0	AMC	-0.12%	CNC	-0.07%
1.0	AMAT	-0.12%	BHC	-0.07%
1.0	FSUGY	-0.09%	CZR	-0.07%
1.0	JAZZ	-0.08%	DHI	-0.07%

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 2024-06-03 through 2025-05-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
10.0	CLF	-5.35%	ETRN	-5.36%
10.0	ON	-3.97%	CLF	-2.92%
10.0	AMC	-3.77%	BIIB	-2.29%
10.0	BIIB	-3.55%	WRK	-2.2%
10.0	ETRN	-2.99%	IEP	-2.13%
10.0	LW	-2.74%	MRK	-2.03%
10.0	CSTM	-2.56%	ON	-1.82%
10.0	IEP	-1.86%	LW	-1.63%
10.0	BALL	-1.85%	UNH	-1.58%
10.0	KHC	-1.72%	CSTM	-1.5%
10.0	MRK	-1.66%	FSUGY	-1.48%
10.0	OXY	-1.55%	AMC	-1.41%
10.0	AAP	-1.52%	LEN	-1.36%
10.0	WRK	-1.46%	OXY	-1.3%
10.0	PEP	-1.35%	QCOM	-1.21%
10.0	UNH	-1.31%	AMAT	-1.05%
10.0	LLY	-1.31%	AMD	-1.03%
10.0	CZR	-1.15%	PEP	-0.98%
10.0	LEN	-1.1%	AAP	-0.98%
10.0	QCOM	-0.91%	AA	-0.95%
10.0	FSUGY	-0.84%	WDC	-0.91%
10.0	AA	-0.8%	BALL	-0.88%
10.0	CMG	-0.78%	KHC	-0.88%
10.0	DHI	-0.7%	ELAN	-0.76%
10.0	KALU	-0.6%	CMG	-0.76%
10.0	BHP	-0.59%	INTC	-0.73%
10.0	GSK	-0.55%	CZR	-0.71%
10.0	RIO	-0.51%	FCX	-0.67%
10.0	AMD	-0.44%	BBY	-0.62%
10.0	TLT	-0.42%	MU	-0.6%

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 2024-06-03 through 2025-05-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
21.0	CLF	-10.48%	ETRN	-9.38%
21.0	ON	-9.72%	WRK	-6.87%
21.0	AMC	-8.66%	CLF	-5.77%
21.0	BIIB	-8.28%	BIIB	-5.25%
21.0	AAP	-8.12%	IEP	-4.52%
21.0	LW	-7.35%	MRK	-4.39%
21.0	ETRN	-6.06%	ON	-4.08%
21.0	CSTM	-5.69%	AMC	-4.01%
21.0	WRK	-5.34%	AAP	-3.67%
21.0	OXY	-4.72%	LW	-3.55%
21.0	MRK	-4.22%	CSTM	-3.26%
21.0	AMD	-3.54%	OXY	-3.22%
21.0	CZR	-3.37%	FSUGY	-2.87%
21.0	UNH	-3.28%	AMD	-2.83%
21.0	IEP	-3.26%	QCOM	-2.81%
21.0	BALL	-3.02%	AMAT	-2.75%
21.0	QCOM	-2.96%	WDC	-2.7%
21.0	KHC	-2.87%	LEN	-2.68%
21.0	PEP	-2.81%	UNH	-2.47%
21.0	LLY	-2.4%	MU	-2.46%
21.0	FSUGY	-2.34%	AA	-2.39%
21.0	BHC	-2.2%	PEP	-2.1%
21.0	AA	-2.13%	INTC	-2.06%
21.0	LEN	-2.06%	ELAN	-1.9%
21.0	ADBE	-1.85%	FCX	-1.79%
21.0	BBY	-1.83%	CMG	-1.74%
21.0	ZTS	-1.59%	CZR	-1.71%
21.0	CMG	-1.45%	BALL	-1.62%
21.0	FCX	-1.44%	KHC	-1.54%
21.0	DHI	-1.21%	BBY	-1.48%

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 2024-06-03 through 2025-05-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
63.0	ON	-39.07%	IEP	-17.91%
63.0	AAP	-32.77%	CLF	-17.44%
63.0	CLF	-30.73%	ON	-16.62%
63.0	BIIB	-27.03%	BIIB	-16.24%
63.0	CSTM	-22.83%	AMC	-16.23%
63.0	ELAN	-19.05%	CSTM	-15.2%
63.0	OXY	-16.15%	WDC	-13.49%
63.0	AMD	-15.85%	AAP	-13.01%
63.0	LW	-15.41%	AMD	-12.47%
63.0	MRK	-14.9%	MRK	-12.12%
63.0	CZR	-14.36%	AMAT	-11.16%
63.0	WDC	-13.29%	LEN	-10.63%
63.0	IEP	-12.87%	OXY	-10.36%
63.0	KALU	-12.01%	ELAN	-9.93%
63.0	BALL	-11.68%	ADBE	-9.73%
63.0	AMC	-11.42%	FSUGY	-9.47%
63.0	BBY	-11.21%	MU	-8.79%
63.0	ADBE	-11.07%	CZR	-8.35%
63.0	MU	-10.75%	QCOM	-7.56%
63.0	QCOM	-10.69%	LW	-7.49%
63.0	UNH	-10.0%	KALU	-7.0%
63.0	GOOGL	-9.87%	FCX	-6.9%
63.0	CNC	-9.12%	BALL	-6.45%
63.0	NAVI	-8.52%	INTC	-6.45%
63.0	PEP	-8.44%	DHI	-6.37%
63.0	FSUGY	-8.21%	BBY	-6.19%
63.0	TXN	-7.95%	PEP	-5.83%
63.0	LEN	-7.29%	UNH	-5.36%
63.0	FCX	-7.18%	NAVI	-5.08%
63.0	INTC	-6.84%	CNC	-4.99%

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 2024-06-03 through 2025-05-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
126.0	CLF	-56.73%	IEP	-35.41%
126.0	BIIB	-55.97%	CSTM	-32.05%
126.0	AAP	-40.9%	BIIB	-31.53%
126.0	ON	-39.49%	CLF	-31.13%
126.0	CSTM	-38.92%	ON	-30.97%
126.0	CZR	-37.22%	AMC	-30.46%
126.0	CYH	-36.96%	CYH	-28.48%
126.0	ELAN	-34.94%	AMD	-27.56%
126.0	AMD	-34.13%	LEN	-26.49%
126.0	MRK	-30.4%	MRK	-22.47%
126.0	OXY	-29.63%	WDC	-21.77%
126.0	LW	-27.64%	ELAN	-20.97%
126.0	BALL	-25.0%	DHI	-20.73%
126.0	WDC	-22.38%	AMAT	-19.35%
126.0	IEP	-21.36%	ADBE	-19.24%
126.0	INTC	-19.89%	CZR	-18.65%
126.0	GNRC	-19.73%	LW	-18.38%
126.0	LEN	-19.59%	OXY	-17.7%
126.0	CNC	-19.45%	FCX	-17.49%
126.0	PEP	-19.33%	AAP	-16.98%
126.0	DHI	-19.26%	BALL	-16.95%
126.0	KALU	-18.71%	FSUGY	-16.36%
126.0	KHC	-18.68%	PHM	-15.0%
126.0	FCX	-18.6%	MU	-14.94%
126.0	MU	-18.35%	PEP	-14.07%
126.0	ADBE	-18.13%	BBY	-13.23%
126.0	NAVI	-18.06%	UNH	-12.96%
126.0	AA	-17.87%	KHC	-12.89%
126.0	AMGN	-17.58%	INTC	-12.81%
126.0	QCOM	-17.17%	CNC	-12.75%

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 2025-03-03 through 2025-05-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
1.0	VFC	-1.84%	VFC	-0.82%
1.0	SBUX	-1.09%	CLF	-0.73%
1.0	CLF	-0.97%	BHC	-0.66%
1.0	BBY	-0.94%	UNH	-0.59%
1.0	INTC	-0.76%	SBUX	-0.46%
1.0	BHC	-0.74%	JAZZ	-0.37%
1.0	UNH	-0.73%	BBY	-0.34%
1.0	LLY	-0.69%	BMY	-0.32%
1.0	PEP	-0.64%	LLY	-0.32%
1.0	BMY	-0.61%	TRGP	-0.29%
1.0	NAVI	-0.57%	MRK	-0.29%
1.0	JAZZ	-0.55%	PEP	-0.27%
1.0	KHC	-0.53%	IEP	-0.26%
1.0	AAPL	-0.49%	KHC	-0.24%
1.0	CMA	-0.45%	AAPL	-0.22%
1.0	TSLA	-0.43%	LUMN	-0.21%
1.0	OXY	-0.4%	SNY	-0.2%
1.0	TFC	-0.38%	TFC	-0.19%
1.0	MRK	-0.36%	ABBV	-0.18%
1.0	ON	-0.35%	CZR	-0.18%
1.0	UAA	-0.34%	EXPE	-0.17%
1.0	GILD	-0.34%	NWL	-0.17%
1.0	CZR	-0.32%	AA	-0.17%
1.0	ACGL	-0.29%	TMUS	-0.17%
1.0	USB	-0.28%	FITB	-0.16%
1.0	ISRG	-0.28%	OXY	-0.16%
1.0	EXPE	-0.27%	LNC	-0.15%
1.0	CVS	-0.26%	LEN	-0.15%
1.0	AA	-0.24%	INTC	-0.14%
1.0	TMUS	-0.23%	ZION	-0.13%

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 2025-03-03 through 2025-05-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
10.0	BHC	-11.85%	UNH	-7.18%
10.0	VFC	-9.7%	BHC	-6.72%
10.0	SBUX	-8.76%	CLF	-5.99%
10.0	UNH	-8.66%	VFC	-4.95%
10.0	BMY	-8.11%	BMY	-4.33%
10.0	CLF	-7.09%	JAZZ	-3.74%
10.0	LLY	-6.06%	SBUX	-3.59%
10.0	AMGN	-5.27%	MRK	-3.49%
10.0	KHC	-4.75%	LUMN	-2.89%
10.0	JAZZ	-3.8%	PEP	-2.79%
10.0	PEP	-3.66%	LLY	-2.56%
10.0	MRK	-3.43%	KHC	-2.56%
10.0	BIIB	-2.95%	AMGN	-2.44%
10.0	CVS	-2.94%	ABBV	-2.32%
10.0	SNY	-2.38%	TRGP	-2.2%
10.0	LEN	-2.18%	NWL	-2.12%
10.0	DHI	-2.12%	LEN	-2.11%
10.0	TLT	-1.67%	SNY	-1.97%
10.0	RIO	-1.6%	BIIB	-1.85%
10.0	IEP	-1.49%	AAPL	-1.74%
10.0	AAPL	-1.48%	AA	-1.53%
10.0	AZN	-1.48%	IEP	-1.51%
10.0	CMA	-1.43%	TMUS	-1.46%
10.0	POST	-1.37%	AZN	-1.46%
10.0	PRGO	-1.28%	OXY	-1.4%
10.0	TMUS	-1.24%	DHI	-1.26%
10.0	LUMN	-1.23%	TLT	-1.11%
10.0	GNRC	-0.9%	GILD	-1.06%
10.0	BBY	-0.89%	BBY	-0.94%
10.0	BHP	-0.85%	EXPE	-0.93%

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 2025-03-03 through 2025-05-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
21.0	BHC	-38.22%	BHC	-17.05%
21.0	UNH	-26.52%	UNH	-15.53%
21.0	BMY	-20.73%	CLF	-11.1%
21.0	SBUX	-15.62%	BMY	-11.05%
21.0	CLF	-15.3%	JAZZ	-10.15%
21.0	AMGN	-13.54%	VFC	-8.77%
21.0	VFC	-11.78%	TRGP	-8.17%
21.0	JAZZ	-10.96%	SBUX	-8.11%
21.0	LLY	-10.37%	MRK	-8.1%
21.0	PEP	-8.94%	AA	-7.01%
21.0	GNRC	-8.81%	PEP	-6.49%
21.0	NWL	-8.76%	AMGN	-6.38%
21.0	BIIB	-8.71%	NWL	-6.19%
21.0	KHC	-8.35%	BIIB	-5.9%
21.0	MRK	-8.3%	LLY	-5.61%
21.0	INTC	-7.86%	OXY	-5.51%
21.0	PRGO	-6.08%	ABBV	-5.42%
21.0	CVS	-5.93%	KHC	-4.74%
21.0	SNY	-5.69%	SNY	-4.61%
21.0	AZN	-5.13%	LEN	-4.37%
21.0	AA	-4.91%	LUMN	-4.34%
21.0	GILD	-4.58%	AAPL	-3.84%
21.0	DHI	-4.23%	AZN	-3.78%
21.0	AAPL	-4.19%	INTC	-3.6%
21.0	BBY	-4.1%	GILD	-3.56%
21.0	TLT	-4.05%	TMUS	-3.46%
21.0	ABBV	-3.85%	IEP	-3.16%
21.0	ZION	-3.85%	XOM	-3.09%
21.0	TRGP	-3.79%	LNC	-2.97%
21.0	OXY	-3.66%	DHI	-2.51%

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 2025-05-02 through 2025-05-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
1.0	CLF	-1.96%	CLF	-2.08%
1.0	UNH	-1.78%	UNH	-1.31%
1.0	LLY	-1.66%	BHC	-0.9%
1.0	VFC	-1.36%	CPRT	-0.86%
1.0	CNC	-1.24%	SNY	-0.59%
1.0	CPRT	-1.11%	LLY	-0.55%
1.0	CDNS	-1.11%	JAZZ	-0.5%
1.0	INTC	-1.0%	MRK	-0.39%
1.0	BHC	-0.92%	DHI	-0.38%
1.0	JAZZ	-0.85%	KHC	-0.35%
1.0	KHC	-0.85%	FSUGY	-0.34%
1.0	CVS	-0.7%	IEP	-0.34%
1.0	FSUGY	-0.65%	CDNS	-0.34%
1.0	UAA	-0.56%	ABBV	-0.32%
1.0	BMY	-0.53%	PHM	-0.31%
1.0	DHI	-0.53%	MSTR	-0.31%
1.0	SNY	-0.49%	CNC	-0.3%
1.0	AMAT	-0.47%	INTC	-0.26%
1.0	LEN	-0.44%	CVS	-0.25%
1.0	MRK	-0.39%	BMY	-0.21%
1.0	MSTR	-0.37%	XOM	-0.19%
1.0	ABBV	-0.37%	LEN	-0.18%
1.0	AAPL	-0.32%	CZR	-0.14%
1.0	CMG	-0.3%	ORLY	-0.14%
1.0	PEP	-0.29%	CMG	-0.14%
1.0	CZR	-0.27%	TMUS	-0.14%
1.0	NAVI	-0.26%	TRGP	-0.12%
1.0	TEVA	-0.24%	BBY	-0.1%
1.0	T	-0.23%	POST	-0.1%
1.0	TFC	-0.22%	AAPL	-0.1%

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 2025-05-02 through 2025-05-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
10.0	UNH	-21.68%	UNH	-15.49%
10.0	CLF	-16.4%	CLF	-15.07%
10.0	LLY	-11.77%	LUMN	-7.13%
10.0	CVS	-11.5%	CPRT	-6.14%
10.0	VFC	-8.08%	LLY	-4.01%
10.0	BHC	-7.15%	BHC	-3.99%
10.0	IEP	-6.41%	KHC	-3.82%
10.0	KHC	-5.37%	IEP	-3.67%
10.0	LUMN	-5.22%	CVS	-3.66%
10.0	DHI	-4.8%	CNC	-3.56%
10.0	CNC	-4.75%	PHM	-3.3%
10.0	CPRT	-4.49%	DHI	-2.87%
10.0	MSTR	-3.99%	FSUGY	-2.84%
10.0	XOM	-2.91%	MSTR	-2.83%
10.0	FSUGY	-2.71%	XOM	-2.56%
10.0	INTC	-2.7%	VFC	-2.29%
10.0	TLT	-2.52%	INTC	-1.94%
10.0	AAPL	-2.1%	LEN	-1.88%
10.0	ABBV	-2.02%	ABBV	-1.74%
10.0	AMAT	-1.98%	LNC	-1.6%
10.0	LEN	-1.97%	TLT	-1.56%
10.0	MRK	-1.62%	VNO	-1.47%
10.0	PHM	-1.61%	MRK	-1.44%
10.0	POST	-1.57%	TMUS	-1.16%
10.0	LNC	-1.51%	POST	-1.12%
10.0	CDNS	-1.33%	TRGP	-0.97%
10.0	EXPE	-1.22%	EXPE	-0.92%
10.0	BMY	-1.15%	CZR	-0.87%
10.0	TMUS	-1.03%	CDNS	-0.44%
10.0	VNO	-0.99%	FRA	-0.4%

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.

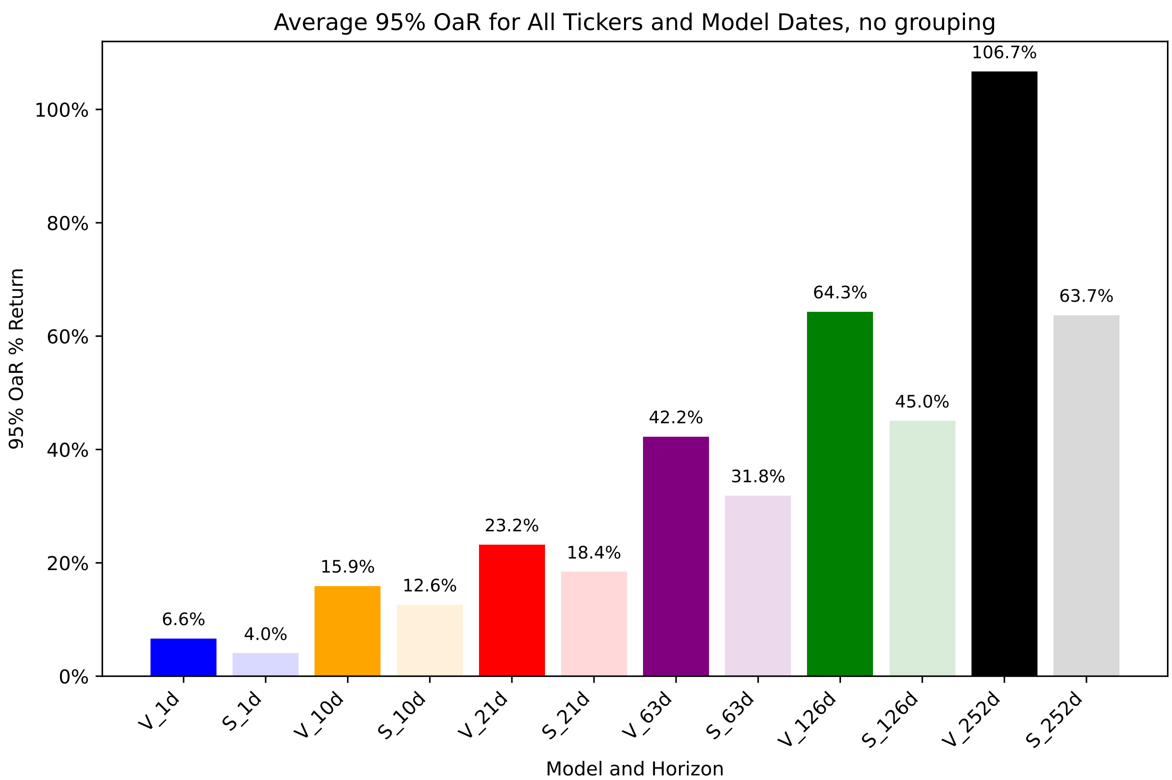
Appendix 2: 95% Opportunity at Risk (OaR)

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.

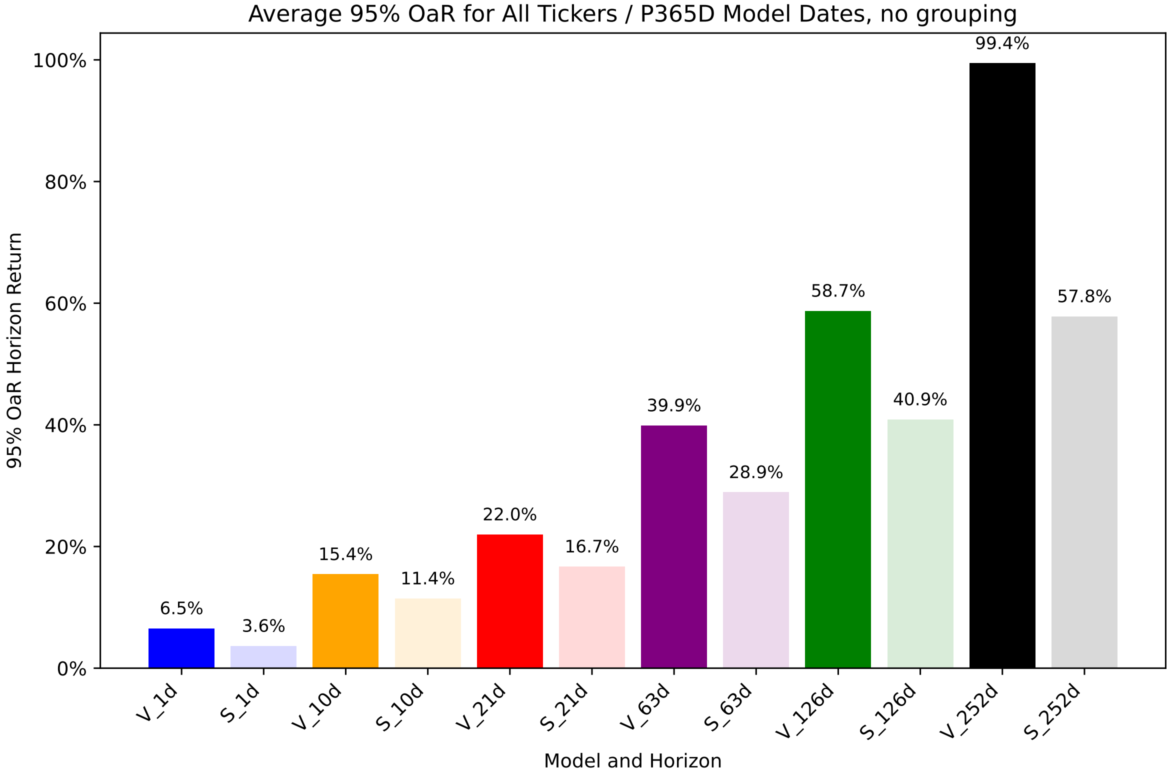
All Out of Sample Model Dates

Period examined: All model dates from 2022-01-31 through 2025-05-29



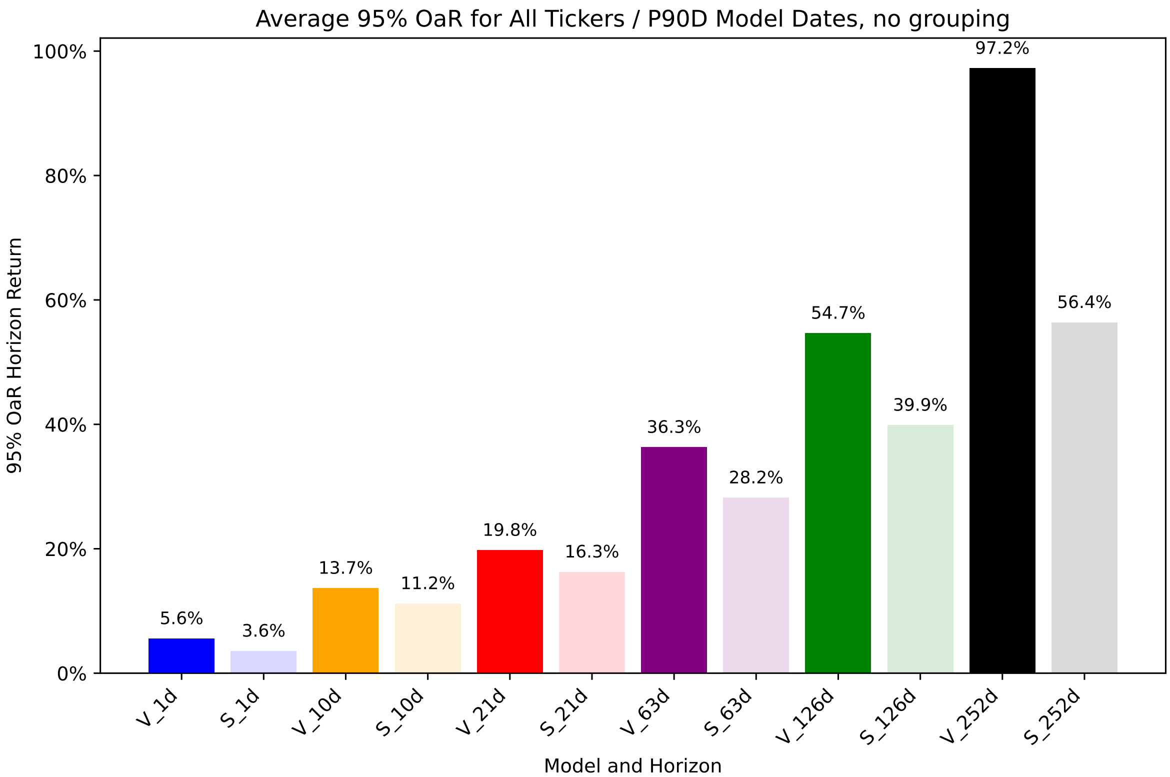
Prior 365 Calendar Days (P365D)

Period examined: All model dates from 2024-06-03 through 2025-05-29



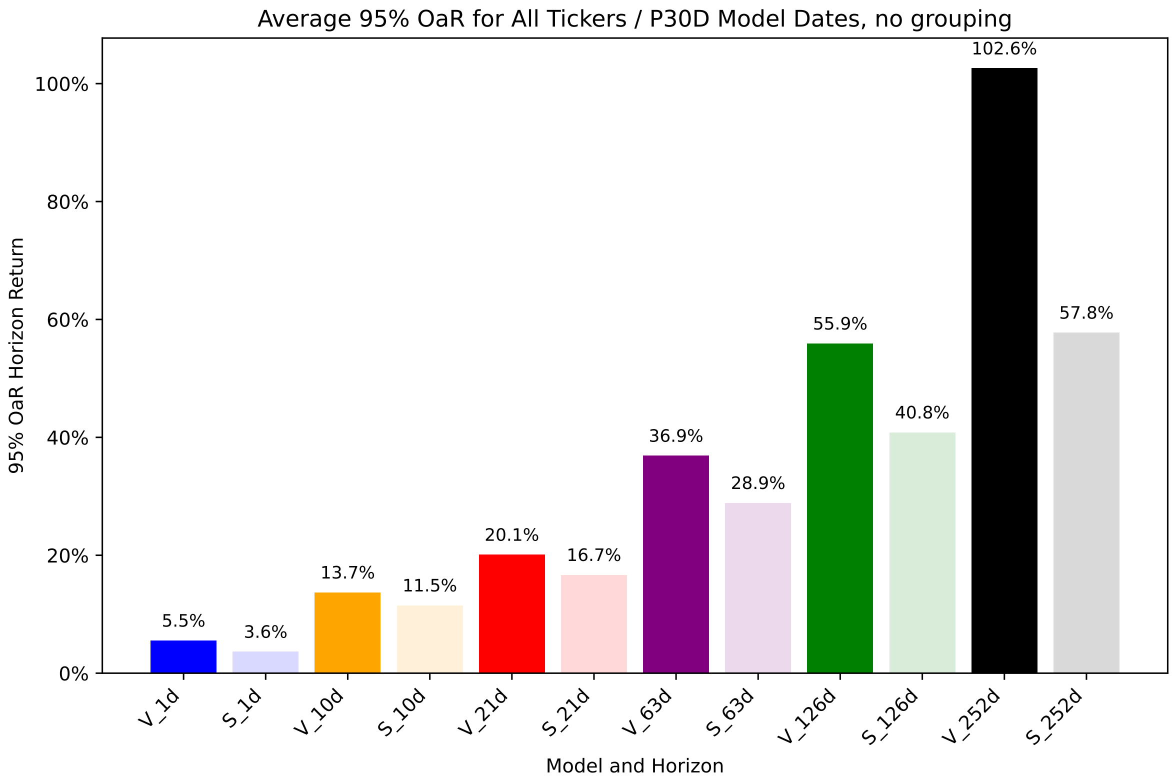
Prior 90 Calendar Days (P90D)

Period examined: All model dates from 2025-03-03 through 2025-05-29



Prior 30 Calendar Days (P30D)

Period examined: All model dates from 2025-05-02 through 2025-05-29



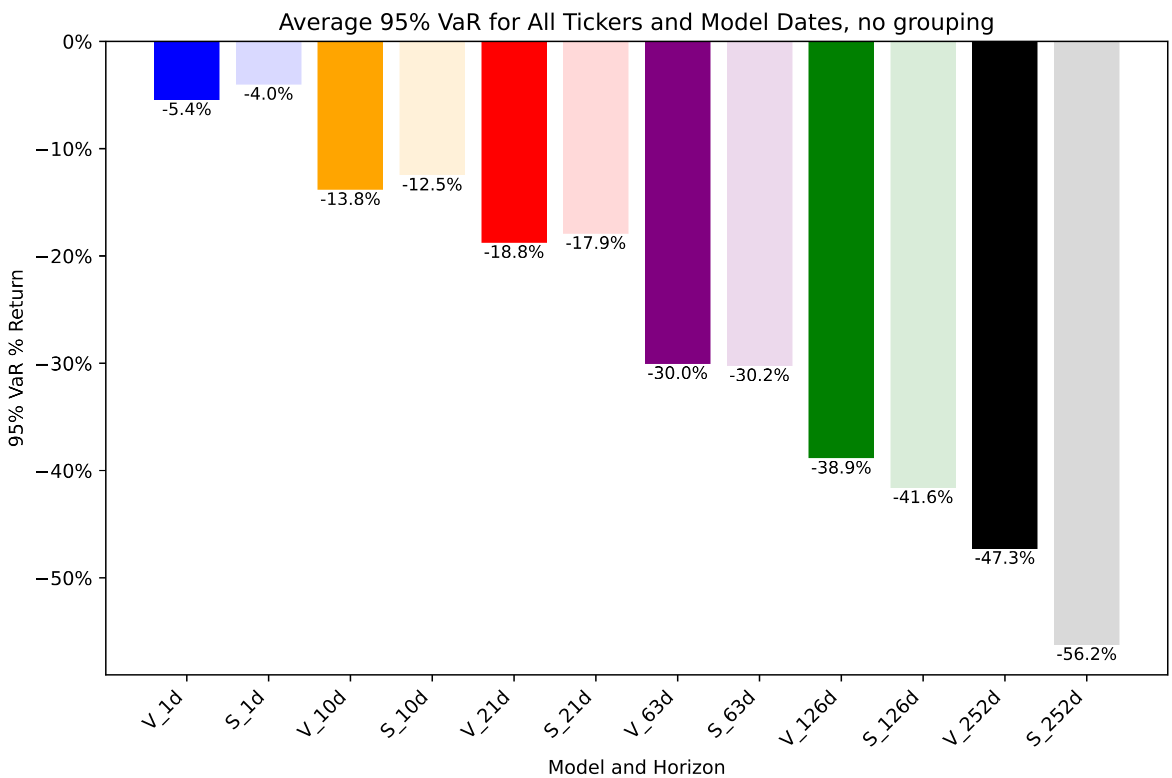
Appendix 3: 95% Value at Risk (VaR)

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.

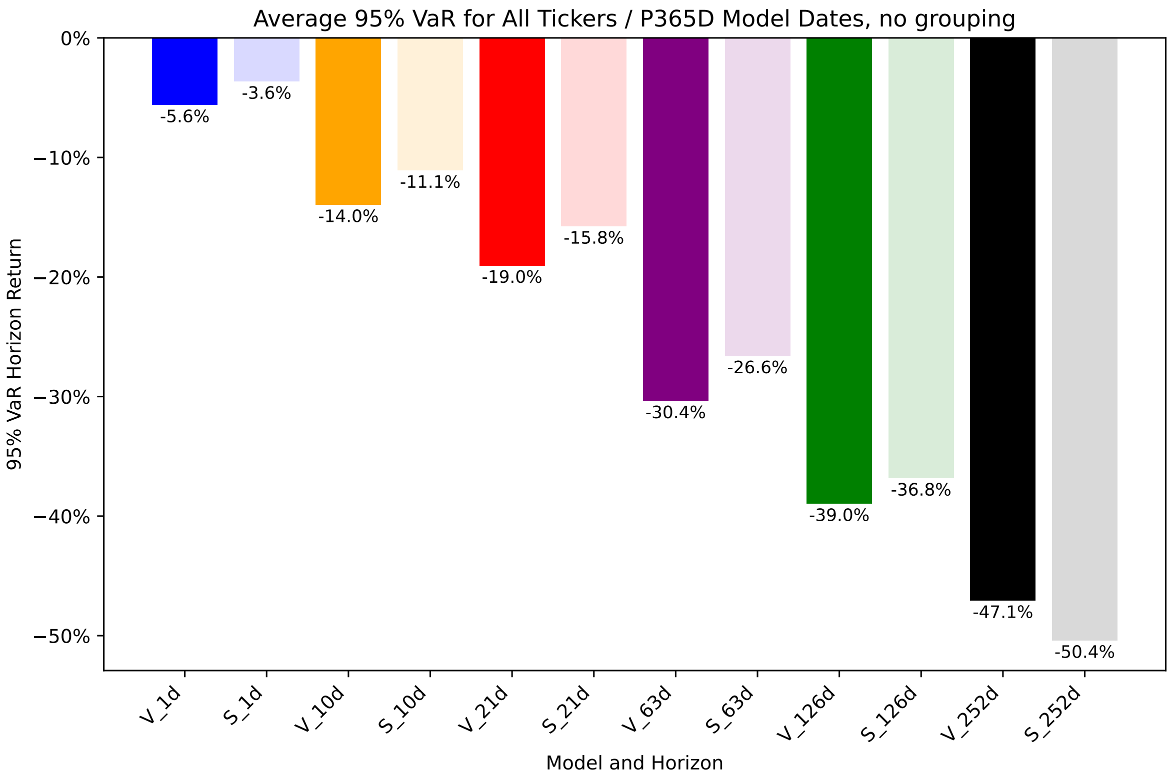
All Out of Sample Model Dates

Period examined: All model dates from 2022-01-31 through 2025-05-29



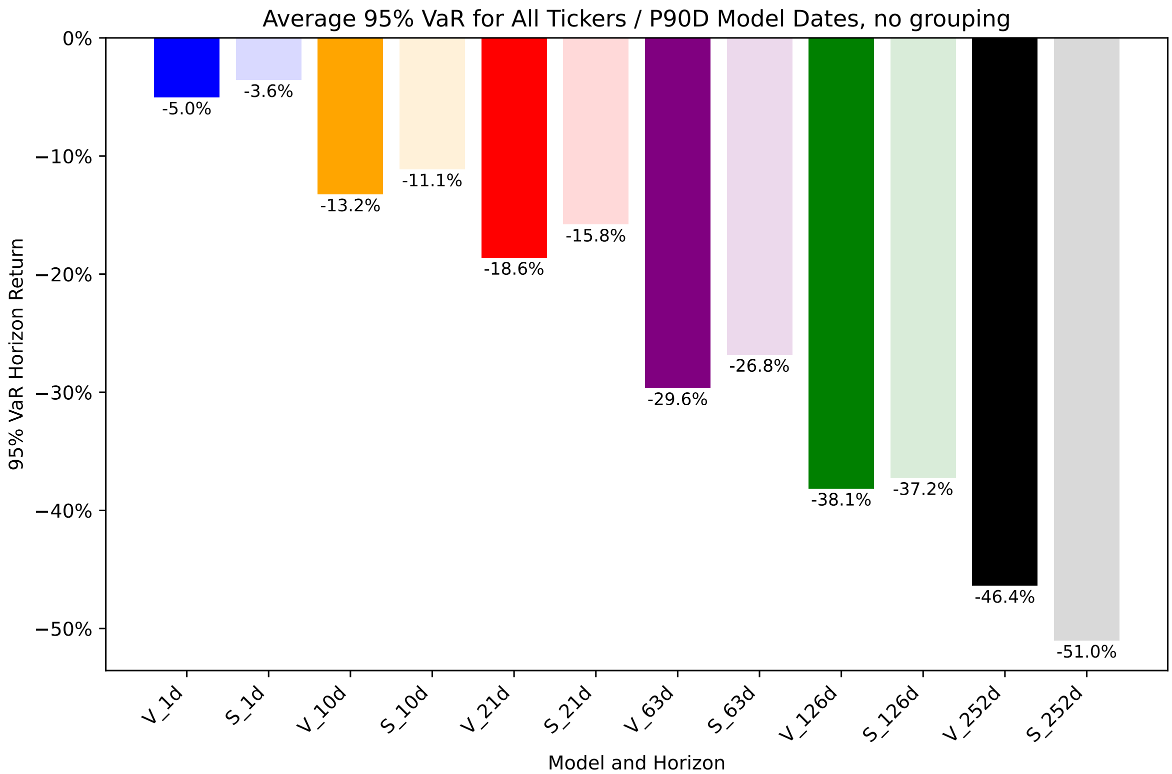
Prior 365 Calendar Days (P365D)

Period examined: All model dates from 2024-06-03 through 2025-05-29



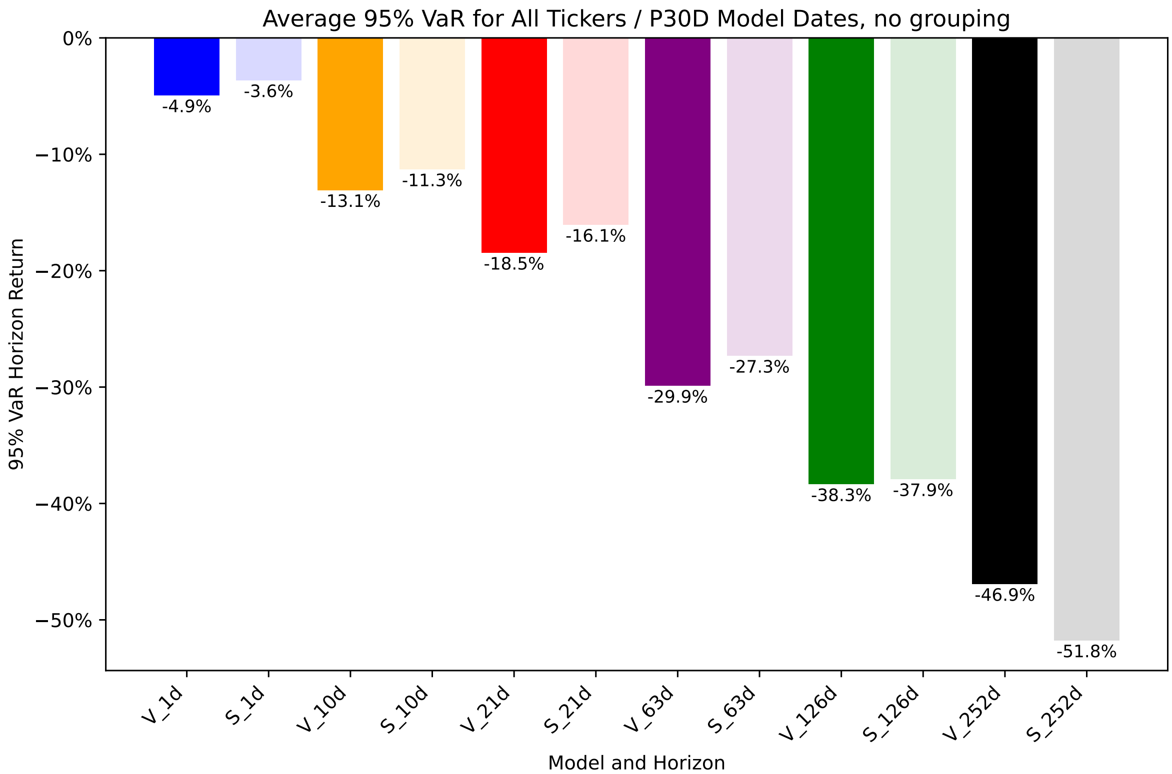
Prior 90 Calendar Days (P90D)

Period examined: All model dates from 2025-03-03 through 2025-05-29



Prior 30 Calendar Days (P30D)

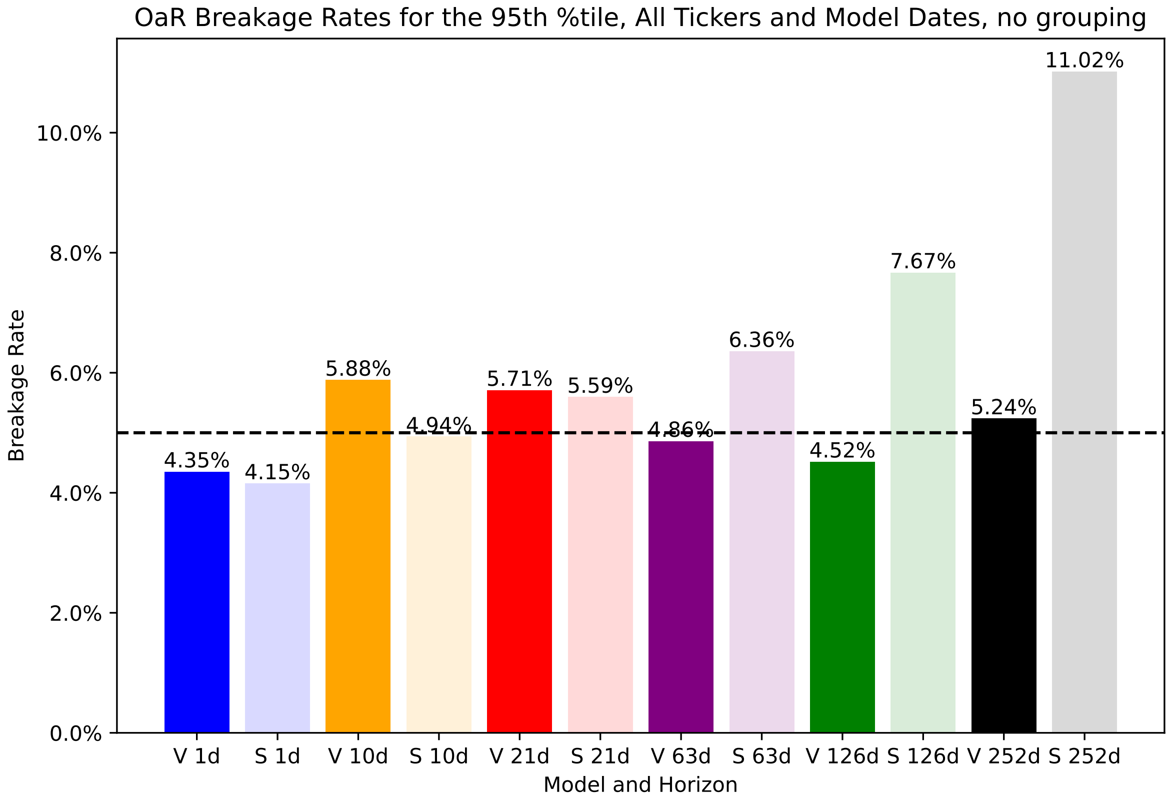
Period examined: All model dates from 2025-05-02 through 2025-05-29



Appendix 4: 95% OaR Breakage Rates

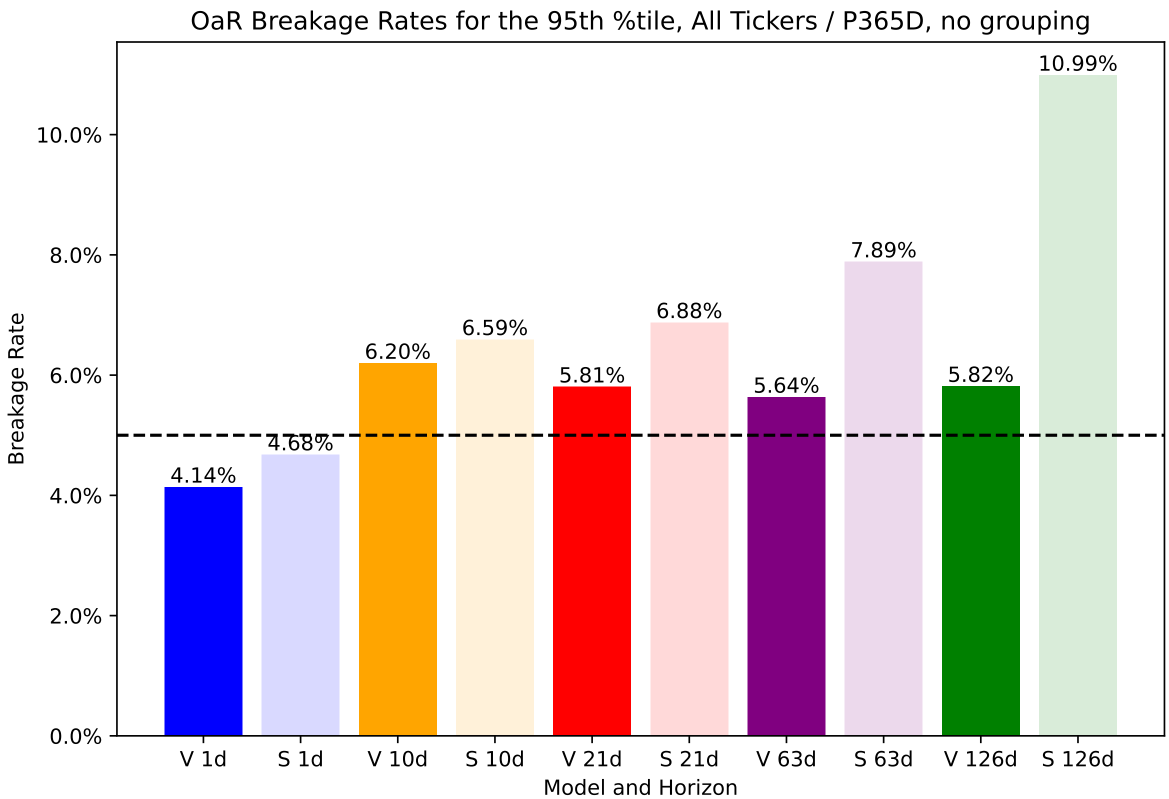
All Out of Sample Model Dates

Period examined: All model dates from 2022-01-31 through 2025-05-29



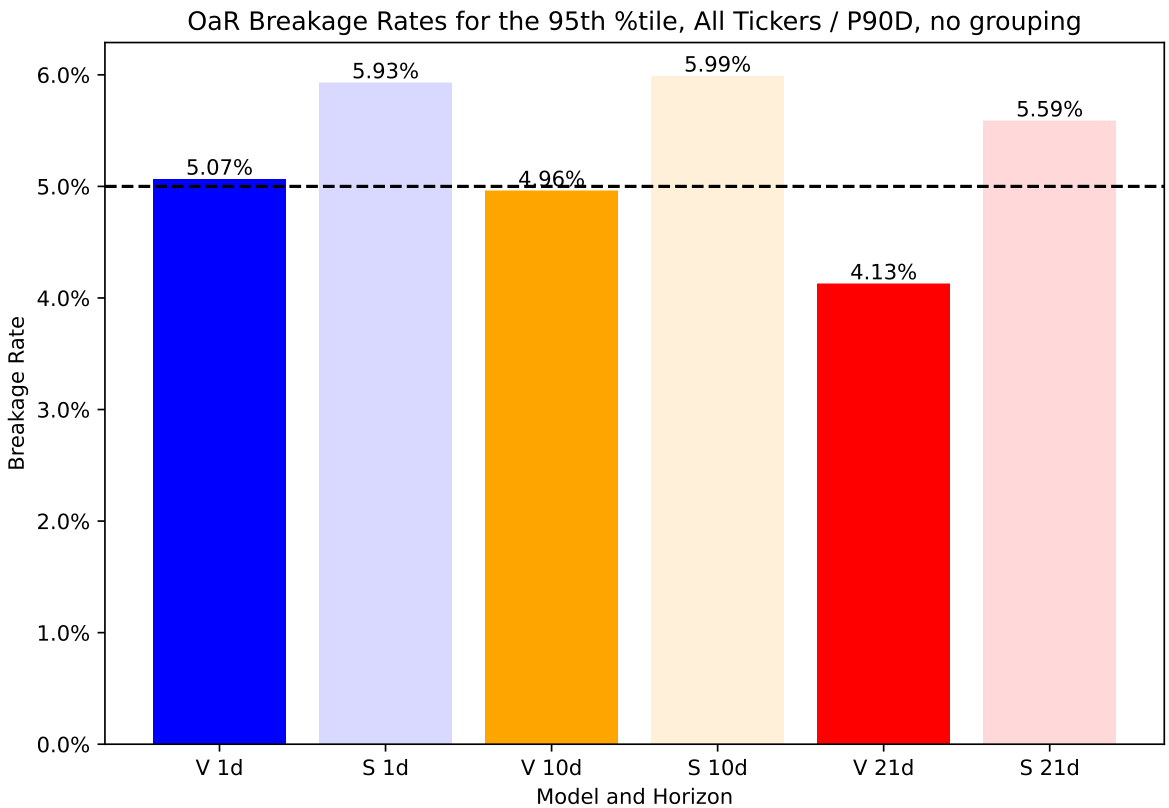
Prior 365 Calendar Days (P365D)

Period examined: All model dates from 2024-06-03 through 2025-05-29



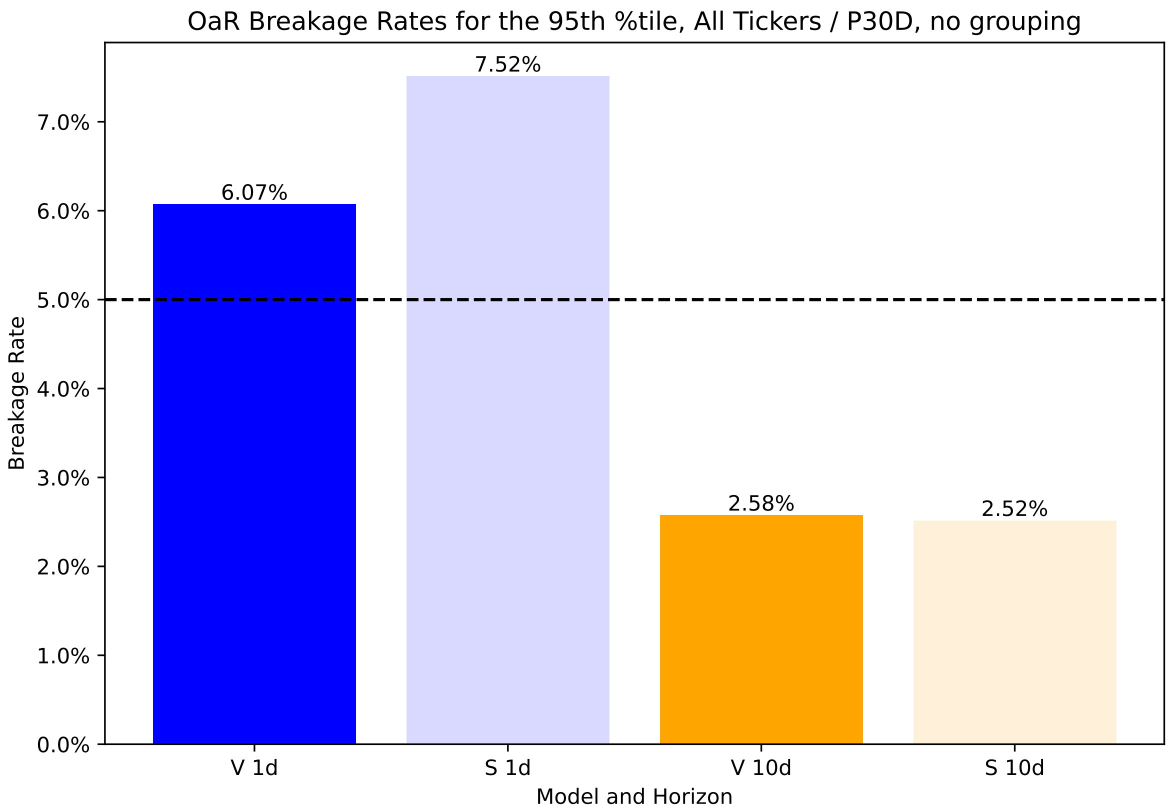
Prior 90 Calendar Days (P90D)

Period examined: All model dates from 2025-03-03 through 2025-05-29



Prior 30 Calendar Days (P30D)

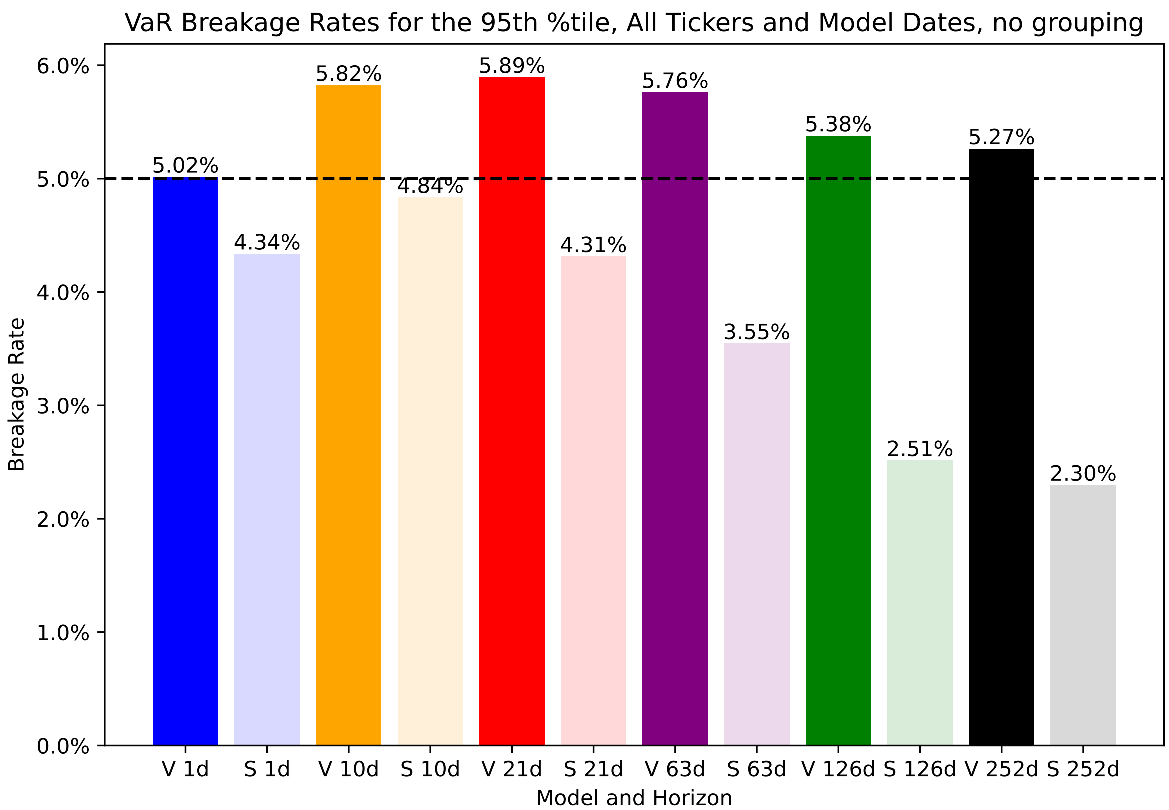
Period examined: All model dates from 2025-05-02 through 2025-05-29



Appendix 5: 95% VaR Breakage Rates

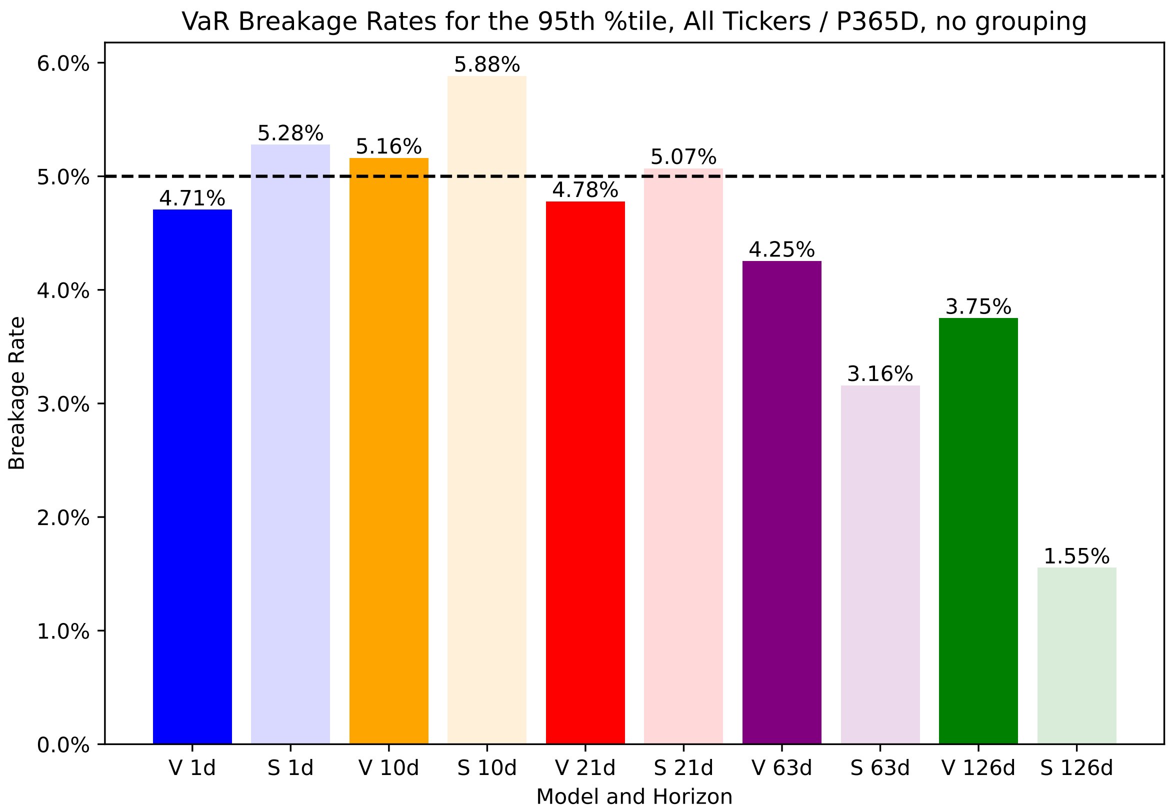
All Out of Sample Model Dates

Period examined: All model dates from 2022-01-31 through 2025-05-29



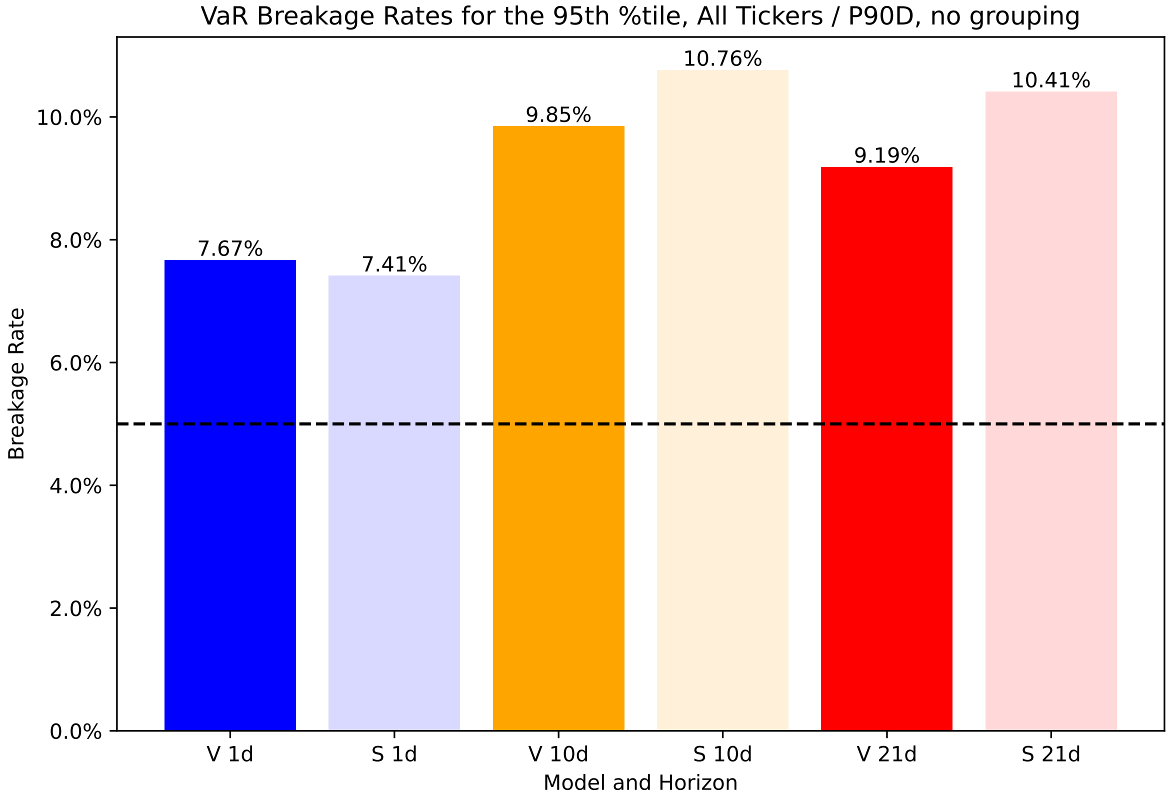
Prior 365 Calendar Days (P365D)

Period examined: All model dates from 2024-06-03 through 2025-05-29



Prior 90 Calendar Days (P90D)

Period examined: All model dates from 2025-03-03 through 2025-05-29



Prior 30 Calendar Days (P30D)

Period examined: All model dates from 2025-05-02 through 2025-05-29