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

see vecviz.com for important disclosures, terms & conditions

31 January 2026

Table of contents

Introduction **7**

Evaluation of EUB and EDB Estimates . . . 7

Mean absolute average error (MAE) . . . 7

Return on Expected Up Body and Return on Expected Down Body (ROEDB and ROEUB) . . . 8

Addressing The Influence of 95th percentile differences on MAE and ROEB . . . 8

Determining the drivers of ROEUB (ROEDB) alpha . . . 9

ROEUB (ROEDB) Beta . . . 9

Vector Model Input and Calculation Details . . . 10

Sigma Details . . . 11

Using this report . . . 12

Important considerations about the analytics and performance metrics presented in this report: . . . 12

Expected Body Objectives "Report Card" **14**

Expected Up Body (EUB) **17**

Historic Average Levels . . . 17

All Out of Sample Model Dates . . . 17

Prior 365 Calendar Days (P365D) . . . 18

Prior 90 Calendar Days (P90D) . . . 19

Prior 30 Calendar Days (P30D) . . . 20

EUB by Model Date Detail . . . 21

1d Horizon . . . 21

10d Horizon . . . 22

21d Horizon . . . 23
63d Horizon . . . 24
126d Horizon . . . 25
252d Horizon . . . 26
Performance Summary - MAE of EUB vs. Actual Fwd Returns . . . 27
All Out of Sample Model Dates . . . 27
Prior 365 Calendar Days (P365D) . . . 28
Prior 90 Calendar Days (P90D) . . . 29
Prior 30 Calendar Days (P30D) . . . 30
MAE by Model Date Detail . . . 31
1d Horizon . . . 31
10d Horizon . . . 32
21d Horizon . . . 33
63d Horizon . . . 34
126d Horizon . . . 35
252d Horizon . . . 36
Top 30 Tickers By EUB MAE . . . 37
All TMD: 1d . . . 37
All TMD: 10d . . . 38
All TMD: 21d . . . 39
All TMD: 63d . . . 40
All TMD: 126d . . . 41
All TMD: 252d . . . 42
Bottom 30 Tickers By EUB MAE . . . 43
All TMD: 1d . . . 43
All TMD: 10d . . . 44
All TMD: 21d . . . 45
All TMD: 63d . . . 46
All TMD: 126d . . . 47
All TMD: 252d . . . 48
Performance Summary - Returns on EUB based exposures (ROEUB) . . . 49
All Out of Sample Model Dates . . . 50
Prior 365 Calendar Days (P365D) . . . 51
Prior 90 Calendar Days (P90D) . . . 52
Prior 30 Calendar Days (P30D) . . . 53
ROEUB by Model Date Detail . . . 54
1d Horizon . . . 54
10d Horizon . . . 55
21d Horizon . . . 56
63d Horizon . . . 57
126d Horizon . . . 58
252d Horizon . . . 59

Top 30 Tickers By ROEUB . . . 60
All TMD: 1d . . . 60
All TMD: 10d . . . 61
All TMD: 21d . . . 62
All TMD: 63d . . . 63
All TMD: 126d . . . 64
All TMD: 252d . . . 65
P365D: 1d . . . 66
P365D: 10d . . . 67
P365D: 21d . . . 68
P365D: 63d . . . 69
P365D: 126d . . . 70
P90D: 1d . . . 71
P90D: 10d . . . 72
P90D: 21d . . . 73
P30D: 1d . . . 74
P30D: 10d . . . 75
Bottom 30 Tickers By ROEUB . . . 76
All TMD: 1d . . . 76
All TMD: 10d . . . 77
All TMD: 21d . . . 78
All TMD: 63d . . . 79
All TMD: 126d . . . 80
All TMD: 252d . . . 81
P365D: 1d . . . 82
P365D: 10d . . . 83
P365D: 21d . . . 84
P365D: 63d . . . 85
P365D: 126d . . . 86
P90D: 1d . . . 87
P90D: 10d . . . 88
P90D: 21d . . . 89
P30D: 1d . . . 90
P30D: 10d . . . 91

Expected Down Body (EDB) 92
Historic Average Levels . . . 92
All Out of Sample Model Dates . . . 92
Prior 365 Calendar Days (P365D) . . . 93
Prior 90 Calendar Days (P90D) . . . 94
Prior 30 Calendar Days (P30D) . . . 95
EDB by Model Date Detail . . . 96
1d Horizon . . . 96

10d Horizon . . . 97
21d Horizon . . . 98
63d Horizon . . . 99
126d Horizon . . . 100
252d Horizon . . . 101
Performance Summary - MAE of EDB vs. Actual Fwd Returns . . . 102
All Out of Sample Model Dates . . . 102
Prior 365 Calendar Days (P365D) . . . 103
Prior 90 Calendar Days (P90D) . . . 104
Prior 30 Calendar Days (P30D) . . . 105
MAE by Model Date Detail . . . 106
1d Horizon . . . 106
10d Horizon . . . 107
21d Horizon . . . 108
63d Horizon . . . 109
126d Horizon . . . 110
252d Horizon . . . 111
Top 30 Tickers By EDB MAE . . . 112
All TMD: 1d . . . 112
All TMD: 10d . . . 113
All TMD: 21d . . . 114
All TMD: 63d . . . 115
All TMD: 126d . . . 116
All TMD: 252d . . . 117
Bottom 30 Tickers By EDB MAE . . . 118
All TMD: 1d . . . 118
All TMD: 10d . . . 119
All TMD: 21d . . . 120
All TMD: 63d . . . 121
All TMD: 126d . . . 122
All TMD: 252d . . . 123
Performance Summary - Returns on EDB based exposures (ROEDB) . . . 124
All Out of Sample Model Dates . . . 125
Prior 365 Calendar Days (P365D) . . . 126
Prior 90 Calendar Days (P90D) . . . 127
Prior 30 Calendar Days (P30D) . . . 128
ROEDB by Model Date Detail . . . 129
1d Horizon . . . 129
10d Horizon . . . 130
21d Horizon . . . 131
63d Horizon . . . 132
126d Horizon . . . 133
252d Horizon . . . 134

Top 30 Tickers By ROEDB . . . 135
All TMD: 1d . . . 135
All TMD: 10d . . . 136
All TMD: 21d . . . 137
All TMD: 63d . . . 138
All TMD: 126d . . . 139
All TMD: 252d . . . 140
P365D: 1d . . . 141
P365D: 10d . . . 142
P365D: 21d . . . 143
P365D: 63d . . . 144
P365D: 126d . . . 145
P90D: 1d . . . 146
P90D: 10d . . . 147
P90D: 21d . . . 148
P30D: 1d . . . 149
P30D: 10d . . . 150
Bottom 30 Tickers By ROEDB . . . 151
All TMD: 1d . . . 151
All TMD: 10d . . . 152
All TMD: 21d . . . 153
All TMD: 63d . . . 154
All TMD: 126d . . . 155
All TMD: 252d . . . 156
P365D: 1d . . . 157
P365D: 10d . . . 158
P365D: 21d . . . 159
P365D: 63d . . . 160
P365D: 126d . . . 161
P90D: 1d . . . 162
P90D: 10d . . . 163
P90D: 21d . . . 164
P30D: 1d . . . 165
P30D: 10d . . . 166

Appendix 1: Calculating "Expected Body" for Sigma **167**

Appendix 2: 95% Opportunity at Risk (OaR) **168**
Historic Average Levels . . . 168
All Out of Sample Model Dates . . . 168
Prior 365 Calendar Days (P365D) . . . 169
Prior 90 Calendar Days (P90D) . . . 170
Prior 30 Calendar Days (P30D) . . . 171

Appendix 3: 95% Value at Risk (VaR) **172**
Historic Average Levels 172
All Out of Sample Model Dates 172
Prior 365 Calendar Days (P365D) 173
Prior 90 Calendar Days (P90D) 174
Prior 30 Calendar Days (P30D) 175

Appendix 4: 95% OaR Breakage Rates **176**
All Out of Sample Model Dates 176
Prior 365 Calendar Days (P365D) 177
Prior 90 Calendar Days (P90D) 178
Prior 30 Calendar Days (P30D) 179

Appendix 5: 95% VaR Breakage Rates **180**
All Out of Sample Model Dates 180
Prior 365 Calendar Days (P365D) 181
Prior 90 Calendar Days (P90D) 182
Prior 30 Calendar Days (P30D) 183

Introduction

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

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

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

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

Evaluation of EUB and EDB Estimates

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

Mean absolute average error (MAE)

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Determining the drivers of ROEUB (ROEDB) alpha

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

ROEUB (ROEDB) Beta

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

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

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

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

Vector Model Input and Calculation Details

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

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

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

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

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

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

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

Sigma Details

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

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

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

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

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

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

Using this report

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

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

1) Past performance is no guarantee of future results. None of the content in this report is investment advice or an offer to buy or sell securities. VecViz is not a SEC investment advisor or broker-dealer. The staff of VecViz actively transacts in securities tied to many of the tickers discussed in this report.
   See VecViz's Terms and Conditions for more context and detail at https://vecviz.com/terms-and-conditions/

2) Read ""Let me warn you…" of the limitations of VecViz's Analytics.", a blog entry on vecviz.com (https://vecviz.com/let-me-warn-you-of-the-limitations-of-vecvizs-analytics/)

3) There are many volatility models that the Vector Model could be compared to beyond Sigma. Thus, even if this report causes you to conclude that the Vector Model's Expected Body metrics outperforms Sigma Expected Body metrics, you should not necessarily conclude that Vector Model Expected Body metrics are the best for your purposes. See the discussion of some of the other types of volatilty models in this blog for more detail, as Expected Body metrics could likely be calculated from them as well: https://vecviz.com/an-llms-comparison-of-vecviz-to-established-vol-models/

4) All MAE and ROEUB and ROEDB performance statistics are as of the end of the horizon only. All interim price movement is ignored.

5) Clearly, all horizons > 1d overlap when considered on a daily basis. Please note that the volatility of overlapping periodic returns is understated, because each observation shares return experience with other observations for such time horizons.
   Thus, we advise against considering any perceived volatility or volatility related metrics for multi-day horizons in isolation, including p-values for alpha and beta statistics. However, we do believe that their use is valid for comparing the Vector Model to Sigma, whose multi-day horizon ROLOBC returns are calculated similarly.

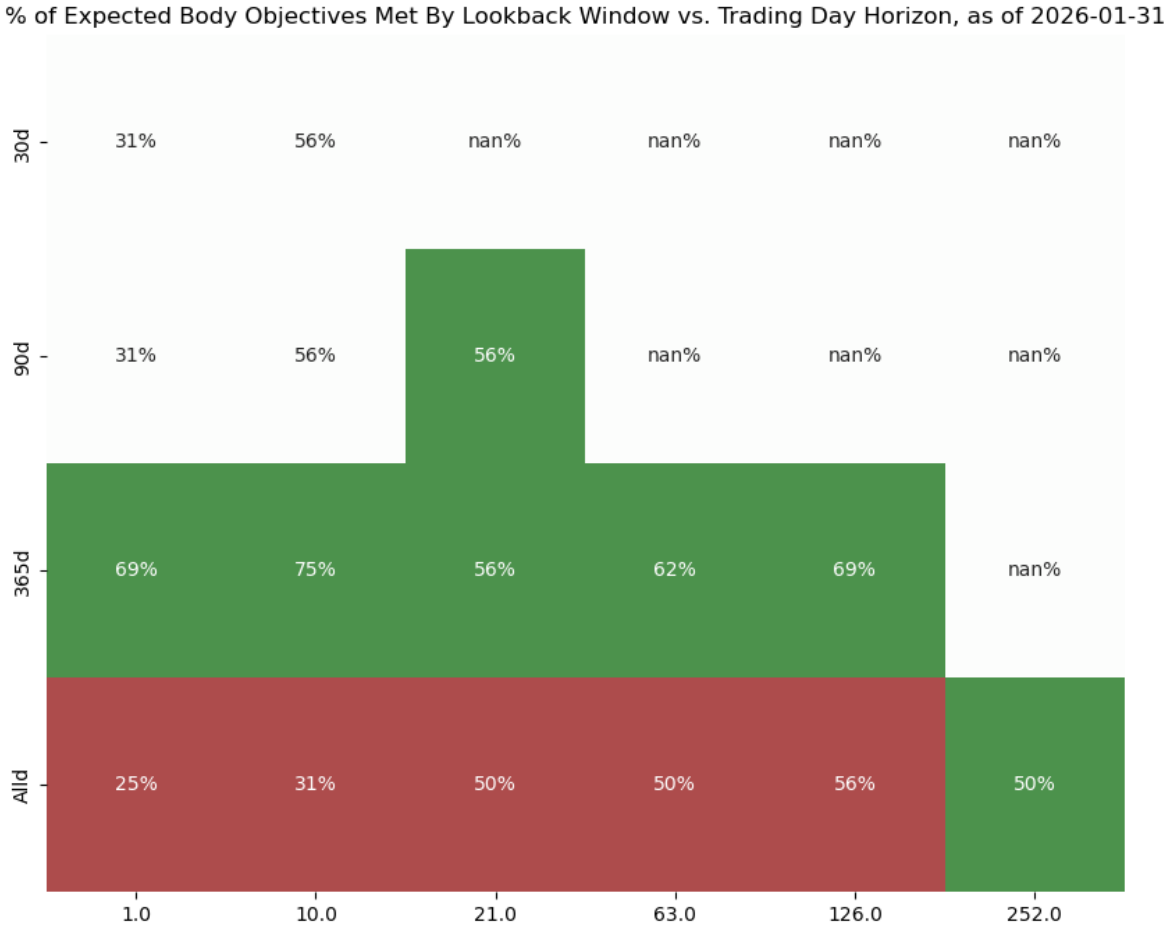
6) We are not considering transaction costs. The turnover and therefore transaction costs experienced by Vector Model ROEUB or ROEDB based investors resulting in the change in the ratio between Vector Model and Sigma ROEUB or ROEDB is completely ignored.

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

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

Expected Body Objectives "Report Card"

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



EB Criteria	Average Score(%)
1. Smaller EUB MAE (mean absolute error)	0
2. Smaller EUB MAE after 95%tile adjustment	12.5
3. Less adjusted EUB MAE Variability across dates	25
4. Less adjusted EUB MAE Variability across tickers	37.5
5. Smaller EDB MAE	50
6. Smaller EDB MAE after 95%tile adjustment	62.5
7. Less adjusted EDB MAE Variability across dates	37.5
8. Less adjusted EDB MAE Variability across tickers	43.75
9. Greater ROEUB	50

EB Criteria	Average Score(%)
10. Greater ROEUB after adjusting for EUB magnitude	87.5
11. ROEUB alpha across tickers and dates > 0	93.75
12. ROEUB alpha across dates > 0	43.75
13. Greater ROEDB	100
14. Greater ROEDB after adjusting for EDB magnitude	93.75
15. ROEDB alpha across tickers and dates > 0	0
16. ROEDB alpha across dates > 0	87.5
Overall Average	51.56

EB and ROEB Criteria by Fwd Hzn	1D	10D	21D	63D	126D	252D
1. Smaller EUB MAE (mean absolute error)	0	0	0	0	0	0
2. Smaller EUB MAE after 95%tile adjustment	0	25	0	0	50	0
3. Less adjusted EUB MAE Variability across dates	25	50	0	0	50	0
4. Less adjusted EUB MAE Variability across tickers	25	50	33.33	50	50	0
5. Smaller EDB MAE	0	25	66.67	100	100	100
6. Smaller EDB MAE after 95%tile adjustment	25	75	66.67	100	100	0
7. Less adjusted EDB MAE Variability across dates	0	75	33.33	0	50	100
8. Less adjusted EDB MAE Variability across tickers	50	50	33.33	50	50	0
9. Greater ROEUB	25	0	66.67	100	100	100
10. Greater ROEUB after adjusting for EUB magnitude	75	75	100	100	100	100
11. ROEUB alpha across tickers and dates > 0	75	100	100	100	100	100
12. ROEUB alpha across dates > 0	75	50	66.67	0	0	0
13. Greater ROEDB	100	100	100	100	100	100
14. Greater ROEDB after adjusting for EDB magnitude	75	100	100	100	100	100
15. ROEDB alpha across tickers and dates > 0	0	0	0	0	0	0
16. ROEDB alpha across dates > 0	75	100	100	100	50	100
TotalScore	39.06	54.69	54.17	56.25	62.5	50

EB and ROEB Criteria by Lookback Window	30D	90D	365D	AllD
1. Smaller EUB MAE (mean absolute error)	0	0	0	0
2. Smaller EUB MAE after 95%tile adjustment	0	0	40	0
3. Less adjusted EUB MAE Variability across dates	50	0	60	0
4. Less adjusted EUB MAE Variability across tickers	0	33.33	100	0
5. Smaller EDB MAE	0	33.33	80	50
6. Smaller EDB MAE after 95%tile adjustment	50	66.67	100	33.33
7. Less adjusted EDB MAE Variability across dates	50	0	20	66.67
8. Less adjusted EDB MAE Variability across tickers	0	33.33	100	16.67
9. Greater ROEUB	0	33.33	60	66.67
10. Greater ROEUB after adjusting for EUB magnitude	100	100	100	66.67
11. ROEUB alpha across tickers and dates > 0	100	100	100	83.33
12. ROEUB alpha across dates > 0	100	100	20	16.67
13. Greater ROEDB	100	100	100	100
14. Greater ROEDB after adjusting for EDB magnitude	100	66.67	100	100
15. ROEDB alpha across tickers and dates > 0	0	0	0	0
16. ROEDB alpha across dates > 0	50	100	80	100
TotalScore	43.75	47.92	66.25	43.75

See the prior page for associated definitions of the criteria.

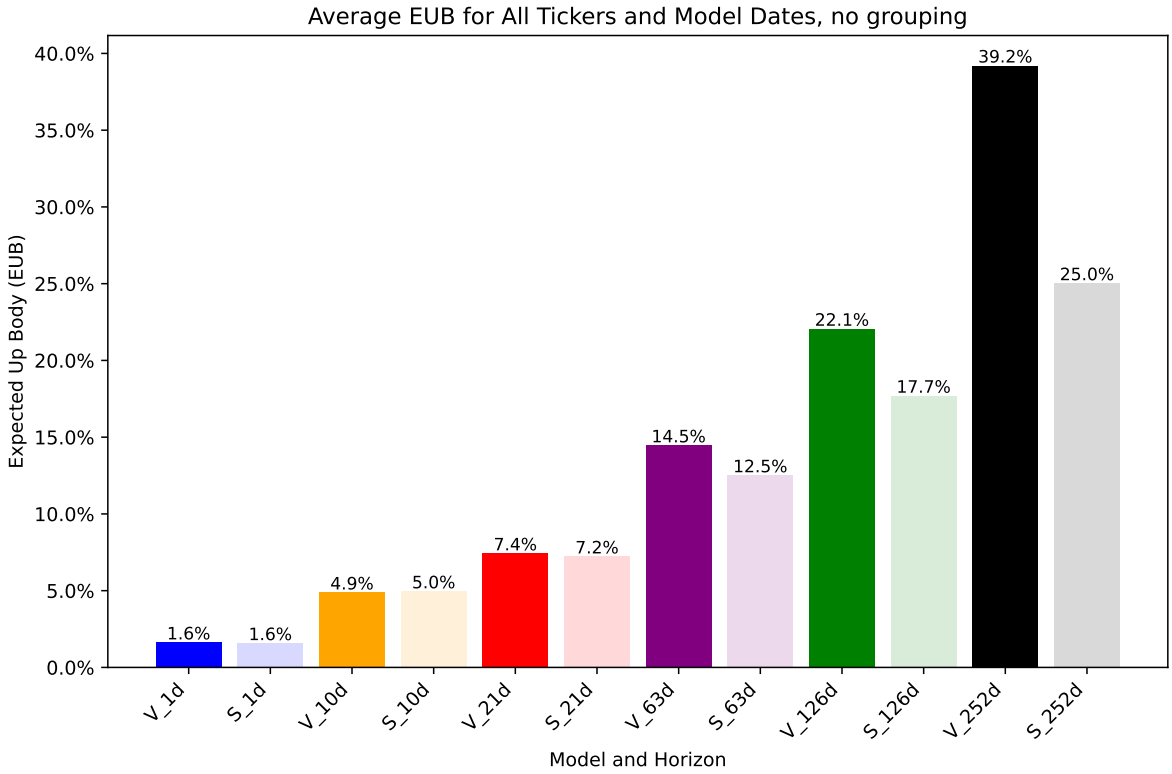
Expected Up Body (EUB)

Historic Average Levels

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

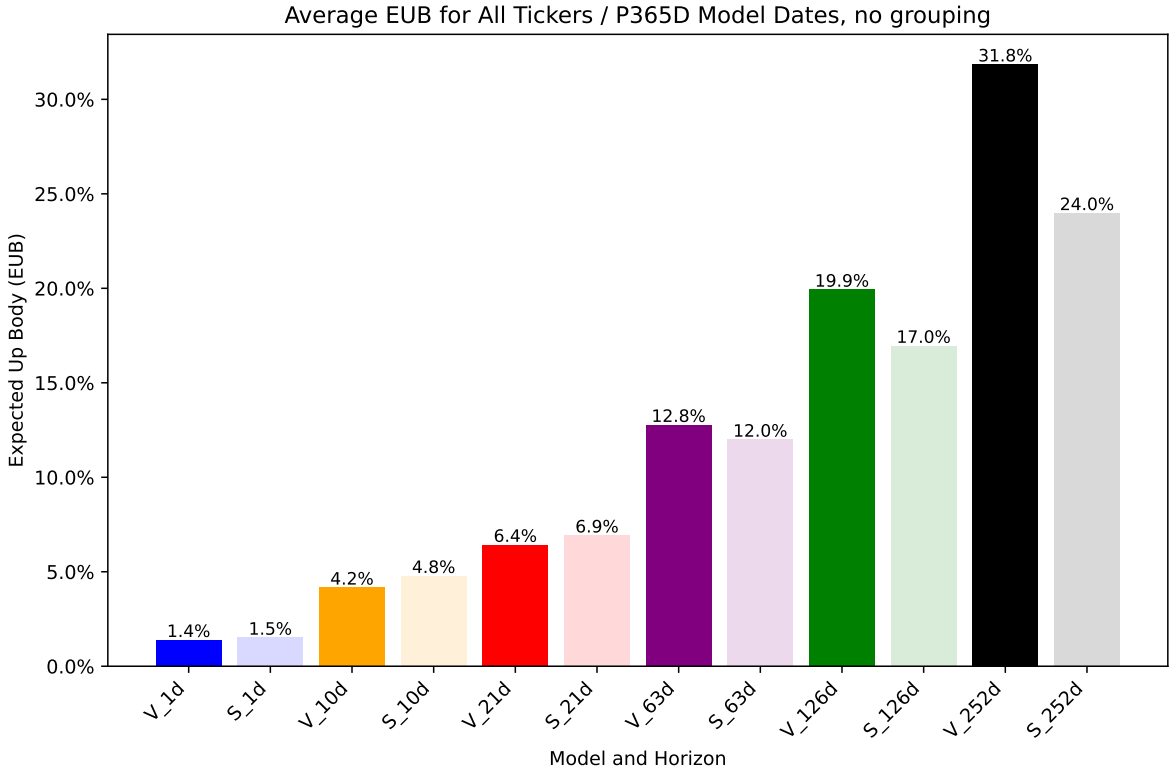
All Out of Sample Model Dates

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



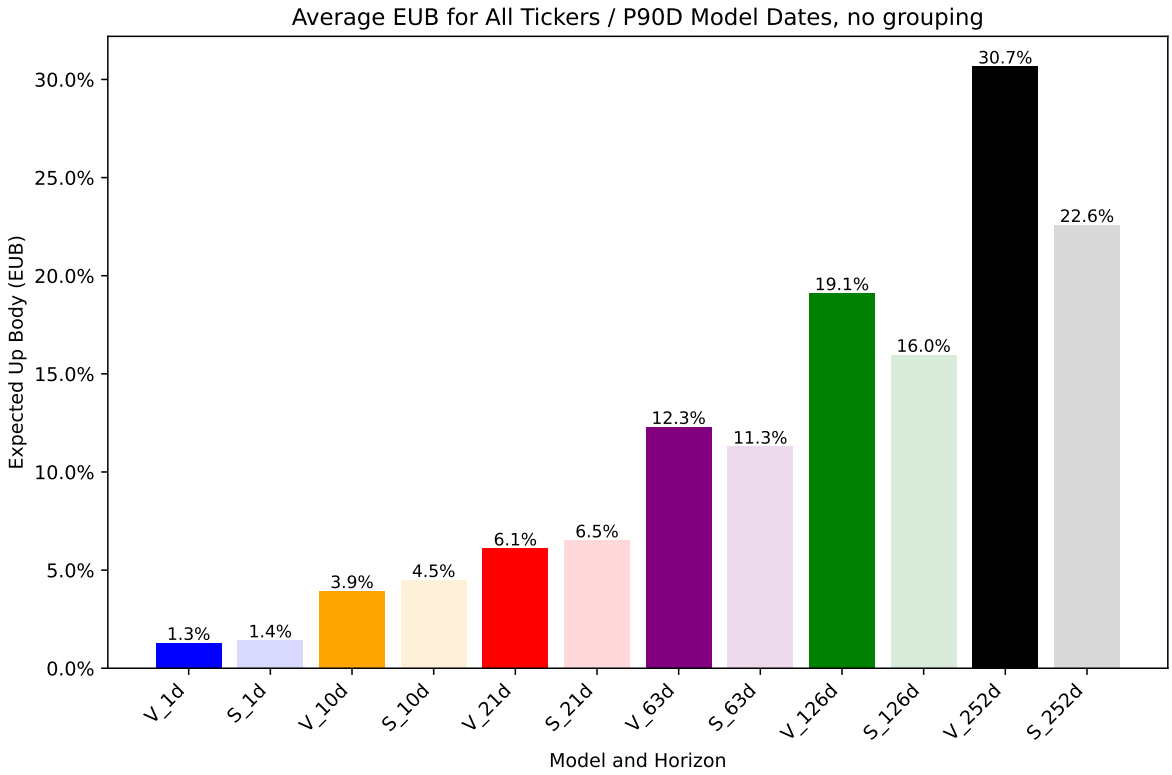
Prior 365 Calendar Days (P365D)

Period examined: All model dates from 2025-02-03 through 2026-01-29



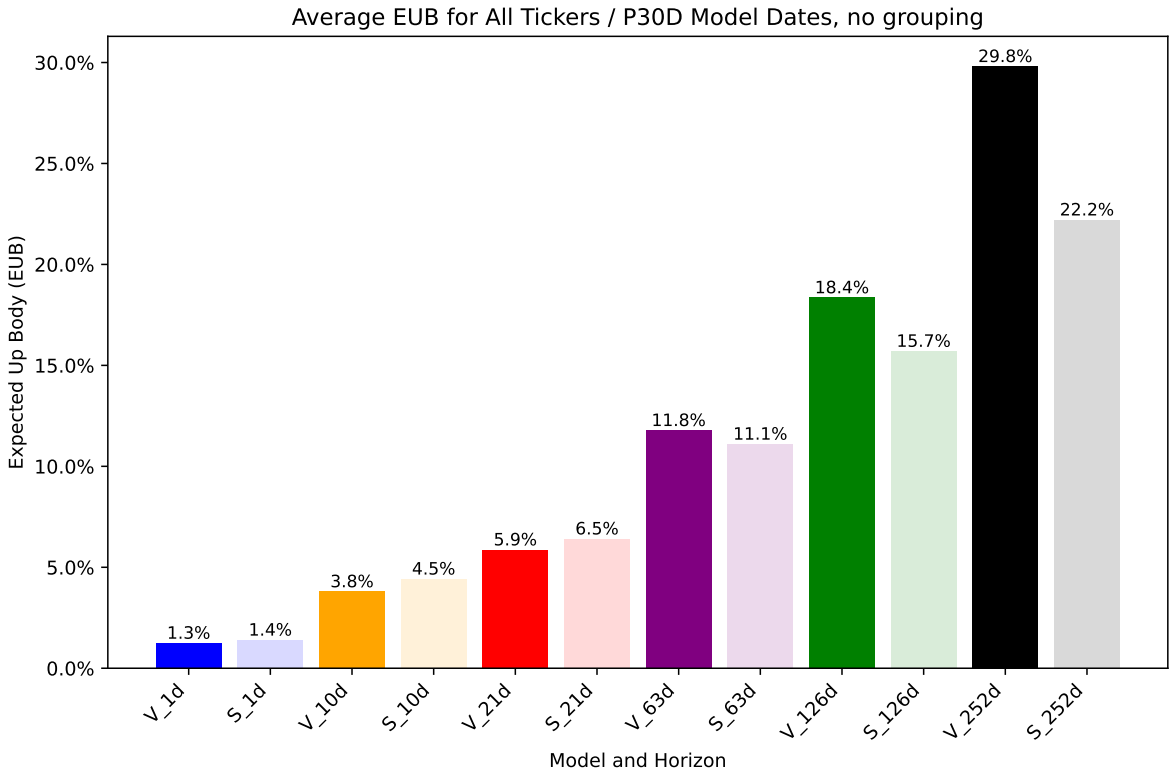
Prior 90 Calendar Days (P90D)

Period examined: All model dates from 2025-11-03 through 2026-01-29



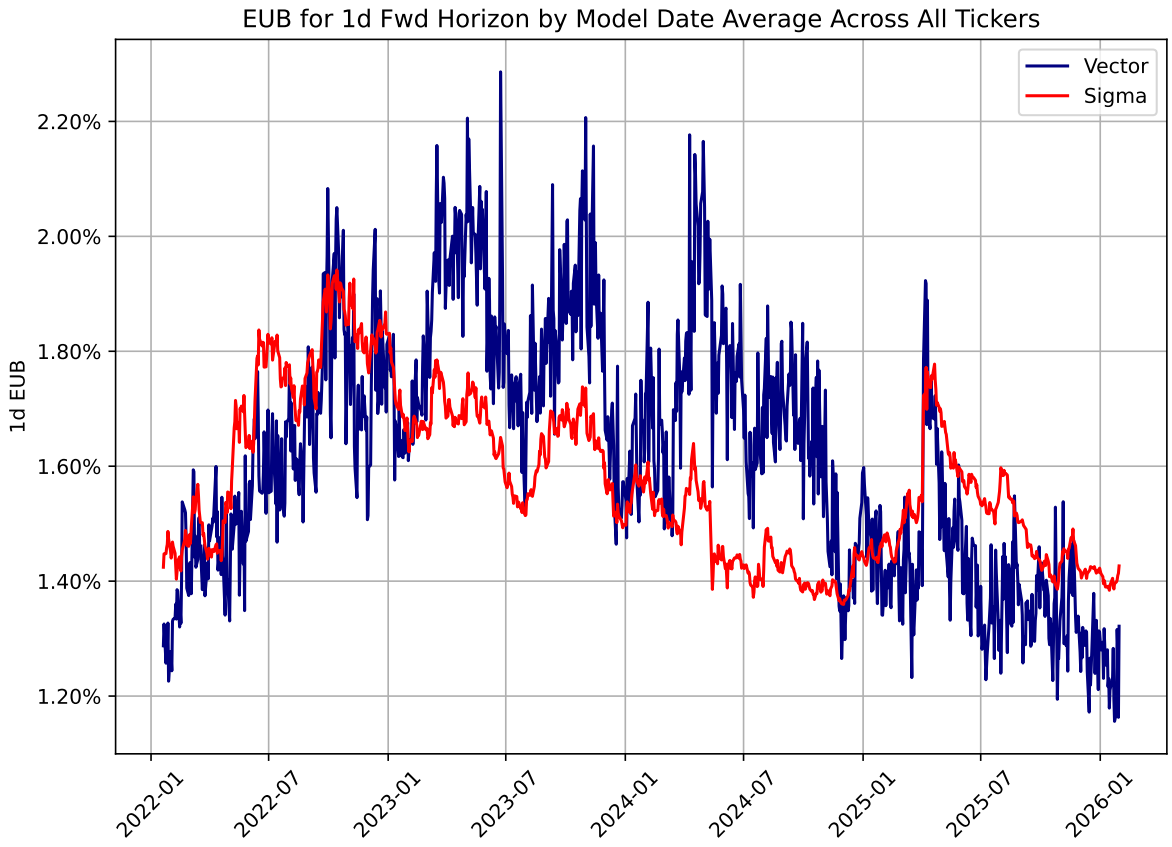
Prior 30 Calendar Days (P30D)

Period examined: All model dates from 2026-01-02 through 2026-01-29

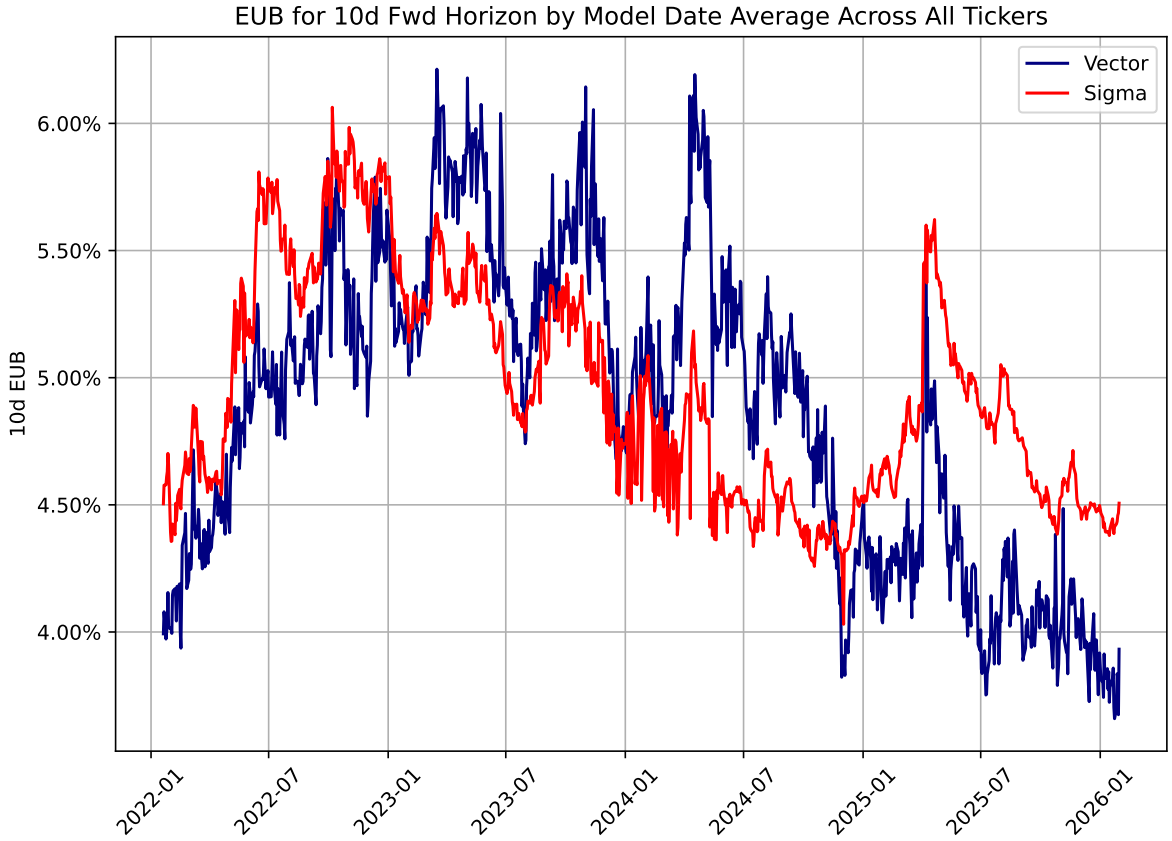


EUB by Model Date Detail

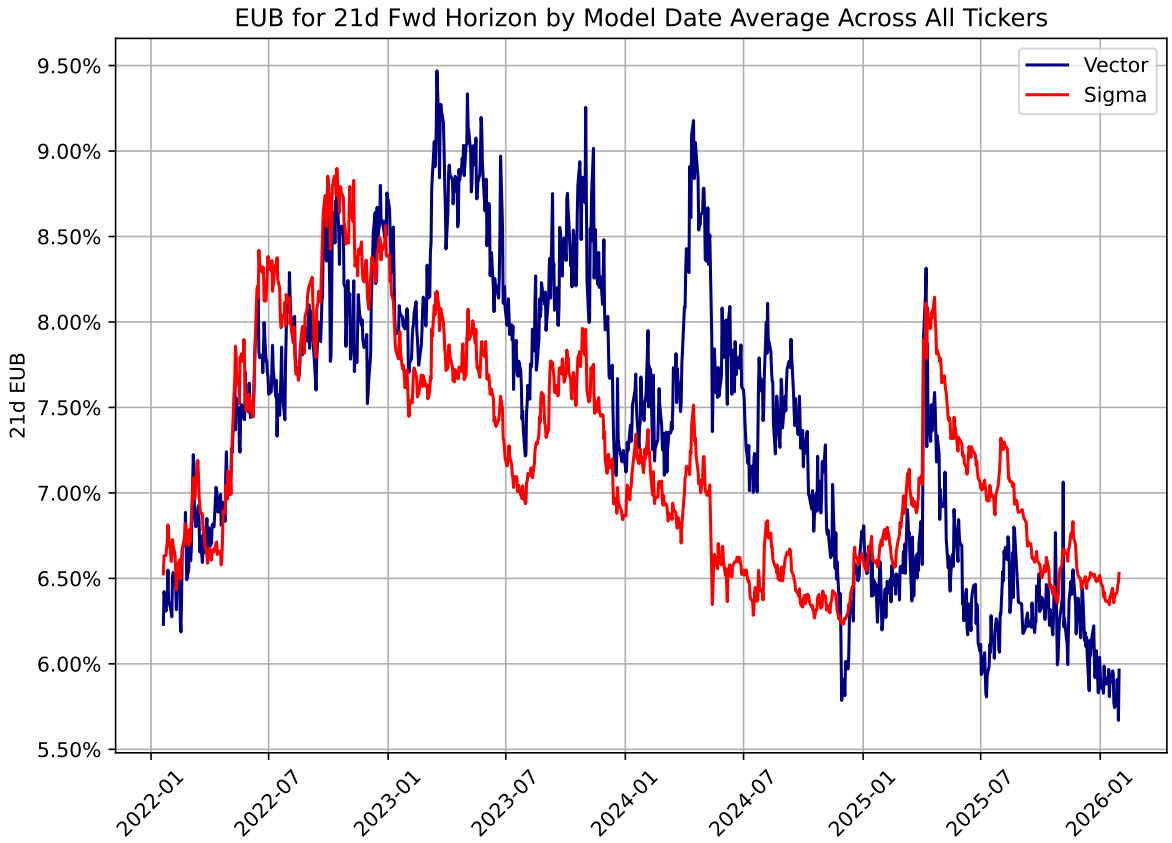
1d Horizon



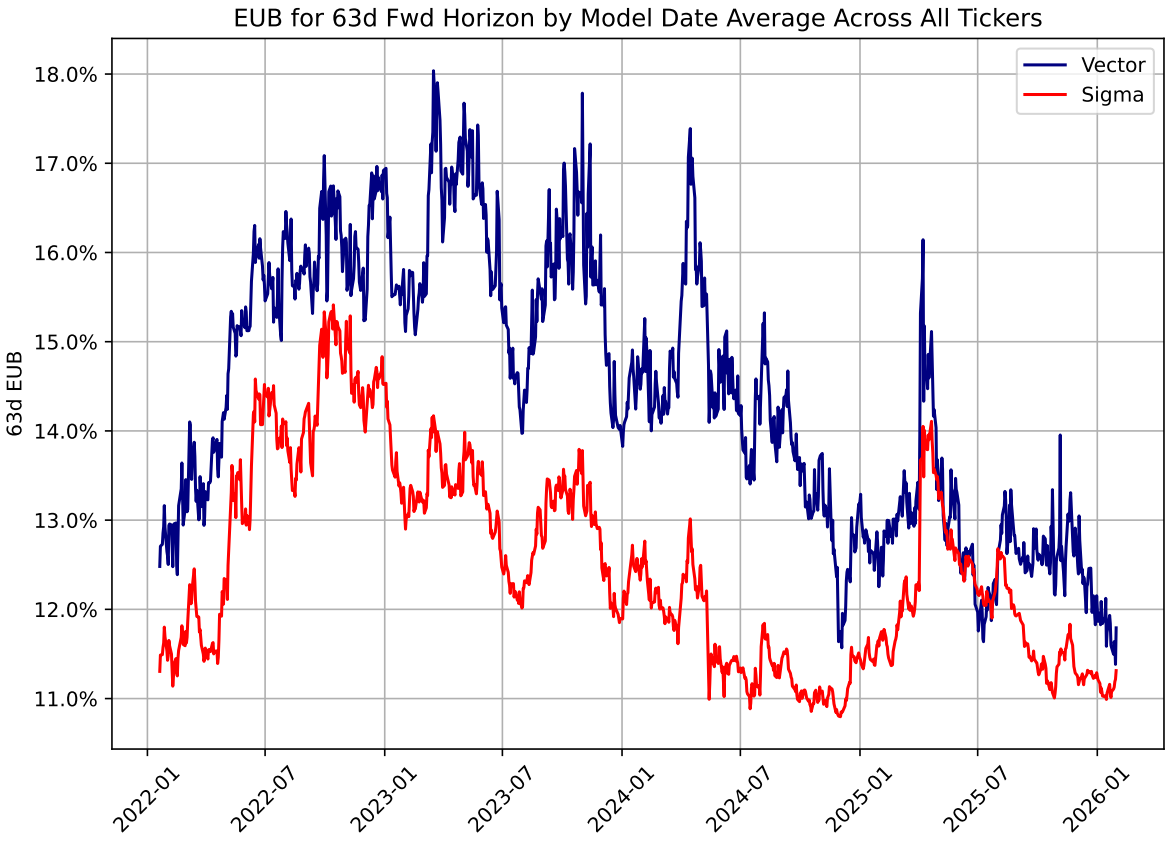
10d Horizon


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
2022-07
2023-01
2023-07
2024-01
2024-07
2025-01
2025-07
2026-01

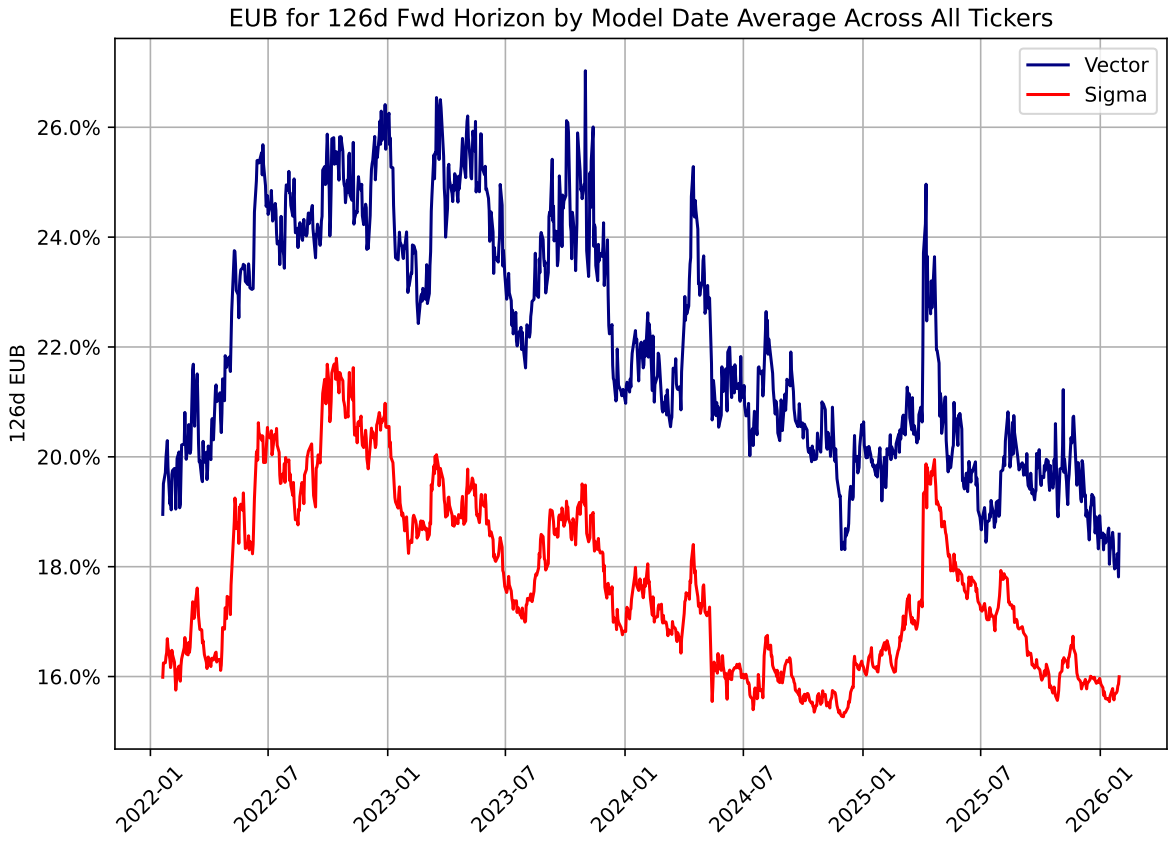
21d Horizon


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

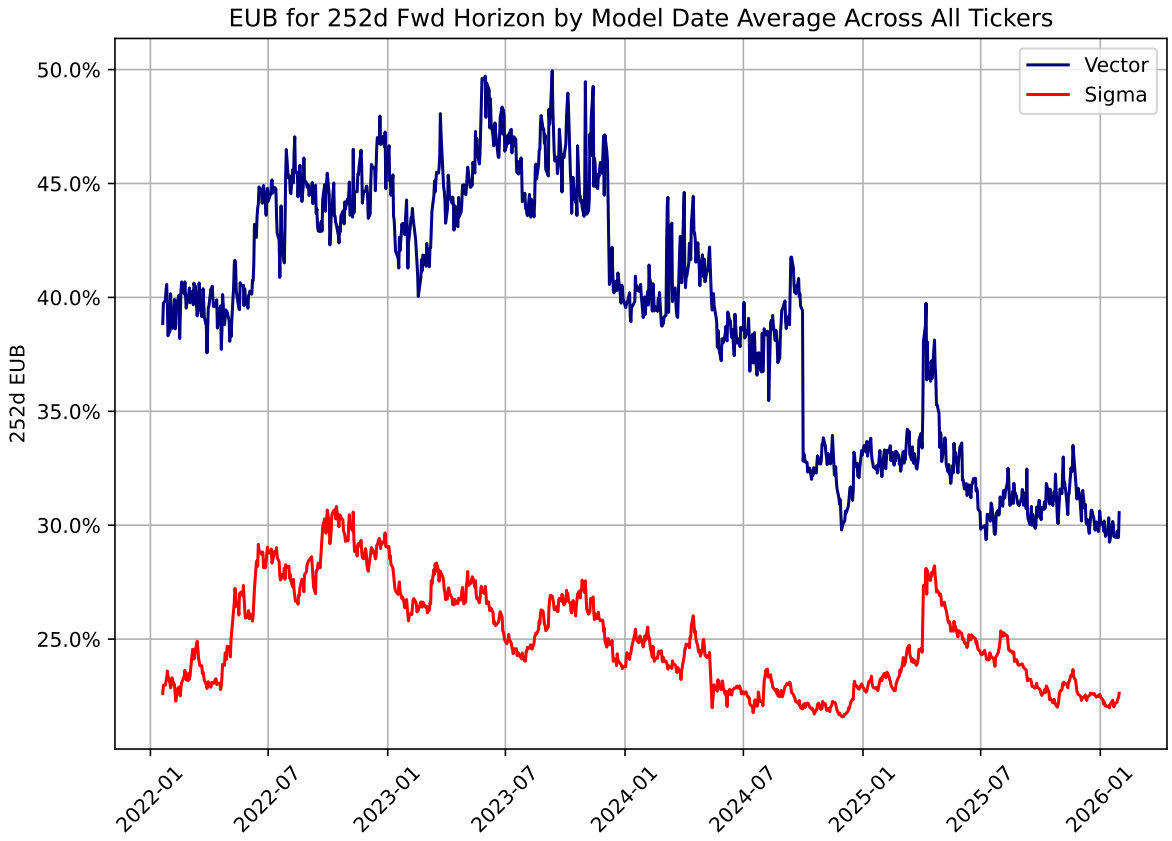
63d Horizon


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

126d Horizon



252d Horizon



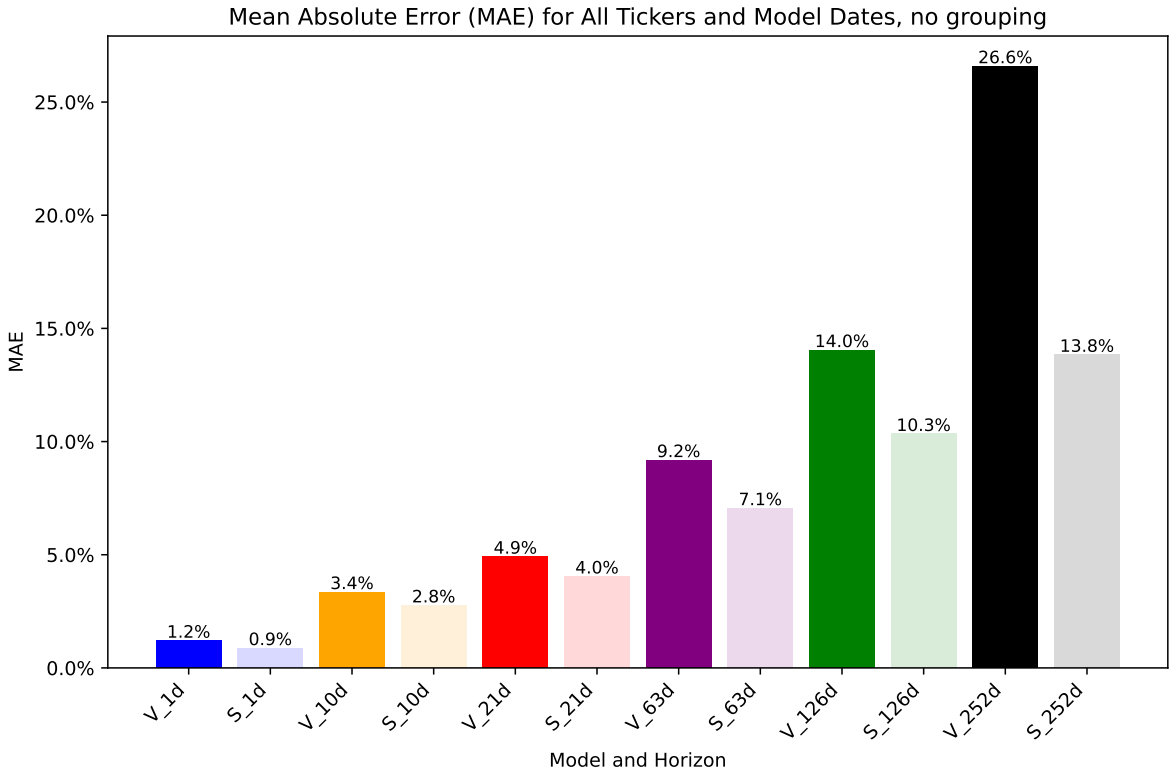
Performance Summary - MAE of EUB vs. Actual Fwd Returns

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

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

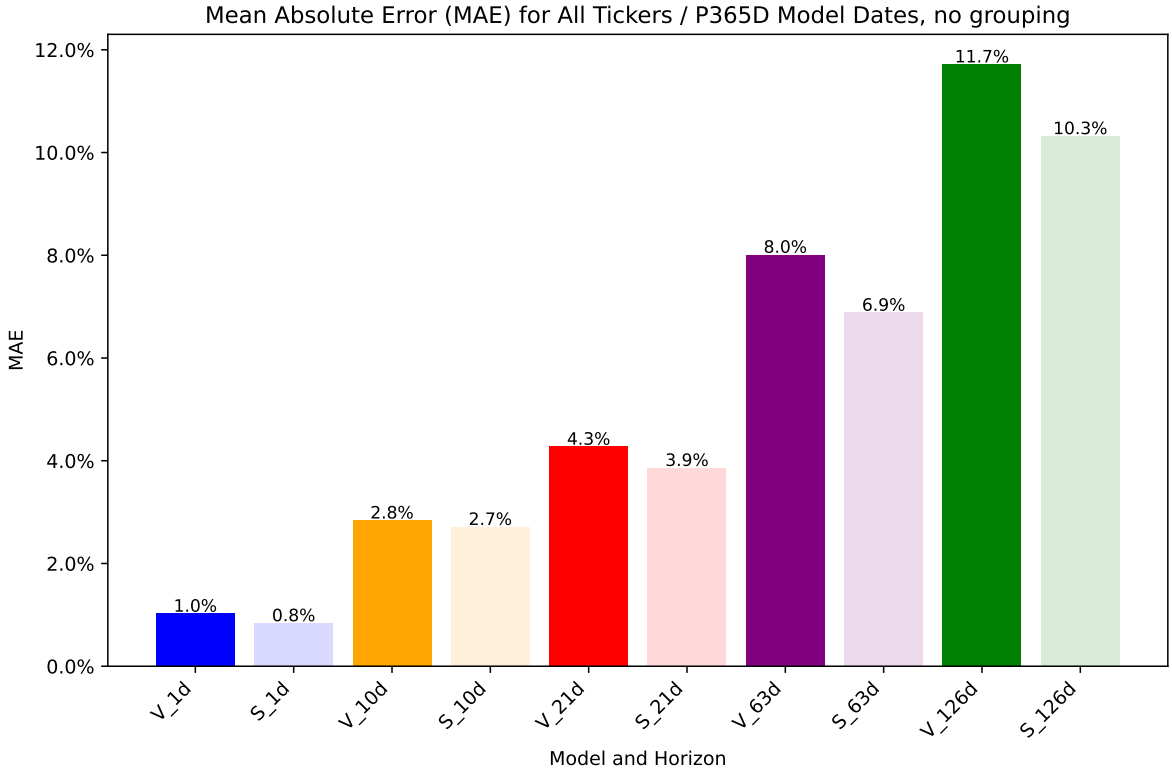
All Out of Sample Model Dates

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



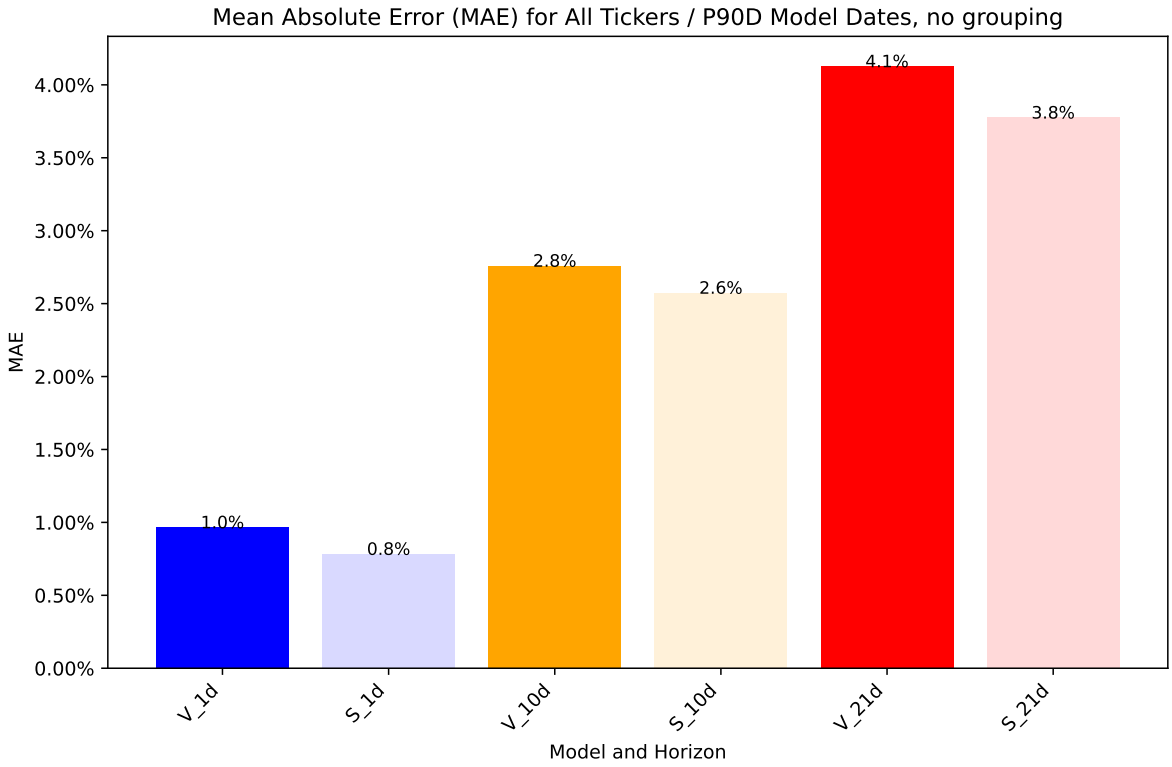
Prior 365 Calendar Days (P365D)

Period examined: All model dates from 2025-02-03 through 2026-01-29



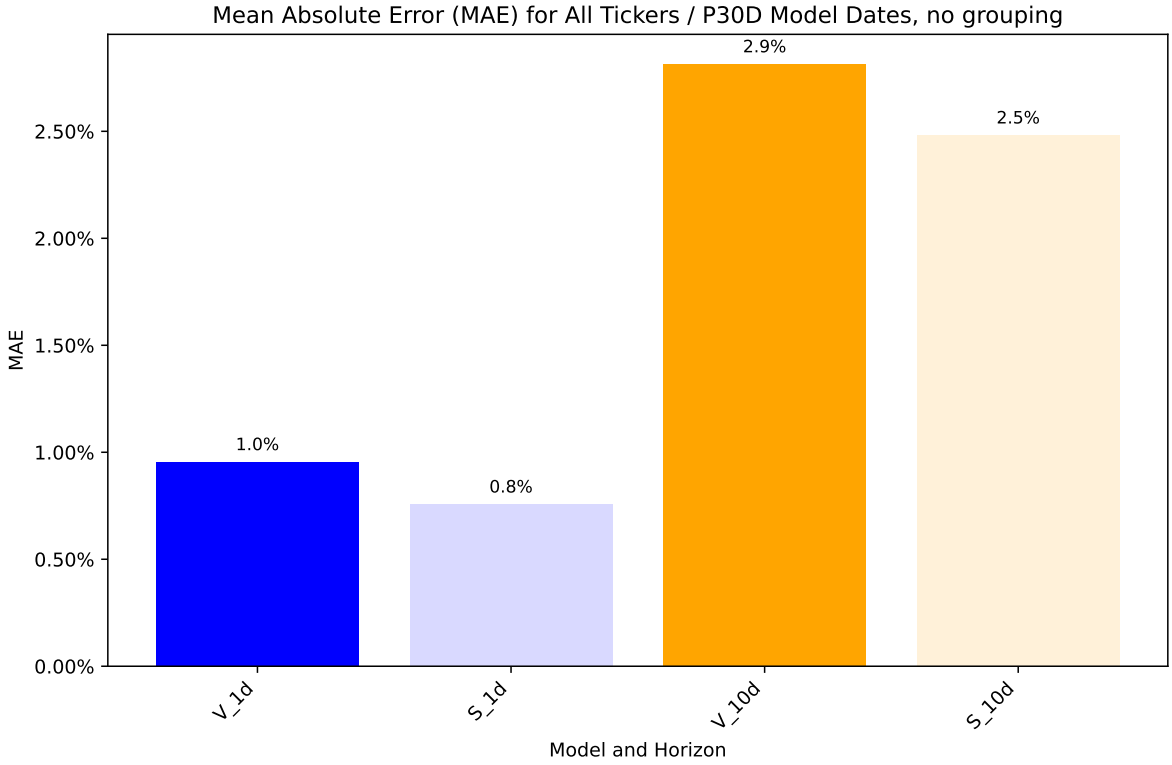
Prior 90 Calendar Days (P90D)

Period examined: All model dates from 2025-11-03 through 2026-01-29



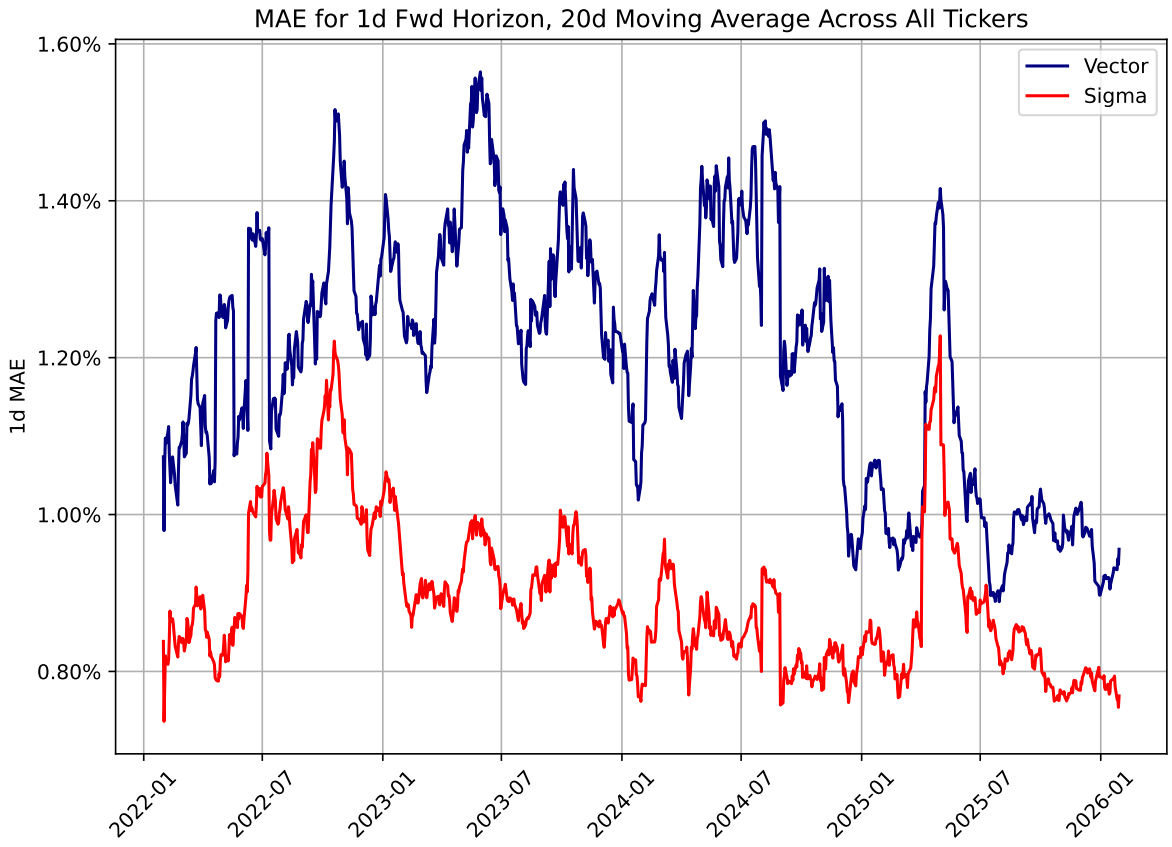
Prior 30 Calendar Days (P30D)

Period examined: All model dates from 2026-01-02 through 2026-01-29

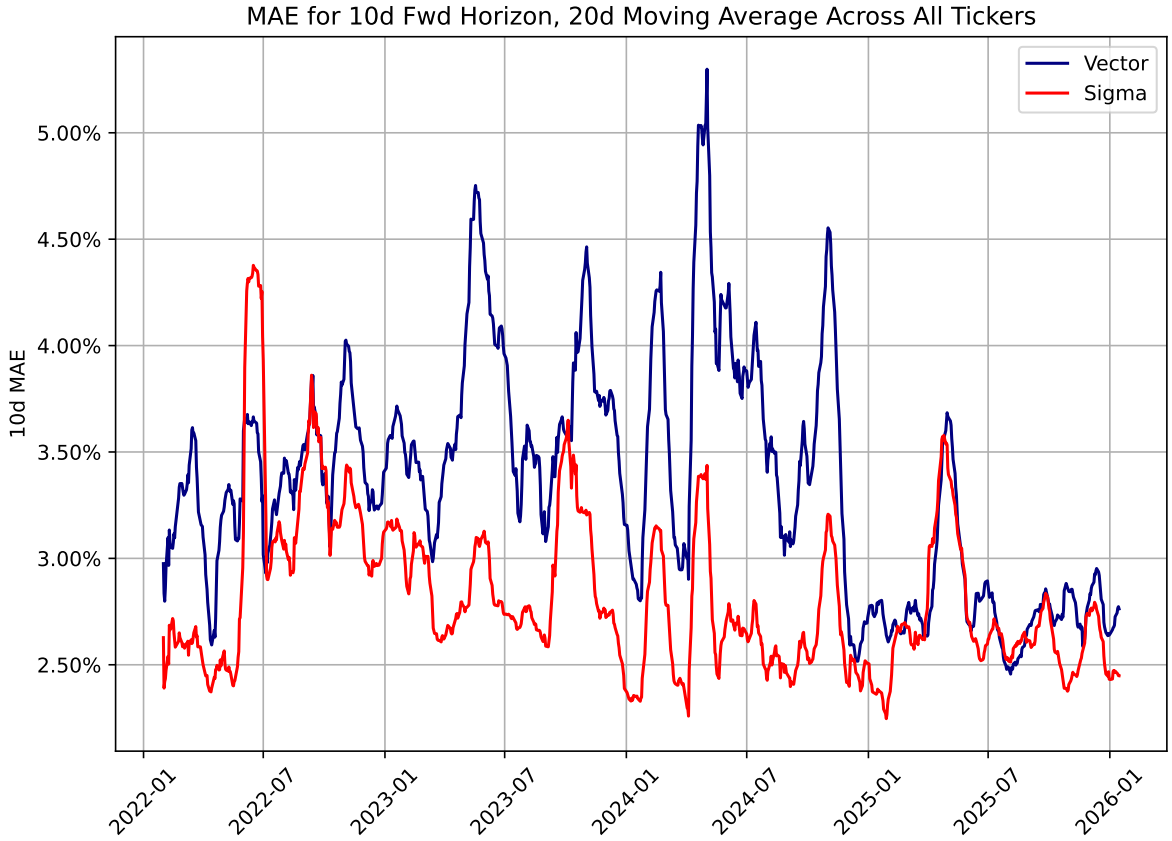


MAE by Model Date Detail

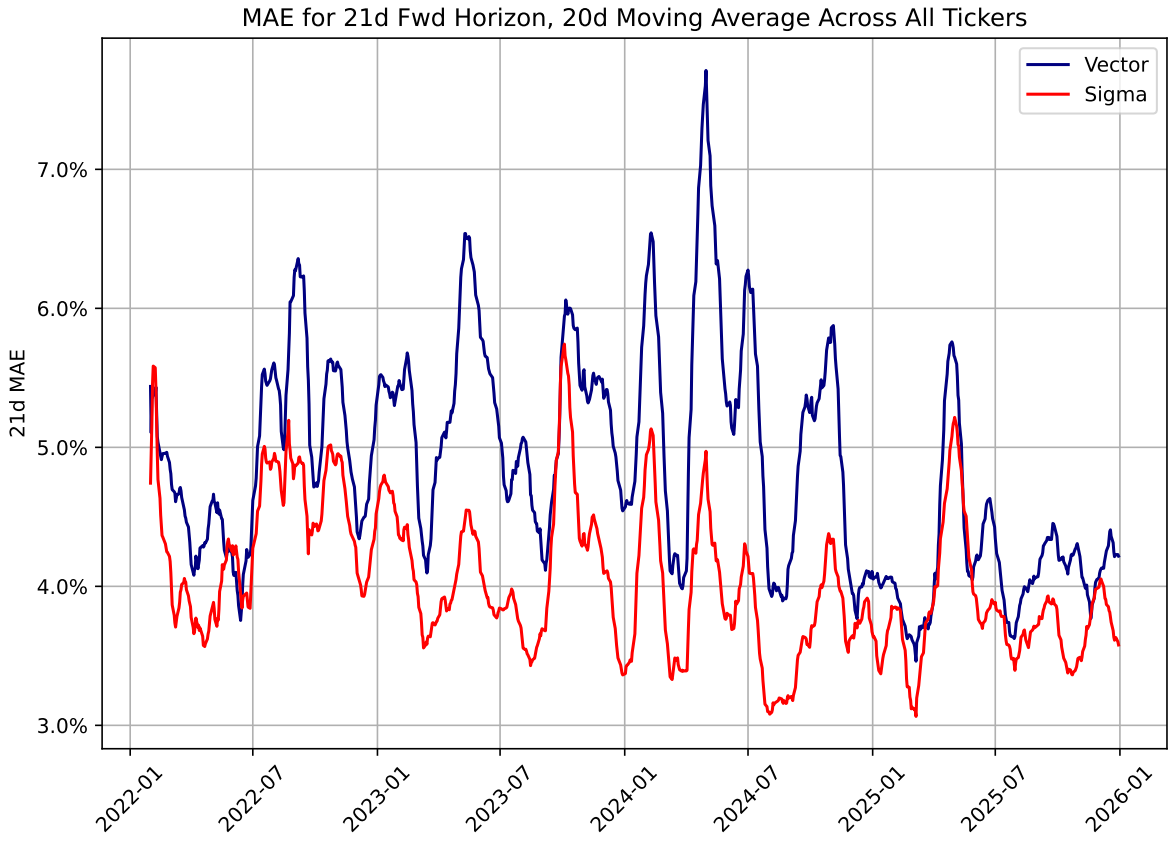
1d Horizon



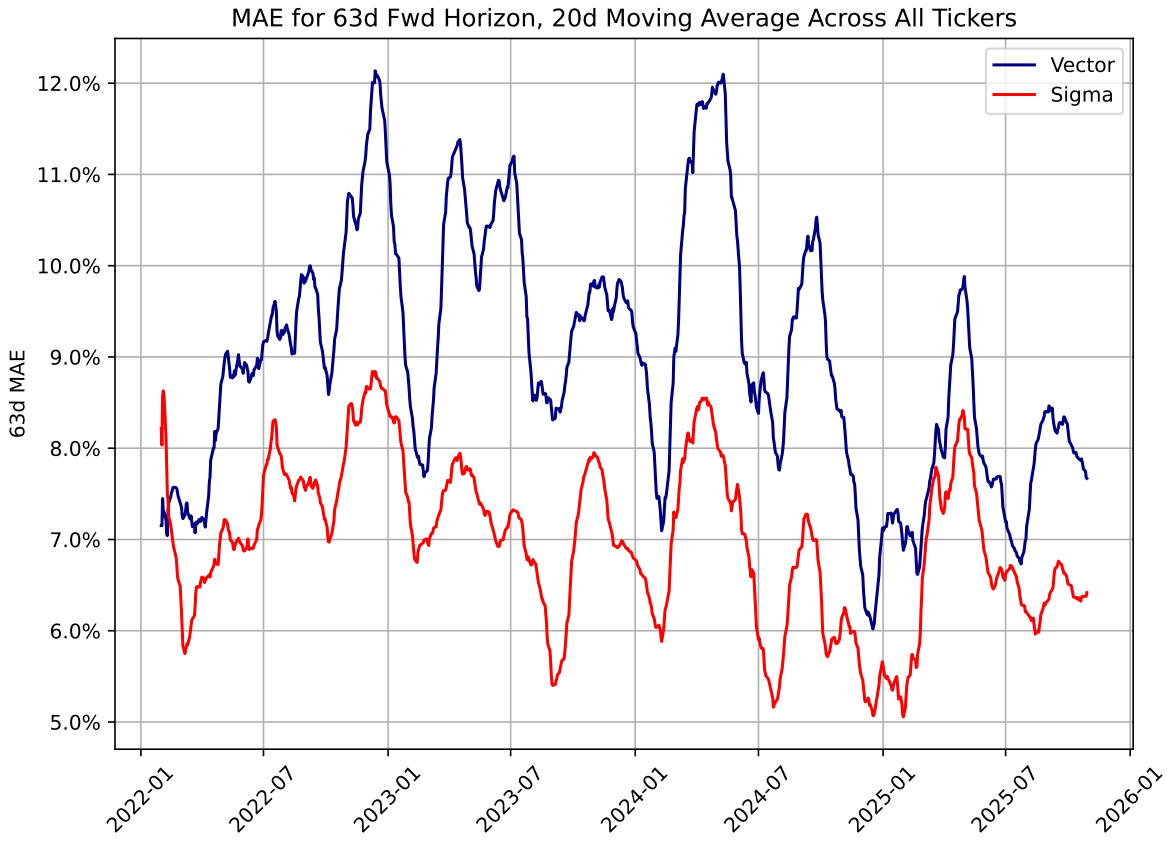
10d Horizon


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

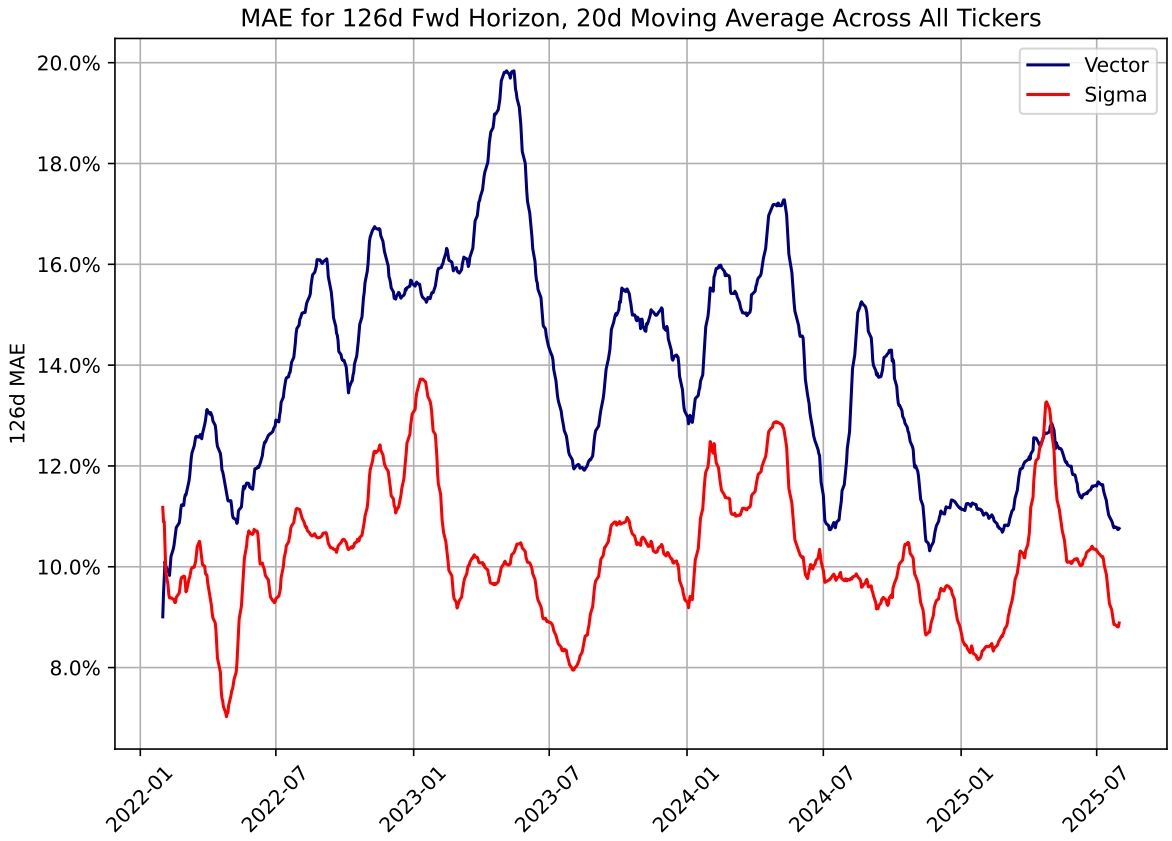
21d Horizon


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

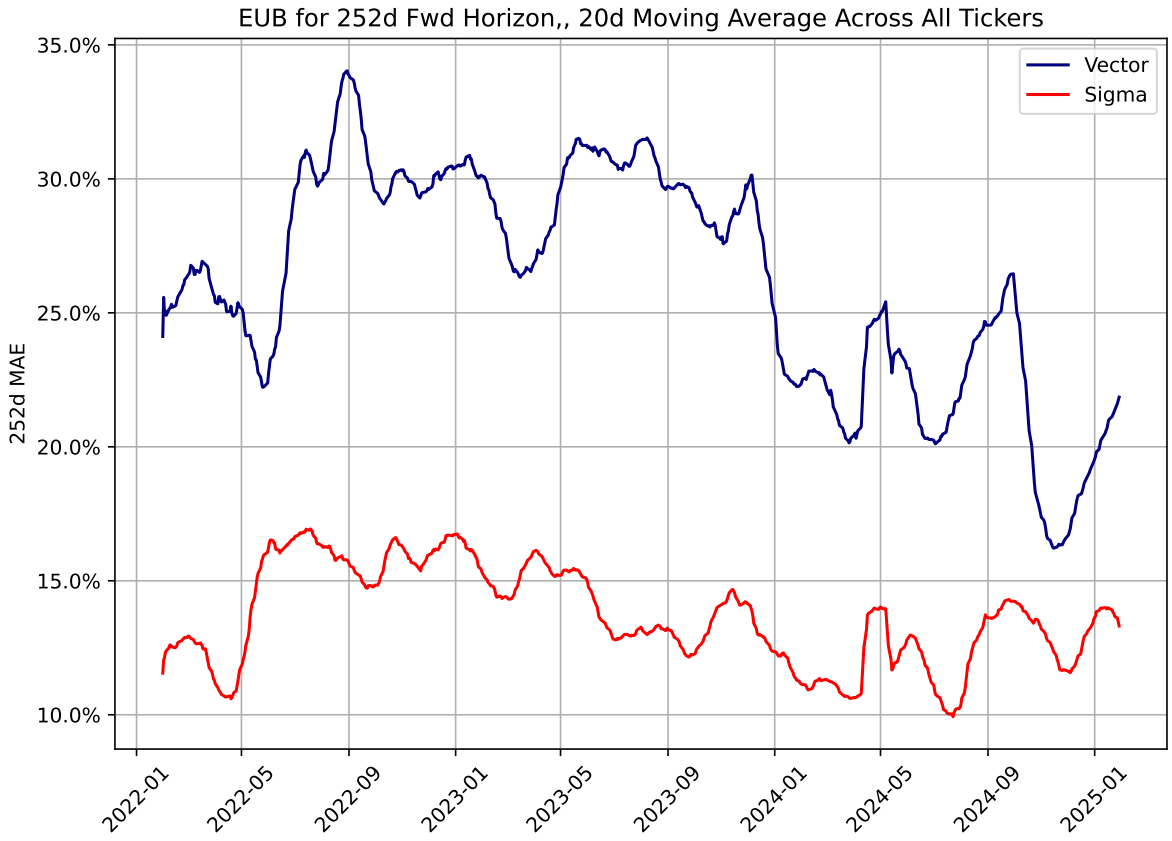
63d Horizon


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

126d Horizon



252d Horizon



Top 30 Tickers By EUB MAE

All TMD: 1d

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

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

Horizon	Ticker_V	EUB-MAE_V	Ticker_S	EUB-MAE_S
1.0	AMC	11.05%	AMC	9.91%
1.0	LUMN	7.25%	GME	3.27%
1.0	IEP	6.87%	CYH	2.73%
1.0	TSLA	4.14%	LUMN	2.37%
1.0	ELAN	4.1%	MSTR	2.17%
1.0	CYH	3.95%	GBTC	1.96%
1.0	BHC	3.01%	BHC	1.78%
1.0	NWL	2.85%	IEP	1.55%
1.0	CCL	2.56%	UAA	1.5%
1.0	GBTC	2.53%	CTLT	1.49%
1.0	VNO	2.31%	TSLA	1.45%
1.0	CZR	2.24%	NWL	1.45%
1.0	GNRC	2.18%	VFC	1.44%
1.0	GT	2.03%	CLF	1.39%
1.0	MSTR	2.01%	AA	1.38%
1.0	T	1.94%	SIVBQ	1.36%
1.0	BXP	1.92%	GT	1.36%
1.0	NVDA	1.88%	CCL	1.33%
1.0	UAA	1.88%	CZR	1.32%
1.0	LNC	1.75%	AAP	1.28%
1.0	AVGO	1.7%	GNRC	1.24%
1.0	MOS	1.67%	SBNY	1.22%
1.0	X	1.57%	AMD	1.19%
1.0	AMD	1.54%	ON	1.18%
1.0	ON	1.48%	NVDA	1.13%
1.0	AMAT	1.47%	LNC	1.12%
1.0	MSFT	1.47%	MU	1.11%
1.0	AA	1.43%	ELAN	1.11%
1.0	ETRN	1.43%	X	1.09%
1.0	INTC	1.43%	ETRN	1.06%

All TMD: 10d

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

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

Horizon	Ticker_V	EUB-MAE_V	Ticker_S	EUB-MAE_S
10.0	AMC	41.97%	AMC	31.01%
10.0	LUMN	19.32%	GME	10.12%
10.0	IEP	14.9%	LUMN	8.14%
10.0	TSLA	10.02%	CYH	7.54%
10.0	ELAN	9.99%	MSTR	7.06%
10.0	BHC	8.51%	BHC	6.08%
10.0	CYH	8.22%	GBTC	5.64%
10.0	NWL	8.2%	UAA	4.82%
10.0	GBTC	7.68%	SIVBQ	4.75%
10.0	CZR	6.54%	IEP	4.7%
10.0	GT	6.37%	NWL	4.51%
10.0	GNRC	6.19%	AA	4.48%
10.0	CCL	6.15%	GT	4.38%
10.0	NVDA	5.92%	TSLA	4.37%
10.0	MSTR	5.59%	CZR	4.33%
10.0	LNC	5.36%	VFC	4.26%
10.0	AMD	5.14%	CLF	4.24%
10.0	UAA	5.05%	GNRC	4.16%
10.0	X	4.81%	CCL	4.16%
10.0	VNO	4.75%	SBNY	4.11%
10.0	MOS	4.66%	AMD	4.06%
10.0	BXP	4.62%	CTLT	3.94%
10.0	MSFT	4.49%	LNC	3.85%
10.0	INTC	4.38%	ON	3.81%
10.0	AMAT	4.27%	INTC	3.79%
10.0	CLF	4.17%	AAP	3.79%
10.0	T	4.07%	MU	3.66%
10.0	MU	4.03%	ELAN	3.63%
10.0	ON	3.97%	NVDA	3.56%
10.0	AA	3.96%	X	3.56%

All TMD: 21d

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

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

Horizon	Ticker_V	EUB-MAE_V	Ticker_S	EUB-MAE_S
21.0	AMC	61.9%	AMC	48.03%
21.0	LUMN	23.02%	GME	14.96%
21.0	IEP	20.75%	CYH	11.46%
21.0	ELAN	15.6%	LUMN	10.96%
21.0	TSLA	14.0%	MSTR	9.93%
21.0	BHC	11.76%	GBTC	7.8%
21.0	CCL	11.25%	BHC	7.68%
21.0	NWL	11.12%	UAA	7.5%
21.0	CYH	10.93%	TSLA	7.29%
21.0	CZR	10.29%	IEP	7.21%
21.0	MSTR	10.16%	CCL	7.19%
21.0	GT	10.0%	SIVBQ	7.04%
21.0	GBTC	9.73%	NWL	6.93%
21.0	GNRC	8.74%	VFC	6.85%
21.0	NVDA	8.61%	AMD	6.39%
21.0	AMD	7.99%	CZR	6.23%
21.0	MOS	7.83%	GT	6.22%
21.0	UAA	7.59%	CLF	6.06%
21.0	LNC	7.38%	AA	5.98%
21.0	VNO	7.25%	GNRC	5.95%
21.0	AMAT	7.23%	ON	5.77%
21.0	BXP	6.9%	AAP	5.64%
21.0	X	6.83%	CTLT	5.63%
21.0	MSFT	6.77%	NVDA	5.48%
21.0	ON	6.59%	ELAN	5.4%
21.0	CLF	6.49%	SBNY	5.33%
21.0	INTC	6.31%	MU	5.23%
21.0	SIVBQ	6.2%	X	5.22%
21.0	AA	5.95%	VNO	5.09%
21.0	MU	5.85%	LNC	5.03%

All TMD: 63d

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

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

Horizon	Ticker_V	EUB-MAE_V	Ticker_S	EUB-MAE_S
63.0	AMC	140.61%	AMC	108.52%
63.0	LUMN	51.27%	GME	30.48%
63.0	IEP	39.2%	LUMN	24.64%
63.0	CZR	31.7%	CYH	22.84%
63.0	BHC	29.98%	BHC	16.5%
63.0	TSLA	28.95%	MSTR	15.61%
63.0	ELAN	28.84%	IEP	14.86%
63.0	NWL	24.45%	GBTC	14.3%
63.0	CCL	23.58%	SBNY	14.24%
63.0	SIVBQ	22.95%	CCL	12.77%
63.0	GBTC	22.44%	CTLT	12.36%
63.0	GT	21.29%	UAA	12.3%
63.0	CYH	21.17%	X	11.87%
63.0	MSTR	20.74%	CLF	11.82%
63.0	VNO	16.45%	TSLA	11.74%
63.0	AMD	15.74%	NWL	11.47%
63.0	NVDA	15.43%	GT	11.17%
63.0	LNC	15.03%	AMD	11.01%
63.0	MOS	14.9%	CZR	10.96%
63.0	UAA	14.09%	ELAN	10.87%
63.0	X	13.0%	SIVBQ	10.74%
63.0	MSFT	12.85%	VFC	10.62%
63.0	INTC	12.62%	MOS	10.46%
63.0	MU	11.96%	AA	10.37%
63.0	AMAT	11.9%	NVDA	10.16%
63.0	VFC	11.79%	GNRC	9.91%
63.0	CLF	11.74%	AAP	9.73%
63.0	FSUGY	11.33%	META	9.42%
63.0	GOOGL	11.32%	VNO	9.06%
63.0	GNRC	11.29%	CMA	8.93%

All TMD: 126d

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

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

Horizon	Ticker_V	EUB-MAE_V	Ticker_S	EUB-MAE_S
126.0	AMC	287.53%	AMC	207.33%
126.0	CZR	68.56%	LUMN	53.31%
126.0	LUMN	65.26%	GME	45.78%
126.0	ELAN	51.76%	CYH	38.26%
126.0	BHC	45.35%	MSTR	25.76%
126.0	NWL	43.08%	BHC	24.83%
126.0	TSLA	41.43%	NWL	24.14%
126.0	GT	39.25%	CZR	21.61%
126.0	IEP	38.46%	VFC	19.96%
126.0	CCL	36.82%	UAA	19.28%
126.0	CYH	33.09%	CLF	18.48%
126.0	MSTR	32.68%	IEP	18.24%
126.0	GBTC	29.55%	CCL	17.89%
126.0	VNO	28.08%	GBTC	17.8%
126.0	NVDA	26.08%	AMD	17.33%
126.0	LNC	25.3%	AAP	17.18%
126.0	UAA	24.36%	AA	17.15%
126.0	GME	21.77%	CTLT	16.25%
126.0	VFC	21.44%	TSLA	15.99%
126.0	INTC	21.37%	ETRN	15.56%
126.0	BXP	21.09%	GT	15.12%
126.0	MOS	20.46%	BIIB	15.02%
126.0	NFLX	20.42%	INTC	14.82%
126.0	CLF	19.66%	ELAN	14.78%
126.0	AMAT	19.59%	MOS	14.24%
126.0	X	19.46%	WRK	14.14%
126.0	ADBE	19.0%	EXPE	14.06%
126.0	AMD	18.95%	KALU	13.9%
126.0	MU	18.93%	LNC	13.82%
126.0	ON	18.92%	VNO	13.64%

All TMD: 252d

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

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

Horizon	Ticker_V	EUB-MAE_V	Ticker_S	EUB-MAE_S
252.0	AMC	848.37%	AMC	549.03%
252.0	LUMN	111.82%	CYH	77.66%
252.0	CZR	106.08%	BHC	52.2%
252.0	BHC	91.33%	GME	49.91%
252.0	CYH	81.1%	GBTC	43.01%
252.0	ELAN	78.19%	MSTR	42.72%
252.0	GBTC	77.11%	CZR	36.03%
252.0	CDNS	67.67%	LUMN	34.52%
252.0	INTU	64.49%	GT	29.79%
252.0	NVDA	63.83%	CLF	28.39%
252.0	CCL	63.27%	UAA	27.56%
252.0	NWL	61.52%	NFLX	26.64%
252.0	AMZN	60.91%	TSLA	26.33%
252.0	GT	58.13%	AA	26.18%
252.0	TSLA	54.22%	VFC	24.79%
252.0	MSFT	48.74%	NWL	22.99%
252.0	COST	48.61%	GNRC	22.89%
252.0	AMD	47.32%	OXY	22.43%
252.0	CMG	45.47%	INTC	21.55%
252.0	VNO	44.48%	AMD	21.32%
252.0	UAA	44.24%	META	20.68%
252.0	DHI	42.29%	ELAN	20.62%
252.0	GME	41.12%	PRGO	20.52%
252.0	BBY	40.9%	X	20.5%
252.0	ON	40.81%	CTLT	20.02%
252.0	MU	39.99%	WRK	19.59%
252.0	MOS	39.35%	DHI	19.21%
252.0	AZO	38.37%	CCL	19.11%
252.0	ORLY	37.84%	LEN	19.1%
252.0	LNC	36.75%	VNO	18.88%

Bottom 30 Tickers By EUB MAE

All TMD: 1d

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

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

Horizon	Ticker_V	EUB-MAE_V	Ticker_S	EUB-MAE_S
1.0	VCSH	0.15%	VCSH	0.07%
1.0	MUB	0.15%	MUB	0.1%
1.0	LQD	0.27%	HYG	0.17%
1.0	HYG	0.32%	LQD	0.2%
1.0	FRA	0.36%	EMB	0.22%
1.0	GLD	0.45%	FRA	0.29%
1.0	NVS	0.47%	GLD	0.35%
1.0	PEP	0.51%	TLT	0.37%
1.0	MSI	0.53%	SPY	0.39%
1.0	HON	0.53%	NVS	0.41%
1.0	MRK	0.54%	PEP	0.42%
1.0	TMUS	0.54%	HON	0.47%
1.0	POST	0.55%	TMUS	0.48%
1.0	TLT	0.55%	POST	0.48%
1.0	HD	0.55%	MRK	0.49%
1.0	GILD	0.55%	ABBV	0.49%
1.0	SNY	0.55%	MSI	0.49%
1.0	BUD	0.57%	VZ	0.49%
1.0	MNST	0.59%	HSBC	0.49%
1.0	ABBV	0.6%	VICI	0.5%
1.0	ORLY	0.61%	KHC	0.5%
1.0	AMGN	0.61%	CSCO	0.51%
1.0	XOM	0.61%	COST	0.51%
1.0	GWW	0.61%	ORLY	0.51%
1.0	HCA	0.62%	AZO	0.51%
1.0	AZN	0.63%	AZN	0.52%
1.0	SBUX	0.63%	MNST	0.52%
1.0	VICI	0.64%	GWW	0.52%
1.0	SLV	0.64%	AMGN	0.52%
1.0	ZTS	0.65%	CAH	0.53%

All TMD: 10d

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

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

Horizon	Ticker_V	EUB-MAE_V	Ticker_S	EUB-MAE_S
10.0	VCSH	0.4%	VCSH	0.22%
10.0	MUB	0.53%	MUB	0.33%
10.0	LQD	0.74%	HYG	0.57%
10.0	HYG	0.95%	LQD	0.68%
10.0	FRA	0.97%	EMB	0.73%
10.0	GLD	1.32%	FRA	0.91%
10.0	PEP	1.43%	SPY	1.17%
10.0	NVS	1.45%	GLD	1.17%
10.0	POST	1.45%	TLT	1.3%
10.0	TLT	1.49%	PEP	1.32%
10.0	GILD	1.51%	POST	1.47%
10.0	HD	1.56%	NVS	1.47%
10.0	SNY	1.59%	VZ	1.53%
10.0	MSI	1.62%	HON	1.55%
10.0	HON	1.64%	ORLY	1.55%
10.0	SPY	1.67%	QQQ	1.56%
10.0	VICI	1.69%	VICI	1.58%
10.0	ZTS	1.69%	CSCO	1.6%
10.0	XOM	1.7%	ACGL	1.62%
10.0	HCA	1.7%	MSI	1.64%
10.0	BUD	1.71%	ABBV	1.64%
10.0	ABBV	1.73%	TMUS	1.65%
10.0	VZ	1.75%	MRK	1.66%
10.0	ORLY	1.75%	COST	1.67%
10.0	TMUS	1.76%	CAH	1.68%
10.0	AMGN	1.76%	GILD	1.69%
10.0	GWW	1.78%	T	1.69%
10.0	BALL	1.8%	AMGN	1.71%
10.0	ACGL	1.87%	BMY	1.72%
10.0	EMB	1.88%	KHC	1.73%

All TMD: 21d

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

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

Horizon	Ticker_V	EUB-MAE_V	Ticker_S	EUB-MAE_S
21.0	VCSH	0.6%	VCSH	0.32%
21.0	MUB	0.76%	MUB	0.41%
21.0	LQD	1.06%	HYG	0.8%
21.0	FRA	1.35%	LQD	0.91%
21.0	HYG	1.63%	EMB	0.98%
21.0	PEP	1.94%	FRA	1.33%
21.0	NVS	2.08%	SPY	1.59%
21.0	GLD	2.21%	GLD	1.59%
21.0	GILD	2.27%	TLT	1.78%
21.0	POST	2.31%	PEP	1.78%
21.0	BUD	2.33%	NVS	2.12%
21.0	TLT	2.34%	HON	2.18%
21.0	SNY	2.37%	QQQ	2.2%
21.0	MSI	2.39%	HSBC	2.21%
21.0	HD	2.4%	CAH	2.3%
21.0	VZ	2.5%	POST	2.3%
21.0	HON	2.55%	VZ	2.32%
21.0	HSBC	2.55%	MSI	2.34%
21.0	SPY	2.61%	TMUS	2.35%
21.0	VICI	2.63%	ACGL	2.36%
21.0	XOM	2.66%	GILD	2.42%
21.0	ACGL	2.67%	CSCO	2.43%
21.0	ZTS	2.67%	VICI	2.45%
21.0	NAVI	2.7%	T	2.48%
21.0	GWW	2.71%	MRK	2.48%
21.0	ORLY	2.71%	ORLY	2.48%
21.0	TMUS	2.73%	KHC	2.51%
21.0	BAC	2.73%	AMGN	2.53%
21.0	MNST	2.76%	BMY	2.54%
21.0	FRCB	2.77%	XOM	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 2026-01-29

Horizon	Ticker_V	EUB-MAE_V	Ticker_S	EUB-MAE_S
63.0	VCSH	1.0%	VCSH	0.59%
63.0	MUB	1.18%	MUB	0.87%
63.0	LQD	1.78%	HYG	1.49%
63.0	FRA	2.46%	LQD	1.68%
63.0	PEP	3.36%	EMB	1.98%
63.0	GLD	3.42%	FRA	2.11%
63.0	HYG	3.76%	SPY	2.72%
63.0	BUD	3.9%	GLD	2.78%
63.0	NVS	4.02%	PEP	2.91%
63.0	VZ	4.07%	TLT	3.17%
63.0	GILD	4.16%	COST	3.36%
63.0	TLT	4.21%	NVS	3.57%
63.0	ZTS	4.22%	HON	3.64%
63.0	MSI	4.31%	VICI	3.82%
63.0	POST	4.33%	VZ	3.96%
63.0	HON	4.34%	MRK	3.99%
63.0	HD	4.39%	QQQ	4.09%
63.0	SNY	4.44%	AZO	4.1%
63.0	ORLY	4.51%	POST	4.26%
63.0	TMUS	4.6%	GILD	4.32%
63.0	CMCSA	4.67%	ORLY	4.34%
63.0	AMGN	4.8%	HD	4.35%
63.0	JAZZ	4.81%	TMUS	4.39%
63.0	CHTR	4.82%	HSBC	4.41%
63.0	VICI	4.84%	MSI	4.44%
63.0	XOM	4.95%	JPM	4.51%
63.0	HLT	4.98%	ACGL	4.57%
63.0	EMB	5.01%	ZTS	4.57%
63.0	HCA	5.03%	AMGN	4.57%
63.0	BAC	5.07%	BUD	4.58%

All TMD: 126d

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

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

Horizon	Ticker_V	EUB-MAE_V	Ticker_S	EUB-MAE_S
126.0	VCSH	0.99%	VCSH	0.69%
126.0	MUB	1.39%	MUB	1.21%
126.0	LQD	1.74%	HYG	1.73%
126.0	FRA	3.52%	LQD	1.84%
126.0	PEP	4.52%	EMB	2.35%
126.0	TMUS	5.31%	FRA	3.16%
126.0	ZTS	5.33%	PEP	3.8%
126.0	ABBV	5.42%	SPY	4.34%
126.0	AMGN	5.59%	GLD	4.41%
126.0	NVS	5.66%	TLT	4.75%
126.0	NAVI	5.79%	MNST	4.8%
126.0	SPY	5.83%	AMGN	4.9%
126.0	GLD	5.85%	HON	4.94%
126.0	MNST	6.12%	ABBV	5.17%
126.0	HLT	6.15%	BUD	5.28%
126.0	EMB	6.15%	KHC	5.37%
126.0	ORLY	6.28%	NVS	5.41%
126.0	VZ	6.35%	QQQ	5.42%
126.0	IRM	6.42%	VICI	5.5%
126.0	VICI	6.43%	TMUS	5.5%
126.0	BUD	6.44%	AZO	5.53%
126.0	POST	6.63%	ORLY	5.55%
126.0	XOM	6.64%	CSCO	5.74%
126.0	SNY	6.73%	VZ	5.79%
126.0	BALL	6.82%	XOM	5.91%
126.0	CAH	6.92%	BMY	5.97%
126.0	JPM	6.97%	ZTS	6.02%
126.0	HYG	7.08%	JPM	6.07%
126.0	MSI	7.09%	HD	6.13%
126.0	TFC	7.31%	PCG	6.2%

All TMD: 252d

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

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

Horizon	Ticker_V	EUB-MAE_V	Ticker_S	EUB-MAE_S
252.0	VCSH	1.64%	VCSH	0.9%
252.0	MUB	3.08%	MUB	1.6%
252.0	LQD	4.52%	HYG	3.02%
252.0	FRA	5.79%	EMB	4.12%
252.0	NVS	5.93%	LQD	4.19%
252.0	PEP	6.47%	FRA	4.31%
252.0	BUD	7.02%	PEP	5.16%
252.0	VICI	7.98%	BMY	5.16%
252.0	ZTS	8.22%	GLD	5.2%
252.0	POST	8.42%	NVS	5.7%
252.0	MRK	8.9%	VICI	6.12%
252.0	CMCSA	8.92%	HON	6.99%
252.0	IRM	9.14%	AMGN	7.26%
252.0	GLD	9.19%	SPY	7.31%
252.0	MSI	10.04%	AZN	7.39%
252.0	BALL	10.24%	ABBV	7.41%
252.0	AMGN	10.25%	TLT	7.65%
252.0	XOM	10.26%	BIIB	7.7%
252.0	SLV	10.35%	MRK	7.96%
252.0	VZ	10.45%	MSI	7.97%
252.0	EMB	10.51%	HD	8.12%
252.0	HYG	10.7%	TMUS	8.21%
252.0	NAVI	11.14%	VZ	8.34%
252.0	SNY	11.14%	AZO	8.46%
252.0	GILD	11.42%	HSBC	8.51%
252.0	LW	11.53%	GSK	8.56%
252.0	CNC	11.82%	POST	8.61%
252.0	HLT	11.83%	AAPL	8.75%
252.0	KHC	12.28%	CSCO	8.91%
252.0	CHTR	12.58%	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.

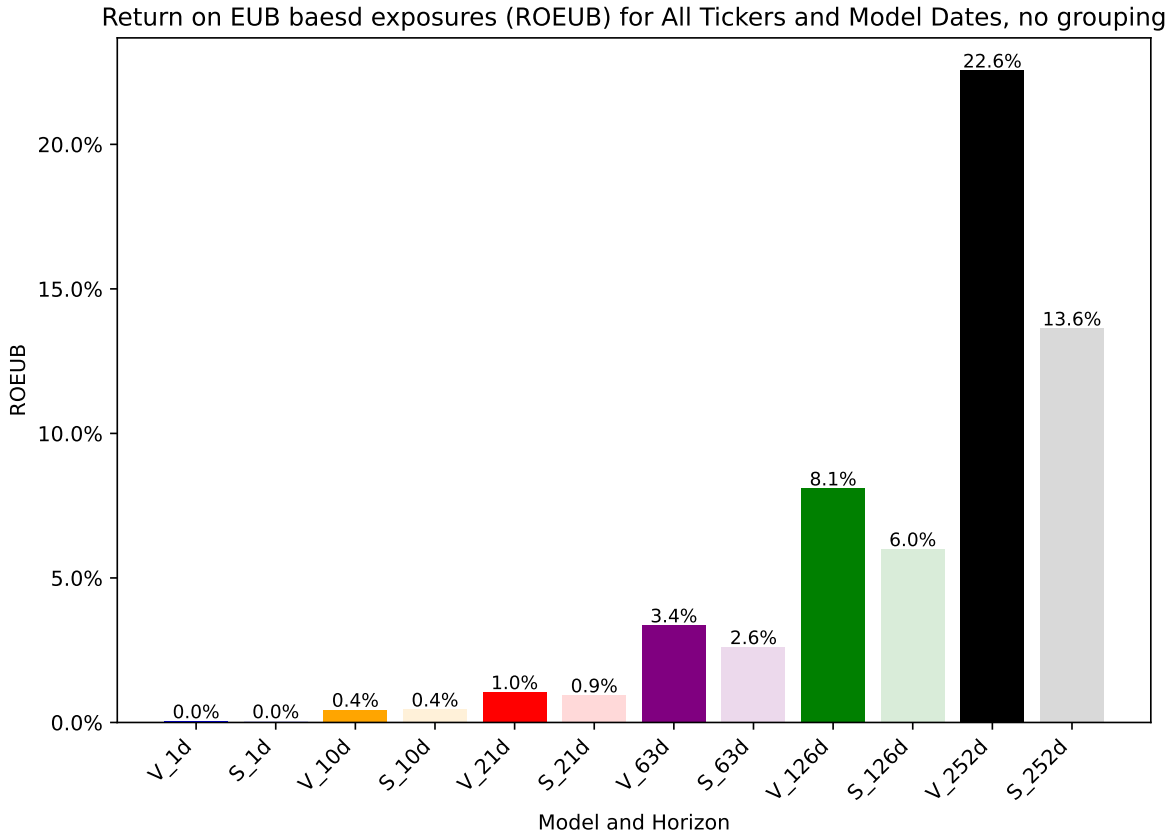
Vector Model based TMD exposures reflect each TMD's underlying horizon price return multiplied by the ratio of Vector Model EUB to Sigma model based EUB for the given horizon. This ratio is capped of 3.0x and floored of 0.333x.

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 2026-01-29



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

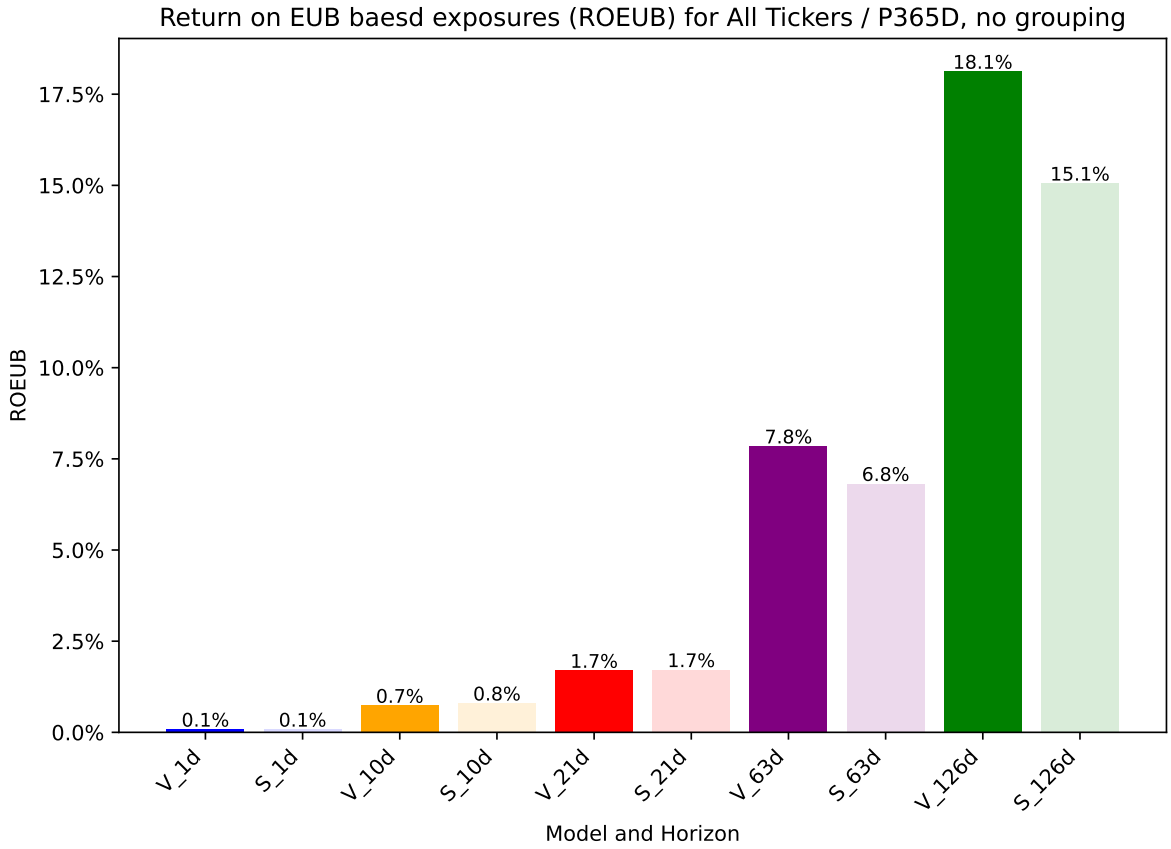
	1d	10d	21d	63d	126d	252d
intercept	-0.00%	0.01%	0.09%	0.31%	0.78%	2.98%
intercept_p_value	74.37%	42.23%	0.00%	0.00%	0.00%	0.00%
slope	99.05%	96.04%	101.54%	116.94%	121.95%	143.59%
slope_p_value	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

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

	1d	10d	21d	63d	126d	252d
intercept	-0.00%	-0.01%	0.00%	-0.17%	-0.84%	-3.32%
intercept_p_value	50.19%	21.32%	15.92%	12.20%	8.55%	11.07%
slope	100.23%	99.19%	105.71%	119.18%	127.60%	151.70%
slope_p_value	0.00%	0.00%	0.00%	0.00%	0.00%	0.36%

Prior 365 Calendar Days (P365D)

Period examined: All model dates from 2025-02-03 through 2026-01-29



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

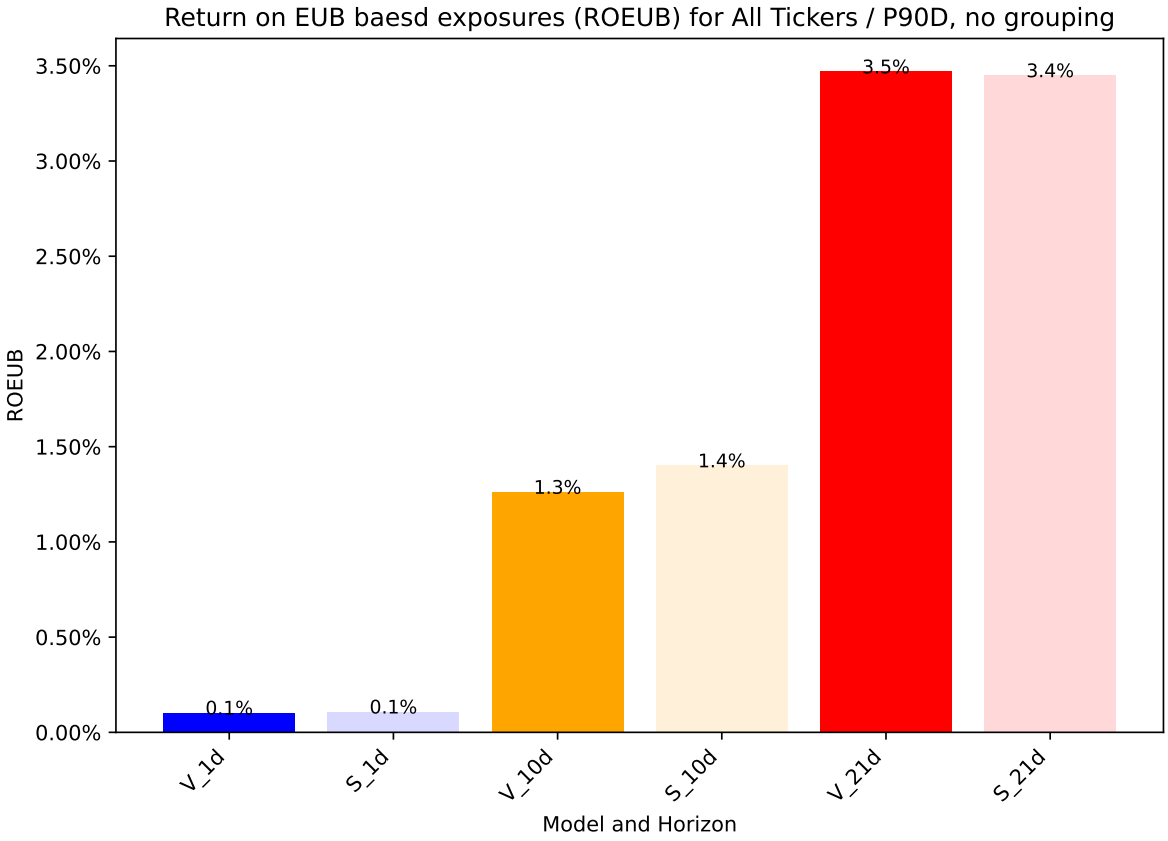
	1d	10d	21d	63d	126d
intercept	0.00%	0.02%	0.04%	0.37%	1.36%
intercept_p_value	59.18%	30.08%	15.69%	0.00%	0.00%
slope	95.32%	89.64%	96.53%	109.66%	111.36%
slope_p_value	0.00%	0.00%	0.00%	0.00%	0.00%

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

	1d	10d	21d	63d	126d
intercept	0.01%	-0.02%	-0.09%	-0.25%	-0.59%
intercept_p_value	51.32%	24.31%	21.30%	14.48%	17.79%
slope	97.66%	96.15%	102.80%	117.63%	129.07%
slope_p_value	0.00%	0.00%	0.00%	0.00%	0.00%

Prior 90 Calendar Days (P90D)

Period examined: All model dates from 2025-11-03 through 2026-01-29



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

	1d	10d	21d
intercept	0.01%	0.07%	0.29%
intercept_p_value	50.09%	2.79%	0.00%
slope	87.31%	84.89%	92.09%
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%	0.02%	0.14%
intercept_p_value	45.41%	35.21%	28.41%
slope	94.30%	94.00%	101.48%
slope_p_value	0.00%	0.00%	0.00%

Prior 30 Calendar Days (P30D)

Period examined: All model dates from 2026-01-02 through 2026-01-29

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

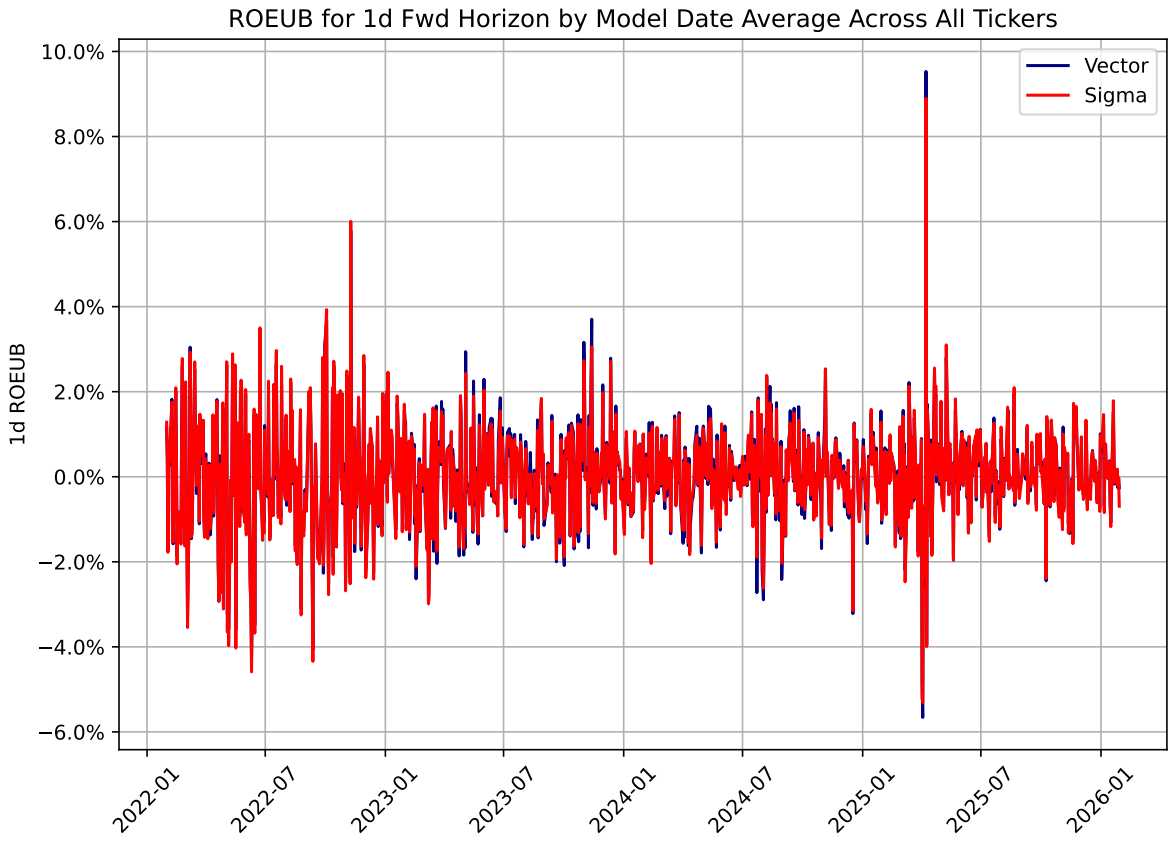
	1d	10d
intercept	0.03%	0.15%
intercept_p_value	23.06%	4.92%
slope	81.21%	82.05%
slope_p_value	0.00%	0.00%

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

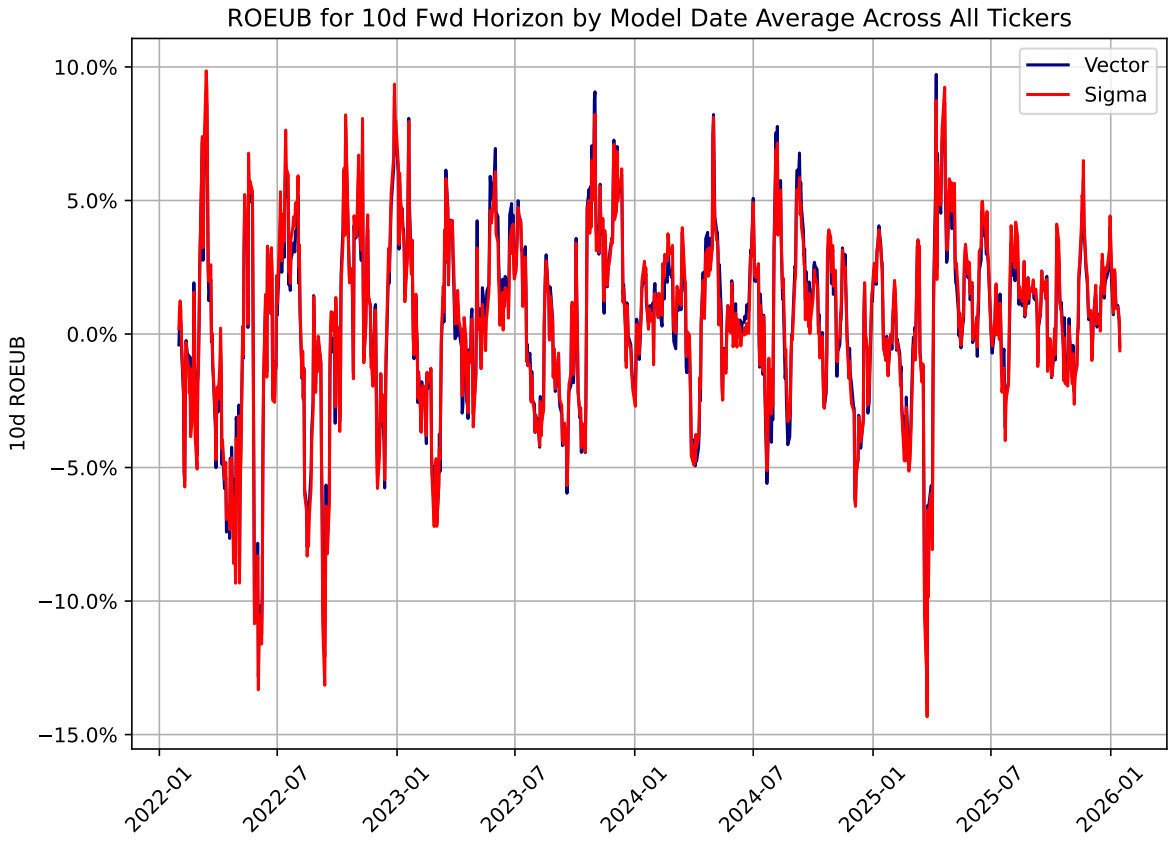
	1d	10d
intercept	0.03%	0.10%
intercept_p_value	43.91%	46.01%
slope	93.00%	90.28%
slope_p_value	0.00%	0.81%

ROEUB by Model Date Detail

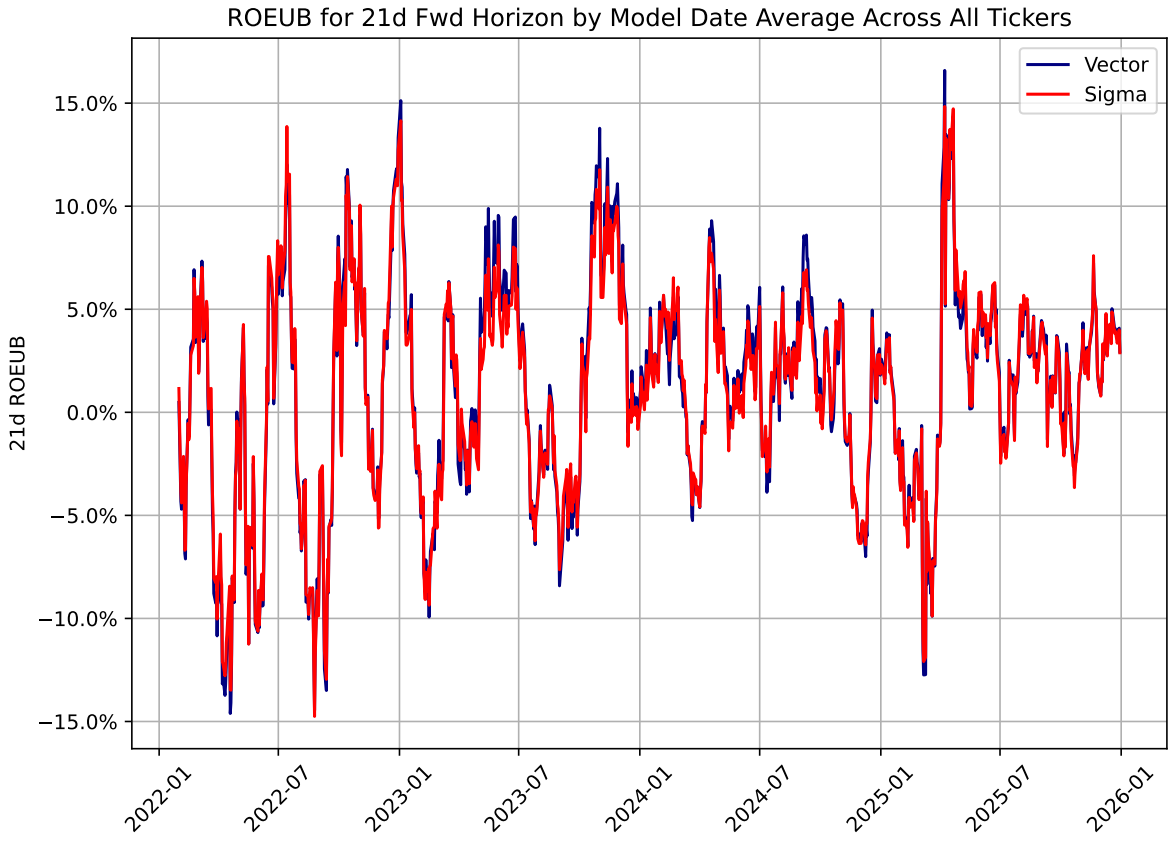
1d Horizon



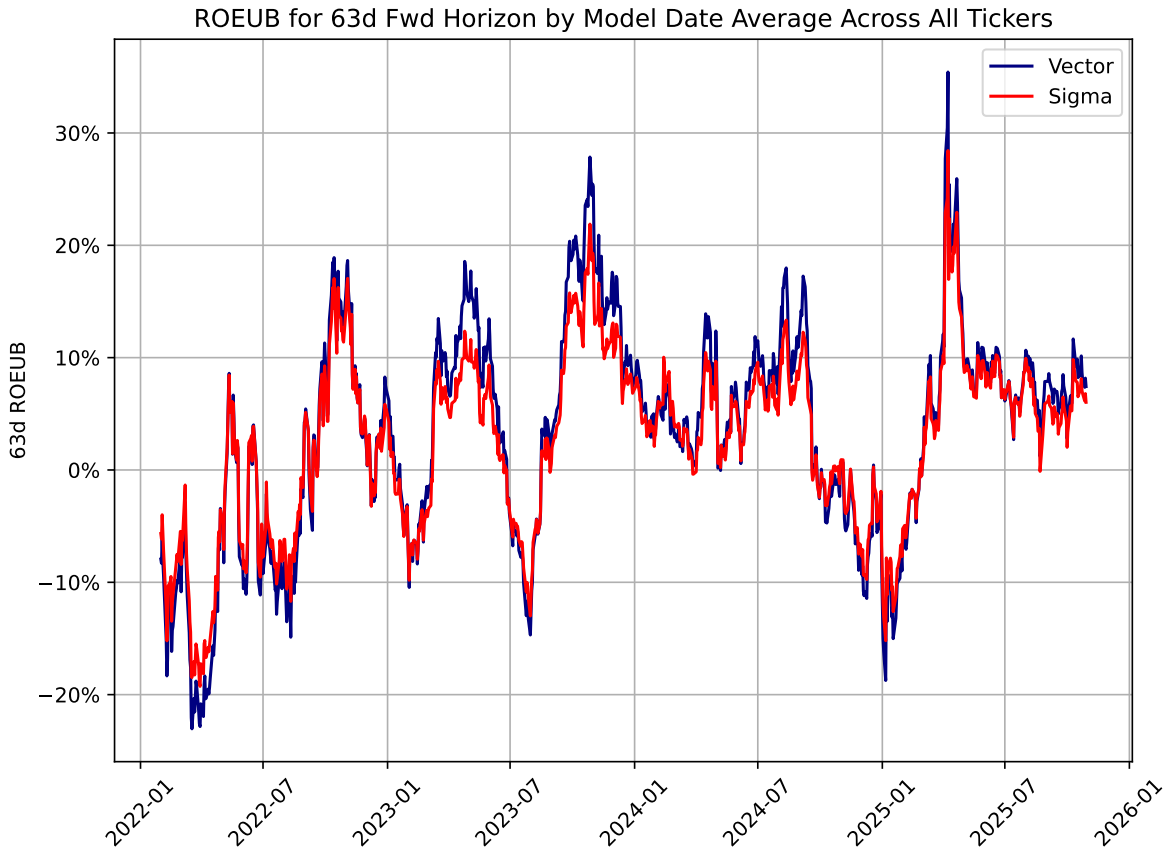
10d Horizon


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

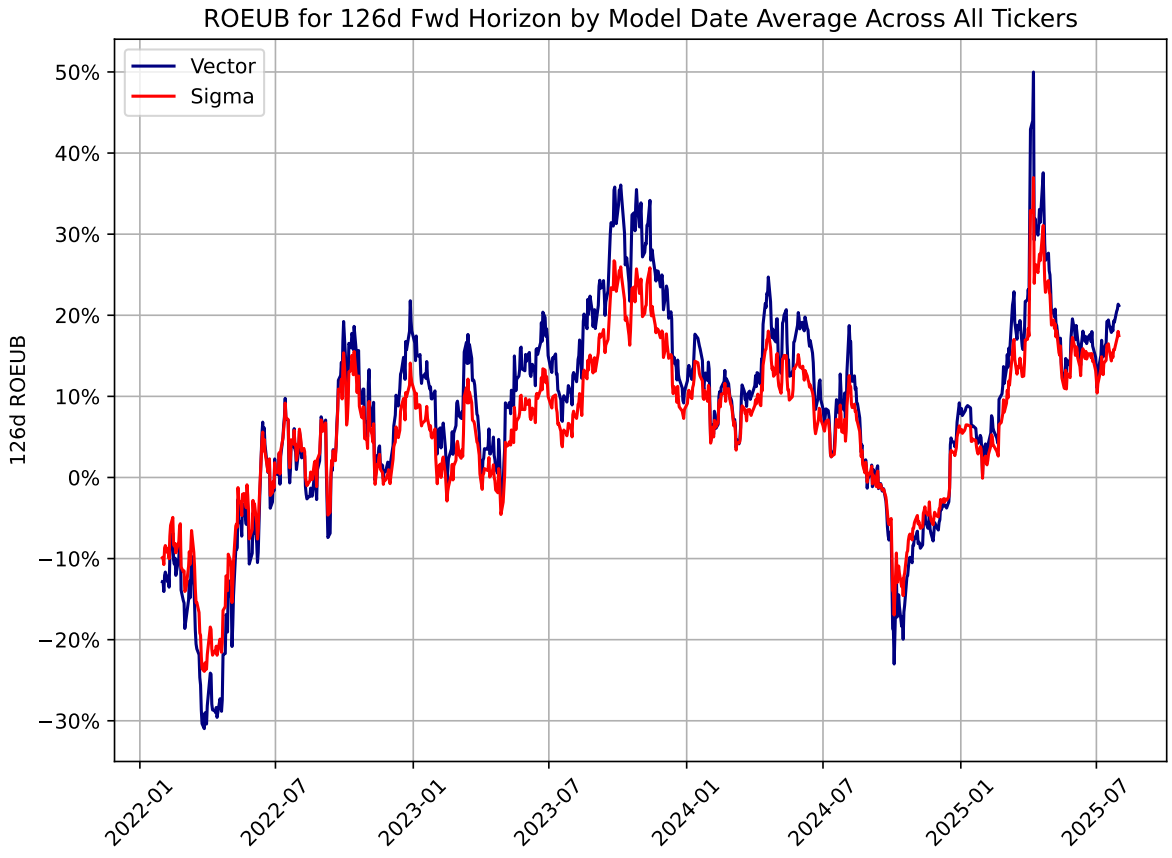
21d Horizon


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

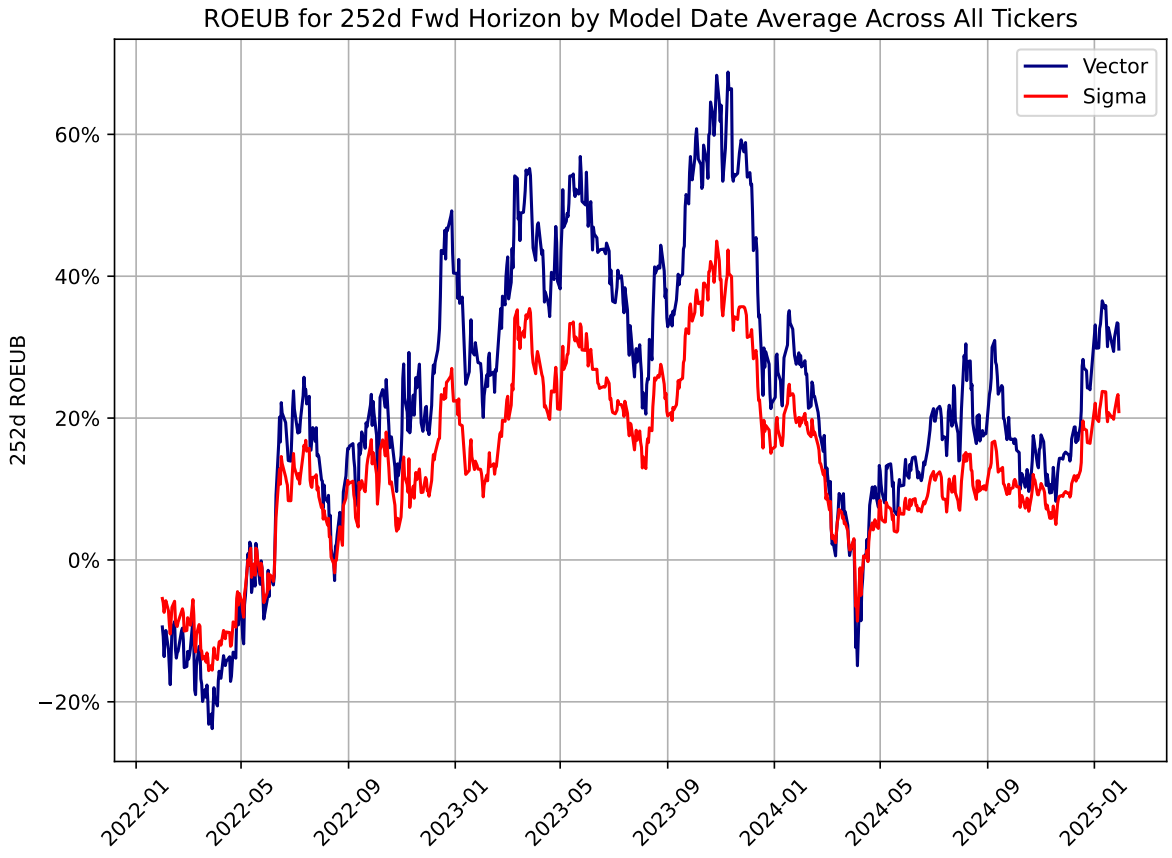
63d Horizon


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

126d Horizon



252d Horizon



Top 30 Tickers By ROEUB

All TMD: 1d

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

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

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
1.0	TSLA	0.33%	MSTR	0.31%
1.0	AVGO	0.31%	NVDA	0.26%
1.0	CCL	0.28%	VST	0.25%
1.0	NVDA	0.27%	MU	0.21%
1.0	VST	0.24%	AVGO	0.21%
1.0	LLY	0.23%	WDC	0.21%
1.0	X	0.22%	PWR	0.18%
1.0	GE	0.22%	TEVA	0.18%
1.0	AMD	0.21%	GME	0.17%
1.0	GBTC	0.2%	X	0.17%
1.0	B	0.18%	GBTC	0.17%
1.0	MU	0.17%	LLY	0.16%
1.0	PWR	0.17%	GE	0.16%
1.0	AMAT	0.15%	CAH	0.15%
1.0	CAH	0.15%	SLV	0.15%
1.0	PHM	0.15%	TRGP	0.14%
1.0	TRGP	0.14%	THC	0.14%
1.0	WDC	0.14%	AMD	0.13%
1.0	TDG	0.14%	META	0.13%
1.0	LVS	0.13%	AMAT	0.12%
1.0	THC	0.13%	ETRN	0.12%
1.0	MSFT	0.13%	B	0.11%
1.0	DHI	0.11%	GOOGL	0.11%
1.0	SLV	0.1%	GS	0.11%
1.0	VNO	0.1%	PHM	0.11%
1.0	FCX	0.1%	NFLX	0.11%
1.0	CDNS	0.1%	TSLA	0.11%
1.0	GME	0.09%	CCL	0.1%
1.0	ETRN	0.09%	HSBC	0.1%
1.0	ON	0.09%	ORCL	0.1%

All TMD: 10d

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

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

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
10.0	NVDA	3.83%	MSTR	3.23%
10.0	TSLA	3.35%	NVDA	2.56%
10.0	AVGO	2.99%	VST	2.46%
10.0	VST	2.46%	WDC	2.12%
10.0	LLY	2.29%	MU	2.11%
10.0	CCL	2.27%	AVGO	2.09%
10.0	GBTC	1.94%	TEVA	1.8%
10.0	MU	1.79%	PWR	1.74%
10.0	AMAT	1.77%	LLY	1.7%
10.0	GE	1.69%	SLV	1.69%
10.0	AMD	1.68%	GBTC	1.61%
10.0	PWR	1.64%	GE	1.59%
10.0	MSTR	1.56%	X	1.58%
10.0	CAH	1.56%	CAH	1.54%
10.0	X	1.5%	GME	1.44%
10.0	SLV	1.41%	ETRN	1.41%
10.0	ETRN	1.32%	TRGP	1.36%
10.0	MSFT	1.3%	META	1.34%
10.0	GS	1.29%	THC	1.28%
10.0	B	1.29%	AMD	1.27%
10.0	LVS	1.14%	B	1.21%
10.0	PHM	1.13%	AMAT	1.2%
10.0	TDG	1.11%	TSLA	1.16%
10.0	CDNS	1.11%	NFLX	1.15%
10.0	GME	1.1%	GS	1.12%
10.0	TEVA	1.09%	PHM	1.12%
10.0	WDC	1.09%	ORCL	1.09%
10.0	THC	1.08%	GLD	1.06%
10.0	AZO	1.06%	GOOGL	1.05%
10.0	HLT	1.05%	CDNS	0.97%

All TMD: 21d

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

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

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
21.0	NVDA	9.18%	MSTR	7.41%
21.0	TSLA	7.9%	NVDA	5.57%
21.0	VST	5.77%	VST	5.37%
21.0	AVGO	5.62%	AVGO	4.44%
21.0	CCL	5.57%	WDC	4.31%
21.0	AMAT	5.16%	MU	4.18%
21.0	GBTC	5.02%	TEVA	3.88%
21.0	MU	4.64%	PWR	3.62%
21.0	LLY	4.5%	LLY	3.59%
21.0	MSTR	4.14%	GBTC	3.58%
21.0	PWR	3.97%	GE	3.54%
21.0	ETRN	3.92%	ETRN	3.5%
21.0	GE	3.9%	SLV	3.33%
21.0	CAH	3.84%	CAH	3.26%
21.0	AMD	3.8%	X	3.17%
21.0	X	3.17%	META	2.99%
21.0	PHM	3.07%	THC	2.74%
21.0	SLV	3.02%	TRGP	2.74%
21.0	AZO	2.82%	TSLA	2.72%
21.0	GS	2.81%	AMD	2.67%
21.0	DHI	2.81%	NFLX	2.64%
21.0	MSFT	2.72%	ORCL	2.53%
21.0	CDNS	2.63%	AMAT	2.45%
21.0	TEVA	2.45%	GS	2.43%
21.0	B	2.43%	PHM	2.41%
21.0	HLT	2.41%	B	2.4%
21.0	JPM	2.41%	CCL	2.26%
21.0	WDC	2.41%	GOOGL	2.25%
21.0	TDG	2.38%	GME	2.15%
21.0	THC	2.34%	GLD	2.08%

All TMD: 63d

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

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

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
63.0	NVDA	31.57%	MSTR	22.62%
63.0	MSTR	21.69%	NVDA	18.86%
63.0	VST	20.41%	VST	17.98%
63.0	CCL	17.26%	AVGO	14.37%
63.0	GBTC	16.74%	WDC	13.9%
63.0	TSLA	16.44%	GBTC	12.42%
63.0	AMAT	16.05%	MU	12.29%
63.0	MU	15.75%	GE	11.29%
63.0	AVGO	14.83%	META	10.51%
63.0	GE	14.62%	LLY	10.48%
63.0	CAH	14.19%	TEVA	10.38%
63.0	LLY	13.96%	PWR	10.32%
63.0	AMD	13.58%	ETRN	10.28%
63.0	PWR	12.82%	NFLX	10.0%
63.0	DHI	12.73%	CAH	9.76%
63.0	PHM	11.5%	THC	8.81%
63.0	THC	9.68%	ORCL	8.64%
63.0	ETRN	9.47%	AMD	8.5%
63.0	GOOGL	9.1%	PHM	8.2%
63.0	WDC	9.04%	SLV	8.13%
63.0	MSFT	9.02%	TRGP	7.45%
63.0	AZO	8.89%	GS	7.24%
63.0	QQQ	8.73%	GOOGL	7.2%
63.0	GS	8.57%	TSLA	7.09%
63.0	ORCL	8.47%	CCL	7.08%
63.0	NFLX	8.28%	AMAT	6.75%
63.0	LVS	8.16%	B	6.14%
63.0	JPM	7.98%	JPM	6.13%
63.0	TDG	7.94%	HSBC	6.11%
63.0	B	7.93%	ISRG	6.06%

All TMD: 126d

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

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

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
126.0	NVDA	75.84%	MSTR	58.86%
126.0	VST	49.45%	NVDA	47.69%
126.0	MSTR	48.34%	VST	40.91%
126.0	GBTC	48.33%	GBTC	34.95%
126.0	MU	37.35%	AVGO	32.12%
126.0	GE	36.39%	WDC	28.66%
126.0	NFLX	34.84%	GE	27.17%
126.0	CCL	34.24%	META	26.45%
126.0	AMD	33.9%	NFLX	26.35%
126.0	TSLA	32.39%	MU	25.42%
126.0	AVGO	31.72%	THC	21.49%
126.0	PHM	30.01%	PWR	20.83%
126.0	ORCL	29.23%	ORCL	20.8%
126.0	AMAT	28.89%	LLY	19.37%
126.0	DHI	28.79%	TEVA	19.15%
126.0	THC	27.72%	PHM	18.94%
126.0	PWR	25.37%	CAH	18.8%
126.0	QQQ	23.84%	AMD	18.77%
126.0	CAH	23.05%	ETRN	18.49%
126.0	LLY	22.58%	TRGP	16.18%
126.0	AMZN	22.03%	CCL	15.8%
126.0	MSFT	21.28%	SLV	15.69%
126.0	AZO	20.98%	GS	15.4%
126.0	JPM	20.96%	GOOGL	14.78%
126.0	WDC	20.73%	JPM	14.08%
126.0	GOOGL	20.21%	AMAT	13.6%
126.0	GS	20.09%	TSLA	13.46%
126.0	CDNS	19.23%	DHI	13.43%
126.0	COST	18.88%	TDG	13.31%
126.0	TDG	18.84%	CDNS	12.9%

All TMD: 252d

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

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

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
252.0	NVDA	252.76%	MSTR	193.96%
252.0	MSTR	213.77%	NVDA	126.07%
252.0	GBTC	167.72%	VST	116.38%
252.0	NFLX	125.51%	GBTC	105.49%
252.0	VST	122.43%	AVGO	76.34%
252.0	AVGO	112.05%	META	70.41%
252.0	GE	102.96%	NFLX	65.06%
252.0	CCL	90.45%	GE	62.27%
252.0	PWR	84.97%	THC	47.79%
252.0	AMZN	79.13%	PHM	45.0%
252.0	MU	78.89%	LLY	44.85%
252.0	LLY	78.12%	PWR	42.12%
252.0	CDNS	76.47%	MU	41.86%
252.0	PHM	74.16%	TRGP	41.49%
252.0	META	69.55%	ORCL	40.4%
252.0	QQQ	66.8%	CCL	38.31%
252.0	COST	66.58%	CAH	37.35%
252.0	DHI	66.52%	WDC	36.89%
252.0	AMD	66.05%	TEVA	35.92%
252.0	ORLY	65.97%	ETRN	35.78%
252.0	THC	63.47%	TDG	33.75%
252.0	AMAT	62.95%	ISRG	32.33%
252.0	ORCL	62.88%	JPM	32.15%
252.0	ISRG	60.38%	AMD	31.08%
252.0	MSFT	59.61%	GS	31.0%
252.0	JPM	59.01%	SLV	28.53%
252.0	GOOGL	54.95%	HSBC	28.06%
252.0	AZO	54.13%	GOOGL	27.88%
252.0	VNO	51.14%	AMAT	27.33%
252.0	CAH	48.79%	IRM	27.2%

P365D: 1d

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

Period examined: All model dates from 2025-02-03 through 2026-01-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
1.0	LUMN	0.82%	MU	0.69%
1.0	AMD	0.56%	WDC	0.64%
1.0	MU	0.48%	X	0.51%
1.0	B	0.48%	INTC	0.44%
1.0	WDC	0.44%	B	0.44%
1.0	AMAT	0.44%	SLV	0.44%
1.0	CLF	0.43%	NEM	0.42%
1.0	ELAN	0.38%	CSTM	0.39%
1.0	AVGO	0.37%	AMD	0.36%
1.0	CSTM	0.36%	LUMN	0.35%
1.0	SLV	0.34%	ELAN	0.34%
1.0	X	0.32%	TEVA	0.31%
1.0	INTC	0.32%	AMAT	0.28%
1.0	CAH	0.32%	KALU	0.27%
1.0	NVDA	0.29%	AA	0.26%
1.0	LVS	0.28%	CLF	0.26%
1.0	TEVA	0.28%	FCX	0.26%
1.0	NEM	0.27%	NVDA	0.24%
1.0	GOOGL	0.24%	CAH	0.23%
1.0	KALU	0.24%	HSBC	0.23%
1.0	VST	0.24%	GOOGL	0.23%
1.0	GT	0.23%	GLD	0.23%
1.0	PWR	0.23%	MNST	0.22%
1.0	FCX	0.22%	EXPE	0.22%
1.0	TSLA	0.22%	AVGO	0.22%
1.0	BIIB	0.22%	PWR	0.21%
1.0	BHP	0.22%	GE	0.18%
1.0	MNST	0.2%	RIO	0.18%
1.0	HSBC	0.2%	GS	0.18%
1.0	GE	0.19%	GSK	0.17%

P365D: 10d

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

Period examined: All model dates from 2025-02-03 through 2026-01-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
10.0	LUMN	5.46%	MU	7.03%
10.0	MU	5.23%	WDC	6.65%
10.0	CSTM	4.93%	SLV	5.13%
10.0	AMD	4.77%	B	4.72%
10.0	X	4.69%	X	4.58%
10.0	B	4.53%	NEM	4.44%
10.0	SLV	4.45%	INTC	4.42%
10.0	AMAT	4.39%	CSTM	4.19%
10.0	WDC	3.48%	AMD	4.01%
10.0	AVGO	3.43%	LUMN	3.69%
10.0	NEM	3.4%	ELAN	3.61%
10.0	LVS	2.98%	TEVA	3.1%
10.0	ELAN	2.87%	AMAT	2.89%
10.0	INTC	2.85%	KALU	2.86%
10.0	NVDA	2.74%	AA	2.69%
10.0	CAH	2.57%	GOOGL	2.52%
10.0	TEVA	2.52%	FCX	2.45%
10.0	MNST	2.19%	GLD	2.37%
10.0	GLD	2.17%	CAH	2.31%
10.0	CLF	2.06%	MNST	2.31%
10.0	BHP	2.03%	PWR	2.13%
10.0	PWR	1.9%	HSBC	2.11%
10.0	AA	1.9%	CLF	2.05%
10.0	AAP	1.88%	AVGO	1.94%
10.0	MRK	1.88%	NVDA	1.86%
10.0	WYNN	1.87%	EXPE	1.86%
10.0	LLY	1.86%	GE	1.8%
10.0	CYH	1.85%	GS	1.77%
10.0	BA	1.77%	HCA	1.74%
10.0	VST	1.71%	WYNN	1.71%

P365D: 21d

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

Period examined: All model dates from 2025-02-03 through 2026-01-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
21.0	AMAT	14.12%	MU	14.95%
21.0	MU	13.99%	WDC	14.86%
21.0	AMD	12.02%	SLV	10.66%
21.0	LUMN	10.89%	B	10.17%
21.0	CSTM	10.46%	NEM	9.34%
21.0	B	10.38%	X	9.23%
21.0	SLV	10.08%	AMD	8.67%
21.0	X	8.57%	CSTM	8.4%
21.0	WDC	8.37%	ELAN	8.13%
21.0	NEM	7.47%	INTC	7.82%
21.0	NVDA	7.18%	LUMN	7.51%
21.0	LVS	7.08%	TEVA	6.96%
21.0	CAH	6.91%	AA	6.45%
21.0	ELAN	6.13%	AMAT	6.36%
21.0	TEVA	5.49%	KALU	6.28%
21.0	AVGO	5.26%	GOOGL	5.92%
21.0	INTC	5.13%	CAH	5.04%
21.0	GLD	5.12%	AVGO	4.89%
21.0	AA	4.72%	FCX	4.87%
21.0	MNST	4.61%	PWR	4.85%
21.0	GOOGL	4.5%	GLD	4.67%
21.0	BA	4.38%	MNST	4.35%
21.0	MOS	4.09%	GE	4.3%
21.0	MRK	4.09%	EXPE	4.08%
21.0	GS	4.01%	NVDA	4.07%
21.0	PWR	3.95%	THC	4.06%
21.0	BHP	3.91%	GS	4.03%
21.0	GE	3.71%	LVS	3.94%
21.0	GNRC	3.7%	HSBC	3.94%
21.0	PHM	3.67%	HCA	3.89%

P365D: 63d

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

Period examined: All model dates from 2025-02-03 through 2026-01-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
63.0	AMAT	54.16%	WDC	64.45%
63.0	MU	53.62%	MU	51.6%
63.0	LUMN	50.81%	AMD	33.29%
63.0	AMD	45.82%	B	33.22%
63.0	WDC	45.29%	LUMN	32.85%
63.0	B	41.35%	ELAN	31.75%
63.0	CAH	34.71%	SLV	29.12%
63.0	NVDA	33.99%	NEM	28.34%
63.0	CSTM	31.23%	INTC	26.48%
63.0	LVS	28.2%	X	26.36%
63.0	ELAN	28.13%	GOOGL	24.54%
63.0	SLV	27.56%	AVGO	24.52%
63.0	X	26.88%	TEVA	24.44%
63.0	GOOGL	25.65%	CSTM	23.63%
63.0	NEM	23.33%	AMAT	21.54%
63.0	TEVA	22.88%	KALU	21.23%
63.0	BIIB	21.05%	AA	19.34%
63.0	THC	20.24%	PWR	19.21%
63.0	VST	19.8%	NVDA	18.98%
63.0	CLF	19.33%	LVS	18.47%
63.0	INTC	18.87%	TSLA	17.91%
63.0	AA	18.36%	CAH	17.31%
63.0	FSUGY	17.73%	EXPE	17.13%
63.0	GS	17.41%	ORCL	17.1%
63.0	PHM	16.88%	THC	16.56%
63.0	GLD	16.84%	GE	16.23%
63.0	GNRC	16.41%	GS	16.13%
63.0	WYNN	16.37%	CLF	15.6%
63.0	PWR	16.16%	WYNN	15.36%
63.0	AVGO	15.79%	CMA	14.13%

P365D: 126d

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

Period examined: All model dates from 2025-02-03 through 2026-01-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
126.0	WDC	147.36%	WDC	177.51%
126.0	MU	132.34%	MU	125.49%
126.0	LUMN	131.76%	B	84.67%
126.0	AMD	122.46%	AMD	82.24%
126.0	B	117.2%	ELAN	78.18%
126.0	NVDA	82.88%	LUMN	74.24%
126.0	GOOGL	81.65%	NEM	71.29%
126.0	ELAN	76.11%	INTC	63.46%
126.0	AMAT	73.13%	SLV	62.95%
126.0	ORCL	64.85%	GOOGL	60.12%
126.0	SLV	62.49%	AVGO	57.41%
126.0	CSTM	61.55%	TEVA	46.29%
126.0	NEM	60.82%	CSTM	46.19%
126.0	LVS	57.43%	ORCL	45.19%
126.0	THC	56.96%	CLF	45.15%
126.0	INTC	51.3%	NVDA	42.5%
126.0	CLF	51.28%	TSLA	41.04%
126.0	BIIB	49.33%	EXPE	41.0%
126.0	PHM	48.7%	LVS	40.6%
126.0	DHI	44.29%	AA	40.45%
126.0	FSUGY	42.78%	AMAT	39.38%
126.0	VST	42.19%	WYNN	37.39%
126.0	GS	41.74%	PWR	36.01%
126.0	WYNN	40.78%	GE	35.7%
126.0	AA	40.25%	GS	35.1%
126.0	TEVA	39.95%	THC	34.64%
126.0	GNRC	37.84%	CMA	32.96%
126.0	GE	37.42%	KALU	30.89%
126.0	QQQ	36.75%	FSUGY	29.84%
126.0	AZN	36.74%	MS	29.62%

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 2025-11-03 through 2026-01-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
1.0	AMAT	1.1%	SLV	1.06%
1.0	GT	1.09%	MU	1.05%
1.0	TEVA	0.98%	TEVA	0.89%
1.0	MU	0.87%	WDC	0.89%
1.0	SLV	0.76%	AA	0.77%
1.0	UAA	0.69%	FCX	0.67%
1.0	NWL	0.63%	VFC	0.59%
1.0	MRK	0.62%	B	0.59%
1.0	BMY	0.53%	NEM	0.58%
1.0	WDC	0.52%	CSTM	0.57%
1.0	BHP	0.52%	GT	0.55%
1.0	FCX	0.5%	AMAT	0.55%
1.0	CSTM	0.5%	UAA	0.54%
1.0	B	0.48%	TXN	0.51%
1.0	CNC	0.48%	MRK	0.5%
1.0	AA	0.44%	NWL	0.48%
1.0	CAH	0.43%	KALU	0.48%
1.0	TRGP	0.42%	RIO	0.44%
1.0	GS	0.41%	TRGP	0.44%
1.0	VFC	0.4%	CNC	0.42%
1.0	NEM	0.38%	EXPE	0.39%
1.0	CMG	0.37%	INTC	0.39%
1.0	GOOGL	0.37%	HSBC	0.38%
1.0	INTC	0.37%	XOM	0.37%
1.0	XOM	0.35%	CMG	0.37%
1.0	JAZZ	0.35%	BHP	0.35%
1.0	HON	0.35%	KEY	0.35%
1.0	ACGL	0.33%	JAZZ	0.34%
1.0	KALU	0.33%	MNST	0.33%
1.0	RIO	0.32%	GLD	0.33%

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 2025-11-03 through 2026-01-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
10.0	SLV	15.3%	SLV	15.14%
10.0	AMAT	12.19%	MU	11.29%
10.0	GT	8.62%	AA	10.43%
10.0	MU	7.35%	WDC	9.11%
10.0	NEM	7.04%	FCX	8.59%
10.0	AA	6.79%	B	7.8%
10.0	B	6.75%	CSTM	7.54%
10.0	CSTM	6.43%	NEM	7.35%
10.0	INTC	6.04%	AMAT	7.31%
10.0	BHP	6.01%	KALU	6.37%
10.0	CMG	5.95%	UAA	6.26%
10.0	TEVA	5.58%	CLF	6.23%
10.0	MRK	5.46%	TEVA	6.22%
10.0	FCX	5.19%	VFC	6.16%
10.0	BA	5.03%	INTC	5.83%
10.0	RIO	4.96%	NWL	5.68%
10.0	BMY	4.56%	ON	5.12%
10.0	WDC	4.54%	RIO	5.11%
10.0	NWL	4.17%	CMG	5.05%
10.0	UAA	4.11%	JAZZ	4.74%
10.0	GS	3.74%	BA	4.64%
10.0	JAZZ	3.74%	TXN	4.57%
10.0	KALU	3.53%	MRK	4.48%
10.0	XOM	3.42%	GT	4.47%
10.0	TFC	3.3%	CNC	4.44%
10.0	ZION	3.24%	GLD	4.17%
10.0	ON	3.22%	BHP	4.05%
10.0	KEY	3.2%	KEY	3.85%
10.0	HON	3.05%	CMA	3.64%
10.0	BALL	2.93%	HSBC	3.5%

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 2025-11-03 through 2026-01-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
21.0	SLV	38.67%	SLV	34.54%
21.0	AMAT	34.46%	AA	29.03%
21.0	MU	24.97%	MU	27.47%
21.0	CSTM	20.5%	FCX	20.91%
21.0	AA	20.02%	WDC	20.19%
21.0	GT	19.95%	CSTM	18.01%
21.0	NEM	17.19%	KALU	16.77%
21.0	BA	16.85%	B	16.14%
21.0	B	15.7%	NEM	16.05%
21.0	BHP	15.18%	UAA	15.8%
21.0	FCX	14.77%	AMAT	15.42%
21.0	CMG	14.61%	TEVA	15.32%
21.0	TEVA	13.06%	VFC	13.33%
21.0	INTC	12.32%	ON	12.86%
21.0	BMY	12.26%	BA	12.55%
21.0	WDC	12.18%	CMG	12.21%
21.0	RIO	12.14%	INTC	11.75%
21.0	KEY	11.51%	NWL	11.72%
21.0	MRK	11.36%	RIO	11.52%
21.0	UAA	10.51%	CNC	11.02%
21.0	GS	10.12%	CLF	10.9%
21.0	TFC	9.97%	KEY	9.97%
21.0	ON	9.87%	TXN	9.83%
21.0	NWL	9.53%	BHP	9.79%
21.0	ZION	9.25%	GS	9.06%
21.0	KALU	8.9%	GT	8.92%
21.0	CNC	8.43%	CMA	8.87%
21.0	BALL	8.34%	HSBC	8.76%
21.0	XOM	8.26%	FITB	8.39%
21.0	CCL	8.0%	MRK	8.29%

P30D: 1d

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

Period examined: All model dates from 2026-01-02 through 2026-01-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
1.0	AMAT	1.81%	WDC	1.72%
1.0	MU	1.46%	MU	1.53%
1.0	AAP	1.32%	AAP	1.17%
1.0	INTC	1.24%	INTC	1.11%
1.0	HON	1.19%	SLV	1.08%
1.0	SLV	1.13%	TXN	1.08%
1.0	CSTM	0.95%	AMAT	1.01%
1.0	WDC	0.87%	GNRC	0.96%
1.0	NWL	0.83%	UAA	0.86%
1.0	BHP	0.78%	GILD	0.84%
1.0	NEM	0.75%	FCX	0.83%
1.0	CAH	0.74%	LUMN	0.81%
1.0	XOM	0.73%	HON	0.81%
1.0	UAA	0.72%	GME	0.81%
1.0	VST	0.71%	XOM	0.77%
1.0	LW	0.62%	NWL	0.72%
1.0	PEP	0.59%	CSTM	0.7%
1.0	TXN	0.56%	GLD	0.63%
1.0	B	0.55%	BUD	0.63%
1.0	MOS	0.55%	NEM	0.62%
1.0	DHI	0.53%	AZO	0.62%
1.0	ORLY	0.51%	RIO	0.61%
1.0	RIO	0.51%	BHP	0.59%
1.0	GNRC	0.5%	META	0.56%
1.0	AZO	0.5%	IRM	0.55%
1.0	GILD	0.49%	VZ	0.53%
1.0	TRGP	0.49%	MOS	0.53%
1.0	OXY	0.48%	TEVA	0.52%
1.0	GLD	0.45%	COST	0.51%
1.0	HD	0.45%	SBUX	0.49%

P30D: 10d

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

Period examined: All model dates from 2026-01-02 through 2026-01-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
10.0	SLV	27.32%	SLV	23.4%
10.0	AMD	19.29%	WDC	20.67%
10.0	AMAT	12.88%	MU	19.86%
10.0	NEM	12.22%	AMD	14.89%
10.0	AZO	12.13%	GNRC	12.02%
10.0	MOS	11.7%	NEM	11.81%
10.0	INTC	10.36%	AAP	11.41%
10.0	BHP	9.75%	INTC	10.73%
10.0	HON	9.28%	AMAT	10.59%
10.0	WDC	9.15%	GLD	10.55%
10.0	TRGP	8.93%	GILD	10.52%
10.0	XOM	8.75%	AZO	9.22%
10.0	PWR	7.97%	PWR	8.84%
10.0	RIO	7.94%	XOM	8.76%
10.0	LUMN	7.85%	GME	8.64%
10.0	CSTM	7.59%	CLF	8.54%
10.0	ORLY	7.58%	UAA	8.54%
10.0	AAP	7.13%	CSTM	8.47%
10.0	COST	7.06%	LUMN	8.34%
10.0	GNRC	6.67%	FCX	7.97%
10.0	MU	6.61%	TRGP	7.76%
10.0	GT	5.85%	RIO	7.35%
10.0	LW	5.83%	HON	7.34%
10.0	CPRT	5.64%	TXN	7.28%
10.0	B	5.17%	MOS	7.21%
10.0	MNST	5.15%	SBUX	6.94%
10.0	PEP	4.9%	BUD	6.49%
10.0	UAA	4.88%	ORLY	6.47%
10.0	NWL	4.8%	LW	6.37%
10.0	GLD	4.72%	BHP	6.36%

Bottom 30 Tickers By ROEUB

All TMD: 1d

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

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

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
1.0	SIVBQ	-0.53%	SIVBQ	-0.78%
1.0	IEP	-0.31%	SBNY	-0.45%
1.0	SBNY	-0.24%	FRCB	-0.23%
1.0	CZR	-0.24%	AMC	-0.19%
1.0	LUMN	-0.22%	IEP	-0.15%
1.0	NWL	-0.17%	NWL	-0.11%
1.0	UAA	-0.11%	AAP	-0.1%
1.0	FRCB	-0.1%	CHTR	-0.08%
1.0	UNH	-0.09%	CZR	-0.07%
1.0	CHTR	-0.08%	PRGO	-0.07%
1.0	GNRC	-0.08%	BHC	-0.06%
1.0	FIS	-0.06%	UAA	-0.06%
1.0	TLT	-0.05%	VFC	-0.05%
1.0	BXP	-0.05%	FIS	-0.05%
1.0	CMCSA	-0.05%	TLT	-0.04%
1.0	AAP	-0.04%	CMCSA	-0.04%
1.0	NAVI	-0.04%	BALL	-0.03%
1.0	BALL	-0.03%	ADBE	-0.03%
1.0	CTLT	-0.03%	BXP	-0.03%
1.0	ZTS	-0.03%	NAVI	-0.03%
1.0	CYH	-0.03%	ZTS	-0.03%
1.0	CNC	-0.03%	KHC	-0.03%
1.0	LNC	-0.03%	UNH	-0.03%
1.0	PRGO	-0.03%	GT	-0.02%
1.0	VZ	-0.02%	CNC	-0.02%
1.0	BIIB	-0.02%	CVS	-0.02%
1.0	AA	-0.02%	CTLT	-0.01%
1.0	INTU	-0.02%	BBY	-0.01%
1.0	VFC	-0.02%	LQD	-0.01%
1.0	ADBE	-0.02%	FRA	-0.01%

All TMD: 10d

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

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

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
10.0	SIVBQ	-3.66%	SBNY	-4.05%
10.0	IEP	-2.71%	SIVBQ	-3.9%
10.0	CZR	-2.54%	FRCB	-2.19%
10.0	SBNY	-1.64%	AMC	-1.94%
10.0	NWL	-1.33%	IEP	-1.45%
10.0	FRCB	-1.18%	NWL	-1.09%
10.0	LUMN	-1.1%	AAP	-0.97%
10.0	AMC	-0.97%	CHTR	-0.83%
10.0	UAA	-0.86%	CZR	-0.83%
10.0	GNRC	-0.86%	PRGO	-0.68%
10.0	VFC	-0.6%	UAA	-0.67%
10.0	BXP	-0.6%	VFC	-0.64%
10.0	CHTR	-0.51%	FIS	-0.46%
10.0	PRGO	-0.49%	TLT	-0.42%
10.0	UNH	-0.48%	CMCSA	-0.42%
10.0	AAP	-0.47%	BHC	-0.38%
10.0	BALL	-0.46%	BXP	-0.36%
10.0	FIS	-0.46%	ZTS	-0.35%
10.0	KHC	-0.43%	BALL	-0.34%
10.0	CMCSA	-0.4%	KHC	-0.33%
10.0	CNC	-0.39%	CNC	-0.31%
10.0	TLT	-0.38%	GT	-0.29%
10.0	BIIB	-0.34%	ADBE	-0.28%
10.0	VZ	-0.31%	NAVI	-0.26%
10.0	ZTS	-0.26%	VZ	-0.2%
10.0	ADBE	-0.25%	BBY	-0.19%
10.0	LNC	-0.24%	LNC	-0.18%
10.0	CTLT	-0.23%	UNH	-0.17%
10.0	NAVI	-0.2%	CYH	-0.17%
10.0	INTU	-0.14%	MOS	-0.14%

All TMD: 21d

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

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

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
21.0	SIVBQ	-8.0%	SBNY	-11.16%
21.0	IEP	-6.44%	SIVBQ	-9.37%
21.0	CZR	-5.46%	FRCB	-6.02%
21.0	SBNY	-4.88%	AMC	-4.48%
21.0	FRCB	-3.24%	IEP	-3.16%
21.0	NWL	-2.52%	NWL	-2.5%
21.0	GNRC	-1.76%	AAP	-2.12%
21.0	AMC	-1.73%	CZR	-1.74%
21.0	UAA	-1.6%	CHTR	-1.65%
21.0	VFC	-1.58%	PRGO	-1.43%
21.0	LUMN	-1.31%	VFC	-1.36%
21.0	AAP	-1.2%	UAA	-1.35%
21.0	CHTR	-1.1%	BHC	-0.89%
21.0	BXP	-1.06%	TLT	-0.88%
21.0	PRGO	-1.03%	CMCSA	-0.86%
21.0	KHC	-1.01%	BXP	-0.78%
21.0	TLT	-0.91%	KHC	-0.77%
21.0	BALL	-0.85%	BALL	-0.73%
21.0	VZ	-0.81%	ZTS	-0.71%
21.0	CNC	-0.73%	FIS	-0.71%
21.0	UNH	-0.72%	CNC	-0.59%
21.0	FIS	-0.68%	GT	-0.55%
21.0	CMCSA	-0.62%	NAVI	-0.48%
21.0	CLF	-0.42%	VZ	-0.44%
21.0	ZTS	-0.41%	MOS	-0.42%
21.0	ADBE	-0.38%	LNC	-0.38%
21.0	CVS	-0.37%	ADBE	-0.35%
21.0	NAVI	-0.32%	BBY	-0.35%
21.0	LNC	-0.23%	UNH	-0.29%
21.0	BBY	-0.19%	LW	-0.25%

All TMD: 63d

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

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

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
63.0	SIVBQ	-30.27%	SBNY	-37.59%
63.0	IEP	-21.17%	SIVBQ	-33.73%
63.0	SBNY	-19.01%	FRCB	-24.04%
63.0	FRCB	-15.74%	AMC	-15.26%
63.0	NWL	-12.68%	IEP	-10.52%
63.0	CZR	-9.74%	NWL	-8.92%
63.0	VFC	-7.93%	AAP	-6.3%
63.0	GNRC	-7.77%	CZR	-6.18%
63.0	AMC	-7.74%	UAA	-5.18%
63.0	UAA	-6.6%	PRGO	-5.14%
63.0	AAP	-5.06%	CHTR	-4.79%
63.0	BALL	-4.26%	VFC	-4.64%
63.0	PRGO	-4.24%	MOS	-4.04%
63.0	CHTR	-4.18%	BHC	-3.0%
63.0	KHC	-3.6%	CNC	-2.92%
63.0	VZ	-2.97%	CMCSA	-2.74%
63.0	BXP	-2.95%	KHC	-2.74%
63.0	TLT	-2.62%	BALL	-2.68%
63.0	MOS	-2.5%	TLT	-2.38%
63.0	CLF	-2.45%	BXP	-2.35%
63.0	OXY	-2.21%	ZTS	-2.31%
63.0	BHC	-2.11%	FIS	-1.9%
63.0	CMCSA	-2.1%	GT	-1.74%
63.0	CTLT	-1.99%	NAVI	-1.62%
63.0	CNC	-1.98%	UNH	-1.56%
63.0	CYH	-1.95%	CLF	-1.42%
63.0	ADBE	-1.87%	BMY	-1.39%
63.0	ZTS	-1.65%	VZ	-1.32%
63.0	CVS	-1.63%	LNC	-1.13%
63.0	UNH	-1.59%	BBY	-0.9%

All TMD: 126d

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

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

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
126.0	SIVBQ	-64.31%	SIVBQ	-65.15%
126.0	IEP	-43.31%	SBNY	-64.8%
126.0	FRCB	-39.92%	FRCB	-51.17%
126.0	NWL	-34.31%	AMC	-27.76%
126.0	SBNY	-33.47%	IEP	-20.36%
126.0	VFC	-17.36%	NWL	-17.53%
126.0	AMC	-15.63%	AAP	-11.89%
126.0	GNRC	-15.29%	CZR	-10.33%
126.0	CZR	-13.44%	VFC	-10.0%
126.0	AAP	-12.33%	UAA	-9.31%
126.0	UAA	-11.68%	CNC	-9.06%
126.0	CNC	-9.01%	PRGO	-8.83%
126.0	PRGO	-8.6%	CHTR	-7.47%
126.0	BALL	-7.79%	MOS	-7.23%
126.0	KHC	-6.94%	CTLT	-5.69%
126.0	CHTR	-6.74%	KHC	-5.48%
126.0	GT	-6.73%	GT	-4.57%
126.0	CTLT	-6.16%	BMY	-4.49%
126.0	FIS	-5.62%	BALL	-4.47%
126.0	MOS	-5.59%	TLT	-4.31%
126.0	VZ	-5.59%	BHC	-4.31%
126.0	TLT	-5.04%	CMCSA	-4.27%
126.0	CMCSA	-4.95%	BXP	-3.98%
126.0	CVS	-4.79%	UNH	-3.91%
126.0	OXY	-4.44%	FIS	-3.52%
126.0	BXP	-4.31%	ZTS	-3.21%
126.0	ADBE	-4.1%	NAVI	-2.88%
126.0	BHC	-3.95%	CLF	-2.76%
126.0	CLF	-3.84%	OXY	-2.61%
126.0	UNH	-3.49%	CVS	-2.23%

All TMD: 252d

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

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

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	-87.96%	FRCB	-91.61%
252.0	SBNY	-81.71%	AMC	-54.56%
252.0	NWL	-66.26%	IEP	-42.56%
252.0	AMC	-37.24%	NWL	-30.74%
252.0	AAP	-32.73%	AAP	-30.6%
252.0	VFC	-31.95%	VFC	-22.95%
252.0	CZR	-29.92%	CZR	-17.96%
252.0	CLF	-25.27%	CNC	-16.97%
252.0	GNRC	-24.97%	UAA	-16.31%
252.0	CVS	-24.14%	PRGO	-15.44%
252.0	UAA	-22.31%	MOS	-15.38%
252.0	MOS	-21.28%	CLF	-13.93%
252.0	PRGO	-18.58%	KHC	-10.74%
252.0	CNC	-18.56%	BIIB	-10.67%
252.0	GT	-17.37%	BMY	-10.42%
252.0	KHC	-16.49%	OXY	-9.26%
252.0	LUMN	-14.84%	CHTR	-9.11%
252.0	UNH	-13.29%	BHC	-8.91%
252.0	ON	-12.87%	UNH	-8.52%
252.0	AA	-12.73%	AA	-8.36%
252.0	BHC	-11.58%	CVS	-7.82%
252.0	BMY	-11.52%	TLT	-7.82%
252.0	CYH	-11.37%	GT	-7.3%
252.0	BALL	-11.36%	CYH	-6.69%
252.0	TLT	-10.23%	CTLT	-6.24%
252.0	CHTR	-10.06%	NAVI	-5.7%
252.0	OXY	-9.77%	PEP	-5.46%
252.0	FIS	-8.47%	BALL	-5.22%

P365D: 1d

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

Period examined: All model dates from 2025-02-03 through 2026-01-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
1.0	MSTR	-0.35%	AMC	-0.26%
1.0	CZR	-0.33%	NWL	-0.23%
1.0	UNH	-0.27%	MSTR	-0.23%
1.0	FIS	-0.25%	UNH	-0.2%
1.0	UAA	-0.24%	PRGO	-0.19%
1.0	CNC	-0.2%	CHTR	-0.17%
1.0	AMC	-0.17%	CZR	-0.16%
1.0	CMG	-0.15%	ADBE	-0.14%
1.0	GBTC	-0.15%	FIS	-0.14%
1.0	CMCSA	-0.14%	CMG	-0.13%
1.0	VNO	-0.13%	CPRT	-0.13%
1.0	CHTR	-0.12%	ZTS	-0.11%
1.0	CPRT	-0.12%	NAVI	-0.1%
1.0	ADBE	-0.12%	VNO	-0.08%
1.0	NWL	-0.11%	CNC	-0.08%
1.0	QQQ	-0.09%	IEP	-0.07%
1.0	AMZN	-0.09%	KHC	-0.07%
1.0	MSI	-0.08%	LW	-0.07%
1.0	ISRG	-0.08%	UAA	-0.06%
1.0	ORCL	-0.08%	BBY	-0.06%
1.0	ZTS	-0.07%	TMUS	-0.06%
1.0	IEP	-0.07%	MSI	-0.05%
1.0	BBY	-0.05%	INTU	-0.05%
1.0	TMUS	-0.05%	GBTC	-0.05%
1.0	NAVI	-0.05%	NFLX	-0.04%
1.0	COST	-0.05%	SBUX	-0.04%
1.0	LEN	-0.05%	FRA	-0.04%
1.0	OXY	-0.04%	SNY	-0.04%
1.0	IRM	-0.03%	LEN	-0.03%
1.0	FRA	-0.02%	ISRG	-0.03%

P365D: 10d

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

Period examined: All model dates from 2025-02-03 through 2026-01-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
10.0	MSTR	-2.75%	AMC	-2.59%
10.0	UNH	-1.98%	MSTR	-2.25%
10.0	ADBE	-1.74%	CHTR	-2.07%
10.0	CZR	-1.66%	PRGO	-1.7%
10.0	CHTR	-1.41%	NWL	-1.7%
10.0	CPRT	-1.28%	CZR	-1.54%
10.0	AMC	-1.28%	ADBE	-1.51%
10.0	CNC	-1.26%	UNH	-1.49%
10.0	VNO	-1.19%	CPRT	-1.35%
10.0	CMG	-1.19%	ZTS	-1.18%
10.0	FIS	-1.1%	CMG	-1.17%
10.0	PRGO	-1.08%	TMUS	-1.13%
10.0	KHC	-1.01%	FIS	-0.99%
10.0	UAA	-0.99%	VNO	-0.94%
10.0	TMUS	-0.88%	KHC	-0.85%
10.0	IEP	-0.8%	BBY	-0.84%
10.0	OXY	-0.74%	IEP	-0.73%
10.0	BBY	-0.66%	LW	-0.7%
10.0	CMCSA	-0.63%	CMCSA	-0.63%
10.0	ISRG	-0.6%	MSI	-0.58%
10.0	GBTC	-0.58%	NFLX	-0.52%
10.0	COST	-0.54%	SBUX	-0.51%
10.0	MSI	-0.5%	NAVI	-0.5%
10.0	AMZN	-0.46%	SNY	-0.49%
10.0	SBUX	-0.43%	CNC	-0.41%
10.0	ORCL	-0.43%	UAA	-0.39%
10.0	IRM	-0.43%	FRA	-0.36%
10.0	LEN	-0.42%	POST	-0.34%
10.0	ZTS	-0.42%	ISRG	-0.25%
10.0	SPY	-0.35%	COST	-0.25%

P365D: 21d

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

Period examined: All model dates from 2025-02-03 through 2026-01-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
21.0	MSTR	-7.49%	AMC	-5.83%
21.0	UNH	-3.69%	CHTR	-4.28%
21.0	CZR	-3.62%	MSTR	-4.06%
21.0	CPRT	-3.45%	PRGO	-3.92%
21.0	ADBE	-3.12%	NWL	-3.42%
21.0	CHTR	-3.11%	CPRT	-2.94%
21.0	PRGO	-3.01%	CZR	-2.85%
21.0	IEP	-2.46%	ADBE	-2.84%
21.0	AMC	-2.38%	TMUS	-2.57%
21.0	KHC	-2.35%	UNH	-2.39%
21.0	CMG	-2.26%	ZTS	-2.37%
21.0	TMUS	-2.21%	CMG	-2.25%
21.0	VNO	-2.15%	KHC	-2.06%
21.0	BBY	-1.92%	IEP	-1.94%
21.0	CNC	-1.87%	BBY	-1.85%
21.0	OXY	-1.84%	CMCSA	-1.69%
21.0	CMCSA	-1.75%	VNO	-1.68%
21.0	UAA	-1.41%	LW	-1.59%
21.0	COST	-1.3%	SBUX	-1.55%
21.0	ISRG	-1.15%	FIS	-1.25%
21.0	TRGP	-1.07%	SNY	-1.08%
21.0	SBUX	-1.06%	POST	-1.05%
21.0	VICI	-1.04%	MSI	-0.99%
21.0	FIS	-1.01%	COST	-0.84%
21.0	LW	-1.01%	UAA	-0.83%
21.0	MSI	-0.94%	VICI	-0.77%
21.0	POST	-0.86%	NFLX	-0.77%
21.0	ZTS	-0.82%	NAVI	-0.76%
21.0	LEN	-0.73%	FRA	-0.75%
21.0	SNY	-0.71%	OXY	-0.69%

P365D: 63d

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

Period examined: All model dates from 2025-02-03 through 2026-01-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
63.0	MSTR	-28.97%	PRGO	-16.64%
63.0	CPRT	-17.46%	CHTR	-15.12%
63.0	PRGO	-13.59%	NWL	-13.33%
63.0	CMG	-13.33%	AMC	-11.49%
63.0	UNH	-11.55%	CMG	-10.93%
63.0	NWL	-10.7%	CPRT	-10.84%
63.0	CHTR	-10.61%	MSTR	-10.4%
63.0	CZR	-9.4%	UNH	-9.29%
63.0	TMUS	-8.01%	ZTS	-8.09%
63.0	KHC	-7.69%	TMUS	-7.75%
63.0	ADBE	-7.15%	CZR	-7.71%
63.0	CMCSA	-7.08%	CMCSA	-7.01%
63.0	CNC	-5.57%	UAA	-6.81%
63.0	UAA	-5.22%	KHC	-6.6%
63.0	ZTS	-4.76%	ADBE	-6.32%
63.0	OXY	-4.62%	CNC	-5.53%
63.0	VICI	-4.53%	IEP	-4.84%
63.0	COST	-4.44%	POST	-3.79%
63.0	MSI	-4.32%	FIS	-3.7%
63.0	AMC	-4.22%	GME	-3.65%
63.0	POST	-3.95%	SNY	-3.49%
63.0	IEP	-3.42%	MSI	-3.19%
63.0	T	-3.35%	SBUX	-3.16%
63.0	VNO	-3.23%	VICI	-2.91%
63.0	SNY	-3.19%	VNO	-2.64%
63.0	GME	-2.65%	COST	-2.48%
63.0	SBUX	-2.62%	T	-2.27%
63.0	TRGP	-2.48%	VZ	-2.06%
63.0	FIS	-1.74%	OXY	-1.92%
63.0	VZ	-1.47%	FRA	-1.81%

P365D: 126d

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

Period examined: All model dates from 2025-02-03 through 2026-01-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
126.0	MSTR	-44.19%	CHTR	-36.75%
126.0	CMG	-40.4%	PRGO	-30.65%
126.0	NWL	-37.67%	CMG	-25.57%
126.0	GT	-37.64%	CNC	-25.12%
126.0	CPRT	-28.49%	UAA	-24.13%
126.0	PRGO	-27.18%	MSTR	-22.48%
126.0	UAA	-26.02%	NWL	-22.24%
126.0	CNC	-24.56%	AMC	-20.38%
126.0	CHTR	-20.7%	CPRT	-20.35%
126.0	FIS	-20.47%	GT	-17.88%
126.0	CZR	-20.32%	CZR	-17.74%
126.0	ADBE	-20.31%	ZTS	-14.96%
126.0	CMCSA	-16.44%	CMCSA	-14.5%
126.0	UNH	-16.14%	ADBE	-13.94%
126.0	KHC	-13.06%	FIS	-13.39%
126.0	COST	-12.68%	UNH	-13.0%
126.0	TMUS	-12.04%	TMUS	-11.38%
126.0	IEP	-11.13%	KHC	-11.01%
126.0	ZTS	-9.11%	GME	-9.24%
126.0	GME	-7.63%	IEP	-9.1%
126.0	SBUX	-7.37%	SBUX	-7.49%
126.0	POST	-7.22%	POST	-6.64%
126.0	AMC	-6.89%	SNY	-6.37%
126.0	VICI	-6.61%	COST	-5.75%
126.0	SNY	-6.36%	NAVI	-5.26%
126.0	TRGP	-5.94%	TDG	-5.13%
126.0	GWW	-5.46%	BMY	-4.68%
126.0	ISRG	-4.66%	VICI	-4.42%
126.0	BALL	-4.59%	HON	-4.25%
126.0	OXY	-4.0%	GWW	-3.83%

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 2025-11-03 through 2026-01-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
1.0	GBTC	-0.73%	AMC	-0.96%
1.0	MSTR	-0.69%	MSTR	-0.86%
1.0	ORCL	-0.55%	ORCL	-0.7%
1.0	AMC	-0.54%	PRGO	-0.53%
1.0	LW	-0.45%	INTU	-0.48%
1.0	ADBE	-0.39%	NFLX	-0.44%
1.0	INTU	-0.36%	LW	-0.44%
1.0	NFLX	-0.34%	LUMN	-0.39%
1.0	WYNN	-0.33%	GBTC	-0.37%
1.0	IEP	-0.33%	BBY	-0.36%
1.0	NVDA	-0.32%	NAVI	-0.31%
1.0	LVS	-0.32%	MSFT	-0.29%
1.0	UNH	-0.27%	QCOM	-0.27%
1.0	VNO	-0.25%	VST	-0.27%
1.0	MSFT	-0.24%	VNO	-0.26%
1.0	AMD	-0.23%	CYH	-0.26%
1.0	QCOM	-0.21%	WYNN	-0.24%
1.0	IRM	-0.2%	BHC	-0.24%
1.0	QQQ	-0.2%	LVS	-0.23%
1.0	CDNS	-0.18%	ADBE	-0.22%
1.0	BBY	-0.16%	ZTS	-0.21%
1.0	CZR	-0.15%	UNH	-0.2%
1.0	CYH	-0.13%	CDNS	-0.19%
1.0	LEN	-0.13%	FIS	-0.19%
1.0	CHTR	-0.13%	IRM	-0.17%
1.0	NAVI	-0.12%	BXP	-0.14%
1.0	BHC	-0.11%	LEN	-0.13%
1.0	FIS	-0.11%	ISRG	-0.12%
1.0	VICI	-0.1%	VICI	-0.11%
1.0	ELAN	-0.1%	NVDA	-0.11%

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 2025-11-03 through 2026-01-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
10.0	MSTR	-5.02%	AMC	-8.48%
10.0	ORCL	-4.85%	MSTR	-6.57%
10.0	LW	-4.5%	ORCL	-5.4%
10.0	AMC	-3.99%	NFLX	-5.08%
10.0	NFLX	-3.89%	LW	-4.88%
10.0	IEP	-3.82%	INTU	-3.7%
10.0	GBTC	-3.2%	BBY	-3.21%
10.0	BBY	-2.5%	GBTC	-2.43%
10.0	INTU	-2.42%	VST	-2.38%
10.0	ADBE	-2.36%	CHTR	-2.18%
10.0	VNO	-2.31%	QCOM	-2.15%
10.0	LVS	-2.2%	TMUS	-2.02%
10.0	WYNN	-2.16%	MSFT	-1.99%
10.0	VST	-2.08%	ADBE	-1.97%
10.0	CHTR	-1.8%	VNO	-1.95%
10.0	QCOM	-1.75%	IEP	-1.88%
10.0	VICI	-1.75%	WYNN	-1.84%
10.0	LUMN	-1.66%	LVS	-1.77%
10.0	MSFT	-1.51%	FIS	-1.72%
10.0	IRM	-1.49%	CYH	-1.69%
10.0	SNY	-1.2%	SNY	-1.58%
10.0	AAPL	-1.1%	BXP	-1.55%
10.0	TMUS	-1.08%	PCG	-1.44%
10.0	KHC	-0.97%	LUMN	-1.34%
10.0	FIS	-0.96%	AAPL	-1.27%
10.0	LEN	-0.95%	POST	-1.25%
10.0	CYH	-0.8%	VICI	-1.24%
10.0	POST	-0.75%	ISRG	-1.16%
10.0	T	-0.74%	LEN	-0.99%
10.0	BXP	-0.7%	BHC	-0.95%

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 2025-11-03 through 2026-01-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
21.0	LW	-13.4%	AMC	-19.08%
21.0	MSTR	-10.3%	LW	-13.84%
21.0	NFLX	-9.28%	MSTR	-11.11%
21.0	ORCL	-8.85%	NFLX	-10.91%
21.0	AMC	-7.59%	ORCL	-8.52%
21.0	BBY	-6.01%	BBY	-6.76%
21.0	IEP	-5.94%	AAP	-5.5%
21.0	INTU	-5.4%	INTU	-5.2%
21.0	LEN	-5.39%	VST	-4.42%
21.0	LVS	-4.9%	TMUS	-4.27%
21.0	VST	-4.74%	LVS	-3.96%
21.0	AZO	-4.49%	LEN	-3.94%
21.0	WYNN	-4.35%	WYNN	-3.58%
21.0	VNO	-3.99%	AZO	-3.53%
21.0	AVGO	-3.66%	VNO	-3.52%
21.0	VICI	-3.51%	BXP	-3.36%
21.0	MSFT	-3.48%	MSFT	-3.18%
21.0	KHC	-3.43%	SNY	-3.08%
21.0	T	-3.15%	AVGO	-2.96%
21.0	AAPL	-2.57%	POST	-2.81%
21.0	TMUS	-2.56%	T	-2.78%
21.0	GBTC	-2.51%	IEP	-2.77%
21.0	LUMN	-2.48%	AAPL	-2.75%
21.0	AAP	-2.44%	KHC	-2.7%
21.0	POST	-2.38%	VICI	-2.49%
21.0	SNY	-2.25%	CYH	-2.49%
21.0	IRM	-1.85%	GBTC	-2.34%
21.0	TLT	-1.65%	LUMN	-2.12%
21.0	CHTR	-1.52%	CHTR	-1.85%
21.0	ORLY	-1.49%	PCG	-1.81%

P30D: 1d

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

Period examined: All model dates from 2026-01-02 through 2026-01-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
1.0	BHC	-1.76%	NAVI	-1.27%
1.0	LVS	-1.55%	INTU	-1.18%
1.0	ADBE	-1.21%	BHC	-1.14%
1.0	CZR	-0.79%	LVS	-1.05%
1.0	NAVI	-0.73%	FIS	-0.89%
1.0	GBTC	-0.64%	ORCL	-0.87%
1.0	UNH	-0.6%	UNH	-0.7%
1.0	JPM	-0.58%	WYNN	-0.68%
1.0	INTU	-0.54%	QCOM	-0.67%
1.0	FIS	-0.53%	AMC	-0.67%
1.0	WYNN	-0.53%	ADBE	-0.65%
1.0	LNC	-0.53%	CZR	-0.62%
1.0	QCOM	-0.49%	ISRG	-0.56%
1.0	VNO	-0.48%	MSFT	-0.46%
1.0	ISRG	-0.46%	NFLX	-0.44%
1.0	ORCL	-0.42%	LNC	-0.39%
1.0	AVGO	-0.41%	GBTC	-0.33%
1.0	MSFT	-0.41%	EXPE	-0.32%
1.0	NFLX	-0.36%	CVS	-0.31%
1.0	CHTR	-0.3%	JPM	-0.31%
1.0	AAPL	-0.26%	BBY	-0.29%
1.0	AMC	-0.25%	PCG	-0.27%
1.0	BAC	-0.25%	THC	-0.26%
1.0	CDNS	-0.18%	BAC	-0.25%
1.0	SNY	-0.15%	WFC	-0.25%
1.0	TMUS	-0.13%	JAZZ	-0.25%
1.0	WFC	-0.12%	VNO	-0.24%
1.0	TSLA	-0.11%	BXP	-0.24%
1.0	ABBV	-0.11%	AVGO	-0.23%
1.0	FITB	-0.1%	AAPL	-0.22%

P30D: 10d

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

Period examined: All model dates from 2026-01-02 through 2026-01-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
10.0	BHC	-13.34%	BHC	-18.08%
10.0	ADBE	-11.8%	INTU	-13.79%
10.0	ORCL	-7.74%	QCOM	-10.53%
10.0	AVGO	-7.4%	FIS	-10.43%
10.0	JPM	-7.18%	NAVI	-9.76%
10.0	QCOM	-7.01%	ORCL	-9.66%
10.0	CZR	-6.97%	ADBE	-8.76%
10.0	CHTR	-6.95%	ISRG	-8.42%
10.0	INTU	-6.91%	EXPE	-7.49%
10.0	FIS	-6.56%	CHTR	-7.44%
10.0	LVS	-6.06%	CCL	-7.34%
10.0	CCL	-6.05%	CZR	-7.32%
10.0	NAVI	-5.84%	WFC	-6.1%
10.0	LNC	-5.81%	JPM	-6.08%
10.0	EXPE	-5.4%	LNC	-6.03%
10.0	ISRG	-5.32%	GE	-5.8%
10.0	BIIB	-5.19%	THC	-5.43%
10.0	VNO	-5.04%	NFLX	-5.26%
10.0	WYNN	-4.82%	BAC	-5.15%
10.0	GBTC	-4.81%	UNH	-5.13%
10.0	GE	-4.52%	LVS	-4.98%
10.0	NFLX	-4.47%	VNO	-4.84%
10.0	BAC	-4.45%	WYNN	-4.83%
10.0	UNH	-3.71%	TMUS	-4.75%
10.0	BBY	-3.54%	BBY	-4.22%
10.0	ZTS	-3.1%	GBTC	-4.22%
10.0	AAPL	-2.96%	PCG	-4.15%
10.0	AA	-2.67%	AVGO	-3.88%
10.0	SNY	-2.61%	BIIB	-3.82%
10.0	WFC	-2.43%	AMC	-3.66%

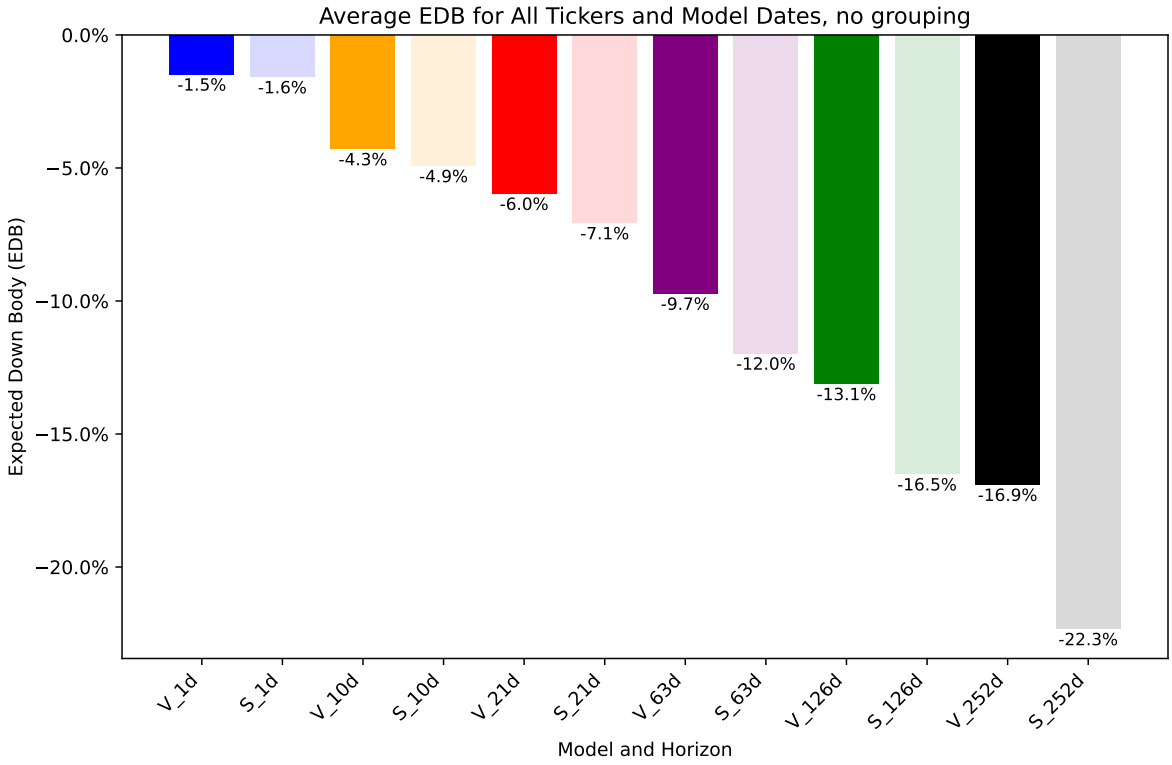
Expected Down Body (EDB)

Historic Average Levels

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

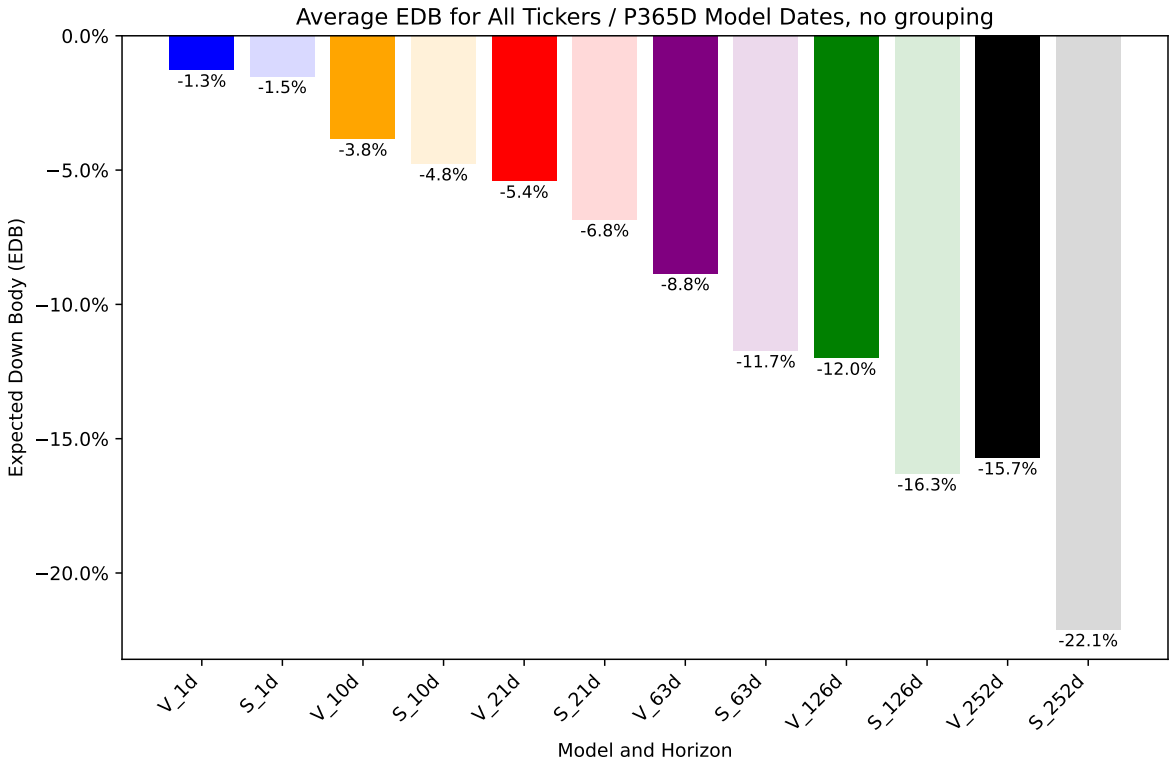
All Out of Sample Model Dates

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



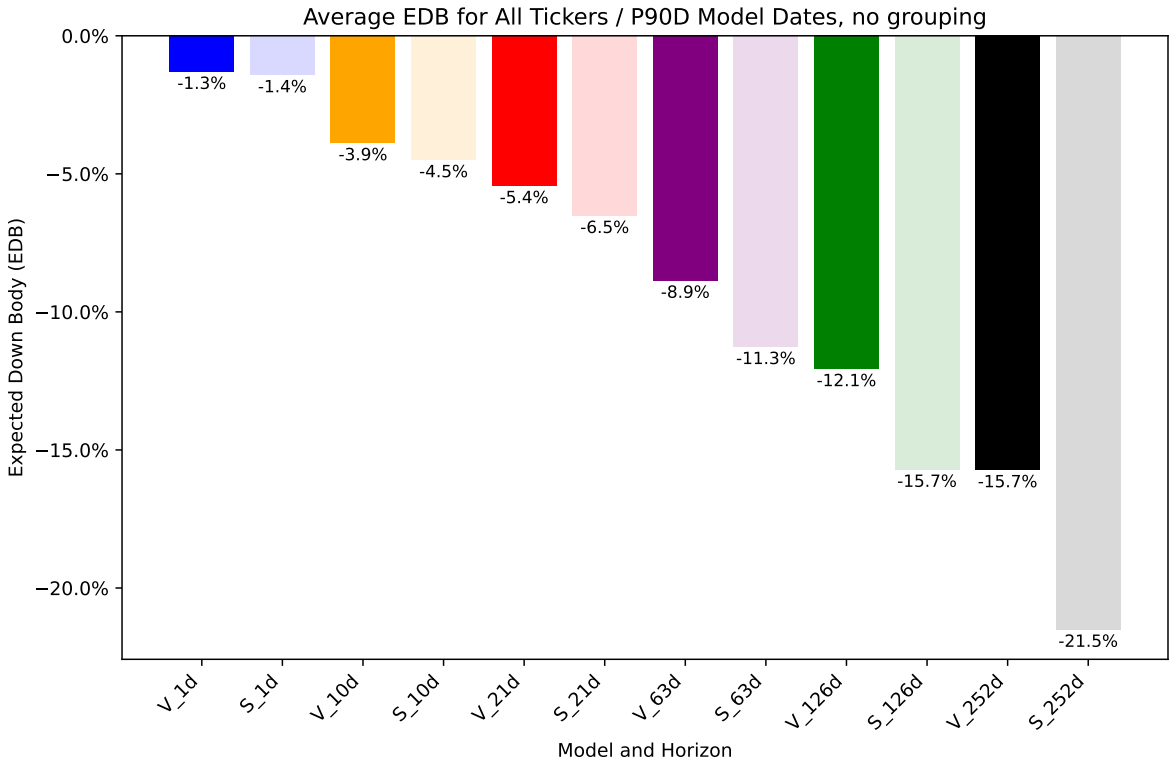
Prior 365 Calendar Days (P365D)

Period examined: All model dates from 2025-02-03 through 2026-01-29



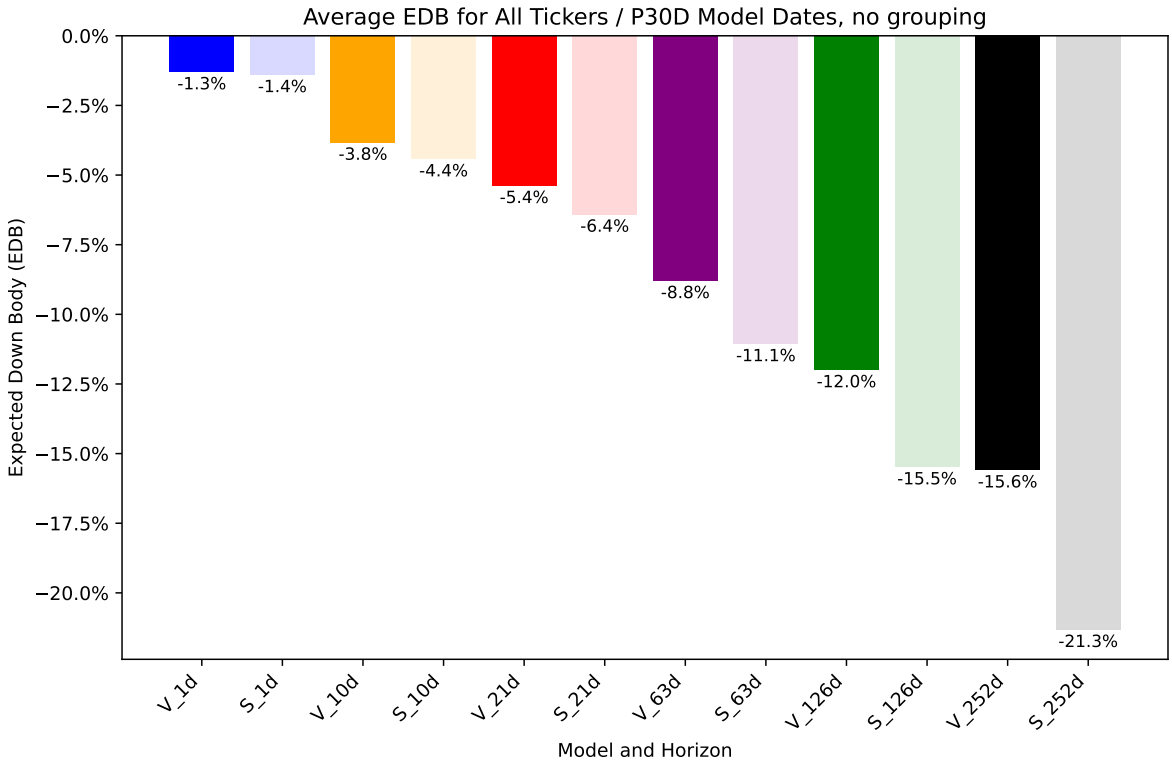
Prior 90 Calendar Days (P90D)

Period examined: All model dates from 2025-11-03 through 2026-01-29



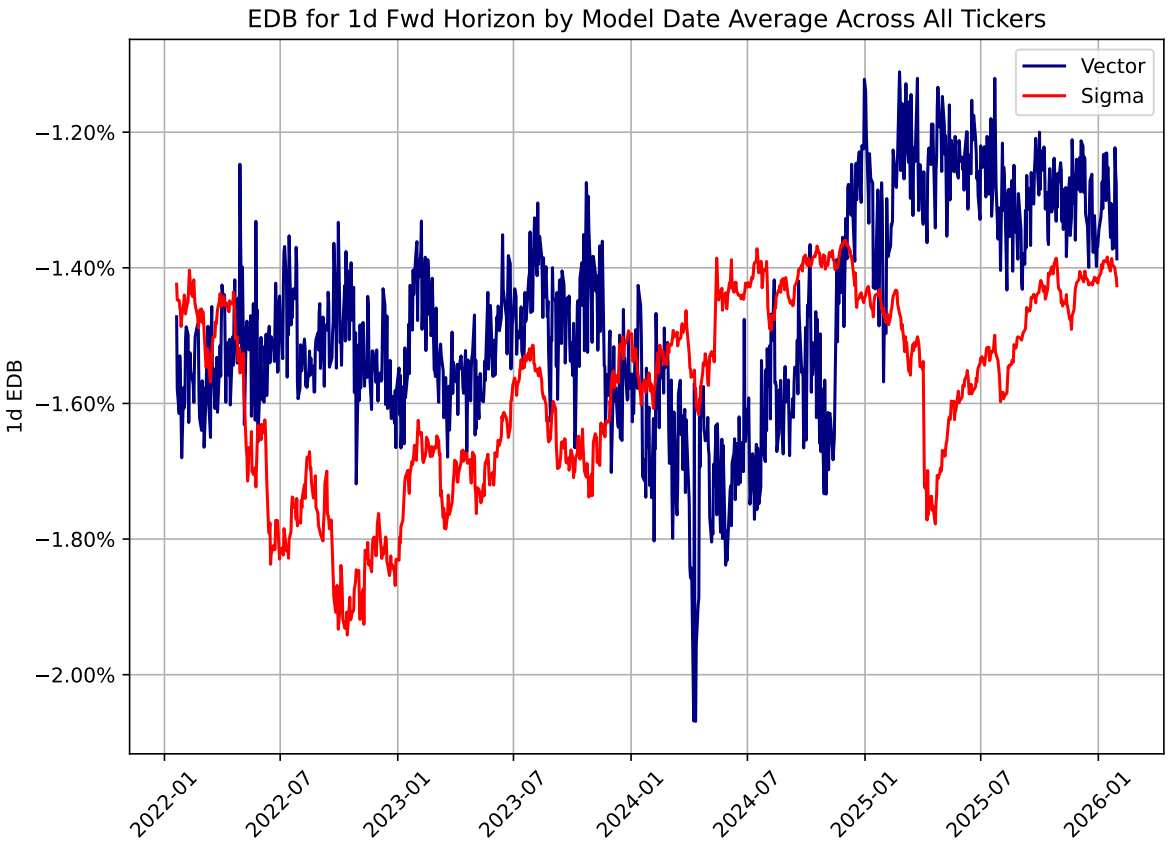
Prior 30 Calendar Days (P30D)

Period examined: All model dates from 2026-01-02 through 2026-01-29

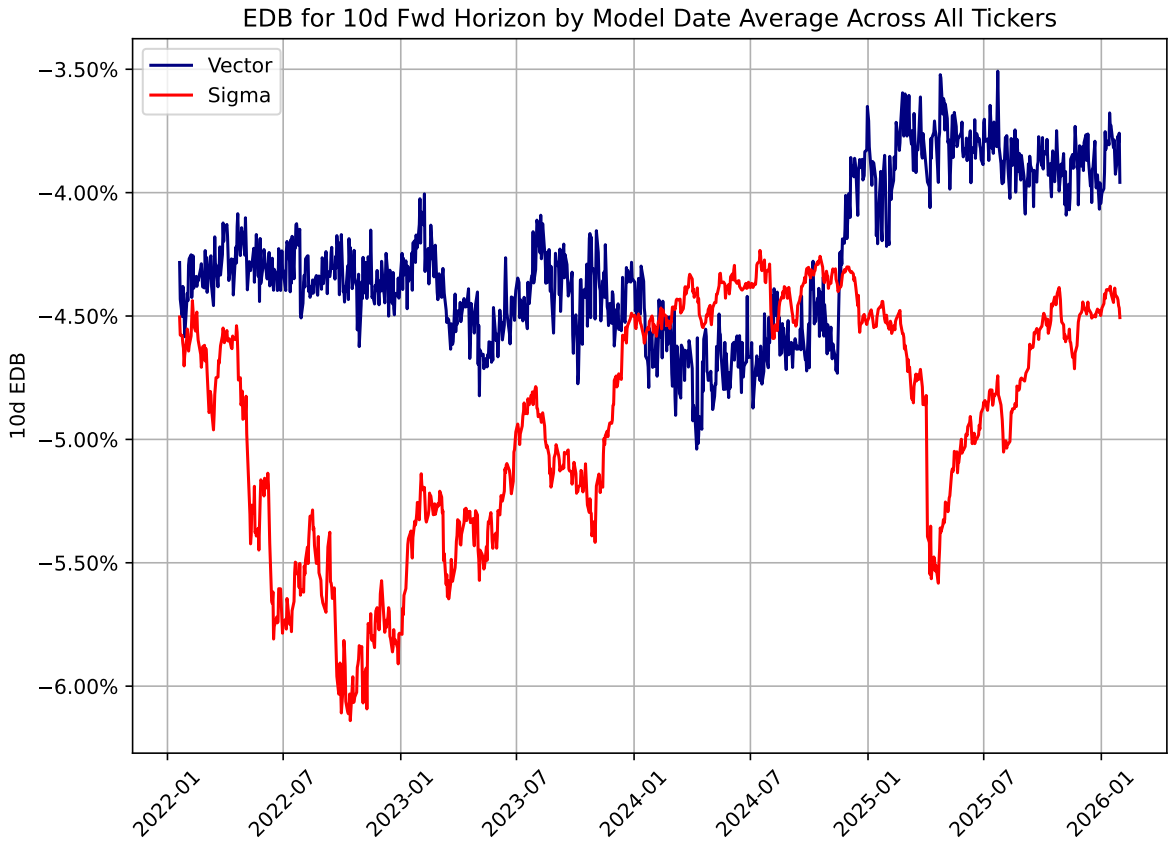


EDB by Model Date Detail

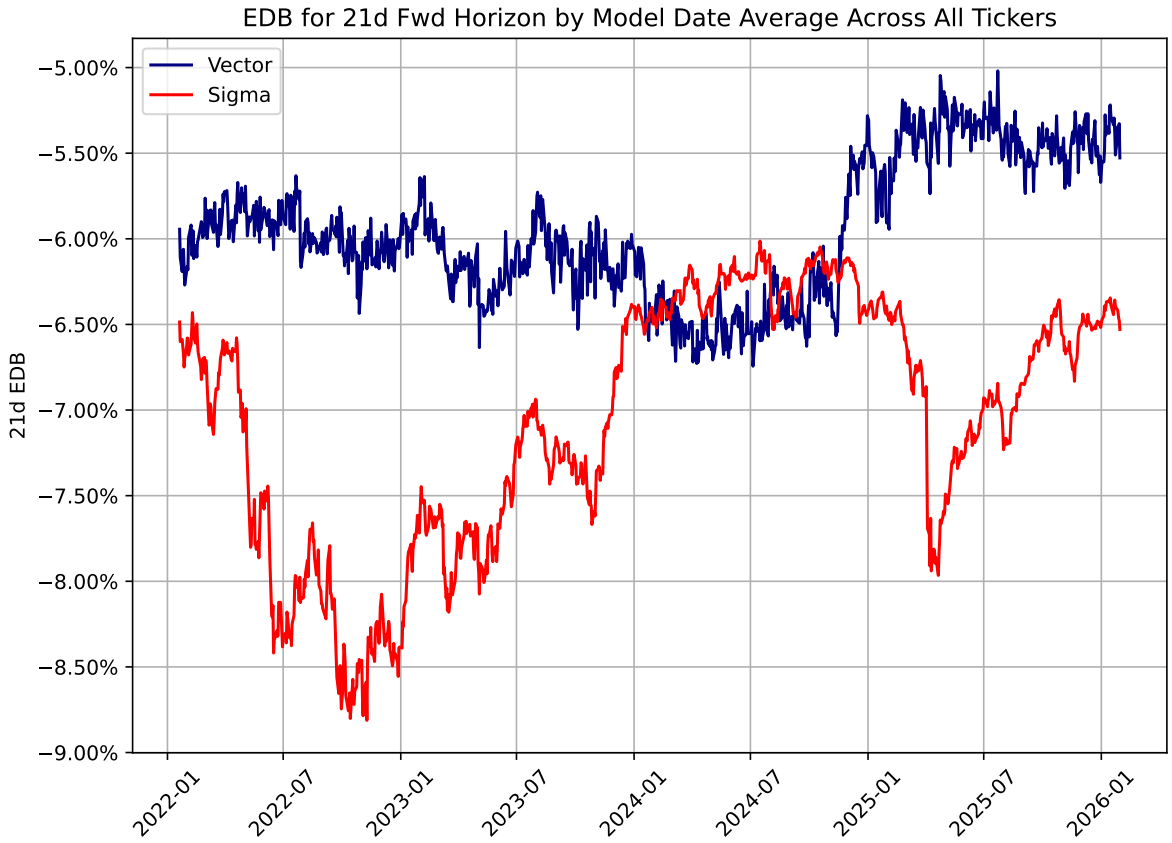
1d Horizon



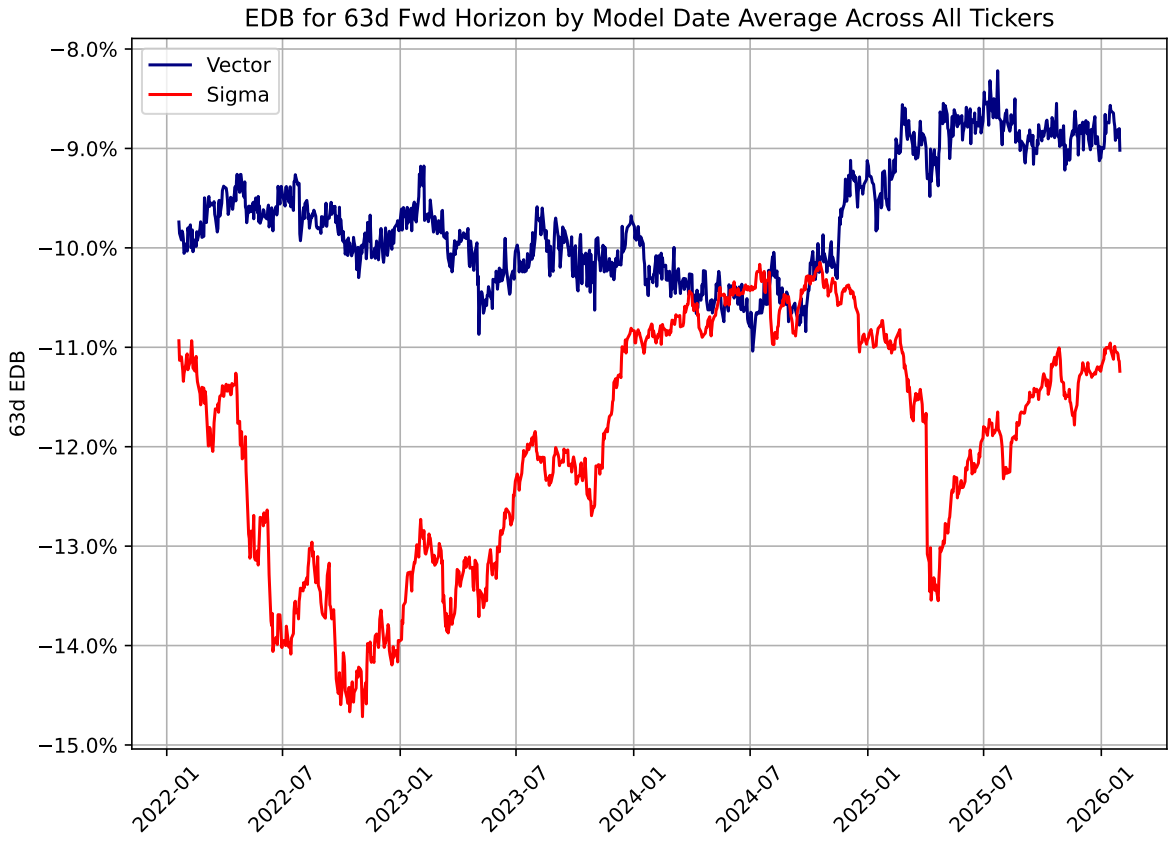
10d Horizon


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

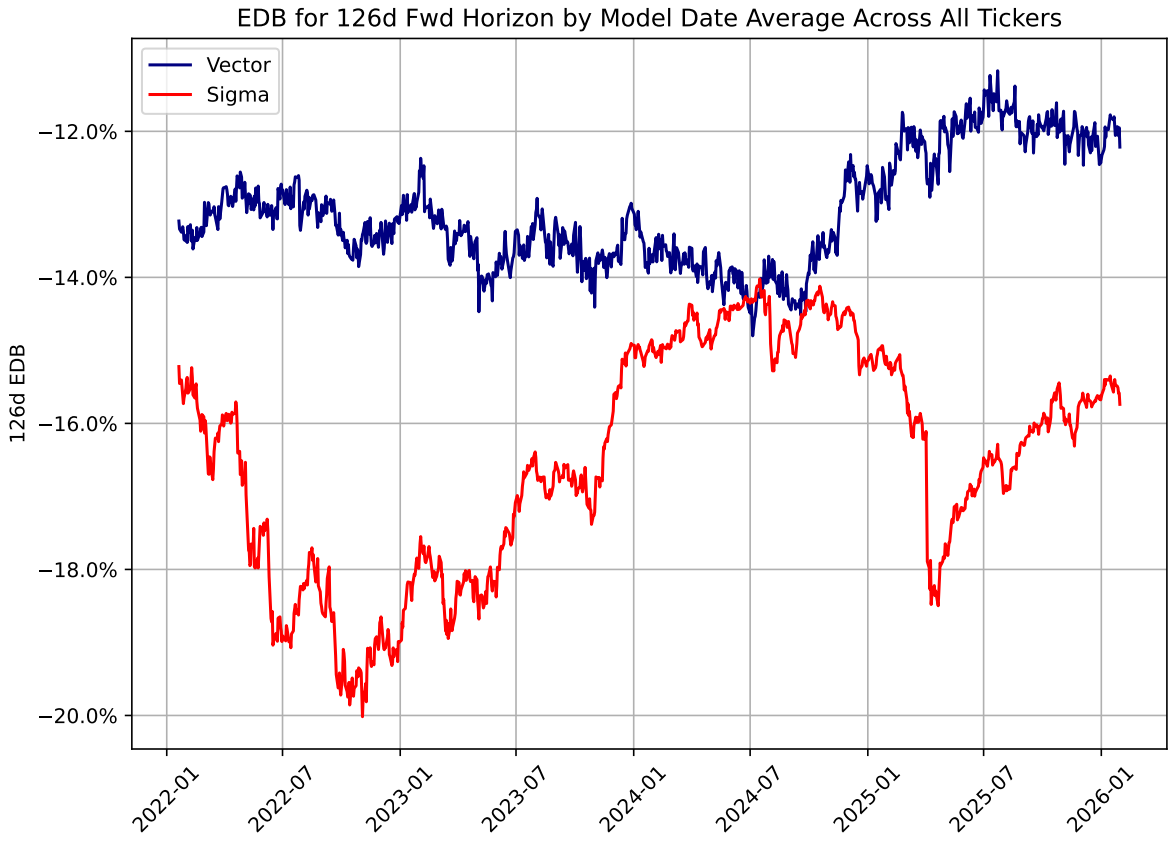
21d Horizon


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

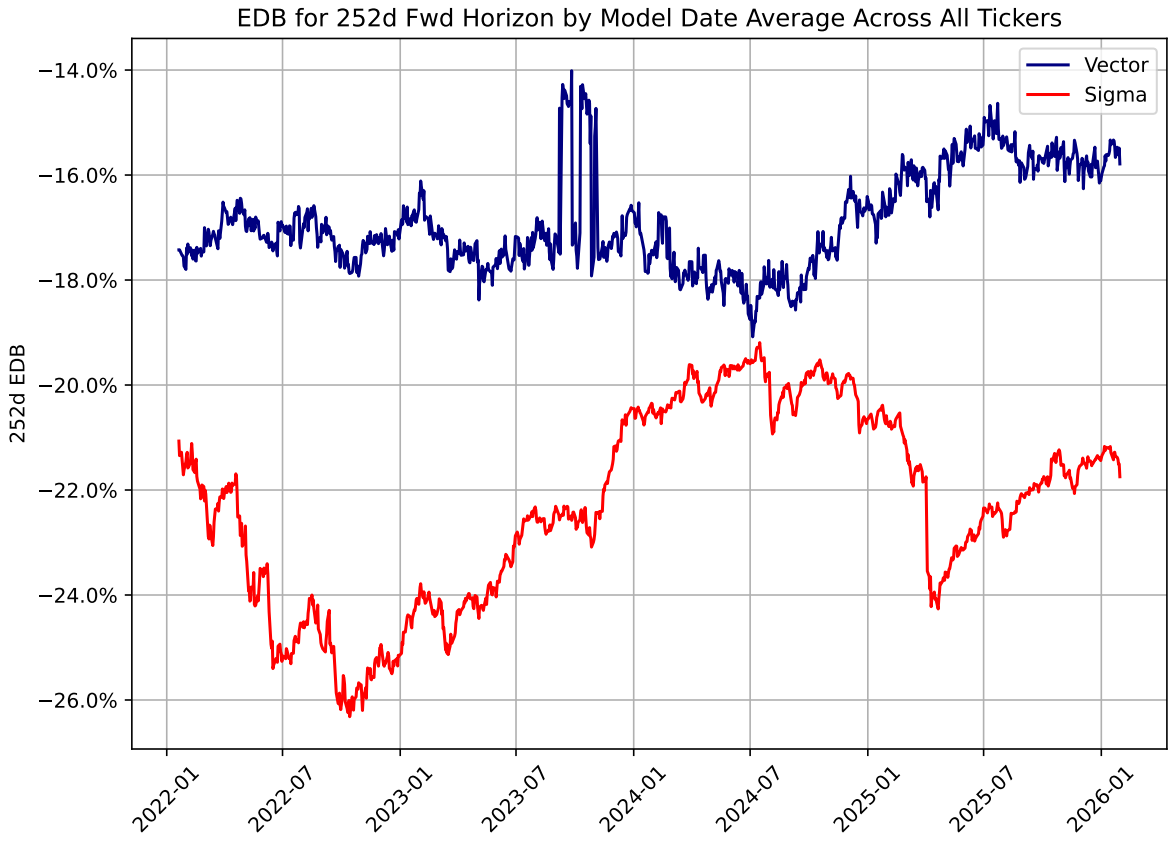
63d Horizon


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

126d Horizon



252d Horizon



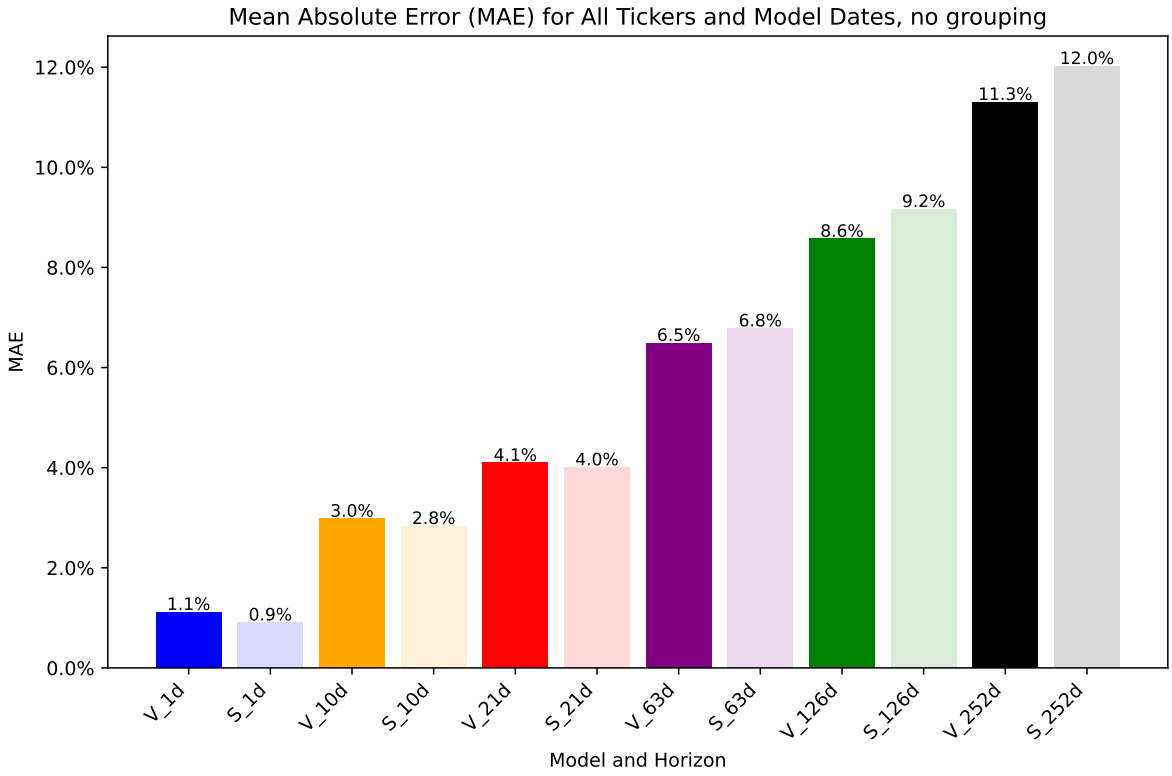
Performance Summary - MAE of EDB vs. Actual Fwd Returns

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

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

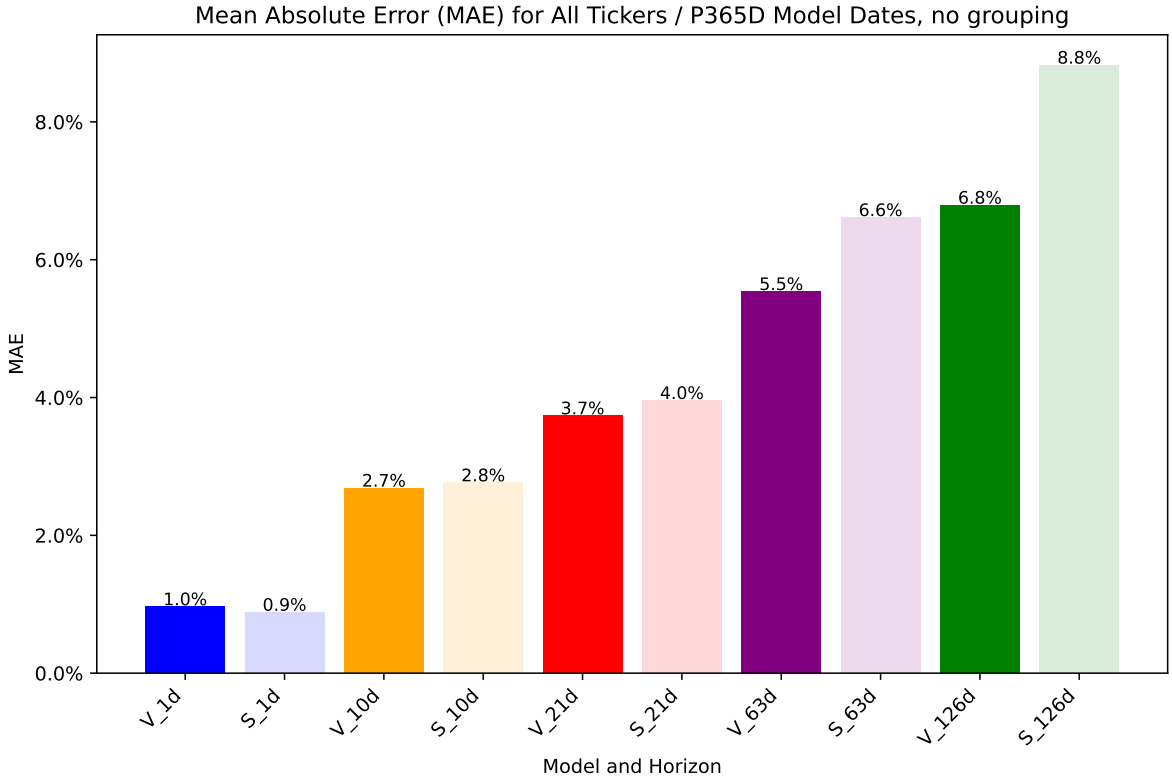
All Out of Sample Model Dates

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



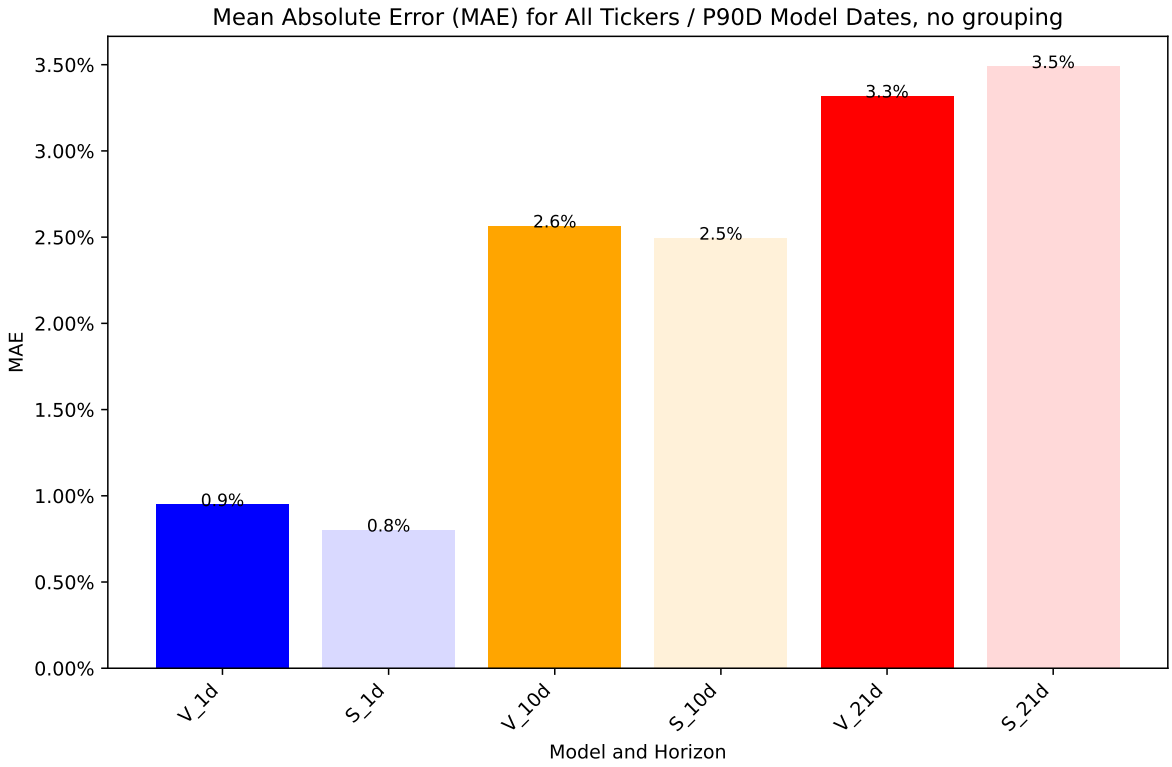
Prior 365 Calendar Days (P365D)

Period examined: All model dates from 2025-02-03 through 2026-01-29



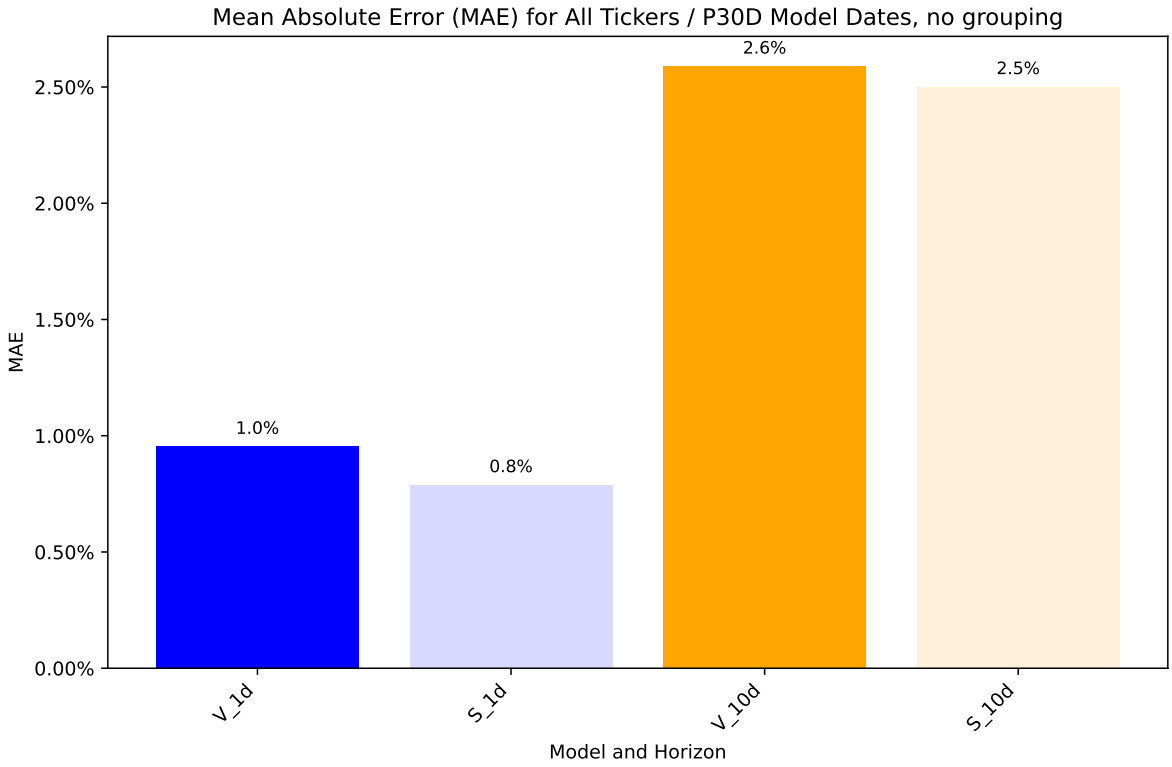
Prior 90 Calendar Days (P90D)

Period examined: All model dates from 2025-11-03 through 2026-01-29



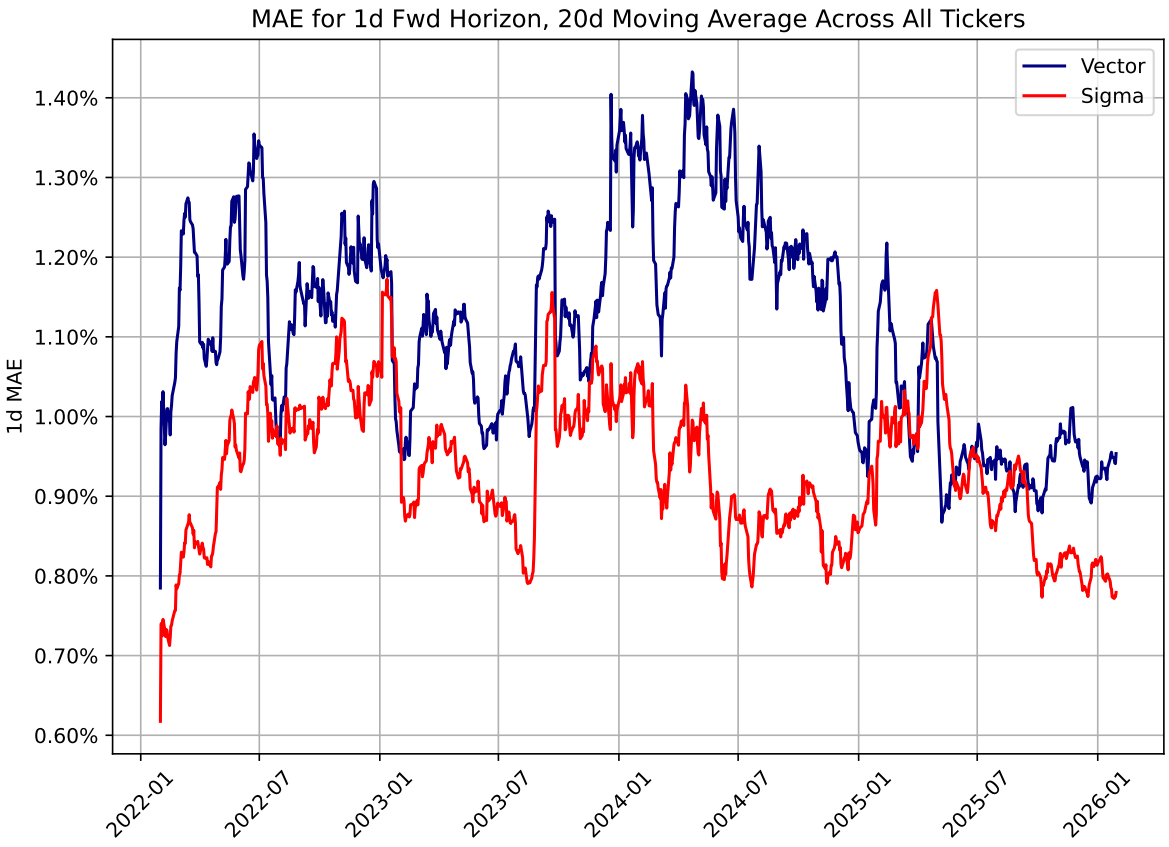
Prior 30 Calendar Days (P30D)

Period examined: All model dates from 2026-01-02 through 2026-01-29

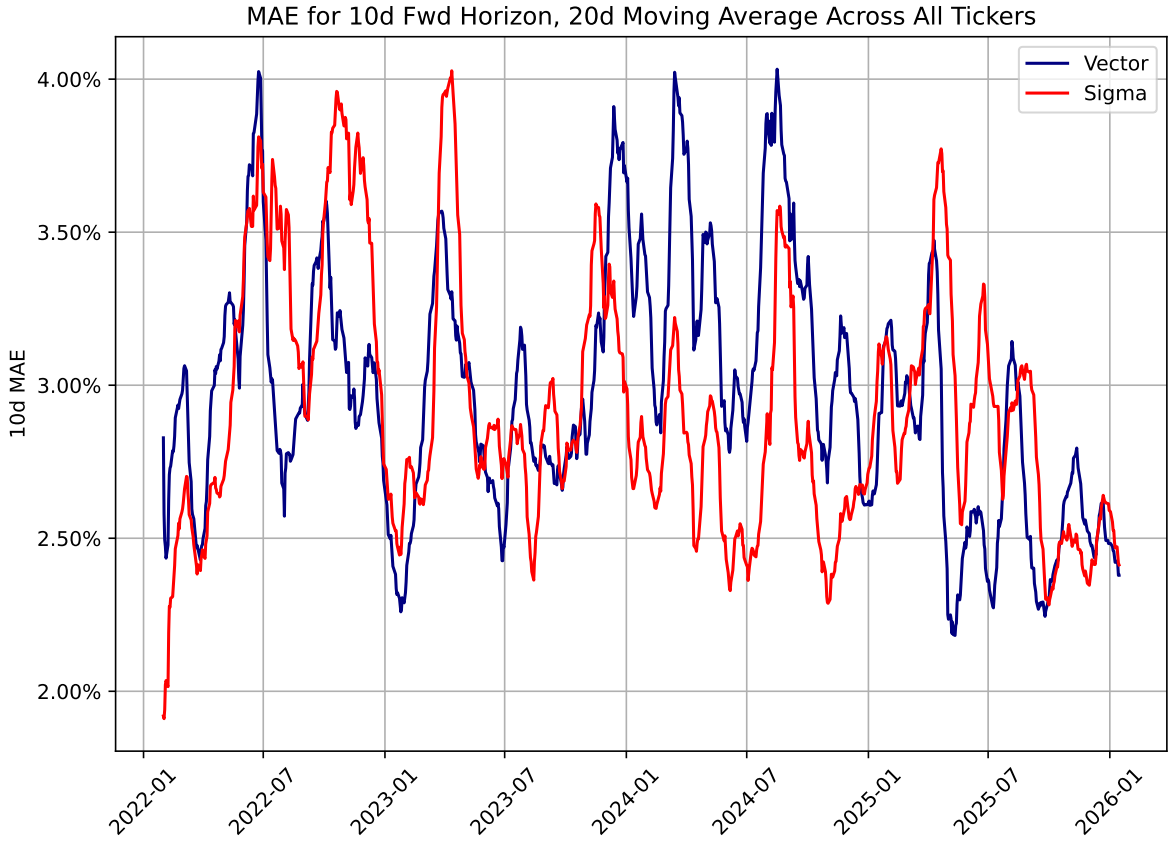


MAE by Model Date Detail

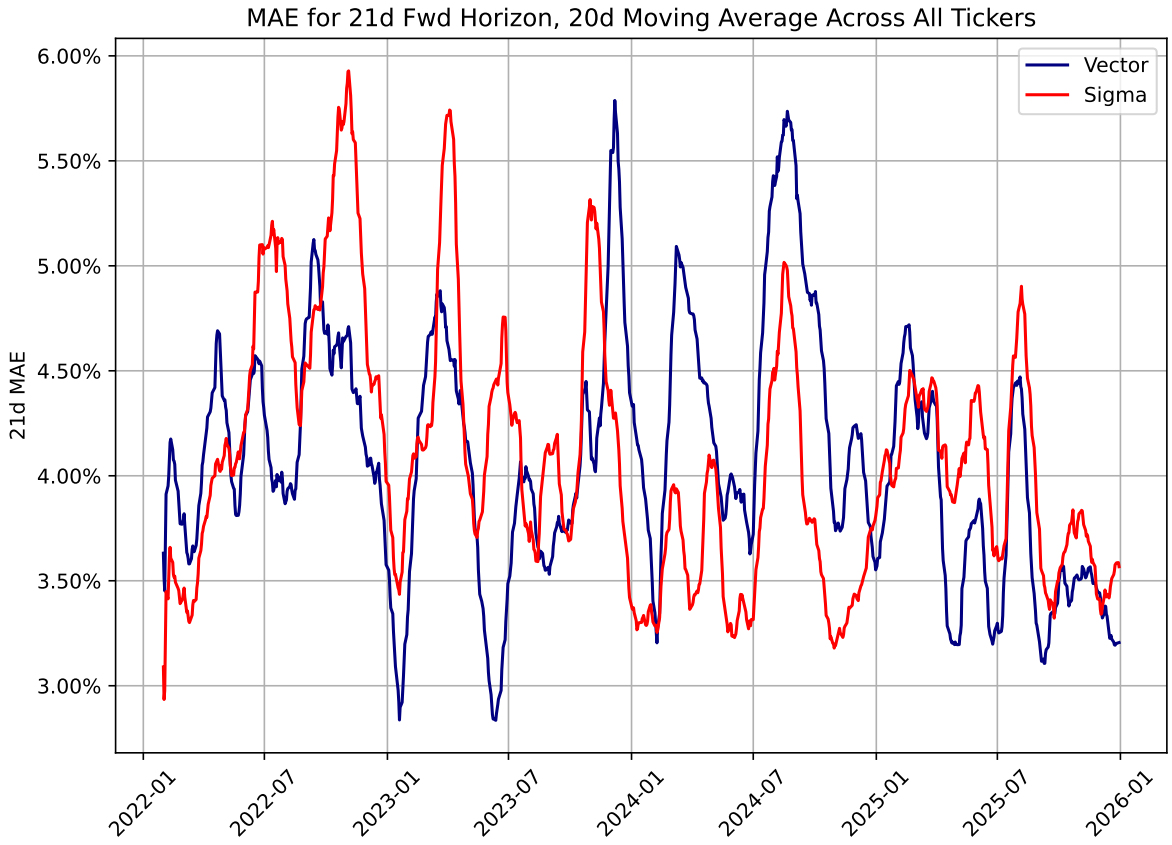
1d Horizon



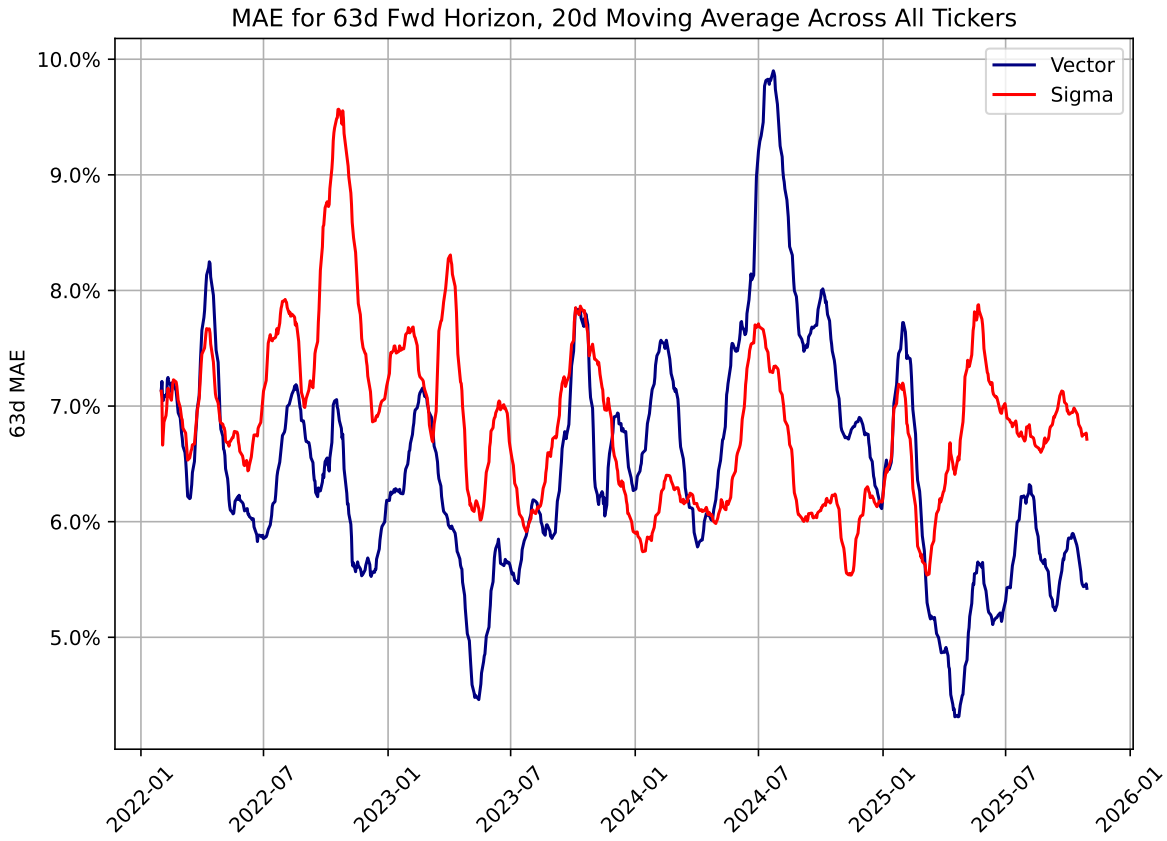
10d Horizon


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

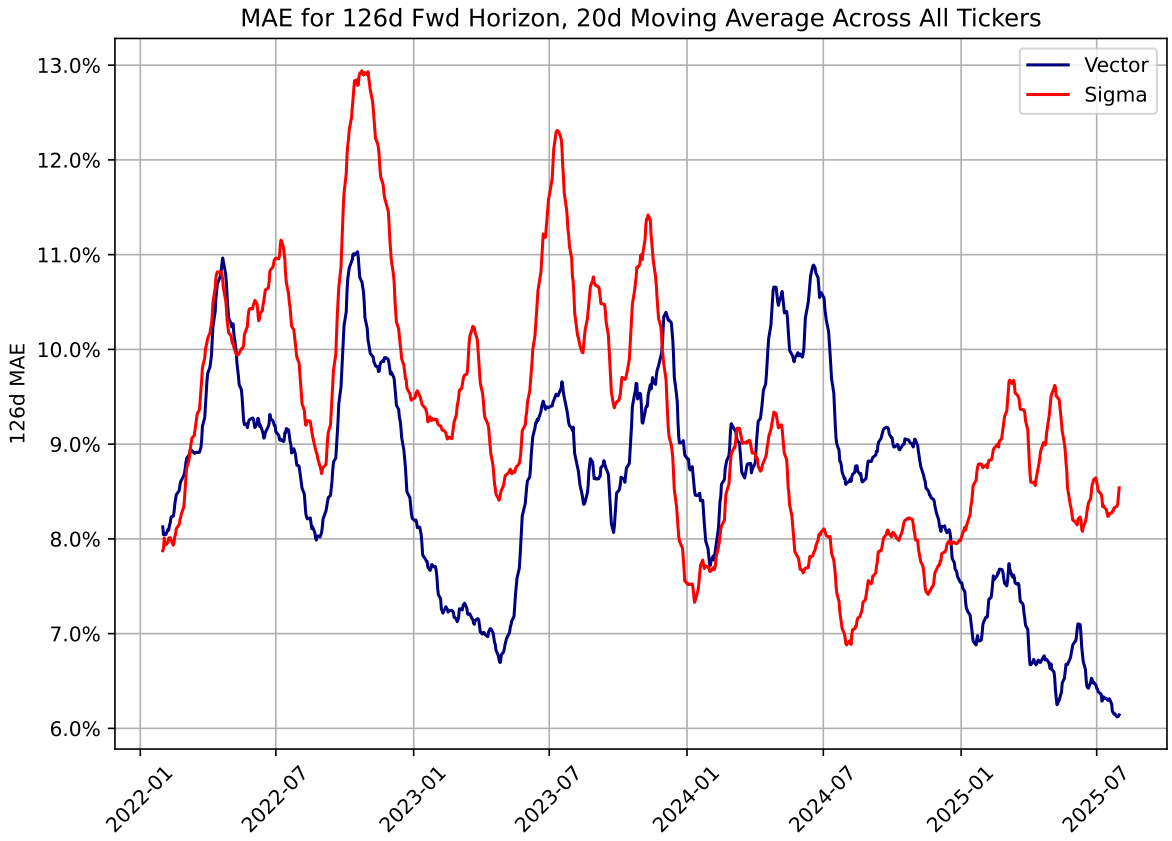
21d Horizon


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
2022-07
2023-01
2023-07
2024-01
2024-07
2025-01
2025-07
2026-01

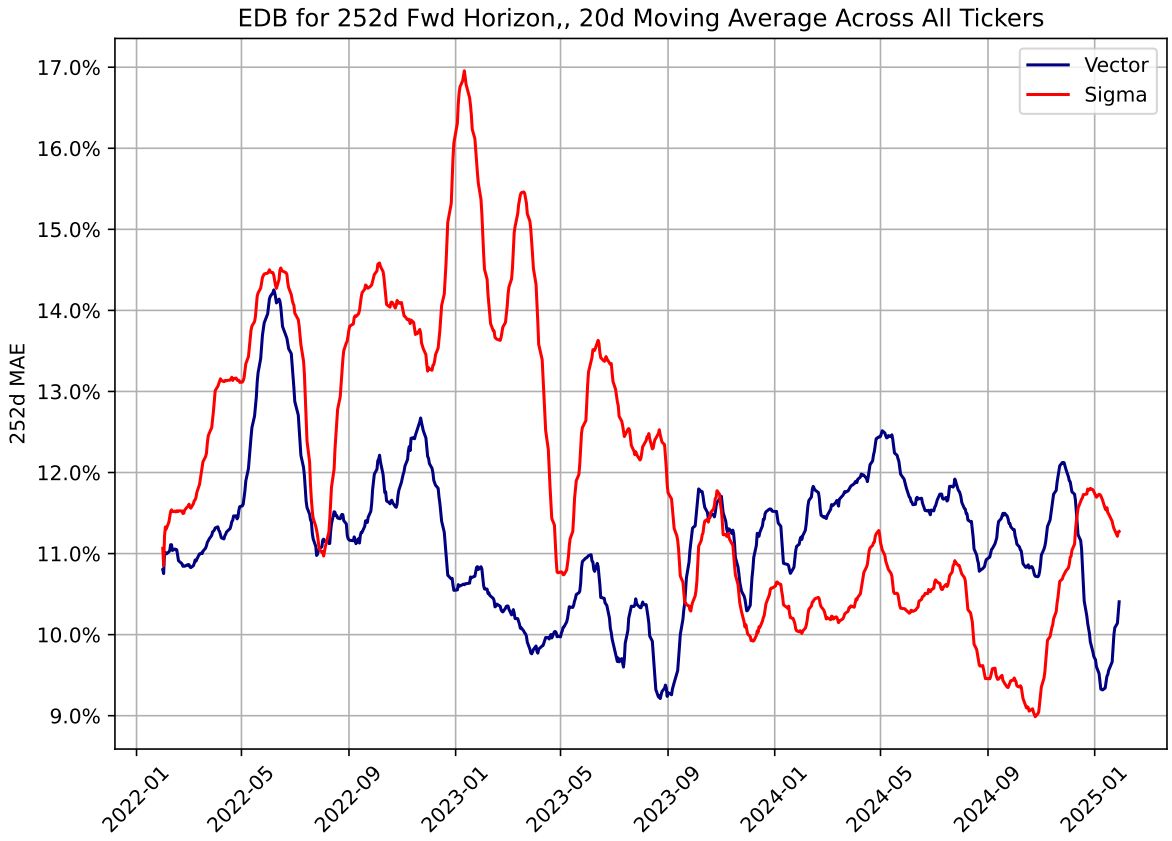
63d Horizon


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

126d Horizon



252d Horizon



Top 30 Tickers By EDB MAE

All TMD: 1d

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

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

Horizon	Ticker_V	EDB-MAE_V	Ticker_S	EDB-MAE_S
1.0	AMC	10.18%	AMC	9.46%
1.0	CZR	3.35%	GME	2.93%
1.0	CYH	3.28%	CYH	2.71%
1.0	LUMN	3.17%	LUMN	2.32%
1.0	GBTC	3.03%	MSTR	1.97%
1.0	AMAT	2.72%	GBTC	1.79%
1.0	TSLA	2.41%	BHC	1.71%
1.0	NVDA	2.18%	IEP	1.63%
1.0	PHM	2.12%	TSLA	1.42%
1.0	CCL	2.04%	UAA	1.41%
1.0	IEP	1.79%	CTLT	1.4%
1.0	ELAN	1.79%	VFC	1.38%
1.0	GT	1.76%	SIVBQ	1.34%
1.0	VNO	1.75%	NWL	1.34%
1.0	THC	1.74%	AA	1.32%
1.0	AVGO	1.71%	CLF	1.3%
1.0	BHC	1.7%	CCL	1.28%
1.0	MSTR	1.69%	SBNY	1.27%
1.0	MSFT	1.67%	CZR	1.27%
1.0	GNRC	1.65%	GNRC	1.27%
1.0	NWL	1.61%	AAP	1.22%
1.0	MS	1.58%	GT	1.22%
1.0	CLF	1.56%	AMD	1.18%
1.0	AMD	1.52%	NVDA	1.14%
1.0	X	1.52%	ON	1.13%
1.0	MOS	1.51%	LNC	1.12%
1.0	VST	1.48%	INTC	1.09%
1.0	PWR	1.46%	X	1.09%
1.0	ETRN	1.39%	MU	1.07%
1.0	UAA	1.39%	KALU	1.05%

All TMD: 10d

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

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

Horizon	Ticker_V	EDB-MAE_V	Ticker_S	EDB-MAE_S
10.0	AMC	22.44%	AMC	19.36%
10.0	GBTC	9.14%	GME	9.06%
10.0	CYH	8.66%	CYH	8.95%
10.0	LUMN	7.54%	LUMN	7.77%
10.0	CZR	5.84%	MSTR	6.34%
10.0	GT	5.71%	GBTC	6.27%
10.0	IEP	5.53%	BHC	5.28%
10.0	CCL	5.16%	IEP	4.84%
10.0	NVDA	5.16%	UAA	4.8%
10.0	AMAT	4.96%	NWL	4.59%
10.0	PHM	4.71%	VFC	4.43%
10.0	NWL	4.61%	TSLA	4.39%
10.0	X	4.54%	GNRC	4.39%
10.0	BHC	4.52%	CTLT	4.36%
10.0	VNO	4.51%	AA	4.33%
10.0	LNC	4.39%	GT	4.32%
10.0	MSTR	4.37%	CLF	4.3%
10.0	TSLA	4.27%	CCL	4.17%
10.0	CLF	4.15%	SBNY	4.13%
10.0	MU	4.11%	CZR	4.07%
10.0	SIVBQ	4.01%	LNC	4.03%
10.0	GME	3.99%	AAP	3.92%
10.0	ELAN	3.91%	SIVBQ	3.83%
10.0	TEVA	3.9%	INTC	3.65%
10.0	THC	3.81%	NVDA	3.63%
10.0	AA	3.76%	ON	3.5%
10.0	UAA	3.76%	ELAN	3.46%
10.0	AVGO	3.73%	AMD	3.46%
10.0	MOS	3.72%	X	3.37%
10.0	AMD	3.72%	EXPE	3.37%

All TMD: 21d

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

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

Horizon	Ticker_V	EDB-MAE_V	Ticker_S	EDB-MAE_S
21.0	AMC	27.45%	AMC	20.07%
21.0	GBTC	11.14%	GME	12.01%
21.0	CYH	9.79%	LUMN	11.74%
21.0	LUMN	9.5%	CYH	10.14%
21.0	NVDA	7.63%	GBTC	8.85%
21.0	GT	7.27%	MSTR	8.47%
21.0	IEP	7.25%	BHC	7.94%
21.0	CZR	6.92%	NWL	6.91%
21.0	NWL	6.84%	CTLT	6.81%
21.0	AMAT	6.77%	UAA	6.8%
21.0	CCL	6.61%	IEP	6.54%
21.0	BHC	6.6%	VFC	6.41%
21.0	UAA	6.27%	CLF	6.29%
21.0	CLF	6.19%	AA	6.18%
21.0	ELAN	6.12%	CCL	6.12%
21.0	PHM	6.1%	GT	6.03%
21.0	LNC	6.04%	LNC	5.99%
21.0	MSTR	5.99%	TSLA	5.91%
21.0	TSLA	5.97%	SIVBQ	5.75%
21.0	GME	5.96%	GNRC	5.72%
21.0	VNO	5.81%	ELAN	5.72%
21.0	TEVA	5.77%	CZR	5.61%
21.0	X	5.58%	X	5.59%
21.0	MOS	5.36%	NVDA	5.29%
21.0	AVGO	5.32%	ON	5.14%
21.0	ON	5.29%	INTC	5.13%
21.0	VFC	5.29%	AAP	5.11%
21.0	THC	5.28%	AMD	5.04%
21.0	ETRN	5.26%	KALU	4.91%
21.0	MU	5.15%	ETRN	4.89%

All TMD: 63d

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

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

Horizon	Ticker_V	EDB-MAE_V	Ticker_S	EDB-MAE_S
63.0	AMC	33.95%	AMC	20.75%
63.0	CYH	15.15%	GME	18.57%
63.0	LUMN	15.07%	MSTR	17.18%
63.0	IEP	13.97%	CYH	15.07%
63.0	GBTC	13.0%	LUMN	15.02%
63.0	AMAT	10.91%	BHC	13.57%
63.0	NVDA	10.49%	IEP	13.53%
63.0	UAA	10.32%	CTLT	12.64%
63.0	X	10.15%	CCL	12.42%
63.0	PHM	10.14%	UAA	11.65%
63.0	TSLA	10.06%	GBTC	11.42%
63.0	CTLT	9.82%	TSLA	11.3%
63.0	MU	9.81%	GNRC	11.16%
63.0	CCL	9.8%	GT	10.62%
63.0	GME	9.76%	INTC	10.6%
63.0	ELAN	9.64%	NWL	9.96%
63.0	GT	9.5%	SIVBQ	9.95%
63.0	VNO	9.45%	CZR	9.66%
63.0	SIVBQ	9.14%	LNC	9.64%
63.0	NWL	9.1%	AA	9.33%
63.0	THC	9.04%	CLF	9.21%
63.0	BHC	8.88%	ON	9.19%
63.0	MOS	8.86%	LW	9.03%
63.0	INTC	8.82%	VFC	8.9%
63.0	CZR	8.57%	X	8.7%
63.0	LNC	8.53%	AMZN	8.51%
63.0	PWR	8.25%	MU	8.5%
63.0	CLF	8.24%	SBNY	8.42%
63.0	WDC	8.23%	NFLX	8.4%
63.0	TEVA	8.11%	THC	8.31%

All TMD: 126d

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

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

Horizon	Ticker_V	EDB-MAE_V	Ticker_S	EDB-MAE_S
126.0	AMC	36.28%	CYH	21.08%
126.0	CYH	25.46%	AMC	20.76%
126.0	LUMN	23.49%	MSTR	20.23%
126.0	IEP	21.61%	BHC	19.4%
126.0	SIVBQ	18.52%	LUMN	19.37%
126.0	GBTC	16.99%	GNRC	19.31%
126.0	ETRN	15.25%	IEP	18.56%
126.0	AMAT	15.02%	GME	17.11%
126.0	CSTM	14.33%	CCL	15.37%
126.0	ELAN	14.3%	SBNY	15.33%
126.0	LNC	14.3%	ETRN	15.13%
126.0	NFLX	14.04%	SIVBQ	14.87%
126.0	NVDA	13.42%	LNC	14.3%
126.0	NWL	12.94%	EXPE	14.29%
126.0	PWR	12.85%	NVDA	14.24%
126.0	TSLA	12.75%	UAA	14.15%
126.0	INTC	12.49%	CTLT	14.12%
126.0	CLF	12.43%	VFC	14.0%
126.0	MU	12.43%	GT	13.85%
126.0	GME	12.16%	CLF	13.67%
126.0	BHC	11.93%	CZR	13.59%
126.0	MSTR	11.89%	AAP	13.58%
126.0	PHM	11.69%	AA	13.26%
126.0	UAA	11.65%	NFLX	13.12%
126.0	AA	11.61%	NWL	13.03%
126.0	BBY	11.44%	INTC	12.99%
126.0	GT	11.39%	KEY	12.46%
126.0	X	11.35%	GBTC	12.43%
126.0	CTLT	11.22%	CSTM	12.01%
126.0	VNO	11.03%	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 2026-01-29

Horizon	Ticker_V	EDB-MAE_V	Ticker_S	EDB-MAE_S
252.0	AMC	46.98%	SBNY	53.5%
252.0	NVDA	36.82%	LUMN	25.31%
252.0	CYH	33.22%	AMC	23.8%
252.0	LUMN	31.51%	SIVBQ	23.37%
252.0	LNC	26.54%	CTLT	22.33%
252.0	AMAT	25.05%	BHC	22.16%
252.0	SIVBQ	24.89%	LNC	21.73%
252.0	PHM	24.82%	META	21.72%
252.0	IEP	22.11%	TSLA	21.69%
252.0	GBTC	20.26%	NVDA	21.3%
252.0	CCL	20.19%	CLF	20.96%
252.0	GT	19.66%	EXPE	20.7%
252.0	AVGO	19.63%	AAP	20.08%
252.0	TRGP	19.18%	UAA	19.83%
252.0	EXPE	18.27%	AVGO	19.62%
252.0	MSTR	18.26%	VFC	18.87%
252.0	ELAN	17.42%	TEVA	18.76%
252.0	PWR	16.74%	GNRC	18.68%
252.0	NWL	16.54%	CYH	18.65%
252.0	AZO	16.54%	NFLX	17.41%
252.0	ORCL	16.3%	NWL	17.21%
252.0	ETRN	16.26%	FSUGY	16.83%
252.0	INTC	16.14%	ORCL	16.78%
252.0	HCA	15.71%	ELAN	16.73%
252.0	TXN	15.51%	GT	16.48%
252.0	CPRT	15.35%	AZO	16.15%
252.0	CMA	15.3%	CMA	16.1%
252.0	KEY	14.86%	AMZN	16.03%
252.0	CSTM	14.79%	CSTM	15.77%
252.0	AA	14.62%	VNO	15.19%

Bottom 30 Tickers By EDB MAE

All TMD: 1d

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

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

Horizon	Ticker_V	EDB-MAE_V	Ticker_S	EDB-MAE_S
1.0	VCSH	0.09%	VCSH	0.07%
1.0	MUB	0.11%	MUB	0.1%
1.0	LQD	0.17%	HYG	0.19%
1.0	HYG	0.27%	LQD	0.22%
1.0	EMB	0.3%	EMB	0.24%
1.0	FRA	0.36%	FRA	0.3%
1.0	TLT	0.41%	GLD	0.33%
1.0	PEP	0.48%	TLT	0.37%
1.0	AMGN	0.49%	PEP	0.4%
1.0	VZ	0.5%	SPY	0.42%
1.0	NVS	0.5%	NVS	0.43%
1.0	HD	0.52%	POST	0.45%
1.0	SNY	0.52%	ABBV	0.48%
1.0	POST	0.53%	HON	0.49%
1.0	BUD	0.54%	ORLY	0.49%
1.0	GSK	0.54%	MRK	0.5%
1.0	GILD	0.55%	VZ	0.5%
1.0	SBUX	0.55%	COST	0.5%
1.0	HON	0.56%	CSCO	0.5%
1.0	BMY	0.57%	KHC	0.51%
1.0	VICI	0.58%	VICI	0.51%
1.0	ABBV	0.58%	MNST	0.51%
1.0	XOM	0.58%	AZN	0.51%
1.0	ZTS	0.6%	AMGN	0.51%
1.0	CMCSA	0.6%	BMY	0.51%
1.0	JAZZ	0.61%	MSI	0.52%
1.0	AZN	0.61%	CAH	0.52%
1.0	ORLY	0.61%	AZO	0.53%
1.0	BALL	0.62%	TMUS	0.54%
1.0	T	0.62%	GILD	0.54%

All TMD: 10d

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

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

Horizon	Ticker_V	EDB-MAE_V	Ticker_S	EDB-MAE_S
10.0	VCSH	0.23%	VCSH	0.23%
10.0	MUB	0.39%	MUB	0.32%
10.0	HYG	0.63%	HYG	0.62%
10.0	LQD	0.64%	LQD	0.68%
10.0	EMB	0.89%	EMB	0.75%
10.0	FRA	1.0%	FRA	0.98%
10.0	TLT	1.09%	GLD	0.99%
10.0	NVS	1.44%	TLT	1.2%
10.0	VZ	1.46%	SPY	1.32%
10.0	GILD	1.47%	POST	1.39%
10.0	POST	1.49%	PEP	1.42%
10.0	BUD	1.49%	ORLY	1.45%
10.0	SNY	1.5%	NVS	1.47%
10.0	BMY	1.55%	ABBV	1.5%
10.0	ZTS	1.57%	HON	1.54%
10.0	PEP	1.61%	KHC	1.54%
10.0	GLD	1.63%	VICI	1.55%
10.0	AMGN	1.66%	MRK	1.57%
10.0	XOM	1.66%	VZ	1.58%
10.0	GSK	1.66%	GILD	1.59%
10.0	TMUS	1.67%	COST	1.59%
10.0	GWW	1.72%	TMUS	1.6%
10.0	ABBV	1.73%	CSCO	1.63%
10.0	JAZZ	1.73%	CAH	1.63%
10.0	TDG	1.74%	BMY	1.64%
10.0	MSI	1.74%	AZO	1.65%
10.0	VICI	1.76%	MSI	1.69%
10.0	KHC	1.81%	AZN	1.7%
10.0	SLV	1.81%	AMGN	1.71%
10.0	HON	1.84%	PCG	1.72%

All TMD: 21d

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

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

Horizon	Ticker_V	EDB-MAE_V	Ticker_S	EDB-MAE_S
21.0	VCSH	0.3%	VCSH	0.34%
21.0	MUB	0.66%	MUB	0.47%
21.0	LQD	0.89%	HYG	0.87%
21.0	HYG	0.92%	LQD	1.01%
21.0	EMB	1.44%	EMB	1.22%
21.0	FRA	1.57%	FRA	1.5%
21.0	TLT	1.59%	GLD	1.56%
21.0	BUD	1.93%	TLT	1.87%
21.0	NVS	1.96%	PEP	1.87%
21.0	GILD	1.98%	SPY	1.92%
21.0	SNY	1.99%	NVS	2.01%
21.0	POST	2.09%	POST	2.06%
21.0	BMY	2.1%	MRK	2.11%
21.0	PEP	2.17%	BMY	2.15%
21.0	MSI	2.17%	VICI	2.18%
21.0	GSK	2.22%	ACGL	2.19%
21.0	VICI	2.25%	ORLY	2.2%
21.0	GLD	2.28%	MSI	2.23%
21.0	CVS	2.31%	HON	2.25%
21.0	AMGN	2.33%	CAH	2.29%
21.0	ZTS	2.34%	TMUS	2.29%
21.0	HON	2.35%	ABBV	2.32%
21.0	CHTR	2.35%	KHC	2.32%
21.0	GWW	2.41%	AMGN	2.33%
21.0	XOM	2.42%	GWW	2.34%
21.0	KHC	2.42%	MNST	2.34%
21.0	MRK	2.44%	BUD	2.36%
21.0	TMUS	2.44%	GILD	2.39%
21.0	BIIB	2.45%	COST	2.41%
21.0	JAZZ	2.46%	CPRT	2.44%

All TMD: 63d

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

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

Horizon	Ticker_V	EDB-MAE_V	Ticker_S	EDB-MAE_S
63.0	VCSH	0.47%	VCSH	0.63%
63.0	MUB	0.94%	MUB	0.77%
63.0	LQD	1.12%	LQD	1.71%
63.0	HYG	1.59%	HYG	1.79%
63.0	TLT	2.23%	EMB	2.19%
63.0	EMB	2.24%	GLD	2.4%
63.0	FRA	2.61%	FRA	2.54%
63.0	POST	2.72%	TLT	3.07%
63.0	GLD	2.85%	POST	3.12%
63.0	GSK	3.04%	SPY	3.19%
63.0	ABBV	3.16%	PEP	3.31%
63.0	GILD	3.33%	ABBV	3.33%
63.0	BUD	3.41%	HON	3.39%
63.0	SPY	3.52%	GWW	3.41%
63.0	NVS	3.56%	NVS	3.49%
63.0	PEP	3.61%	VZ	3.53%
63.0	HON	3.62%	VICI	3.58%
63.0	GWW	3.63%	ORLY	3.79%
63.0	BMY	3.64%	GILD	3.83%
63.0	VICI	3.65%	CAH	3.84%
63.0	AMGN	3.77%	BUD	3.87%
63.0	COST	3.79%	AZN	3.94%
63.0	ORLY	3.8%	COST	3.95%
63.0	XOM	3.89%	CPRT	3.98%
63.0	SBNY	3.89%	BMY	4.0%
63.0	VZ	3.9%	KHC	4.02%
63.0	CAH	3.91%	MNST	4.06%
63.0	SNY	3.94%	AMGN	4.07%
63.0	OXY	3.95%	MRK	4.13%
63.0	TMUS	4.02%	HD	4.2%

All TMD: 126d

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

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

Horizon	Ticker_V	EDB-MAE_V	Ticker_S	EDB-MAE_S
126.0	VCSH	0.68%	VCSH	0.9%
126.0	MUB	1.48%	MUB	1.21%
126.0	LQD	2.02%	LQD	2.49%
126.0	HYG	2.03%	HYG	2.77%
126.0	NVS	2.93%	EMB	3.52%
126.0	TLT	3.2%	FRA	3.95%
126.0	FRA	3.44%	CAH	3.99%
126.0	SNY	3.94%	NVS	4.03%
126.0	BUD	4.01%	MSI	4.34%
126.0	HD	4.04%	GLD	4.4%
126.0	EMB	4.15%	POST	4.49%
126.0	HON	4.2%	TLT	4.54%
126.0	GSK	4.27%	KHC	4.54%
126.0	MSI	4.27%	PEP	4.6%
126.0	GWW	4.41%	MNST	4.79%
126.0	GLD	4.46%	UNH	4.89%
126.0	ZTS	4.51%	GILD	4.99%
126.0	POST	4.51%	HON	5.03%
126.0	GILD	4.56%	GWW	5.12%
126.0	KHC	4.66%	SPY	5.17%
126.0	AZN	4.78%	ABBV	5.21%
126.0	JAZZ	4.85%	JAZZ	5.22%
126.0	TMUS	4.9%	TMUS	5.26%
126.0	COST	4.92%	VICI	5.34%
126.0	BHP	4.97%	AMGN	5.36%
126.0	GS	5.02%	FRCB	5.39%
126.0	CMCSA	5.09%	CSCO	5.45%
126.0	PEP	5.09%	COST	5.53%
126.0	B	5.13%	CMCSA	5.62%
126.0	AMGN	5.13%	VZ	5.62%

All TMD: 252d

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

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

Horizon	Ticker_V	EDB-MAE_V	Ticker_S	EDB-MAE_S
252.0	VCSH	1.04%	VCSH	1.12%
252.0	LQD	2.71%	MUB	1.45%
252.0	MUB	2.9%	HYG	3.65%
252.0	HYG	3.46%	SPY	4.18%
252.0	FRA	3.85%	FRA	4.27%
252.0	QQQ	3.88%	LQD	4.39%
252.0	GLD	4.02%	QQQ	4.72%
252.0	GILD	4.47%	TLT	4.84%
252.0	TLT	4.67%	EMB	4.98%
252.0	OXY	5.05%	GLD	5.17%
252.0	BHP	5.14%	PEP	5.31%
252.0	SPY	5.14%	GILD	5.64%
252.0	SNY	5.25%	MNST	5.71%
252.0	NVS	5.41%	CMCSA	6.34%
252.0	AMGN	5.51%	FRCB	6.47%
252.0	BUD	5.67%	COST	6.55%
252.0	T	5.73%	ACGL	6.7%
252.0	VICI	5.79%	JAZZ	6.72%
252.0	ZTS	5.86%	IRM	6.74%
252.0	META	5.9%	AMGN	6.84%
252.0	GSK	6.17%	VICI	6.97%
252.0	KHC	6.28%	CPRT	7.43%
252.0	HD	6.35%	GSK	7.47%
252.0	RIO	6.37%	LLY	7.47%
252.0	IRM	6.47%	DHI	7.56%
252.0	HON	6.53%	ABBV	7.6%
252.0	PEP	6.55%	POST	7.64%
252.0	SBUX	6.66%	MSFT	7.7%
252.0	CMCSA	6.67%	CNC	7.76%
252.0	LEN	6.76%	MSI	7.77%

Performance Summary - Returns on EDB based exposures (ROEDB)

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

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

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

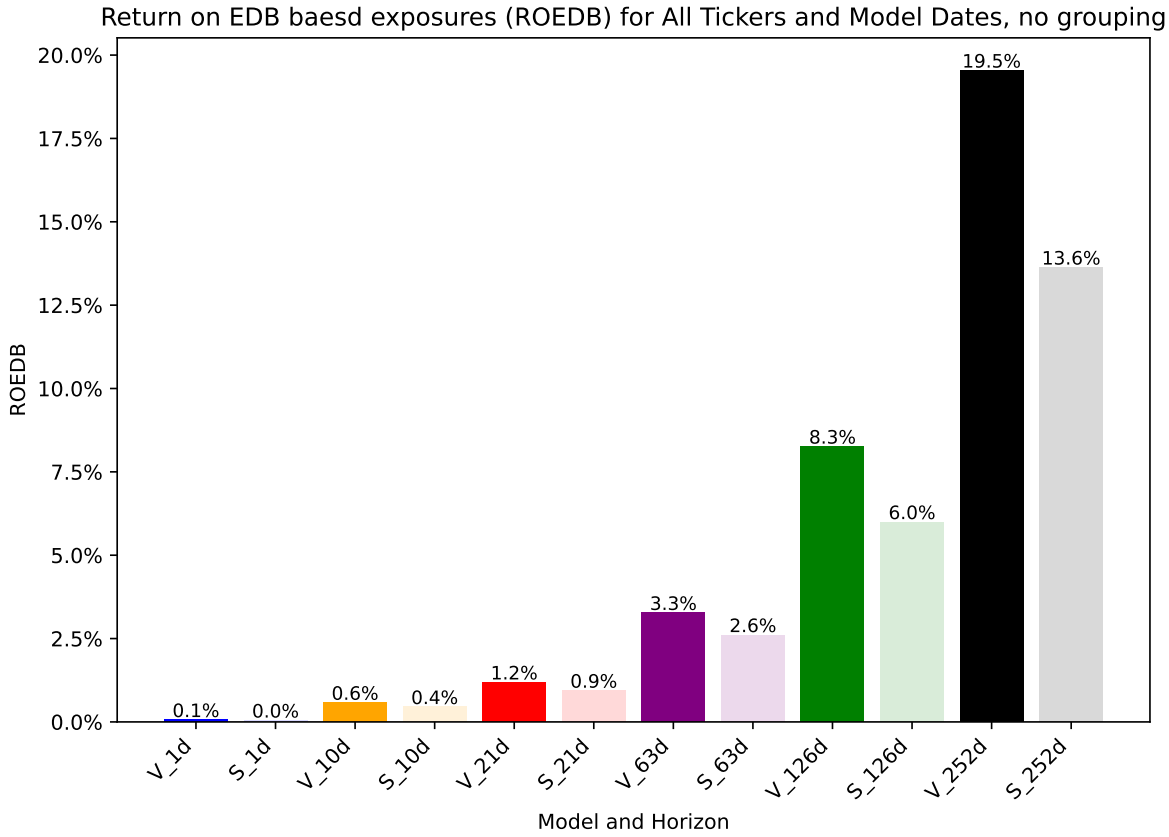
Vector Model based TMD exposures reflect each TMD's underlying horizon price return multiplied by the ratio of Sigma model based EDB to Vector Model EDB for the given horizon. This ratio is capped of 3.0x and floored of 0.333x.

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

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

All Out of Sample Model Dates

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



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

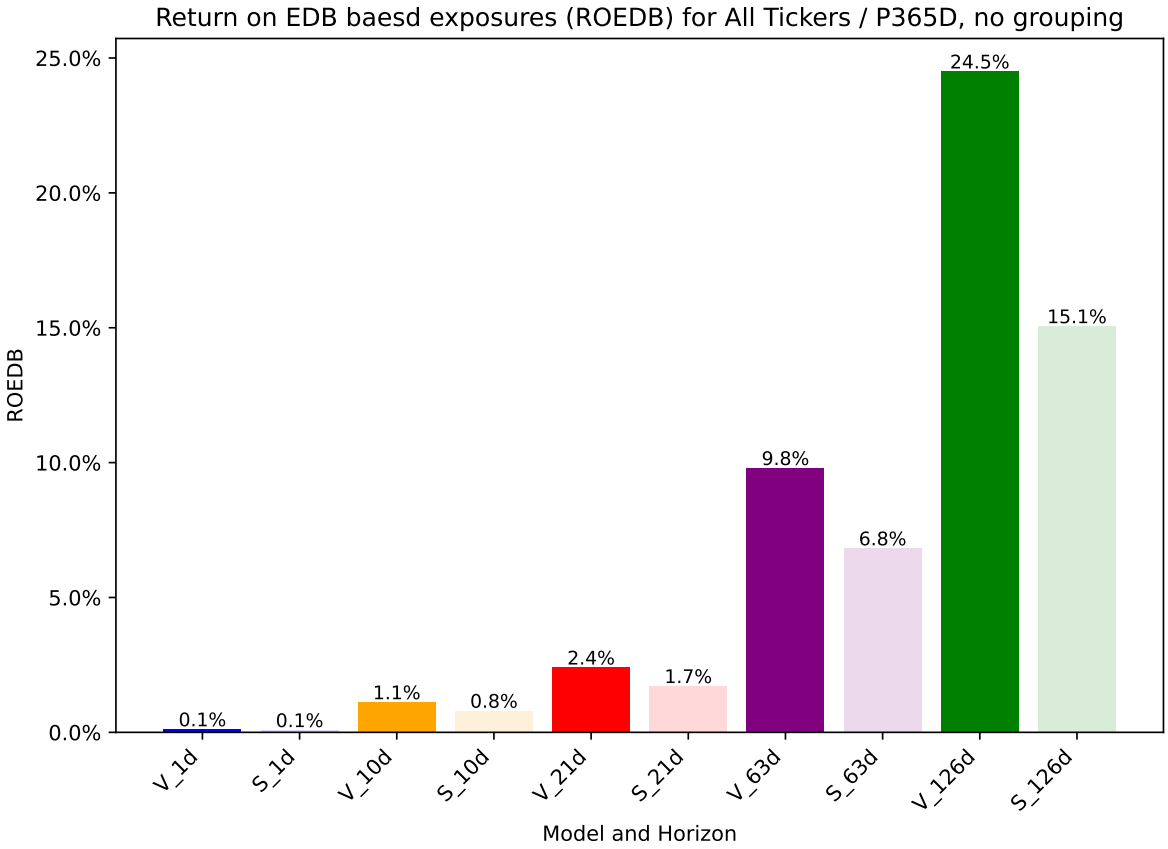
	1d	10d	21d	63d	126d	252d
intercept	-0.01%	-0.13%	-0.30%	-0.79%	-1.36%	-2.39%
intercept_p_value	1.66%	0.00%	0.00%	0.00%	0.00%	0.00%
slope	163.81%	158.13%	158.53%	155.59%	160.45%	160.84%
slope_p_value	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

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

	1d	10d	21d	63d	126d	252d
intercept	0.01%	0.08%	0.16%	0.64%	1.57%	2.86%
intercept_p_value	48.00%	17.06%	13.30%	9.01%	8.30%	9.50%
slope	153.61%	145.25%	146.66%	147.15%	151.52%	161.07%
slope_p_value	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

Prior 365 Calendar Days (P365D)

Period examined: All model dates from 2025-02-03 through 2026-01-29



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

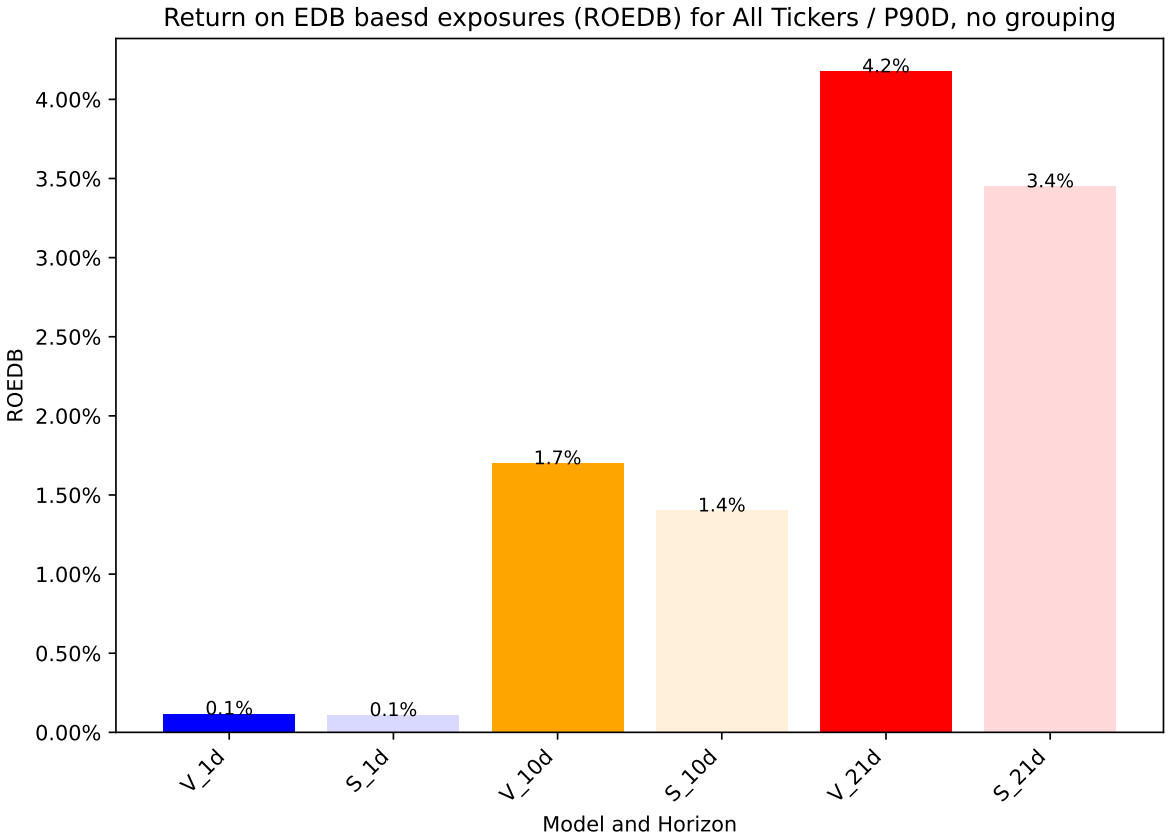
	1d	10d	21d	63d	126d
intercept	-0.02%	-0.11%	-0.23%	-0.89%	-3.12%
intercept_p_value	8.48%	0.06%	0.00%	0.00%	0.00%
slope	163.52%	153.26%	153.81%	156.76%	183.48%
slope_p_value	0.00%	0.00%	0.00%	0.00%	0.00%

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

	1d	10d	21d	63d	126d
intercept	0.01%	0.11%	0.19%	0.55%	-0.11%
intercept_p_value	50.56%	20.91%	13.31%	12.68%	19.35%
slope	154.91%	145.14%	145.95%	149.35%	154.10%
slope_p_value	0.00%	0.00%	0.00%	0.00%	0.00%

Prior 90 Calendar Days (P90D)

Period examined: All model dates from 2025-11-03 through 2026-01-29



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

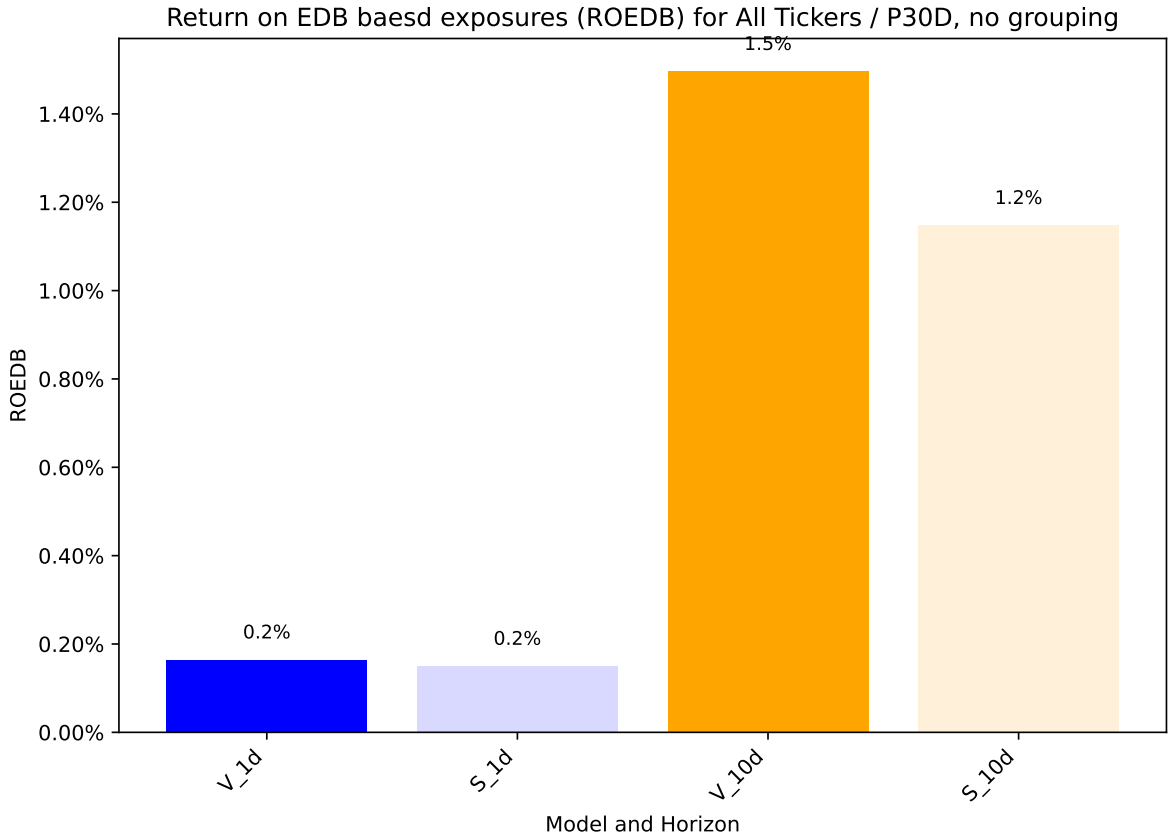
	1d	10d	21d
intercept	-0.04%	-0.25%	-0.46%
intercept_p_value	4.85%	0.00%	0.00%
slope	145.72%	139.29%	134.46%
slope_p_value	0.00%	0.00%	0.00%

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

	1d	10d	21d
intercept	0.01%	0.17%	0.24%
intercept_p_value	50.43%	29.01%	23.67%
slope	143.91%	135.68%	139.47%
slope_p_value	0.00%	0.00%	0.00%

Prior 30 Calendar Days (P30D)

Period examined: All model dates from 2026-01-02 through 2026-01-29



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

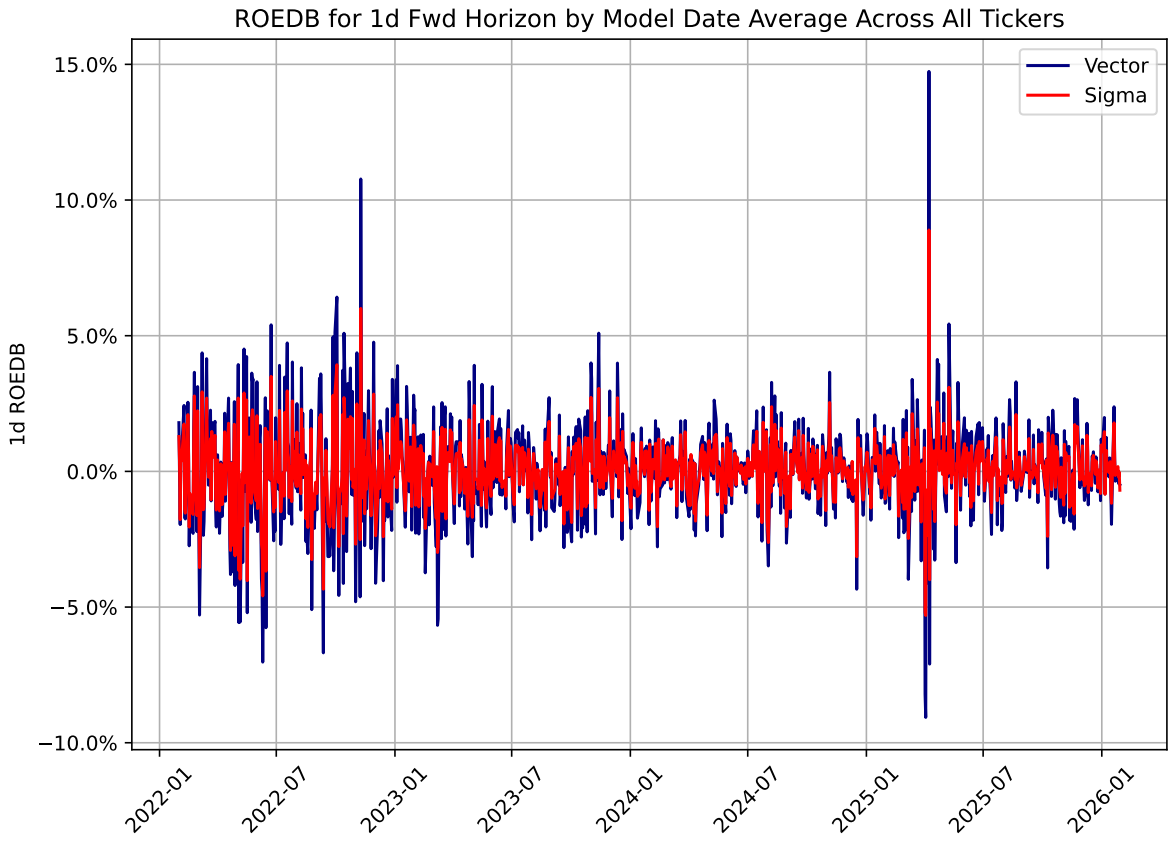
	1d	10d
intercept	-0.05%	-0.07%
intercept_p_value	20.53%	61.81%
slope	144.68%	136.50%
slope_p_value	0.00%	0.00%

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

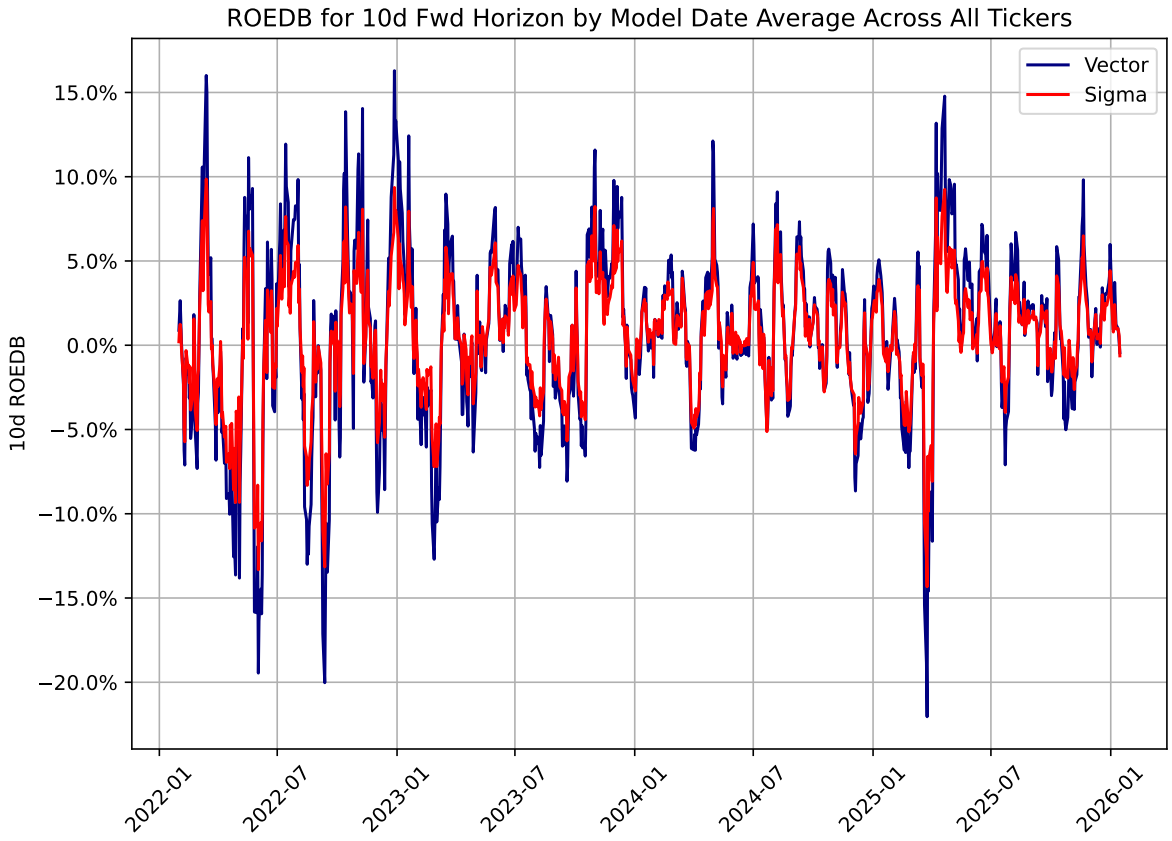
	1d	10d
intercept	-0.01%	0.10%
intercept_p_value	45.42%	49.76%
slope	142.45%	133.29%
slope_p_value	0.00%	0.38%

ROEDB by Model Date Detail

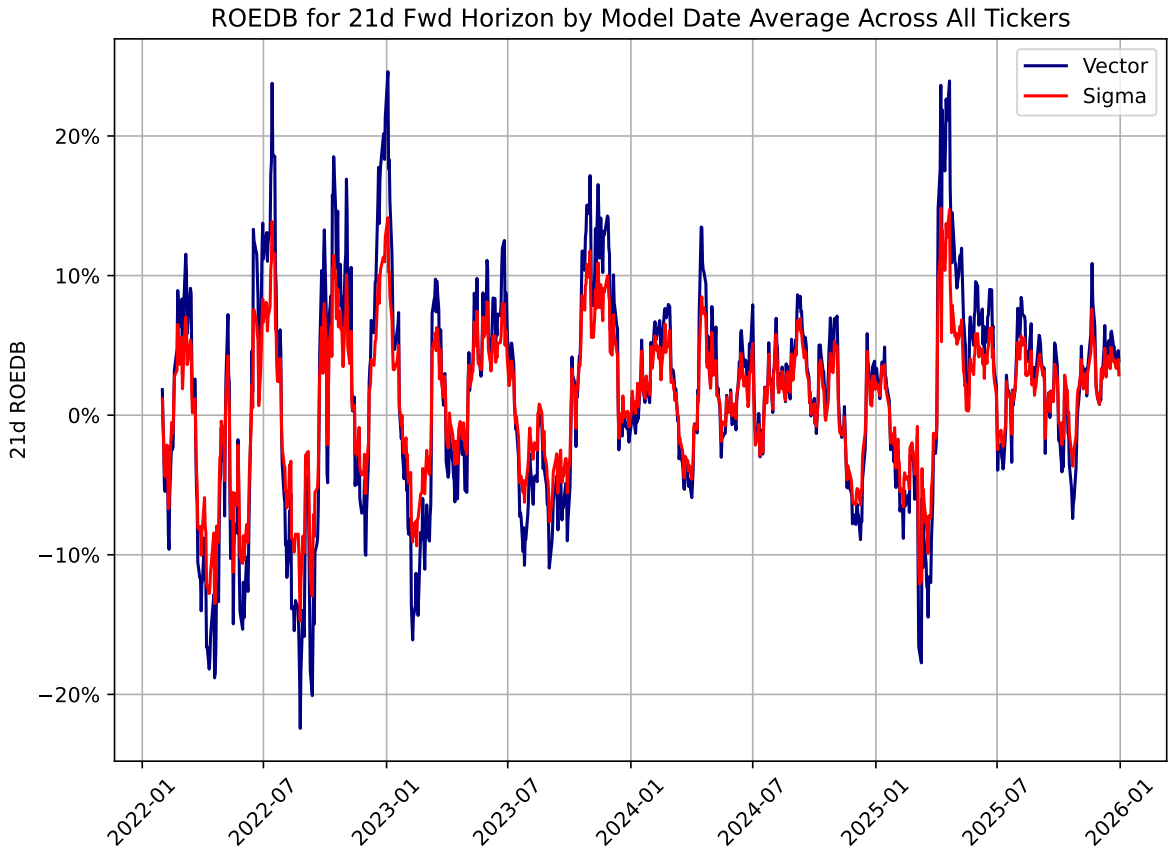
1d Horizon



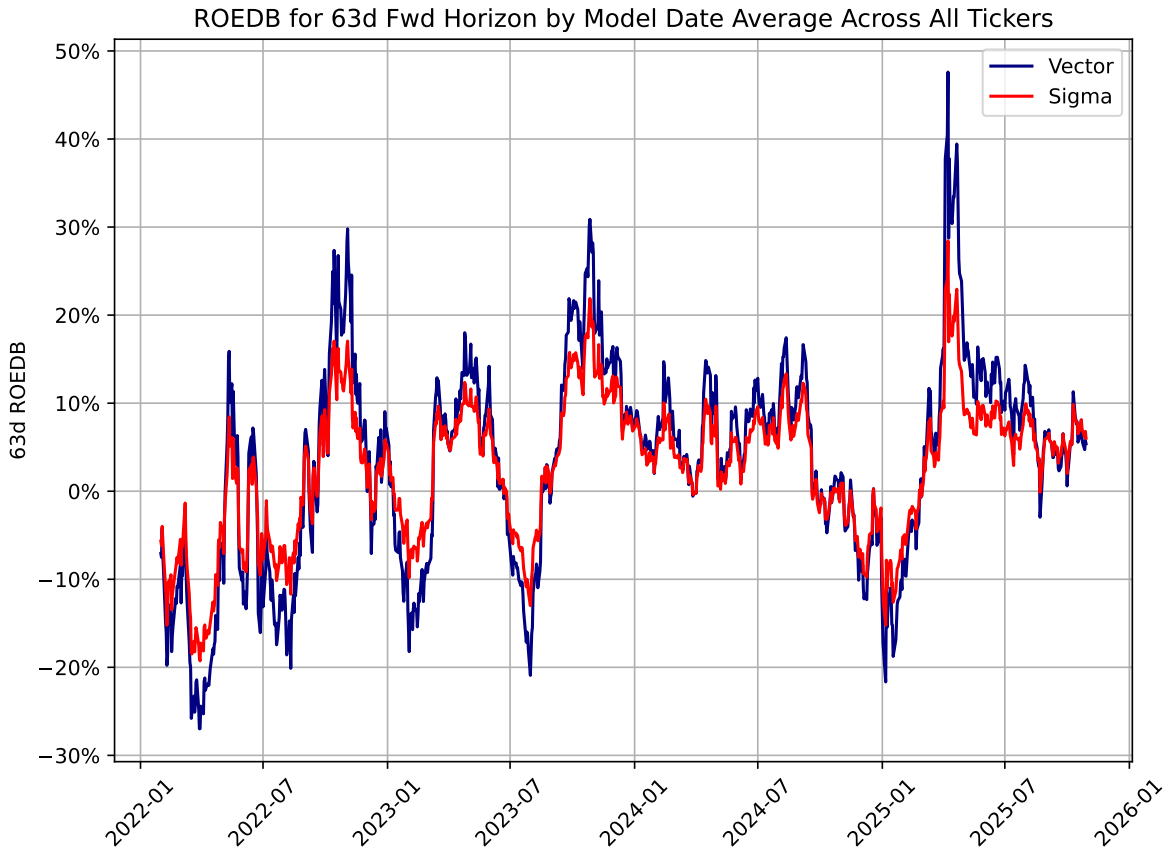
10d Horizon


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

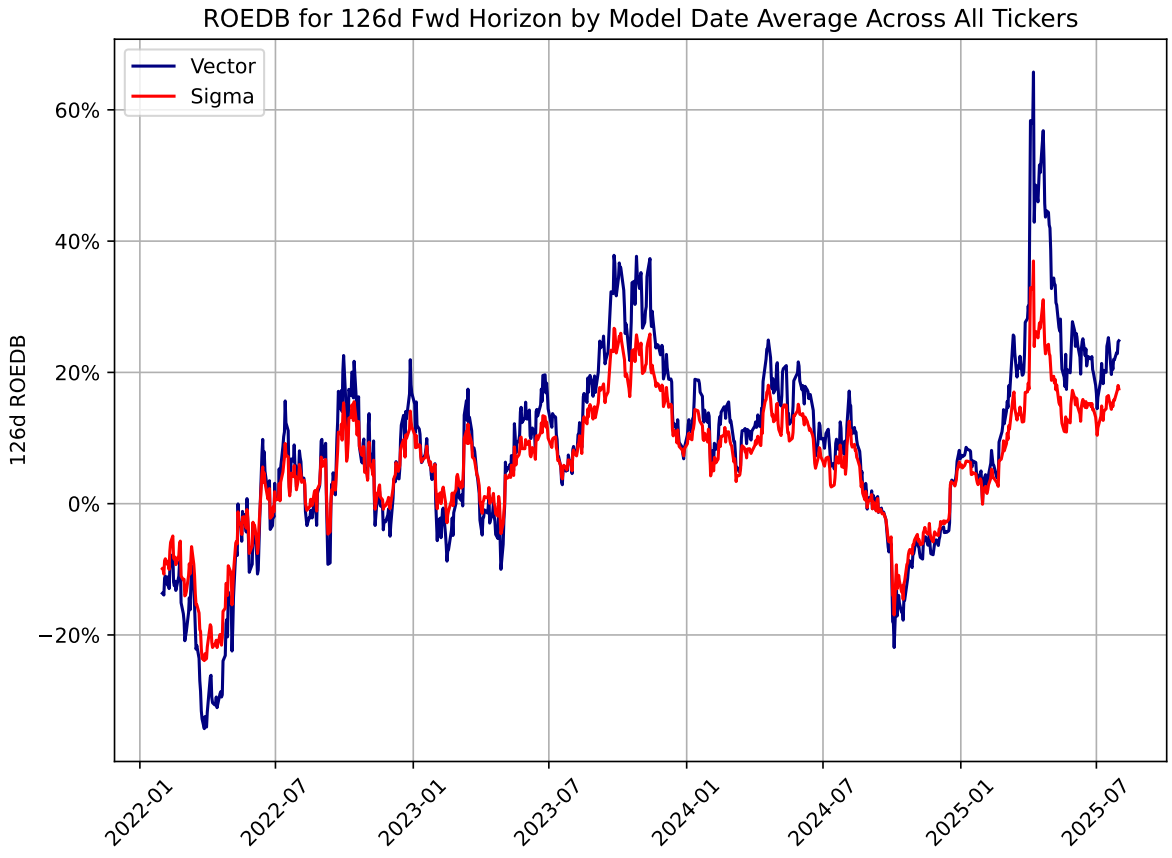
21d Horizon


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

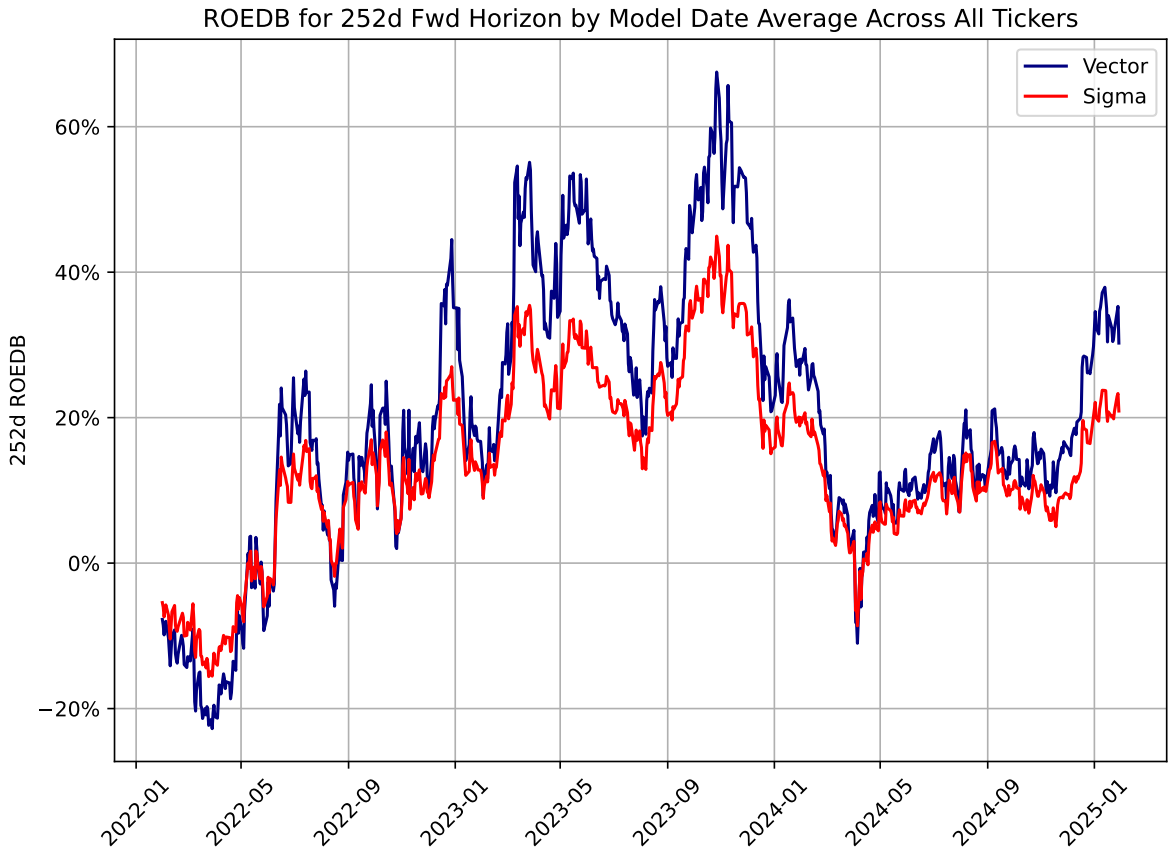
63d Horizon


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

126d Horizon



252d Horizon



Top 30 Tickers By ROEDB

All TMD: 1d

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

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

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
1.0	MSTR	0.62%	MSTR	0.31%
1.0	GME	0.54%	NVDA	0.26%
1.0	MU	0.35%	VST	0.25%
1.0	META	0.34%	MU	0.21%
1.0	NFLX	0.34%	AVGO	0.21%
1.0	AVGO	0.31%	WDC	0.21%
1.0	CLF	0.28%	PWR	0.18%
1.0	WDC	0.28%	TEVA	0.18%
1.0	AMD	0.25%	GME	0.17%
1.0	NVDA	0.24%	X	0.17%
1.0	LLY	0.23%	GBTC	0.17%
1.0	PWR	0.23%	LLY	0.16%
1.0	GOOGL	0.23%	GE	0.16%
1.0	XOM	0.21%	CAH	0.15%
1.0	CDNS	0.2%	SLV	0.15%
1.0	ORCL	0.2%	TRGP	0.14%
1.0	AAPL	0.18%	THC	0.14%
1.0	ORLY	0.17%	AMD	0.13%
1.0	GWW	0.17%	META	0.13%
1.0	NEM	0.17%	AMAT	0.12%
1.0	AMZN	0.17%	ETRN	0.12%
1.0	B	0.17%	B	0.11%
1.0	INTC	0.17%	GOOGL	0.11%
1.0	AA	0.16%	GS	0.11%
1.0	SLV	0.16%	PHM	0.11%
1.0	X	0.16%	NFLX	0.11%
1.0	CAH	0.15%	TSLA	0.11%
1.0	TEVA	0.15%	CCL	0.1%
1.0	FCX	0.14%	HSBC	0.1%
1.0	JPM	0.14%	ORCL	0.1%

All TMD: 10d

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

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

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
10.0	MSTR	7.29%	MSTR	3.23%
10.0	GME	4.92%	NVDA	2.56%
10.0	MU	3.45%	VST	2.46%
10.0	WDC	3.35%	WDC	2.12%
10.0	META	3.23%	MU	2.11%
10.0	TEVA	2.74%	AVGO	2.09%
10.0	NFLX	2.63%	TEVA	1.8%
10.0	AVGO	2.34%	PWR	1.74%
10.0	ORCL	2.31%	LLY	1.7%
10.0	VST	2.3%	SLV	1.69%
10.0	NVDA	2.3%	GBTC	1.61%
10.0	SLV	2.04%	GE	1.59%
10.0	LLY	2.02%	X	1.58%
10.0	PWR	1.91%	CAH	1.54%
10.0	INTC	1.86%	GME	1.44%
10.0	AMD	1.86%	ETRN	1.41%
10.0	GOOGL	1.85%	TRGP	1.36%
10.0	AMZN	1.7%	META	1.34%
10.0	GWW	1.64%	THC	1.28%
10.0	CAH	1.64%	AMD	1.27%
10.0	CDNS	1.63%	B	1.21%
10.0	AAPL	1.55%	AMAT	1.2%
10.0	GE	1.55%	TSLA	1.16%
10.0	XOM	1.51%	NFLX	1.15%
10.0	GILD	1.51%	GS	1.12%
10.0	X	1.49%	PHM	1.12%
10.0	HCA	1.46%	ORCL	1.09%
10.0	FCX	1.44%	GLD	1.06%
10.0	ETRN	1.4%	GOOGL	1.05%
10.0	THC	1.32%	CDNS	0.97%

All TMD: 21d

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

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

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
21.0	MSTR	15.94%	MSTR	7.41%
21.0	GME	7.7%	NVDA	5.57%
21.0	WDC	7.36%	VST	5.37%
21.0	META	7.3%	AVGO	4.44%
21.0	MU	6.58%	WDC	4.31%
21.0	TEVA	6.48%	MU	4.18%
21.0	NFLX	5.34%	TEVA	3.88%
21.0	AVGO	5.05%	PWR	3.62%
21.0	ORCL	4.99%	LLY	3.59%
21.0	NVDA	4.76%	GBTC	3.58%
21.0	VST	4.6%	GE	3.54%
21.0	ETRN	4.25%	ETRN	3.5%
21.0	SLV	4.2%	SLV	3.33%
21.0	PWR	4.1%	CAH	3.26%
21.0	LLY	4.08%	X	3.17%
21.0	GOOGL	3.93%	META	2.99%
21.0	GE	3.79%	THC	2.74%
21.0	CAH	3.55%	TRGP	2.74%
21.0	AMZN	3.52%	TSLA	2.72%
21.0	AMD	3.44%	AMD	2.67%
21.0	INTC	3.33%	NFLX	2.64%
21.0	GILD	3.31%	ORCL	2.53%
21.0	GWW	3.2%	AMAT	2.45%
21.0	AA	3.17%	GS	2.43%
21.0	CDNS	3.16%	PHM	2.41%
21.0	XOM	3.13%	B	2.4%
21.0	GS	3.02%	CCL	2.26%
21.0	THC	3.0%	GOOGL	2.25%
21.0	X	2.92%	GME	2.15%
21.0	HCA	2.91%	GLD	2.08%

All TMD: 63d

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

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

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
63.0	MSTR	40.2%	MSTR	22.62%
63.0	WDC	29.91%	NVDA	18.86%
63.0	META	26.19%	VST	17.98%
63.0	NFLX	20.66%	AVGO	14.37%
63.0	MU	18.18%	WDC	13.9%
63.0	NVDA	17.49%	GBTC	12.42%
63.0	AVGO	16.91%	MU	12.29%
63.0	VST	16.64%	GE	11.29%
63.0	ORCL	16.32%	META	10.51%
63.0	TEVA	14.59%	LLY	10.48%
63.0	GE	13.58%	TEVA	10.38%
63.0	AMD	12.04%	PWR	10.32%
63.0	PWR	11.57%	ETRN	10.28%
63.0	SLV	11.54%	NFLX	10.0%
63.0	LLY	11.43%	CAH	9.76%
63.0	CAH	11.12%	THC	8.81%
63.0	GOOGL	11.06%	ORCL	8.64%
63.0	ISRG	10.61%	AMD	8.5%
63.0	ETRN	10.51%	PHM	8.2%
63.0	CTLT	10.48%	SLV	8.13%
63.0	GILD	10.34%	TRGP	7.45%
63.0	AMAT	10.02%	GS	7.24%
63.0	GS	9.87%	GOOGL	7.2%
63.0	THC	9.81%	TSLA	7.09%
63.0	B	9.79%	CCL	7.08%
63.0	GBTC	9.52%	AMAT	6.75%
63.0	GWW	9.46%	B	6.14%
63.0	TSLA	9.26%	JPM	6.13%
63.0	CDNS	8.93%	HSBC	6.11%
63.0	NEM	8.72%	ISRG	6.06%

All TMD: 126d

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

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

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
126.0	MSTR	125.59%	MSTR	58.86%
126.0	WDC	70.21%	NVDA	47.69%
126.0	META	68.84%	VST	40.91%
126.0	NFLX	54.92%	GBTC	34.95%
126.0	NVDA	48.79%	AVGO	32.12%
126.0	AVGO	44.14%	WDC	28.66%
126.0	MU	43.35%	GE	27.17%
126.0	VST	42.9%	META	26.45%
126.0	ORCL	37.45%	NFLX	26.35%
126.0	GE	33.57%	MU	25.42%
126.0	TEVA	31.05%	THC	21.49%
126.0	AMD	29.02%	PWR	20.83%
126.0	SLV	27.63%	ORCL	20.8%
126.0	GBTC	27.06%	LLY	19.37%
126.0	B	26.1%	TEVA	19.15%
126.0	GOOGL	25.88%	PHM	18.94%
126.0	CAH	24.45%	CAH	18.8%
126.0	THC	23.88%	AMD	18.77%
126.0	GILD	23.39%	ETRN	18.49%
126.0	LLY	23.15%	TRGP	16.18%
126.0	ISRG	22.2%	CCL	15.8%
126.0	NEM	21.98%	SLV	15.69%
126.0	PWR	21.46%	GS	15.4%
126.0	GS	20.66%	GOOGL	14.78%
126.0	EXPE	20.08%	JPM	14.08%
126.0	AMAT	19.76%	AMAT	13.6%
126.0	CDNS	19.7%	TSLA	13.46%
126.0	ETRN	19.22%	DHI	13.43%
126.0	DHI	19.06%	TDG	13.31%
126.0	INTU	18.69%	CDNS	12.9%

All TMD: 252d

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

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

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
252.0	MSTR	394.45%	MSTR	193.96%
252.0	META	176.75%	NVDA	126.07%
252.0	VST	158.44%	VST	116.38%
252.0	NFLX	140.08%	GBTC	105.49%
252.0	NVDA	112.65%	AVGO	76.34%
252.0	AVGO	110.54%	META	70.41%
252.0	GBTC	86.66%	NFLX	65.06%
252.0	GE	78.19%	GE	62.27%
252.0	ORCL	71.39%	THC	47.79%
252.0	WDC	63.69%	PHM	45.0%
252.0	TEVA	63.37%	LLY	44.85%
252.0	ISRG	59.65%	PWR	42.12%
252.0	AMZN	57.44%	MU	41.86%
252.0	THC	56.82%	TRGP	41.49%
252.0	CAH	55.34%	ORCL	40.4%
252.0	SLV	54.61%	CCL	38.31%
252.0	LLY	53.95%	CAH	37.35%
252.0	TDG	53.75%	WDC	36.89%
252.0	GOOGL	50.3%	TEVA	35.92%
252.0	GILD	50.3%	ETRN	35.78%
252.0	AMD	49.5%	TDG	33.75%
252.0	EXPE	49.03%	ISRG	32.33%
252.0	MU	48.92%	JPM	32.15%
252.0	INTU	48.24%	AMD	31.08%
252.0	MSI	47.41%	GS	31.0%
252.0	TRGP	43.62%	SLV	28.53%
252.0	B	43.54%	HSBC	28.06%
252.0	GWW	42.1%	GOOGL	27.88%
252.0	GS	41.1%	AMAT	27.33%
252.0	TSLA	40.95%	IRM	27.2%

P365D: 1d

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

Period examined: All model dates from 2025-02-03 through 2026-01-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
1.0	MU	1.31%	MU	0.69%
1.0	WDC	0.85%	WDC	0.64%
1.0	CLF	0.82%	X	0.51%
1.0	AAP	0.8%	INTC	0.44%
1.0	INTC	0.79%	B	0.44%
1.0	LUMN	0.69%	SLV	0.44%
1.0	X	0.62%	NEM	0.42%
1.0	NEM	0.61%	CSTM	0.39%
1.0	AMD	0.6%	AMD	0.36%
1.0	B	0.56%	LUMN	0.35%
1.0	CVS	0.45%	ELAN	0.34%
1.0	PWR	0.44%	TEVA	0.31%
1.0	FCX	0.44%	AMAT	0.28%
1.0	KALU	0.4%	KALU	0.27%
1.0	TXN	0.39%	AA	0.26%
1.0	NVDA	0.38%	CLF	0.26%
1.0	AA	0.38%	FCX	0.26%
1.0	EXPE	0.38%	NVDA	0.24%
1.0	LLY	0.36%	CAH	0.23%
1.0	CSTM	0.36%	HSBC	0.23%
1.0	ELAN	0.34%	GOOGL	0.23%
1.0	GNRC	0.31%	GLD	0.23%
1.0	TEVA	0.3%	MNST	0.22%
1.0	HCA	0.3%	EXPE	0.22%
1.0	JAZZ	0.29%	AVGO	0.22%
1.0	LVS	0.28%	PWR	0.21%
1.0	SLV	0.28%	GE	0.18%
1.0	GSK	0.28%	RIO	0.18%
1.0	GS	0.25%	GS	0.18%
1.0	CMA	0.25%	GSK	0.17%

P365D: 10d

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

Period examined: All model dates from 2025-02-03 through 2026-01-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
10.0	MU	12.6%	MU	7.03%
10.0	WDC	11.14%	WDC	6.65%
10.0	INTC	7.59%	SLV	5.13%
10.0	B	6.48%	B	4.72%
10.0	NEM	5.78%	X	4.58%
10.0	CSTM	5.48%	NEM	4.44%
10.0	X	5.39%	INTC	4.42%
10.0	AMD	4.73%	CSTM	4.19%
10.0	KALU	4.52%	AMD	4.01%
10.0	PWR	4.41%	LUMN	3.69%
10.0	AAP	4.15%	ELAN	3.61%
10.0	FCX	3.88%	TEVA	3.1%
10.0	AA	3.86%	AMAT	2.89%
10.0	TEVA	3.79%	KALU	2.86%
10.0	ELAN	3.65%	AA	2.69%
10.0	SLV	3.46%	GOOGL	2.52%
10.0	GOOGL	3.4%	FCX	2.45%
10.0	CLF	3.18%	GLD	2.37%
10.0	EXPE	3.01%	CAH	2.31%
10.0	BUD	3.0%	MNST	2.31%
10.0	CVS	2.99%	PWR	2.13%
10.0	LLY	2.77%	HSBC	2.11%
10.0	LUMN	2.76%	CLF	2.05%
10.0	AMAT	2.73%	AVGO	1.94%
10.0	NVDA	2.72%	NVDA	1.86%
10.0	TXN	2.62%	EXPE	1.86%
10.0	ORCL	2.61%	GE	1.8%
10.0	JAZZ	2.6%	GS	1.77%
10.0	HCA	2.57%	HCA	1.74%
10.0	ON	2.47%	WYNN	1.71%

P365D: 21d

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

Period examined: All model dates from 2025-02-03 through 2026-01-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
21.0	WDC	26.94%	MU	14.95%
21.0	MU	25.15%	WDC	14.86%
21.0	B	13.5%	SLV	10.66%
21.0	NEM	13.06%	B	10.17%
21.0	INTC	12.79%	NEM	9.34%
21.0	CSTM	11.48%	X	9.23%
21.0	KALU	11.39%	AMD	8.67%
21.0	X	10.53%	CSTM	8.4%
21.0	PWR	10.25%	ELAN	8.13%
21.0	ELAN	10.1%	INTC	7.82%
21.0	AA	9.83%	LUMN	7.51%
21.0	GOOGL	9.25%	TEVA	6.96%
21.0	TSLA	8.76%	AA	6.45%
21.0	AMD	8.49%	AMAT	6.36%
21.0	TEVA	8.37%	KALU	6.28%
21.0	SLV	8.06%	GOOGL	5.92%
21.0	AAP	7.66%	CAH	5.04%
21.0	FCX	7.44%	AVGO	4.89%
21.0	AMAT	7.23%	FCX	4.87%
21.0	ORCL	6.73%	PWR	4.85%
21.0	LLY	6.27%	GLD	4.67%
21.0	LUMN	5.87%	MNST	4.35%
21.0	EXPE	5.81%	GE	4.3%
21.0	CVS	5.76%	EXPE	4.08%
21.0	ON	5.55%	NVDA	4.07%
21.0	JAZZ	5.54%	THC	4.06%
21.0	HCA	5.53%	GS	4.03%
21.0	NVDA	5.39%	LVS	3.94%
21.0	GE	5.17%	HSBC	3.94%
21.0	AVGO	5.1%	HCA	3.89%

P365D: 63d

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

Period examined: All model dates from 2025-02-03 through 2026-01-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
63.0	WDC	133.97%	WDC	64.45%
63.0	MU	87.05%	MU	51.6%
63.0	ELAN	51.65%	AMD	33.29%
63.0	NEM	47.62%	B	33.22%
63.0	AMD	47.37%	LUMN	32.85%
63.0	INTC	46.32%	ELAN	31.75%
63.0	TSLA	46.29%	SLV	29.12%
63.0	B	44.8%	NEM	28.34%
63.0	KALU	42.48%	INTC	26.48%
63.0	CSTM	36.47%	X	26.36%
63.0	ORCL	35.62%	GOOGL	24.54%
63.0	GOOGL	35.52%	AVGO	24.52%
63.0	AMAT	34.9%	TEVA	24.44%
63.0	PWR	33.03%	CSTM	23.63%
63.0	AAP	32.83%	AMAT	21.54%
63.0	SLV	29.75%	KALU	21.23%
63.0	AA	29.65%	AA	19.34%
63.0	X	28.75%	PWR	19.21%
63.0	AVGO	27.09%	NVDA	18.98%
63.0	LUMN	26.74%	LVS	18.47%
63.0	EXPE	26.24%	TSLA	17.91%
63.0	GE	24.73%	CAH	17.31%
63.0	JAZZ	23.48%	EXPE	17.13%
63.0	GS	23.35%	ORCL	17.1%
63.0	ON	23.06%	THC	16.56%
63.0	NVDA	22.95%	GE	16.23%
63.0	TEVA	22.53%	GS	16.13%
63.0	THC	20.38%	CLF	15.6%
63.0	CLF	19.21%	WYNN	15.36%
63.0	CMA	19.16%	CMA	14.13%

P365D: 126d

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

Period examined: All model dates from 2025-02-03 through 2026-01-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
126.0	WDC	426.27%	WDC	177.51%
126.0	MU	253.91%	MU	125.49%
126.0	ELAN	166.81%	B	84.67%
126.0	B	160.12%	AMD	82.24%
126.0	INTC	148.73%	ELAN	78.18%
126.0	NEM	139.66%	LUMN	74.24%
126.0	AMD	119.14%	NEM	71.29%
126.0	TSLA	99.64%	INTC	63.46%
126.0	SLV	97.72%	SLV	62.95%
126.0	GOOGL	94.08%	GOOGL	60.12%
126.0	AA	80.02%	AVGO	57.41%
126.0	ORCL	79.09%	TEVA	46.29%
126.0	PWR	73.1%	CSTM	46.19%
126.0	GNRC	72.42%	ORCL	45.19%
126.0	AVGO	71.6%	CLF	45.15%
126.0	CSTM	71.36%	NVDA	42.5%
126.0	EXPE	69.45%	TSLA	41.04%
126.0	AMAT	67.82%	EXPE	41.0%
126.0	KALU	64.86%	LVS	40.6%
126.0	LUMN	64.19%	AA	40.45%
126.0	CMA	59.71%	AMAT	39.38%
126.0	JAZZ	57.85%	WYNN	37.39%
126.0	GS	56.33%	PWR	36.01%
126.0	CLF	56.32%	GE	35.7%
126.0	GE	55.52%	GS	35.1%
126.0	TEVA	54.28%	THC	34.64%
126.0	AAP	54.1%	CMA	32.96%
126.0	NVDA	53.45%	KALU	30.89%
126.0	THC	50.91%	FSUGY	29.84%
126.0	CVS	49.18%	MS	29.62%

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 2025-11-03 through 2026-01-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
1.0	TXN	1.45%	SLV	1.06%
1.0	MU	1.34%	MU	1.05%
1.0	UAA	1.29%	TEVA	0.89%
1.0	MRK	1.15%	WDC	0.89%
1.0	VFC	1.13%	AA	0.77%
1.0	CLF	0.95%	FCX	0.67%
1.0	CNC	0.9%	VFC	0.59%
1.0	FCX	0.89%	B	0.59%
1.0	AAP	0.87%	NEM	0.58%
1.0	AA	0.86%	CSTM	0.57%
1.0	TEVA	0.85%	GT	0.55%
1.0	LLY	0.84%	AMAT	0.55%
1.0	GT	0.83%	UAA	0.54%
1.0	JAZZ	0.8%	TXN	0.51%
1.0	NWL	0.79%	MRK	0.5%
1.0	CMG	0.78%	NWL	0.48%
1.0	KALU	0.73%	KALU	0.48%
1.0	BALL	0.65%	RIO	0.44%
1.0	B	0.63%	TRGP	0.44%
1.0	SBUX	0.61%	CNC	0.42%
1.0	CSTM	0.58%	EXPE	0.39%
1.0	XOM	0.58%	INTC	0.39%
1.0	GLD	0.56%	HSBC	0.38%
1.0	AMGN	0.54%	XOM	0.37%
1.0	EXPE	0.54%	CMG	0.37%
1.0	BMY	0.52%	BHP	0.35%
1.0	WDC	0.49%	KEY	0.35%
1.0	NEM	0.45%	JAZZ	0.34%
1.0	BHP	0.44%	MNST	0.33%
1.0	HON	0.44%	GLD	0.33%

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 2025-11-03 through 2026-01-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
10.0	MU	17.93%	SLV	15.14%
10.0	CLF	14.06%	MU	11.29%
10.0	TXN	13.26%	AA	10.43%
10.0	AA	12.65%	WDC	9.11%
10.0	KALU	11.25%	FCX	8.59%
10.0	FCX	11.09%	B	7.8%
10.0	UAA	10.16%	CSTM	7.54%
10.0	NWL	9.7%	NEM	7.35%
10.0	VFC	9.69%	AMAT	7.31%
10.0	ON	9.56%	KALU	6.37%
10.0	WDC	9.26%	UAA	6.26%
10.0	B	8.79%	CLF	6.23%
10.0	GNRC	7.67%	TEVA	6.22%
10.0	CMG	7.56%	VFC	6.16%
10.0	MRK	7.42%	INTC	5.83%
10.0	TEVA	7.2%	NWL	5.68%
10.0	CSTM	7.02%	ON	5.12%
10.0	NEM	6.69%	RIO	5.11%
10.0	GLD	6.42%	CMG	5.05%
10.0	LLY	6.35%	JAZZ	4.74%
10.0	SBUX	6.23%	BA	4.64%
10.0	KEY	5.99%	TXN	4.57%
10.0	SLV	5.83%	MRK	4.48%
10.0	CNC	5.38%	GT	4.47%
10.0	JAZZ	5.34%	CNC	4.44%
10.0	BALL	5.08%	GLD	4.17%
10.0	GWW	5.06%	BHP	4.05%
10.0	INTC	5.05%	KEY	3.85%
10.0	AMAT	4.94%	CMA	3.64%
10.0	FITB	4.9%	HSBC	3.5%

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 2025-11-03 through 2026-01-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
21.0	AA	37.52%	SLV	34.54%
21.0	KALU	31.11%	AA	29.03%
21.0	MU	30.67%	MU	27.47%
21.0	FCX	29.64%	FCX	20.91%
21.0	TXN	29.28%	WDC	20.19%
21.0	NWL	26.14%	CSTM	18.01%
21.0	CLF	25.25%	KALU	16.77%
21.0	ON	25.04%	B	16.14%
21.0	UAA	23.07%	NEM	16.05%
21.0	CSTM	21.31%	UAA	15.8%
21.0	VFC	18.97%	AMAT	15.42%
21.0	WDC	17.85%	TEVA	15.32%
21.0	B	17.64%	VFC	13.33%
21.0	NEM	17.43%	ON	12.86%
21.0	TEVA	16.82%	BA	12.55%
21.0	CMG	16.78%	CMG	12.21%
21.0	KEY	15.65%	INTC	11.75%
21.0	MRK	15.01%	NWL	11.72%
21.0	SLV	14.8%	RIO	11.52%
21.0	CNC	14.62%	CNC	11.02%
21.0	BMY	12.77%	CLF	10.9%
21.0	GWW	12.36%	KEY	9.97%
21.0	FITB	12.3%	TXN	9.83%
21.0	CZR	12.18%	BHP	9.79%
21.0	GLD	11.79%	GS	9.06%
21.0	AMAT	11.78%	GT	8.92%
21.0	SBUX	11.4%	CMA	8.87%
21.0	INTC	11.25%	HSBC	8.76%
21.0	BALL	10.88%	FITB	8.39%
21.0	BA	10.62%	MRK	8.29%

P30D: 1d

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

Period examined: All model dates from 2026-01-02 through 2026-01-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
1.0	AAP	3.27%	WDC	1.72%
1.0	TXN	3.05%	MU	1.53%
1.0	UAA	1.75%	AAP	1.17%
1.0	LUMN	1.63%	INTC	1.11%
1.0	HON	1.55%	SLV	1.08%
1.0	SBUX	1.43%	TXN	1.08%
1.0	XOM	1.33%	AMAT	1.01%
1.0	BUD	1.27%	GNRC	0.96%
1.0	GNRC	1.25%	UAA	0.86%
1.0	GME	1.15%	GILD	0.84%
1.0	FCX	1.12%	FCX	0.83%
1.0	AMD	1.11%	LUMN	0.81%
1.0	MU	1.06%	HON	0.81%
1.0	AMAT	0.97%	GME	0.81%
1.0	AMZN	0.92%	XOM	0.77%
1.0	GLD	0.91%	NWL	0.72%
1.0	WDC	0.9%	CSTM	0.7%
1.0	IRM	0.89%	GLD	0.63%
1.0	PEP	0.89%	BUD	0.63%
1.0	TDG	0.88%	NEM	0.62%
1.0	HD	0.88%	AZO	0.62%
1.0	COST	0.86%	RIO	0.61%
1.0	AZO	0.84%	BHP	0.59%
1.0	CLF	0.83%	META	0.56%
1.0	NWL	0.81%	IRM	0.55%
1.0	GILD	0.79%	VZ	0.53%
1.0	ON	0.77%	MOS	0.53%
1.0	TEVA	0.71%	TEVA	0.52%
1.0	MSI	0.68%	COST	0.51%
1.0	CSTM	0.66%	SBUX	0.49%

P30D: 10d

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

Period examined: All model dates from 2026-01-02 through 2026-01-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
10.0	MU	46.09%	SLV	23.4%
10.0	AMD	26.02%	WDC	20.67%
10.0	GNRC	22.49%	MU	19.86%
10.0	CLF	22.1%	AMD	14.89%
10.0	WDC	21.96%	GNRC	12.02%
10.0	AAP	20.61%	NEM	11.81%
10.0	TXN	19.93%	AAP	11.41%
10.0	UAA	18.56%	INTC	10.73%
10.0	AZO	17.02%	AMAT	10.59%
10.0	GILD	16.5%	GLD	10.55%
10.0	SBUX	15.29%	GILD	10.52%
10.0	GLD	14.56%	AZO	9.22%
10.0	BUD	13.77%	PWR	8.84%
10.0	GME	13.31%	XOM	8.76%
10.0	XOM	11.52%	GME	8.64%
10.0	COST	11.49%	CLF	8.54%
10.0	HON	11.25%	UAA	8.54%
10.0	MSI	10.9%	CSTM	8.47%
10.0	FCX	9.7%	LUMN	8.34%
10.0	INTC	9.66%	FCX	7.97%
10.0	LW	9.42%	TRGP	7.76%
10.0	TDG	9.21%	RIO	7.35%
10.0	AMGN	9.18%	HON	7.34%
10.0	PWR	8.9%	TXN	7.28%
10.0	NEM	8.89%	MOS	7.21%
10.0	SLV	8.82%	SBUX	6.94%
10.0	NWL	8.79%	BUD	6.49%
10.0	META	8.73%	ORLY	6.47%
10.0	HD	8.61%	LW	6.37%
10.0	AMAT	8.25%	BHP	6.36%

Bottom 30 Tickers By ROEDB

All TMD: 1d

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

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

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
1.0	SIVBQ	-2.09%	SIVBQ	-0.78%
1.0	SBNY	-1.16%	SBNY	-0.45%
1.0	FRCB	-0.4%	FRCB	-0.23%
1.0	IEP	-0.31%	AMC	-0.19%
1.0	CHTR	-0.23%	IEP	-0.15%
1.0	AMC	-0.22%	NWL	-0.11%
1.0	NWL	-0.17%	AAP	-0.1%
1.0	FIS	-0.15%	CHTR	-0.08%
1.0	LUMN	-0.14%	CZR	-0.07%
1.0	CYH	-0.13%	PRGO	-0.07%
1.0	PRGO	-0.13%	BHC	-0.06%
1.0	UAA	-0.13%	UAA	-0.06%
1.0	CNC	-0.11%	VFC	-0.05%
1.0	USB	-0.1%	FIS	-0.05%
1.0	TLT	-0.1%	TLT	-0.04%
1.0	T	-0.09%	CMCSA	-0.04%
1.0	NAVI	-0.09%	BALL	-0.03%
1.0	CZR	-0.08%	ADBE	-0.03%
1.0	AAP	-0.07%	BXP	-0.03%
1.0	ADBE	-0.05%	NAVI	-0.03%
1.0	CMCSA	-0.05%	ZTS	-0.03%
1.0	BBY	-0.05%	KHC	-0.03%
1.0	VZ	-0.05%	UNH	-0.03%
1.0	WRK	-0.05%	GT	-0.02%
1.0	GT	-0.04%	CNC	-0.02%
1.0	ZION	-0.04%	CVS	-0.02%
1.0	VNO	-0.04%	CTLT	-0.01%
1.0	EMB	-0.04%	BBY	-0.01%
1.0	PEP	-0.04%	LQD	-0.01%
1.0	BXP	-0.04%	FRA	-0.01%

All TMD: 10d

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

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

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	AMC	-4.94%	FRCB	-2.19%
10.0	FRCB	-4.1%	AMC	-1.94%
10.0	CHTR	-2.38%	IEP	-1.45%
10.0	PRGO	-2.25%	NWL	-1.09%
10.0	IEP	-2.03%	AAP	-0.97%
10.0	NWL	-1.45%	CHTR	-0.83%
10.0	AAP	-1.37%	CZR	-0.83%
10.0	FIS	-1.14%	PRGO	-0.68%
10.0	GT	-0.86%	UAA	-0.67%
10.0	VFC	-0.8%	VFC	-0.64%
10.0	UAA	-0.79%	FIS	-0.46%
10.0	TLT	-0.79%	TLT	-0.42%
10.0	BHC	-0.73%	CMCSA	-0.42%
10.0	BXP	-0.69%	BHC	-0.38%
10.0	LUMN	-0.67%	BXP	-0.36%
10.0	VZ	-0.66%	ZTS	-0.35%
10.0	CNC	-0.59%	BALL	-0.34%
10.0	CMCSA	-0.53%	KHC	-0.33%
10.0	T	-0.51%	CNC	-0.31%
10.0	KHC	-0.51%	GT	-0.29%
10.0	ELAN	-0.48%	ADBE	-0.28%
10.0	GSK	-0.48%	NAVI	-0.26%
10.0	VNO	-0.47%	VZ	-0.2%
10.0	ZTS	-0.44%	BBY	-0.19%
10.0	ADBE	-0.43%	LNC	-0.18%
10.0	CYH	-0.39%	UNH	-0.17%
10.0	LNC	-0.36%	CYH	-0.17%
10.0	BALL	-0.36%	MOS	-0.14%

All TMD: 21d

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

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

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	-11.39%	AMC	-4.48%
21.0	CHTR	-4.78%	IEP	-3.16%
21.0	PRGO	-4.1%	NWL	-2.5%
21.0	NWL	-4.08%	AAP	-2.12%
21.0	AAP	-3.66%	CZR	-1.74%
21.0	IEP	-3.58%	CHTR	-1.65%
21.0	VFC	-1.97%	PRGO	-1.43%
21.0	TLT	-1.97%	VFC	-1.36%
21.0	FIS	-1.94%	UAA	-1.35%
21.0	BHC	-1.94%	BHC	-0.89%
21.0	BXP	-1.36%	TLT	-0.88%
21.0	CMCSA	-1.31%	CMCSA	-0.86%
21.0	VNO	-1.26%	BXP	-0.78%
21.0	VZ	-1.13%	KHC	-0.77%
21.0	GT	-1.02%	BALL	-0.73%
21.0	ZTS	-0.96%	ZTS	-0.71%
21.0	LNC	-0.92%	FIS	-0.71%
21.0	CNC	-0.9%	CNC	-0.59%
21.0	LUMN	-0.88%	GT	-0.55%
21.0	KHC	-0.85%	NAVI	-0.48%
21.0	CYH	-0.83%	VZ	-0.44%
21.0	ELAN	-0.82%	MOS	-0.42%
21.0	GSK	-0.8%	LNC	-0.38%
21.0	UAA	-0.79%	ADBE	-0.35%
21.0	T	-0.77%	BBY	-0.35%
21.0	BALL	-0.68%	UNH	-0.29%
21.0	BIIB	-0.64%	LW	-0.25%

All TMD: 63d

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

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

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	-32.24%	AMC	-15.26%
63.0	NWL	-15.57%	IEP	-10.52%
63.0	AAP	-13.9%	NWL	-8.92%
63.0	IEP	-12.91%	AAP	-6.3%
63.0	CHTR	-11.72%	CZR	-6.18%
63.0	PRGO	-10.79%	UAA	-5.18%
63.0	VFC	-8.39%	PRGO	-5.14%
63.0	CZR	-5.43%	CHTR	-4.79%
63.0	FIS	-5.35%	VFC	-4.64%
63.0	TLT	-5.24%	MOS	-4.04%
63.0	CNC	-5.16%	BHC	-3.0%
63.0	CMCSA	-4.94%	CNC	-2.92%
63.0	MOS	-4.67%	CMCSA	-2.74%
63.0	BHC	-4.59%	KHC	-2.74%
63.0	UAA	-3.97%	BALL	-2.68%
63.0	ZTS	-3.96%	TLT	-2.38%
63.0	UNH	-3.61%	BXP	-2.35%
63.0	BALL	-3.48%	ZTS	-2.31%
63.0	VNO	-3.17%	FIS	-1.9%
63.0	CYH	-2.61%	GT	-1.74%
63.0	VZ	-2.53%	NAVI	-1.62%
63.0	BXP	-2.44%	UNH	-1.56%
63.0	KHC	-2.31%	CLF	-1.42%
63.0	LNC	-2.22%	BMY	-1.39%
63.0	BMY	-1.9%	VZ	-1.32%
63.0	BBY	-1.41%	LNC	-1.13%
63.0	NAVI	-1.38%	BBY	-0.9%

All TMD: 126d

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

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

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	-51.5%	AMC	-27.76%
126.0	IEP	-27.21%	IEP	-20.36%
126.0	AAP	-26.41%	NWL	-17.53%
126.0	NWL	-26.33%	AAP	-11.89%
126.0	VFC	-20.78%	CZR	-10.33%
126.0	CHTR	-20.26%	VFC	-10.0%
126.0	PRGO	-17.96%	UAA	-9.31%
126.0	CNC	-15.38%	CNC	-9.06%
126.0	CZR	-12.54%	PRGO	-8.83%
126.0	BHC	-10.45%	CHTR	-7.47%
126.0	MOS	-9.97%	MOS	-7.23%
126.0	UAA	-9.44%	CTLT	-5.69%
126.0	TLT	-8.32%	KHC	-5.48%
126.0	CMCSA	-8.19%	GT	-4.57%
126.0	UNH	-8.04%	BMY	-4.49%
126.0	BMY	-7.31%	BALL	-4.47%
126.0	FIS	-7.12%	TLT	-4.31%
126.0	CYH	-6.43%	BHC	-4.31%
126.0	KHC	-5.62%	CMCSA	-4.27%
126.0	ZTS	-5.23%	BXP	-3.98%
126.0	LNC	-4.79%	UNH	-3.91%
126.0	BALL	-4.69%	FIS	-3.52%
126.0	GT	-3.96%	ZTS	-3.21%
126.0	BXP	-3.63%	NAVI	-2.88%
126.0	GSK	-3.15%	CLF	-2.76%
126.0	NAVI	-2.94%	OXY	-2.61%
126.0	VZ	-2.92%	CVS	-2.23%

All TMD: 252d

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

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

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	-83.02%	AMC	-54.56%
252.0	AAP	-70.85%	IEP	-42.56%
252.0	VFC	-56.95%	NWL	-30.74%
252.0	IEP	-55.83%	AAP	-30.6%
252.0	NWL	-54.27%	VFC	-22.95%
252.0	UAA	-33.53%	CZR	-17.96%
252.0	PRGO	-30.85%	CNC	-16.97%
252.0	CZR	-28.35%	UAA	-16.31%
252.0	CHTR	-26.58%	PRGO	-15.44%
252.0	MOS	-25.97%	MOS	-15.38%
252.0	BIIB	-23.89%	CLF	-13.93%
252.0	CNC	-22.92%	KHC	-10.74%
252.0	BHC	-21.5%	BIIB	-10.67%
252.0	CLF	-20.91%	BMY	-10.42%
252.0	OXY	-17.52%	OXY	-9.26%
252.0	AA	-16.79%	CHTR	-9.11%
252.0	TLT	-16.39%	BHC	-8.91%
252.0	KHC	-14.21%	UNH	-8.52%
252.0	BMY	-12.83%	AA	-8.36%
252.0	CVS	-12.52%	CVS	-7.82%
252.0	CYH	-11.68%	TLT	-7.82%
252.0	UNH	-10.94%	GT	-7.3%
252.0	JAZZ	-10.32%	CYH	-6.69%
252.0	GT	-8.98%	CTLT	-6.24%
252.0	BXP	-8.65%	NAVI	-5.7%
252.0	LNC	-7.99%	PEP	-5.46%
252.0	CMCSA	-5.89%	BALL	-5.22%

P365D: 1d

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

Period examined: All model dates from 2025-02-03 through 2026-01-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
1.0	MSTR	-0.89%	AMC	-0.26%
1.0	CZR	-0.49%	NWL	-0.23%
1.0	CNC	-0.49%	MSTR	-0.23%
1.0	AMC	-0.48%	UNH	-0.2%
1.0	NWL	-0.35%	PRGO	-0.19%
1.0	UAA	-0.35%	CHTR	-0.17%
1.0	CHTR	-0.34%	CZR	-0.16%
1.0	VST	-0.33%	ADBE	-0.14%
1.0	NAVI	-0.33%	FIS	-0.14%
1.0	ZTS	-0.31%	CMG	-0.13%
1.0	UNH	-0.29%	CPRT	-0.13%
1.0	FIS	-0.25%	ZTS	-0.11%
1.0	BBY	-0.24%	NAVI	-0.1%
1.0	PRGO	-0.23%	VNO	-0.08%
1.0	CMG	-0.22%	CNC	-0.08%
1.0	TSLA	-0.21%	IEP	-0.07%
1.0	ISRG	-0.16%	KHC	-0.07%
1.0	TMUS	-0.15%	LW	-0.07%
1.0	ACGL	-0.15%	UAA	-0.06%
1.0	CPRT	-0.14%	BBY	-0.06%
1.0	IEP	-0.12%	TMUS	-0.06%
1.0	CYH	-0.12%	MSI	-0.05%
1.0	ADBE	-0.08%	INTU	-0.05%
1.0	VNO	-0.07%	GBTC	-0.05%
1.0	SBUX	-0.06%	NFLX	-0.04%
1.0	INTU	-0.06%	SBUX	-0.04%
1.0	CMCSA	-0.05%	FRA	-0.04%
1.0	BMY	-0.05%	SNY	-0.04%
1.0	KHC	-0.04%	LEN	-0.03%
1.0	POST	-0.04%	ISRG	-0.03%

P365D: 10d

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

Period examined: All model dates from 2025-02-03 through 2026-01-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
10.0	AMC	-7.17%	AMC	-2.59%
10.0	MSTR	-6.27%	MSTR	-2.25%
10.0	PRGO	-4.77%	CHTR	-2.07%
10.0	CHTR	-3.89%	PRGO	-1.7%
10.0	ZTS	-3.24%	NWL	-1.7%
10.0	ADBE	-2.68%	CZR	-1.54%
10.0	NWL	-2.5%	ADBE	-1.51%
10.0	CZR	-2.45%	UNH	-1.49%
10.0	CMG	-2.28%	CPRT	-1.35%
10.0	KHC	-1.9%	ZTS	-1.18%
10.0	TMUS	-1.74%	CMG	-1.17%
10.0	CNC	-1.65%	TMUS	-1.13%
10.0	UNH	-1.37%	FIS	-0.99%
10.0	CPRT	-1.21%	VNO	-0.94%
10.0	NAVI	-1.17%	KHC	-0.85%
10.0	UAA	-1.14%	BBY	-0.84%
10.0	VNO	-1.13%	IEP	-0.73%
10.0	BBY	-1.08%	LW	-0.7%
10.0	FIS	-1.0%	CMCSA	-0.63%
10.0	CMCSA	-0.88%	MSI	-0.58%
10.0	IEP	-0.73%	NFLX	-0.52%
10.0	SBUX	-0.62%	SBUX	-0.51%
10.0	NFLX	-0.59%	NAVI	-0.5%
10.0	POST	-0.59%	SNY	-0.49%
10.0	ACGL	-0.46%	CNC	-0.41%
10.0	T	-0.37%	UAA	-0.39%
10.0	VICI	-0.34%	FRA	-0.36%
10.0	VZ	-0.32%	POST	-0.34%
10.0	INTU	-0.23%	ISRG	-0.25%
10.0	BMY	-0.18%	COST	-0.25%

P365D: 21d

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

Period examined: All model dates from 2025-02-03 through 2026-01-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
21.0	AMC	-15.52%	AMC	-5.83%
21.0	MSTR	-12.04%	CHTR	-4.28%
21.0	PRGO	-10.2%	MSTR	-4.06%
21.0	CHTR	-9.24%	PRGO	-3.92%
21.0	ZTS	-6.94%	NWL	-3.42%
21.0	NWL	-5.87%	CPRT	-2.94%
21.0	CZR	-4.65%	CZR	-2.85%
21.0	ADBE	-4.62%	ADBE	-2.84%
21.0	KHC	-4.07%	TMUS	-2.57%
21.0	CMG	-4.06%	UNH	-2.39%
21.0	TMUS	-3.43%	ZTS	-2.37%
21.0	BBY	-3.4%	CMG	-2.25%
21.0	CMCSA	-3.12%	KHC	-2.06%
21.0	CPRT	-2.76%	IEP	-1.94%
21.0	UNH	-2.45%	BBY	-1.85%
21.0	NAVI	-2.35%	CMCSA	-1.69%
21.0	CNC	-2.27%	VNO	-1.68%
21.0	IEP	-2.11%	LW	-1.59%
21.0	VNO	-1.98%	SBUX	-1.55%
21.0	LW	-1.68%	FIS	-1.25%
21.0	UAA	-1.43%	SNY	-1.08%
21.0	POST	-1.34%	POST	-1.05%
21.0	NFLX	-1.3%	MSI	-0.99%
21.0	SBUX	-1.27%	COST	-0.84%
21.0	FIS	-1.19%	UAA	-0.83%
21.0	T	-1.13%	VICI	-0.77%
21.0	VICI	-1.12%	NFLX	-0.77%
21.0	VZ	-1.03%	NAVI	-0.76%
21.0	ACGL	-0.81%	FRA	-0.75%
21.0	IRM	-0.69%	OXY	-0.69%

P365D: 63d

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

Period examined: All model dates from 2025-02-03 through 2026-01-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
63.0	PRGO	-37.82%	PRGO	-16.64%
63.0	MSTR	-36.47%	CHTR	-15.12%
63.0	AMC	-30.84%	NWL	-13.33%
63.0	NWL	-30.19%	AMC	-11.49%
63.0	CHTR	-29.58%	CMG	-10.93%
63.0	ZTS	-22.37%	CPRT	-10.84%
63.0	UNH	-20.55%	MSTR	-10.4%
63.0	CMCSA	-17.69%	UNH	-9.29%
63.0	UAA	-13.67%	ZTS	-8.09%
63.0	CMG	-12.87%	TMUS	-7.75%
63.0	CZR	-12.46%	CZR	-7.71%
63.0	ADBE	-10.94%	CMCSA	-7.01%
63.0	CPRT	-10.93%	UAA	-6.81%
63.0	CNC	-9.34%	KHC	-6.6%
63.0	KHC	-8.96%	ADBE	-6.32%
63.0	TMUS	-7.27%	CNC	-5.53%
63.0	IEP	-6.71%	IEP	-4.84%
63.0	GME	-5.59%	POST	-3.79%
63.0	FIS	-5.11%	FIS	-3.7%
63.0	SNY	-4.7%	GME	-3.65%
63.0	POST	-4.41%	SNY	-3.49%
63.0	VZ	-4.29%	MSI	-3.19%
63.0	VICI	-4.28%	SBUX	-3.16%
63.0	T	-3.62%	VICI	-2.91%
63.0	TDG	-3.53%	VNO	-2.64%
63.0	VNO	-3.49%	COST	-2.48%
63.0	NAVI	-2.62%	T	-2.27%
63.0	COST	-2.56%	VZ	-2.06%
63.0	NFLX	-2.54%	OXY	-1.92%
63.0	SBUX	-2.45%	FRA	-1.81%

P365D: 126d

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

Period examined: All model dates from 2025-02-03 through 2026-01-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
126.0	CHTR	-84.93%	CHTR	-36.75%
126.0	PRGO	-65.55%	PRGO	-30.65%
126.0	MSTR	-60.66%	CMG	-25.57%
126.0	AMC	-58.06%	CNC	-25.12%
126.0	CNC	-49.11%	UAA	-24.13%
126.0	ZTS	-39.79%	MSTR	-22.48%
126.0	CMCSA	-38.77%	NWL	-22.24%
126.0	UAA	-35.17%	AMC	-20.38%
126.0	NWL	-33.26%	CPRT	-20.35%
126.0	UNH	-27.5%	GT	-17.88%
126.0	ADBE	-25.49%	CZR	-17.74%
126.0	CZR	-25.08%	ZTS	-14.96%
126.0	CMG	-24.1%	CMCSA	-14.5%
126.0	CPRT	-16.57%	ADBE	-13.94%
126.0	FIS	-15.64%	FIS	-13.39%
126.0	GME	-15.46%	UNH	-13.0%
126.0	TDG	-15.27%	TMUS	-11.38%
126.0	IEP	-14.51%	KHC	-11.01%
126.0	SBUX	-14.26%	GME	-9.24%
126.0	GT	-13.91%	IEP	-9.1%
126.0	KHC	-12.98%	SBUX	-7.49%
126.0	SNY	-10.15%	POST	-6.64%
126.0	TMUS	-9.96%	SNY	-6.37%
126.0	NAVI	-9.11%	COST	-5.75%
126.0	BMY	-8.19%	NAVI	-5.26%
126.0	POST	-7.3%	TDG	-5.13%
126.0	COST	-6.02%	BMY	-4.68%
126.0	HON	-5.66%	VICI	-4.42%
126.0	GWW	-5.65%	HON	-4.25%
126.0	VZ	-5.61%	GWW	-3.83%

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 2025-11-03 through 2026-01-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
1.0	MSTR	-2.39%	AMC	-0.96%
1.0	AMC	-1.52%	MSTR	-0.86%
1.0	ORCL	-1.2%	ORCL	-0.7%
1.0	PRGO	-0.92%	PRGO	-0.53%
1.0	ZTS	-0.83%	INTU	-0.48%
1.0	VST	-0.82%	NFLX	-0.44%
1.0	MSFT	-0.77%	LW	-0.44%
1.0	NFLX	-0.76%	LUMN	-0.39%
1.0	TSLA	-0.66%	GBTC	-0.37%
1.0	INTU	-0.62%	BBY	-0.36%
1.0	BBY	-0.57%	NAVI	-0.31%
1.0	LW	-0.54%	MSFT	-0.29%
1.0	IEP	-0.52%	QCOM	-0.27%
1.0	NAVI	-0.51%	VST	-0.27%
1.0	BHC	-0.44%	VNO	-0.26%
1.0	GBTC	-0.41%	CYH	-0.26%
1.0	IRM	-0.39%	WYNN	-0.24%
1.0	ISRG	-0.37%	BHC	-0.24%
1.0	CDNS	-0.36%	LVS	-0.23%
1.0	LEN	-0.36%	ADBE	-0.22%
1.0	QCOM	-0.31%	ZTS	-0.21%
1.0	FIS	-0.3%	UNH	-0.2%
1.0	LVS	-0.3%	CDNS	-0.19%
1.0	POST	-0.28%	FIS	-0.19%
1.0	AMZN	-0.26%	IRM	-0.17%
1.0	CHTR	-0.26%	BXP	-0.14%
1.0	BXP	-0.22%	LEN	-0.13%
1.0	UNH	-0.22%	ISRG	-0.12%
1.0	ADBE	-0.21%	VICI	-0.11%
1.0	WYNN	-0.18%	NVDA	-0.11%

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 2025-11-03 through 2026-01-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
10.0	AMC	-21.21%	AMC	-8.48%
10.0	MSTR	-18.58%	MSTR	-6.57%
10.0	NFLX	-6.62%	ORCL	-5.4%
10.0	ORCL	-6.52%	NFLX	-5.08%
10.0	INTU	-6.1%	LW	-4.88%
10.0	LW	-5.36%	INTU	-3.7%
10.0	BBY	-4.6%	BBY	-3.21%
10.0	TMUS	-4.22%	GBTC	-2.43%
10.0	QCOM	-3.86%	VST	-2.38%
10.0	VST	-3.5%	CHTR	-2.18%
10.0	CHTR	-3.37%	QCOM	-2.15%
10.0	ISRG	-3.35%	TMUS	-2.02%
10.0	ADBE	-3.09%	MSFT	-1.99%
10.0	VNO	-2.99%	ADBE	-1.97%
10.0	SNY	-2.8%	VNO	-1.95%
10.0	IRM	-2.76%	IEP	-1.88%
10.0	VICI	-2.47%	WYNN	-1.84%
10.0	MSFT	-2.39%	LVS	-1.77%
10.0	BXP	-2.21%	FIS	-1.72%
10.0	NAVI	-1.92%	CYH	-1.69%
10.0	FIS	-1.83%	SNY	-1.58%
10.0	KHC	-1.82%	BXP	-1.55%
10.0	POST	-1.69%	PCG	-1.44%
10.0	LEN	-1.68%	LUMN	-1.34%
10.0	PRGO	-1.43%	AAPL	-1.27%
10.0	AMZN	-1.41%	POST	-1.25%
10.0	WYNN	-1.37%	VICI	-1.24%
10.0	LVS	-1.26%	ISRG	-1.16%
10.0	AMD	-1.2%	LEN	-0.99%
10.0	AAPL	-1.04%	BHC	-0.95%

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 2025-11-03 through 2026-01-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
21.0	AMC	-48.5%	AMC	-19.08%
21.0	MSTR	-31.55%	LW	-13.84%
21.0	LW	-17.96%	MSTR	-11.11%
21.0	NFLX	-14.95%	NFLX	-10.91%
21.0	AAP	-11.68%	ORCL	-8.52%
21.0	BBY	-10.76%	BBY	-6.76%
21.0	ORCL	-10.57%	AAP	-5.5%
21.0	TMUS	-8.25%	INTU	-5.2%
21.0	INTU	-8.24%	VST	-4.42%
21.0	KHC	-6.54%	TMUS	-4.27%
21.0	VST	-5.86%	LVS	-3.96%
21.0	SNY	-5.49%	LEN	-3.94%
21.0	LEN	-5.39%	WYNN	-3.58%
21.0	VNO	-5.34%	AZO	-3.53%
21.0	BXP	-5.05%	VNO	-3.52%
21.0	VICI	-4.41%	BXP	-3.36%
21.0	CHTR	-3.97%	MSFT	-3.18%
21.0	ISRG	-3.52%	SNY	-3.08%
21.0	IRM	-3.5%	AVGO	-2.96%
21.0	ADBE	-3.48%	POST	-2.81%
21.0	T	-3.4%	T	-2.78%
21.0	MSFT	-3.39%	IEP	-2.77%
21.0	POST	-3.33%	AAPL	-2.75%
21.0	LVS	-3.28%	KHC	-2.7%
21.0	WYNN	-3.04%	VICI	-2.49%
21.0	AVGO	-2.96%	CYH	-2.49%
21.0	AAPL	-2.19%	GBTC	-2.34%
21.0	QCOM	-1.78%	LUMN	-2.12%
21.0	CYH	-1.7%	CHTR	-1.85%
21.0	LUMN	-1.6%	PCG	-1.81%

P30D: 1d

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

Period examined: All model dates from 2026-01-02 through 2026-01-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
1.0	NAVI	-2.27%	NAVI	-1.27%
1.0	ORCL	-2.06%	INTU	-1.18%
1.0	INTU	-1.93%	BHC	-1.14%
1.0	BHC	-1.86%	LVS	-1.05%
1.0	CZR	-1.61%	FIS	-0.89%
1.0	MSFT	-1.6%	ORCL	-0.87%
1.0	VST	-1.54%	UNH	-0.7%
1.0	LVS	-1.49%	WYNN	-0.68%
1.0	ISRG	-1.21%	QCOM	-0.67%
1.0	FIS	-1.17%	AMC	-0.67%
1.0	QCOM	-1.16%	ADBE	-0.65%
1.0	GBTC	-0.88%	CZR	-0.62%
1.0	NFLX	-0.87%	ISRG	-0.56%
1.0	AVGO	-0.85%	MSFT	-0.46%
1.0	TSLA	-0.73%	NFLX	-0.44%
1.0	ADBE	-0.66%	LNC	-0.39%
1.0	UNH	-0.63%	GBTC	-0.33%
1.0	CDNS	-0.48%	EXPE	-0.32%
1.0	WYNN	-0.47%	CVS	-0.31%
1.0	LNC	-0.47%	JPM	-0.31%
1.0	CMCSA	-0.45%	BBY	-0.29%
1.0	CHTR	-0.43%	PCG	-0.27%
1.0	WFC	-0.4%	THC	-0.26%
1.0	VNO	-0.33%	BAC	-0.25%
1.0	JAZZ	-0.32%	WFC	-0.25%
1.0	CYH	-0.3%	JAZZ	-0.25%
1.0	MSTR	-0.29%	VNO	-0.24%
1.0	BA	-0.26%	BXP	-0.24%
1.0	IEP	-0.25%	AVGO	-0.23%
1.0	GE	-0.24%	AAPL	-0.22%

P30D: 10d

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

Period examined: All model dates from 2026-01-02 through 2026-01-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
10.0	BHC	-24.2%	BHC	-18.08%
10.0	INTU	-23.15%	INTU	-13.79%
10.0	NAVI	-20.6%	QCOM	-10.53%
10.0	ISRG	-20.41%	FIS	-10.43%
10.0	QCOM	-17.48%	NAVI	-9.76%
10.0	ORCL	-13.72%	ORCL	-9.66%
10.0	CHTR	-12.57%	ADBE	-8.76%
10.0	TMUS	-11.45%	ISRG	-8.42%
10.0	AMC	-10.94%	EXPE	-7.49%
10.0	GE	-10.88%	CHTR	-7.44%
10.0	CZR	-10.83%	CCL	-7.34%
10.0	FIS	-10.74%	CZR	-7.32%
10.0	ADBE	-9.73%	WFC	-6.1%
10.0	CCL	-8.42%	JPM	-6.08%
10.0	EXPE	-8.13%	LNC	-6.03%
10.0	UNH	-7.49%	GE	-5.8%
10.0	WFC	-7.45%	THC	-5.43%
10.0	LNC	-7.03%	NFLX	-5.26%
10.0	MSTR	-6.92%	BAC	-5.15%
10.0	SNY	-6.08%	UNH	-5.13%
10.0	MSFT	-5.89%	LVS	-4.98%
10.0	NFLX	-5.6%	VNO	-4.84%
10.0	VNO	-5.53%	WYNN	-4.83%
10.0	BBY	-5.31%	TMUS	-4.75%
10.0	CYH	-5.14%	BBY	-4.22%
10.0	AVGO	-4.73%	GBTC	-4.22%
10.0	CNC	-4.53%	PCG	-4.15%
10.0	WYNN	-4.4%	AVGO	-3.88%
10.0	BIIB	-4.31%	BIIB	-3.82%
10.0	THC	-4.12%	AMC	-3.66%

Appendix 1: Calculating "Expected Body" for Sigma

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

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

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

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

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

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

ev=pwa_sigma/p_sigma

print("Probability-weighted average value of sigma:", ev)

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

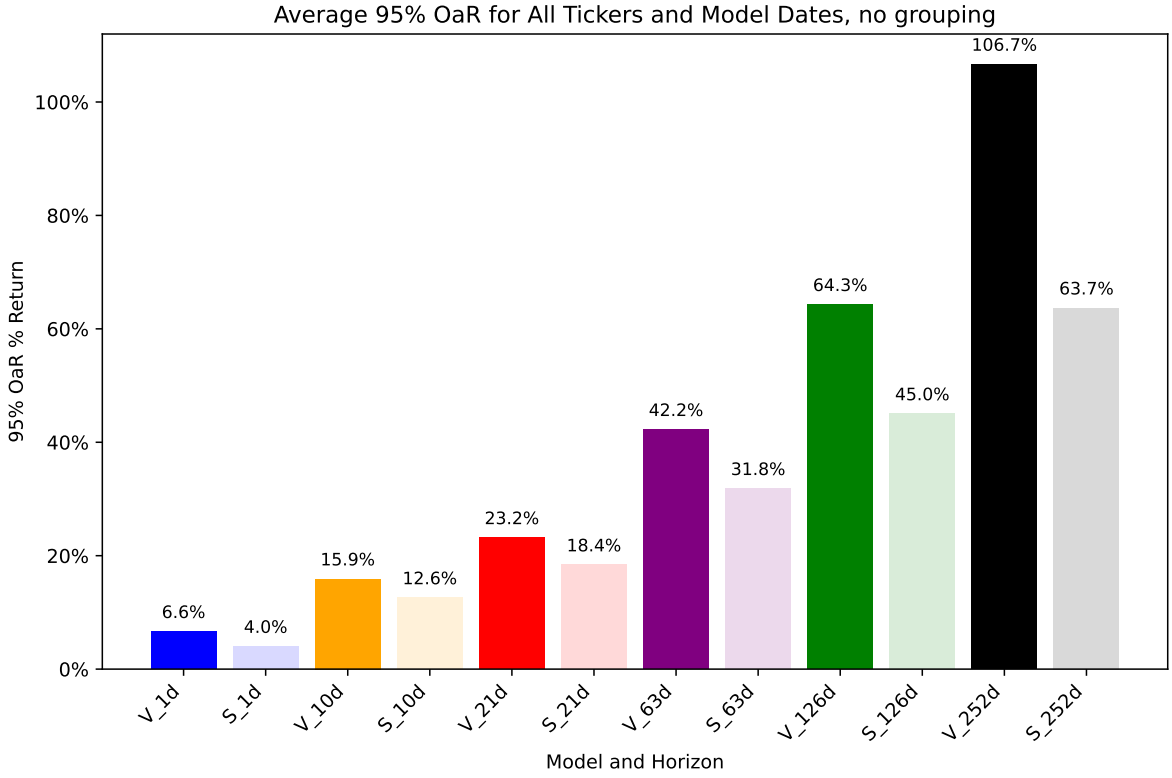
Appendix 2: 95% Opportunity at Risk (OaR)

Historic Average Levels

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

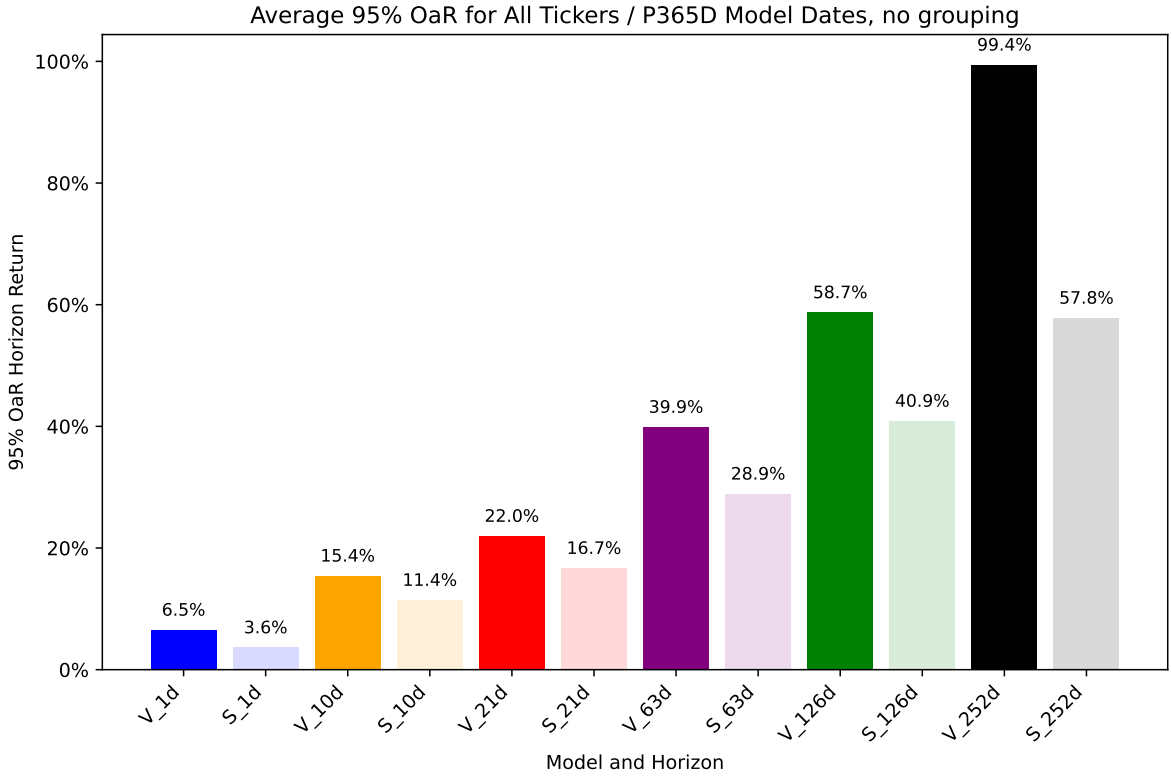
All Out of Sample Model Dates

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



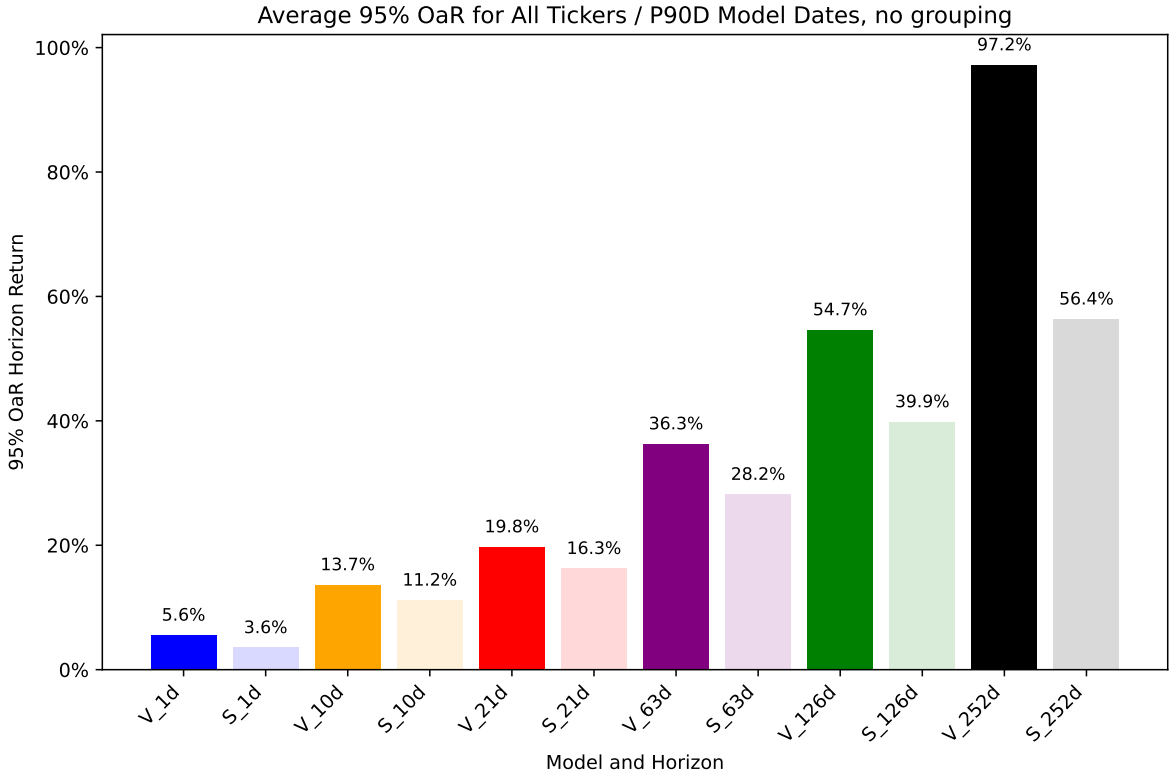
Prior 365 Calendar Days (P365D)

Period examined: All model dates from 2025-02-03 through 2026-01-29



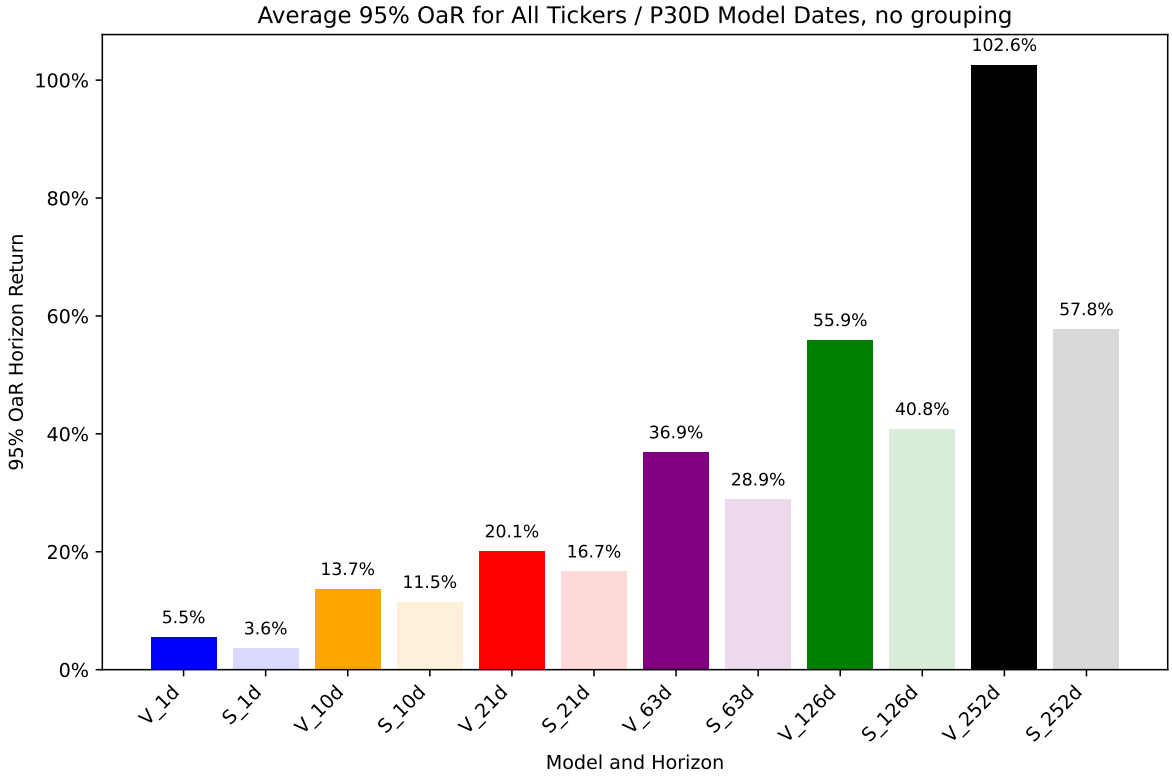
Prior 90 Calendar Days (P90D)

Period examined: All model dates from 2025-11-03 through 2026-01-29



Prior 30 Calendar Days (P30D)

Period examined: All model dates from 2026-01-02 through 2026-01-29



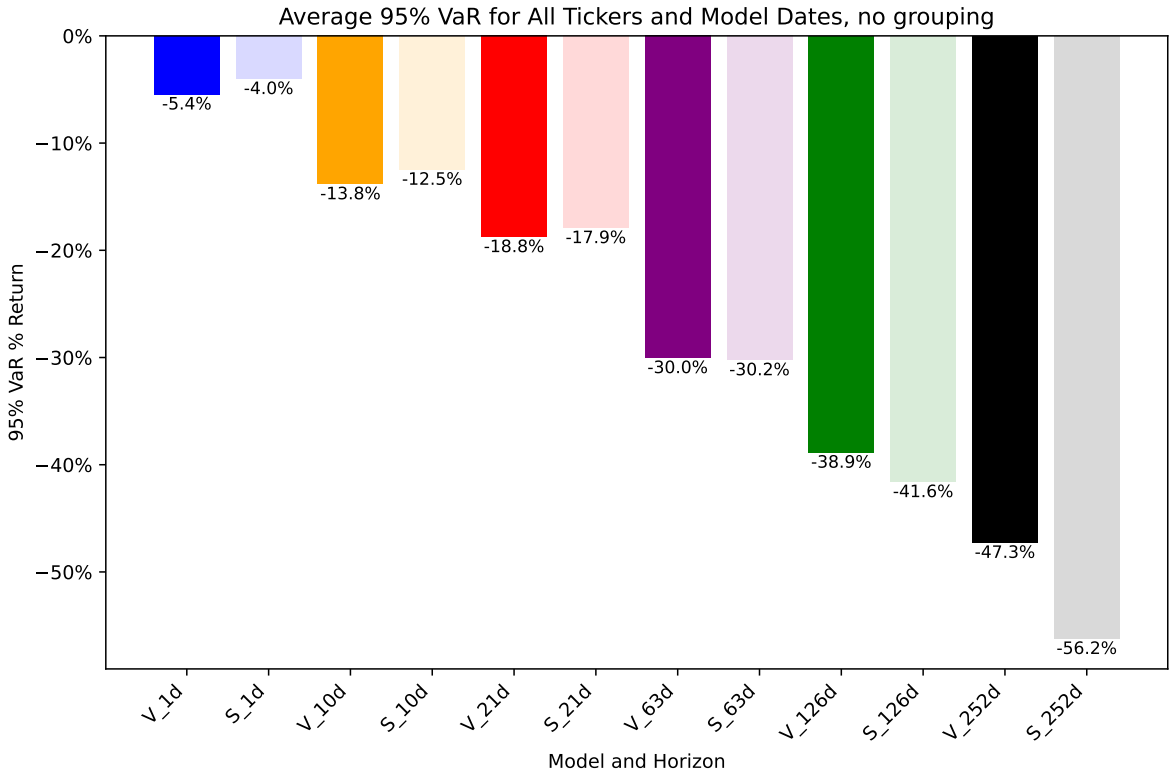
Appendix 3: 95% Value at Risk (VaR)

Historic Average Levels

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

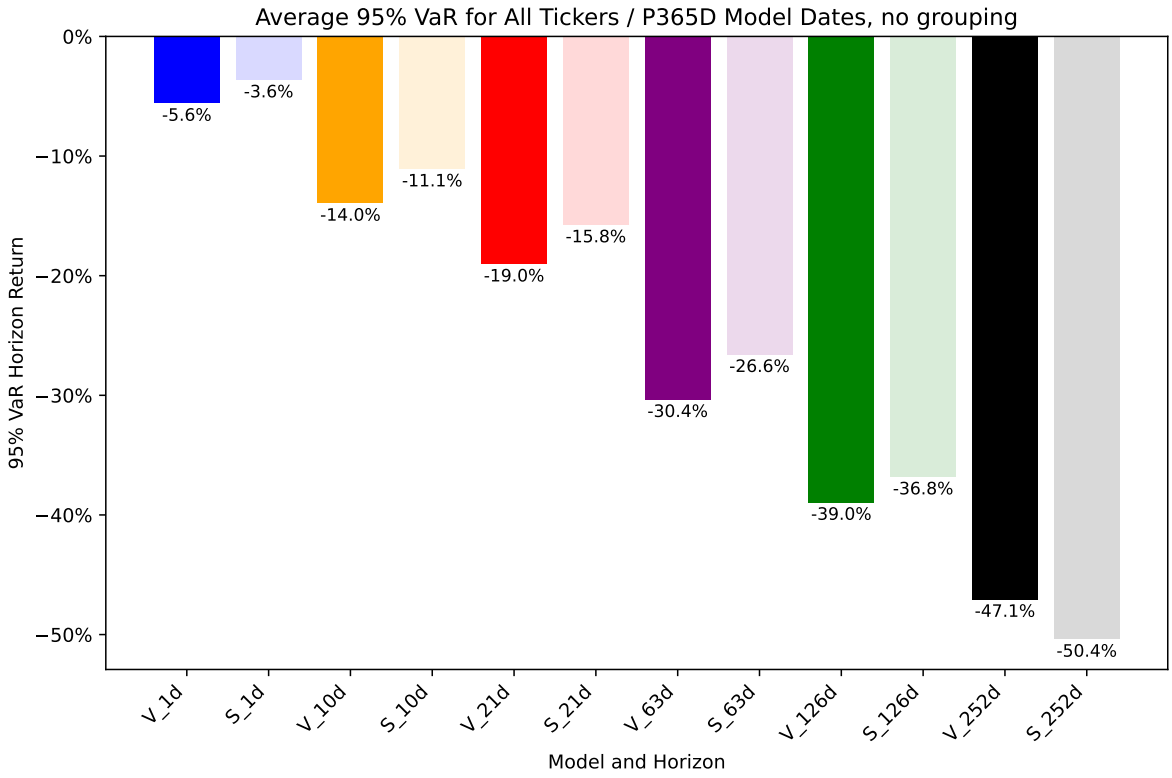
All Out of Sample Model Dates

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



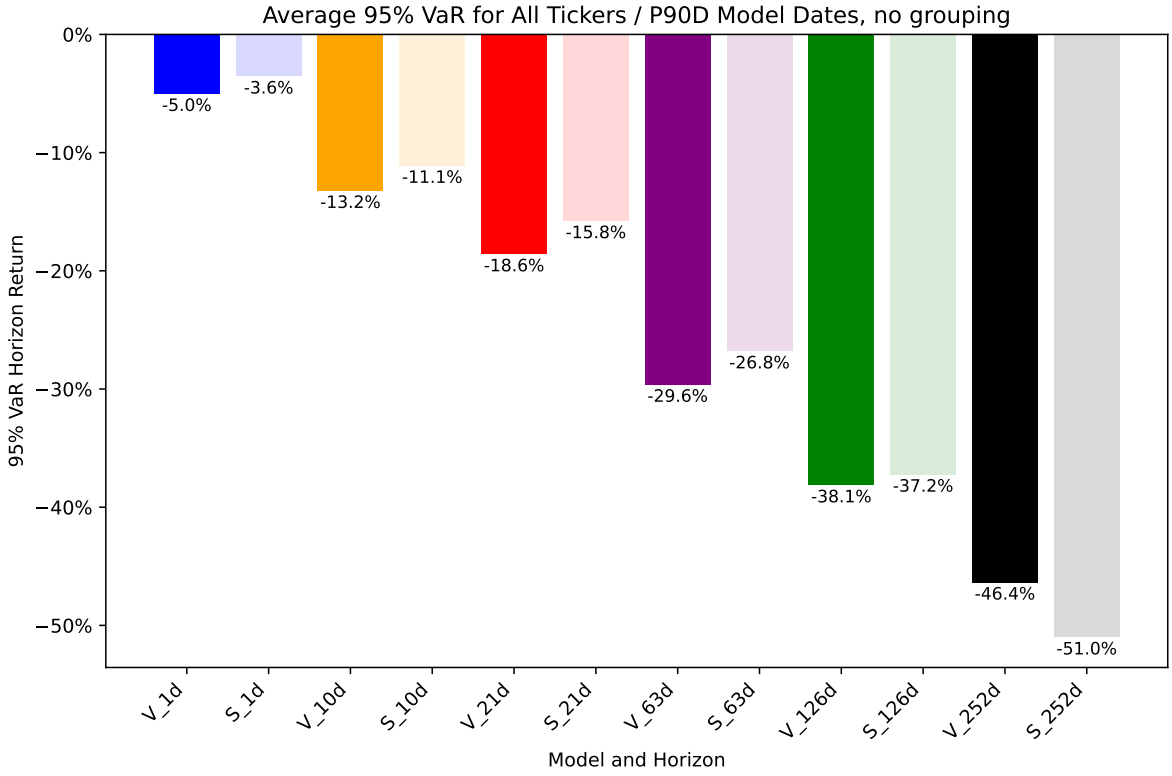
Prior 365 Calendar Days (P365D)

Period examined: All model dates from 2025-02-03 through 2026-01-29



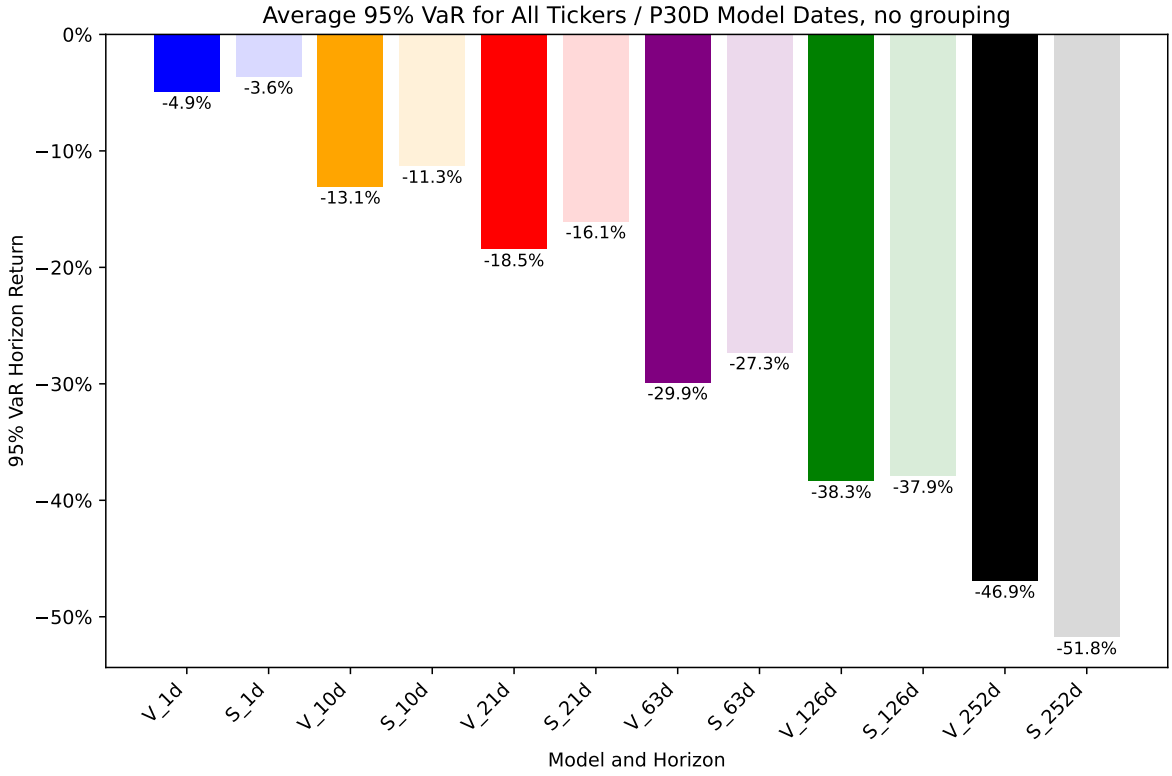
Prior 90 Calendar Days (P90D)

Period examined: All model dates from 2025-11-03 through 2026-01-29



Prior 30 Calendar Days (P30D)

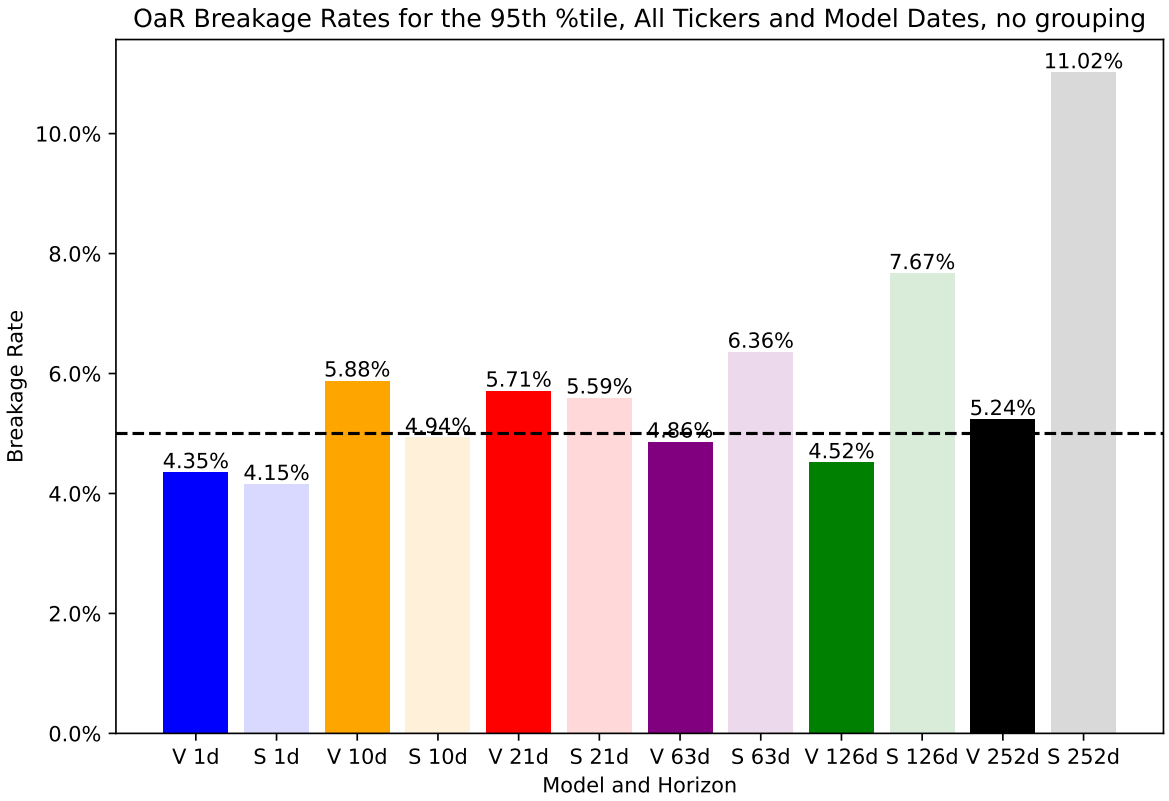
Period examined: All model dates from 2026-01-02 through 2026-01-29



Appendix 4: 95% OaR Breakage Rates

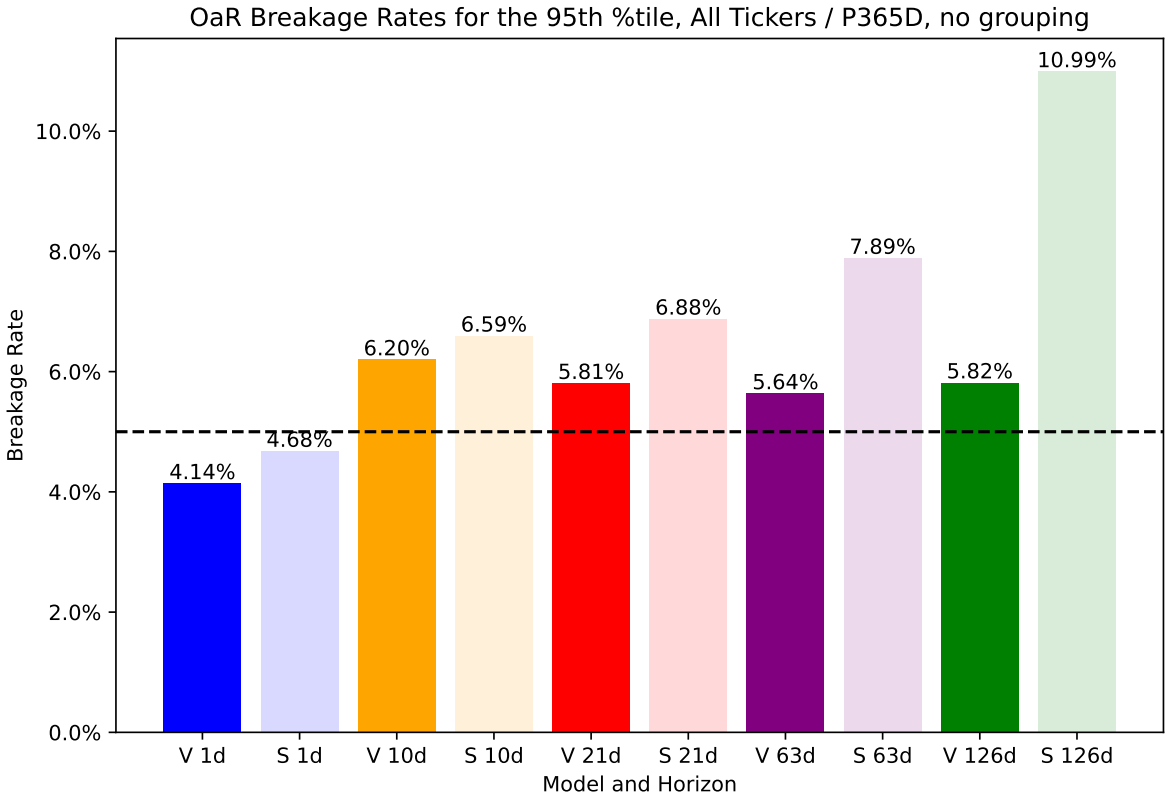
All Out of Sample Model Dates

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



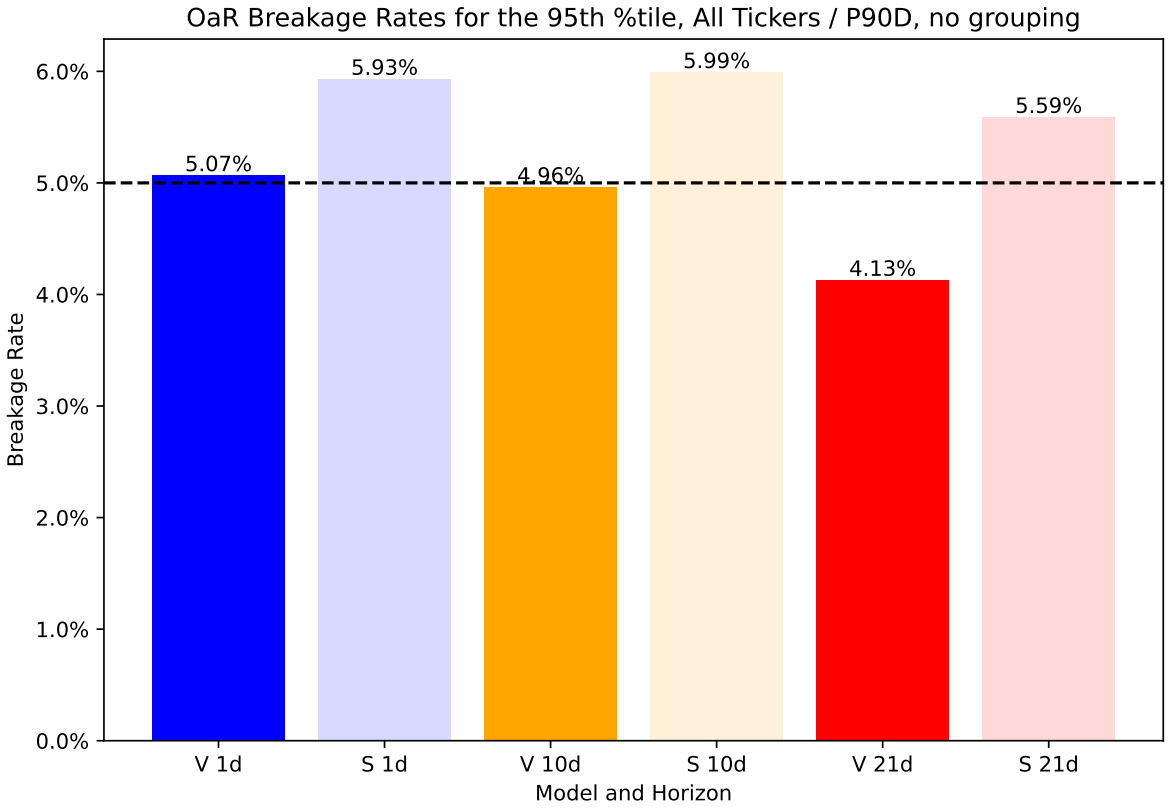
Prior 365 Calendar Days (P365D)

Period examined: All model dates from 2025-02-03 through 2026-01-29



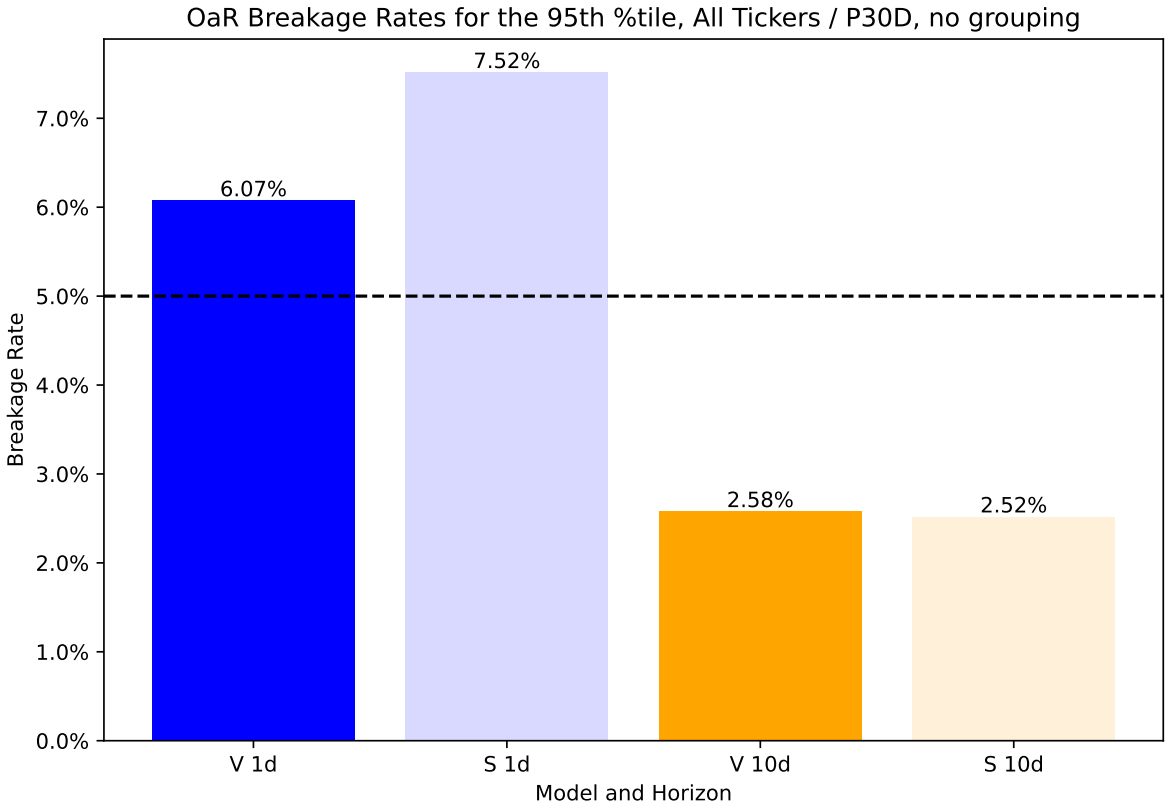
Prior 90 Calendar Days (P90D)

Period examined: All model dates from 2025-11-03 through 2026-01-29



Prior 30 Calendar Days (P30D)

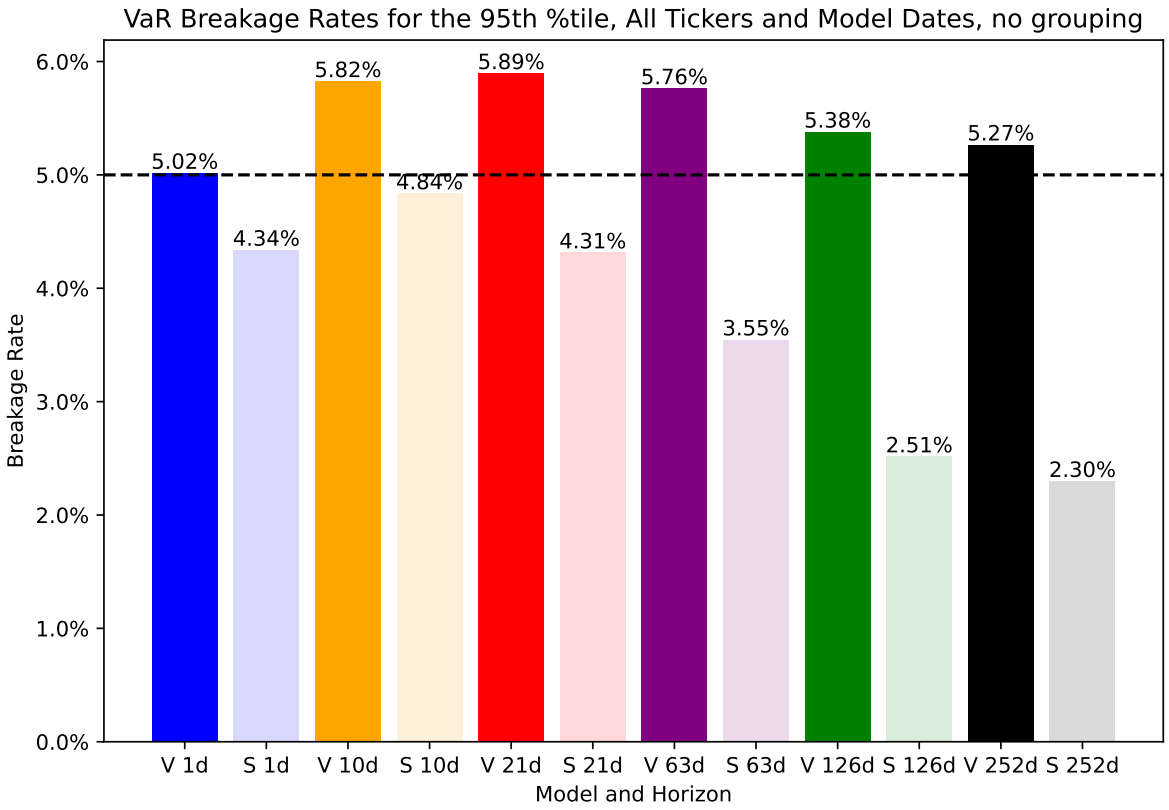
Period examined: All model dates from 2026-01-02 through 2026-01-29



Appendix 5: 95% VaR Breakage Rates

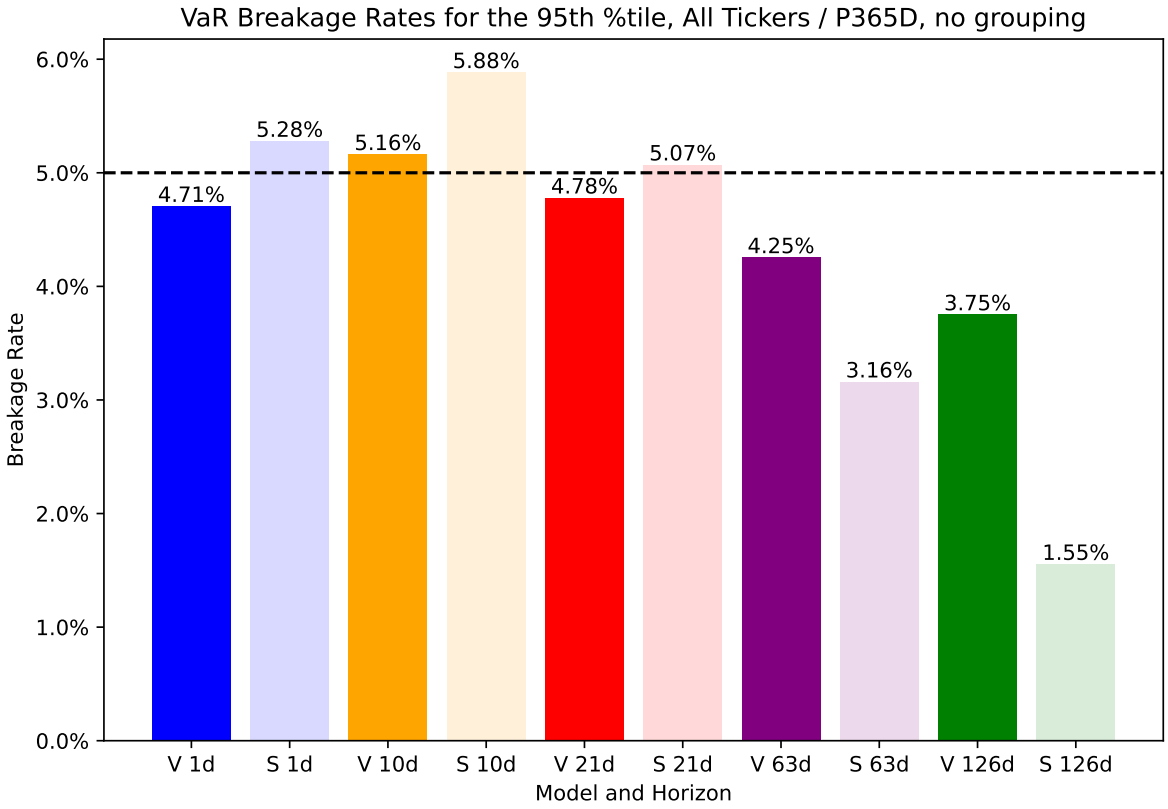
All Out of Sample Model Dates

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



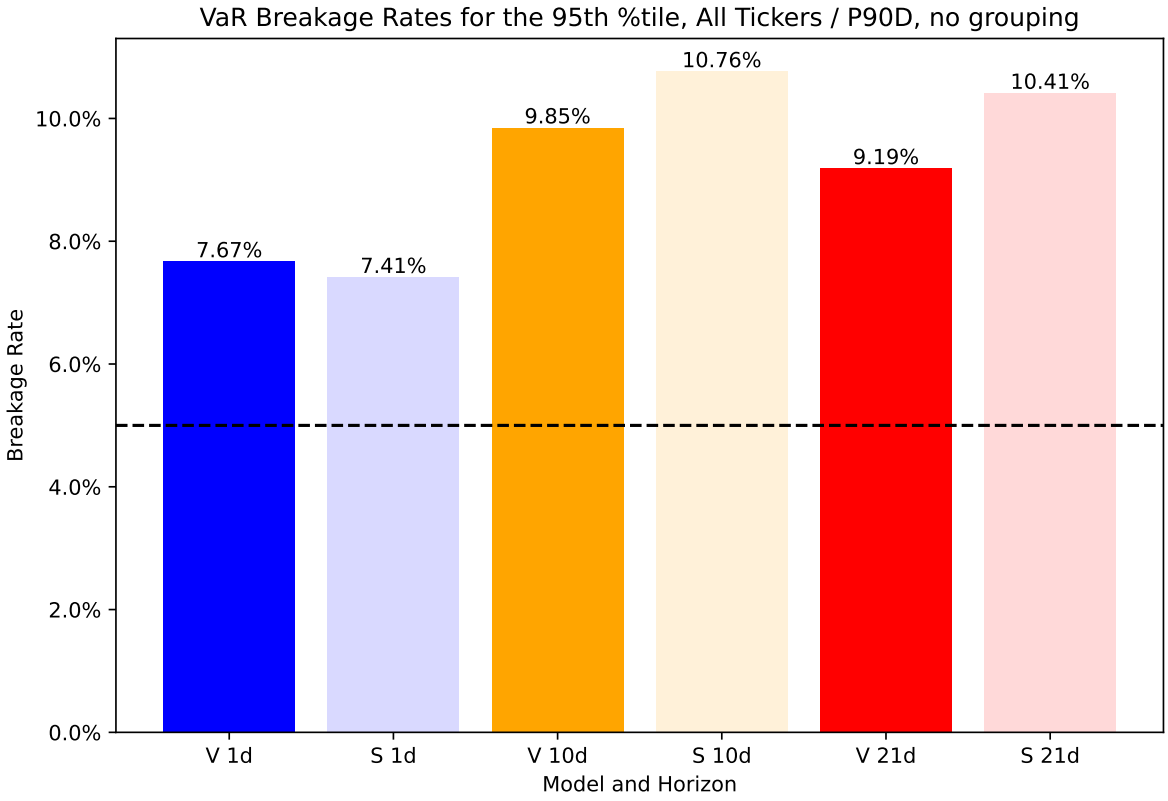
Prior 365 Calendar Days (P365D)

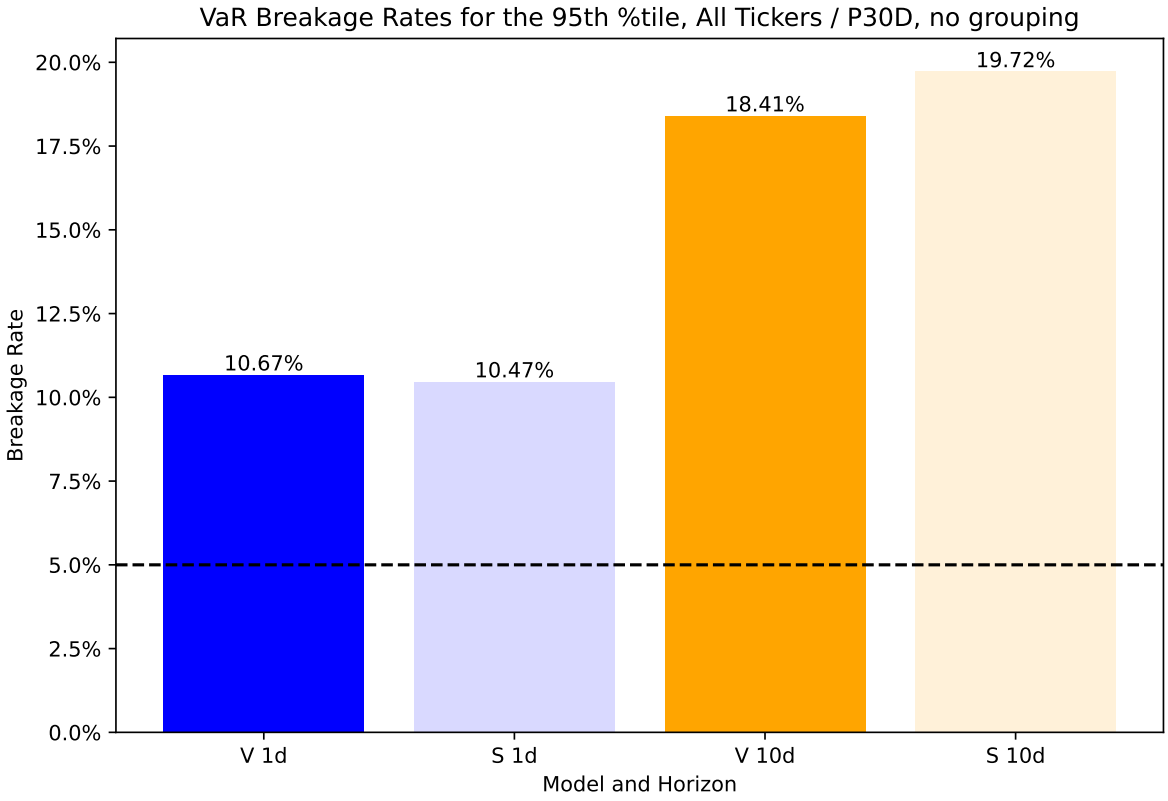
Period examined: All model dates from 2025-02-03 through 2026-01-29



Prior 90 Calendar Days (P90D)

Period examined: All model dates from 2025-11-03 through 2026-01-29



Prior 30 Calendar Days (P30D)

Period examined: All model dates from 2026-01-02 through 2026-01-29