

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

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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 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 (ROEUB and ROEDB)

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 addition to 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 $\sim 60,000$ 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-vecvz-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 volatility 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.



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- 6) We are not considering transaction costs. The turnover and therefore transaction costs experienced by Vector Model ROEUB or ROEDB based investors resulting in the change in the ratio between Vector Model and Sigma ROEUB or ROEDB is completely ignored.
 - 7) We are not incorporating any financing charges or margin-related costs for implied “levered” ROEUB or ROEDB positions.

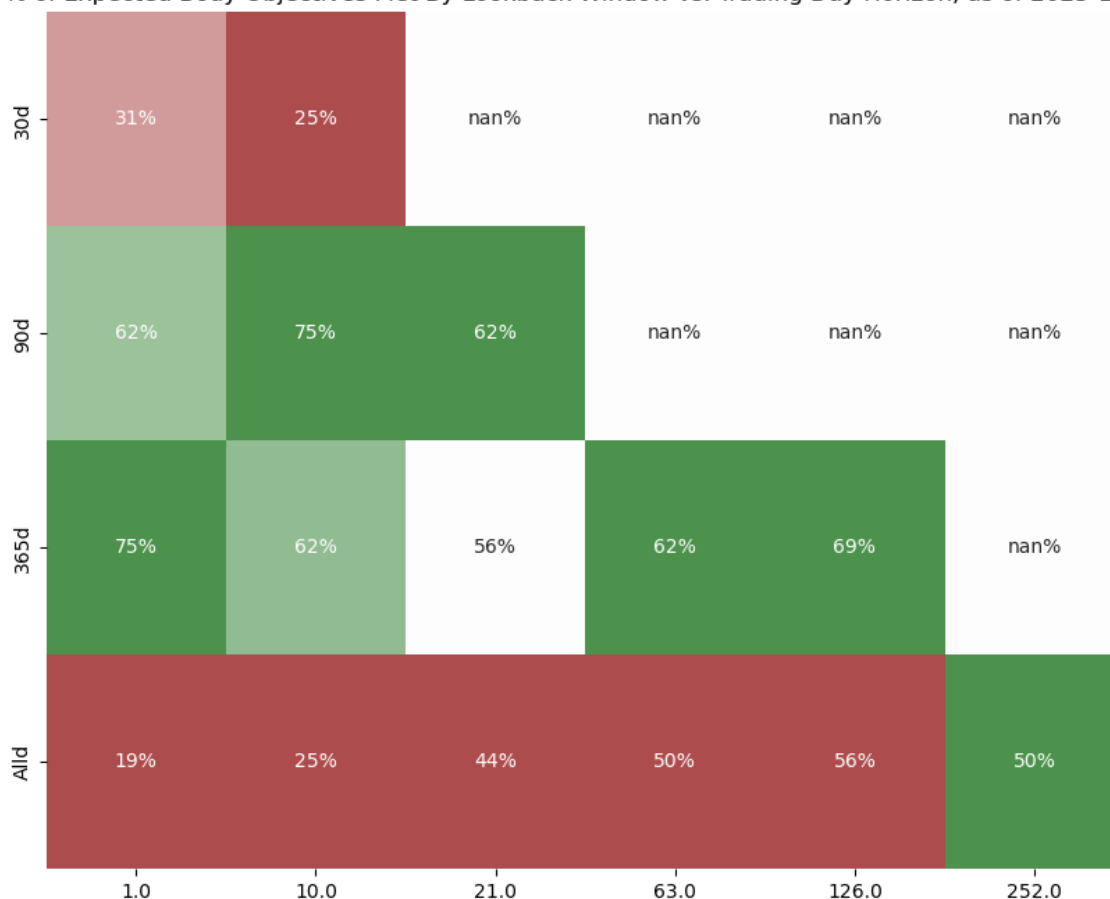
Thus, in summary, all metrics presented in this report are presented and are to be considered on a comparative basis. Are Vector Model breakage rates closer to target than Sigma’s? Does Vector Model ROEUB or ROEDB outperform Sigma ROEUB or ROEDB? Is the relative performance driven by alpha or beta? By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



Expected Body Objectives “Report Card”

Period examined: AllD = 2022-01-31 through 2025-10-30 while 365D /90D/ 30D include the 365/90/30 days ended 2025-10-30, respectively.

% of Expected Body Objectives Met By Lookback Window vs. Trading Day Horizon, as of 2025-10-31



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	31.25
4. Less adjusted EUB MAE Variability across tickers	50
5. Smaller EDB MAE	56.25
6. Smaller EDB MAE after 95%tile adjustment	68.75
7. Less adjusted EDB MAE Variability across dates	43.75
8. Less adjusted EDB MAE Variability across tickers	43.75
9. Greater ROEUB	62.5



EB Criteria	Average Score(%)
10. Greater ROEUB after adjusting for EUB magnitude	68.75
11. ROEUB alpha across tickers and dates > 0	56.25
12. ROEUB alpha across dates > 0	37.5
13. Greater ROEDB	93.75
14. Greater ROEDB after adjusting for EDB magnitude	93.75
15. ROEDB alpha across tickers and dates > 0	25
16. ROEDB alpha across dates > 0	81.25
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	50	0	0	0	0
3. Less adjusted EUB MAE Variability across dates	25	50	0	50	50	0
4. Less adjusted EUB MAE Variability across tickers	50	50	66.67	50	50	0
5. Smaller EDB MAE	0	50	66.67	100	100	100
6. Smaller EDB MAE after 95%tile adjustment	50	75	66.67	100	100	0
7. Less adjusted EDB MAE Variability across dates	0	50	66.67	0	100	100
8. Less adjusted EDB MAE Variability across tickers	50	50	66.67	50	0	0
9. Greater ROEUB	75	0	66.67	100	100	100
10. Greater ROEUB after adjusting for EUB magnitude	75	25	100	50	100	100
11. ROEUB alpha across tickers and dates > 0	75	25	33.33	50	100	100
12. ROEUB alpha across dates > 0	75	25	33.33	0	50	0
13. Greater ROEDB	75	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	25	25	33.33	50	0	0
16. ROEDB alpha across dates > 0	100	75	66.67	100	50	100
TotalScore	46.88	46.88	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	33.33	20	0
3. Less adjusted EUB MAE Variability across dates	0	33.33	80	0
4. Less adjusted EUB MAE Variability across tickers	0	100	100	0
5. Smaller EDB MAE	0	66.67	80	50
6. Smaller EDB MAE after 95%tile adjustment	50	100	100	33.33
7. Less adjusted EDB MAE Variability across dates	50	66.67	20	50
8. Less adjusted EDB MAE Variability across tickers	0	100	80	0
9. Greater ROEUB	50	66.67	60	66.67
10. Greater ROEUB after adjusting for EUB magnitude	50	100	60	66.67
11. ROEUB alpha across tickers and dates > 0	50	33.33	40	83.33
12. ROEUB alpha across dates > 0	50	100	40	0
13. Greater ROEDB	50	100	100	100
14. Greater ROEDB after adjusting for EDB magnitude	50	100	100	100
15. ROEDB alpha across tickers and dates > 0	0	0	80	0
16. ROEDB alpha across dates > 0	50	66.67	80	100
TotalScore	28.12	66.67	65	40.62

See the prior page for associated definitions of the criteria.



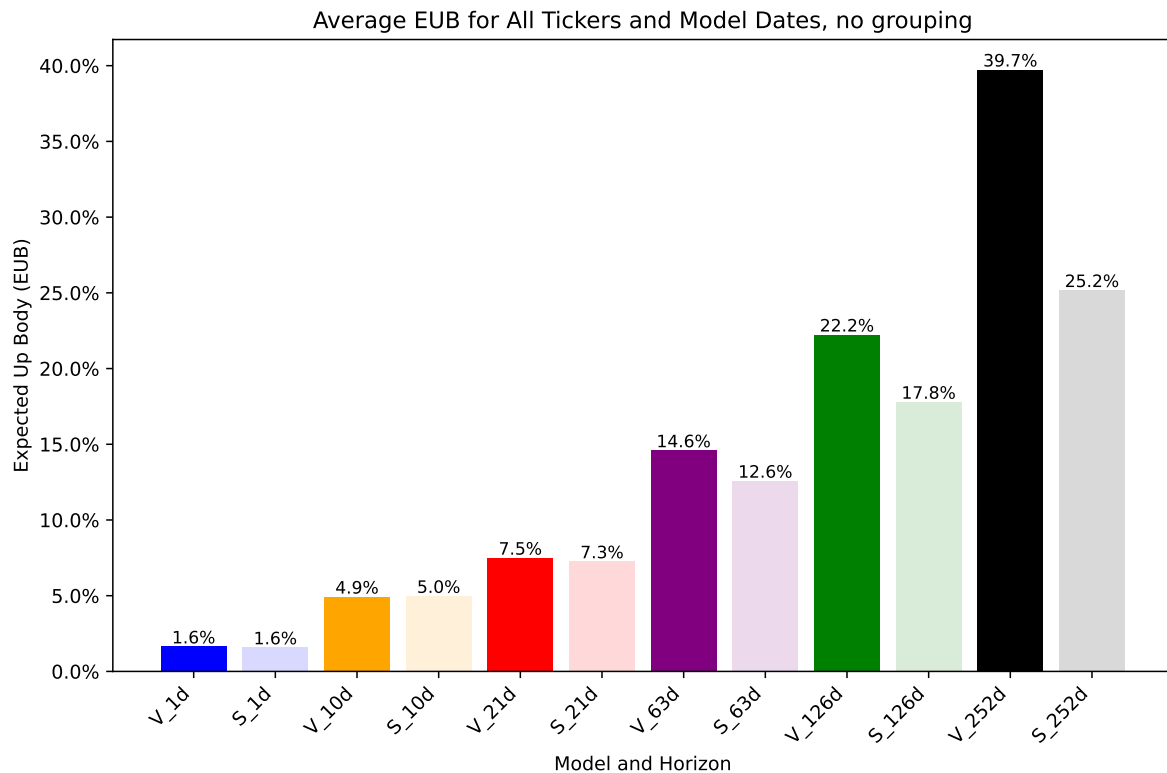
Expected Up Body (EUB)

Historic Average Levels

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

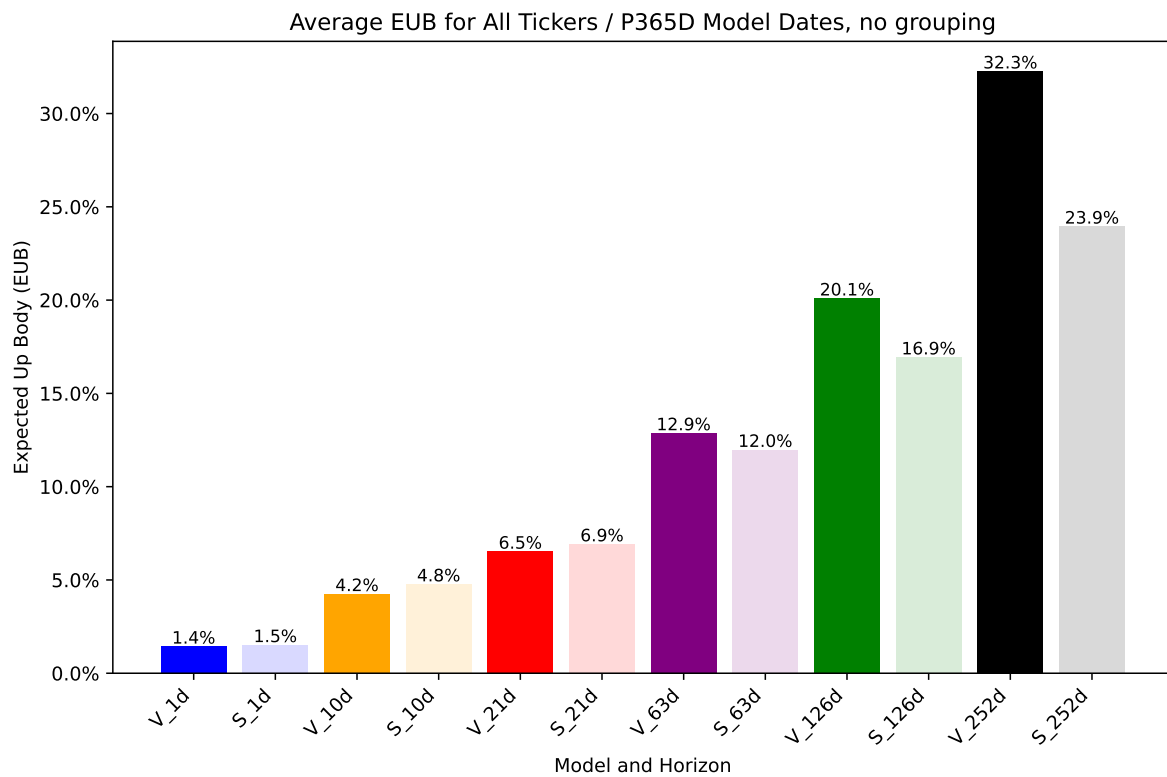
All Out of Sample Model Dates

Period examined: All model dates from 2022-01-31 through 2025-10-30



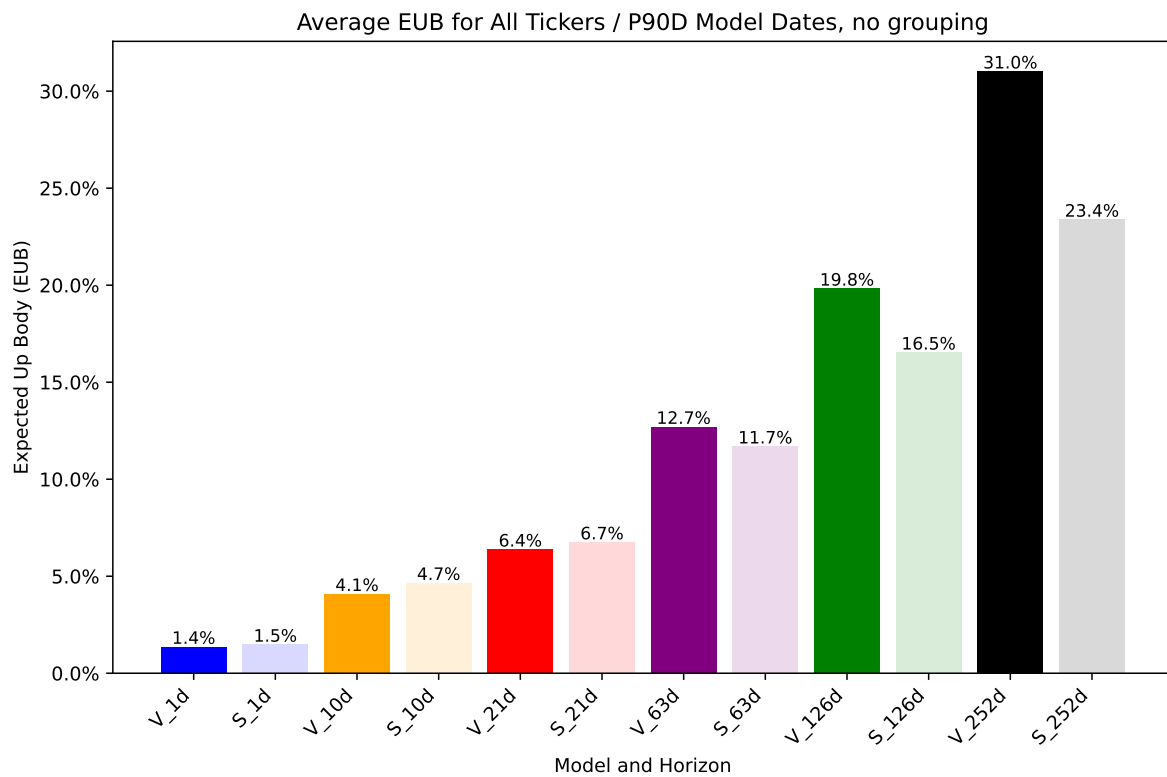
Prior 365 Calendar Days (P365D)

Period examined: All model dates from 2024-11-01 through 2025-10-30



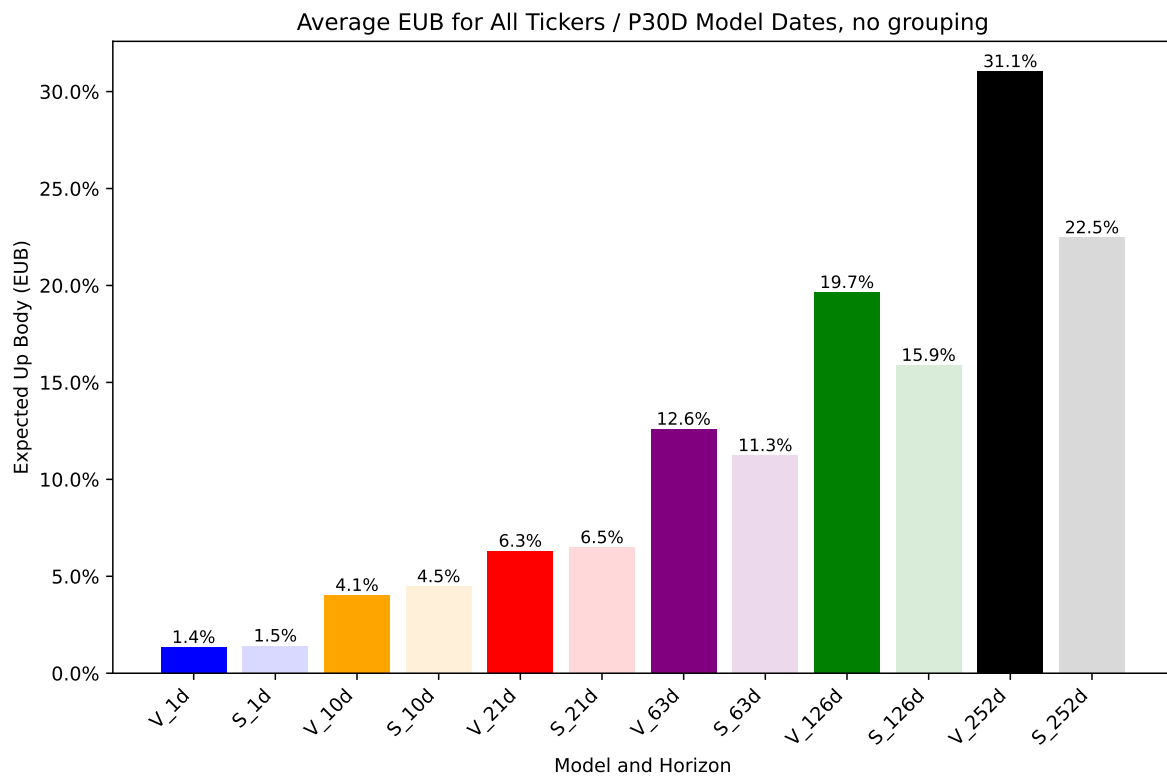
Prior 90 Calendar Days (P90D)

Period examined: All model dates from 2025-08-04 through 2025-10-30



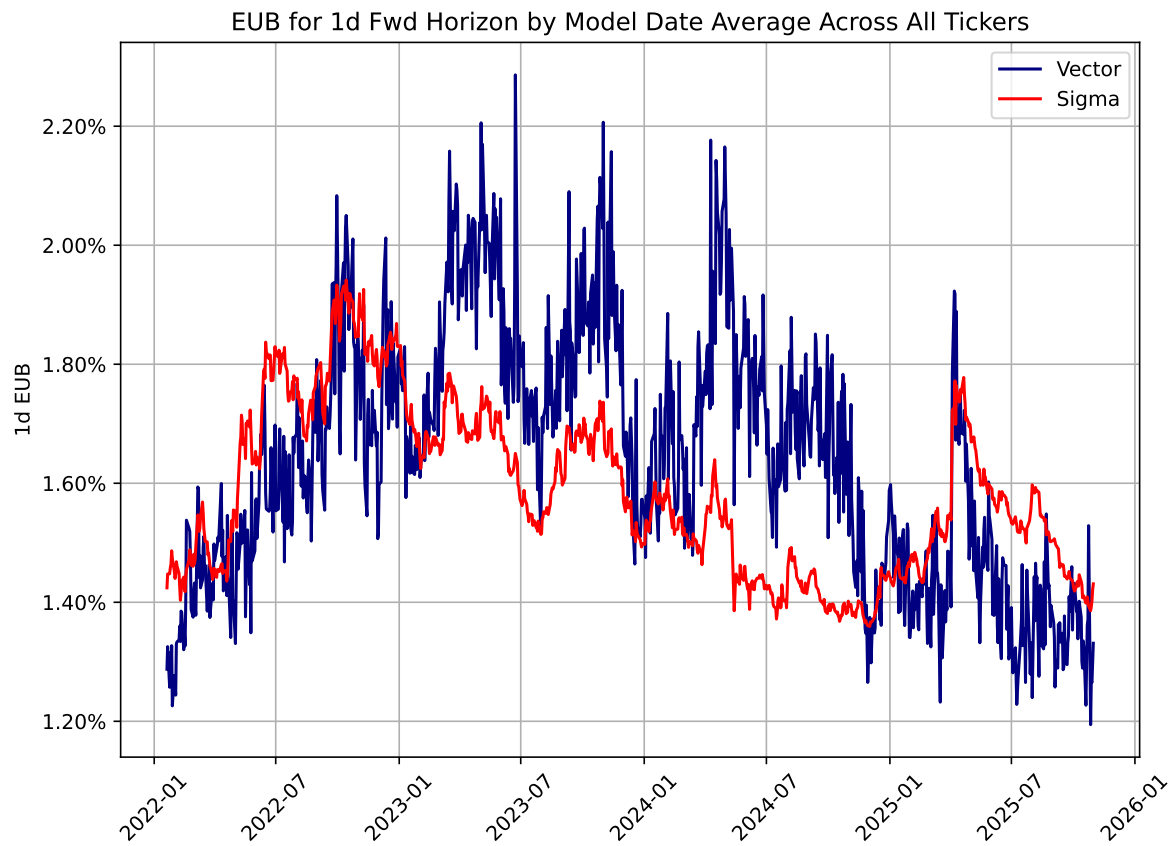
Prior 30 Calendar Days (P30D)

Period examined: All model dates from 2025-10-02 through 2025-10-30

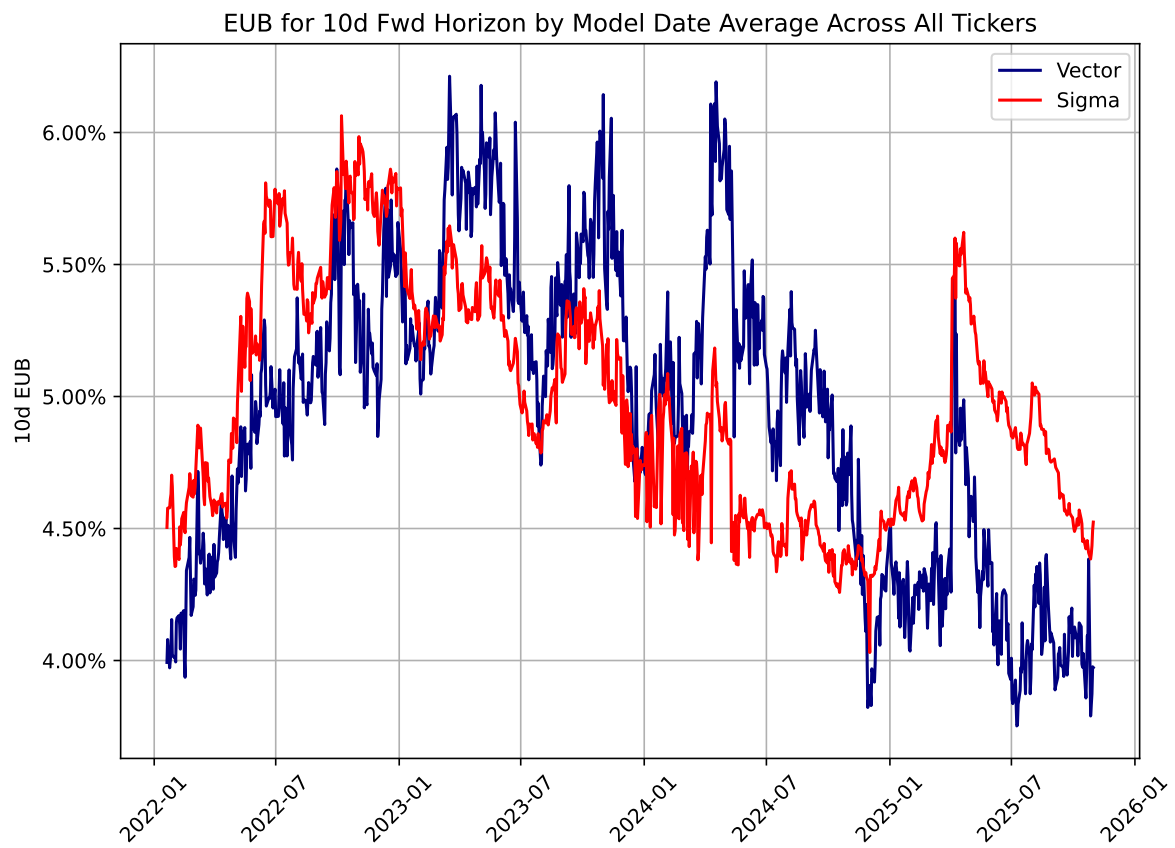


EUB by Model Date Detail

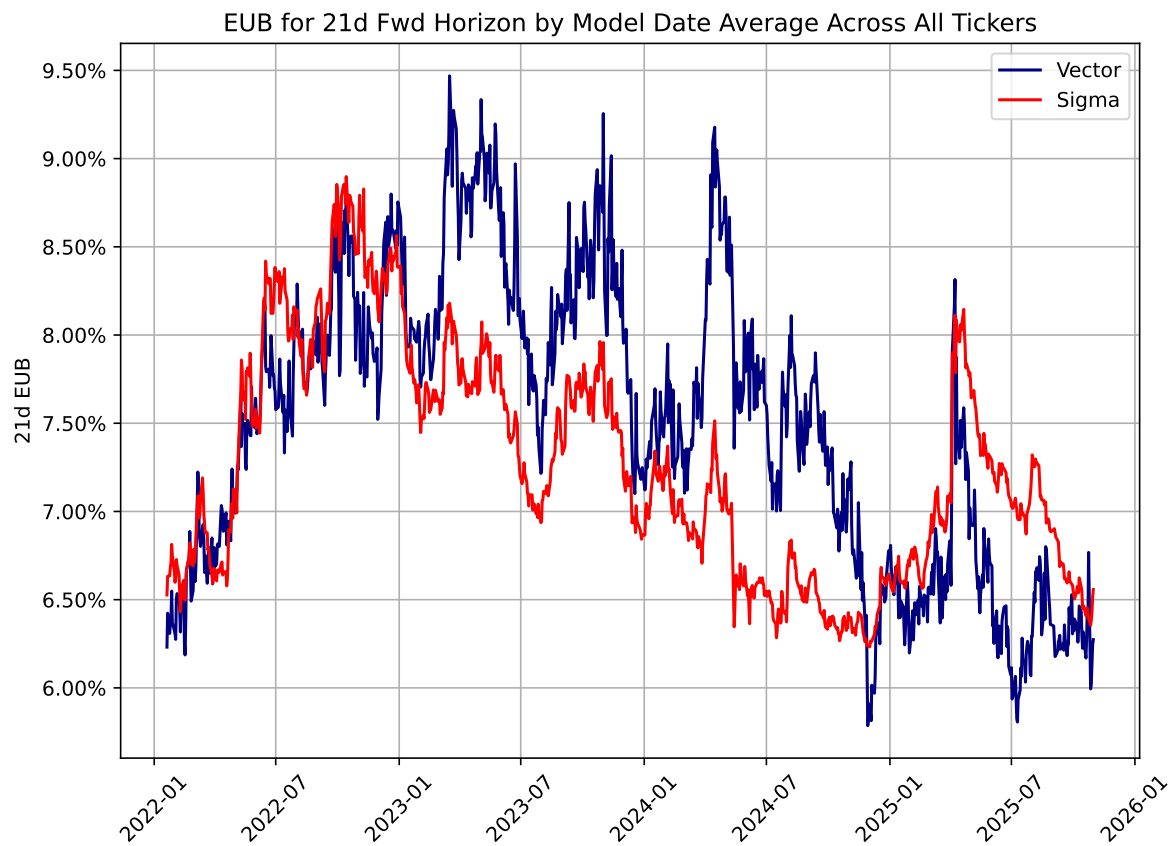
1d Horizon



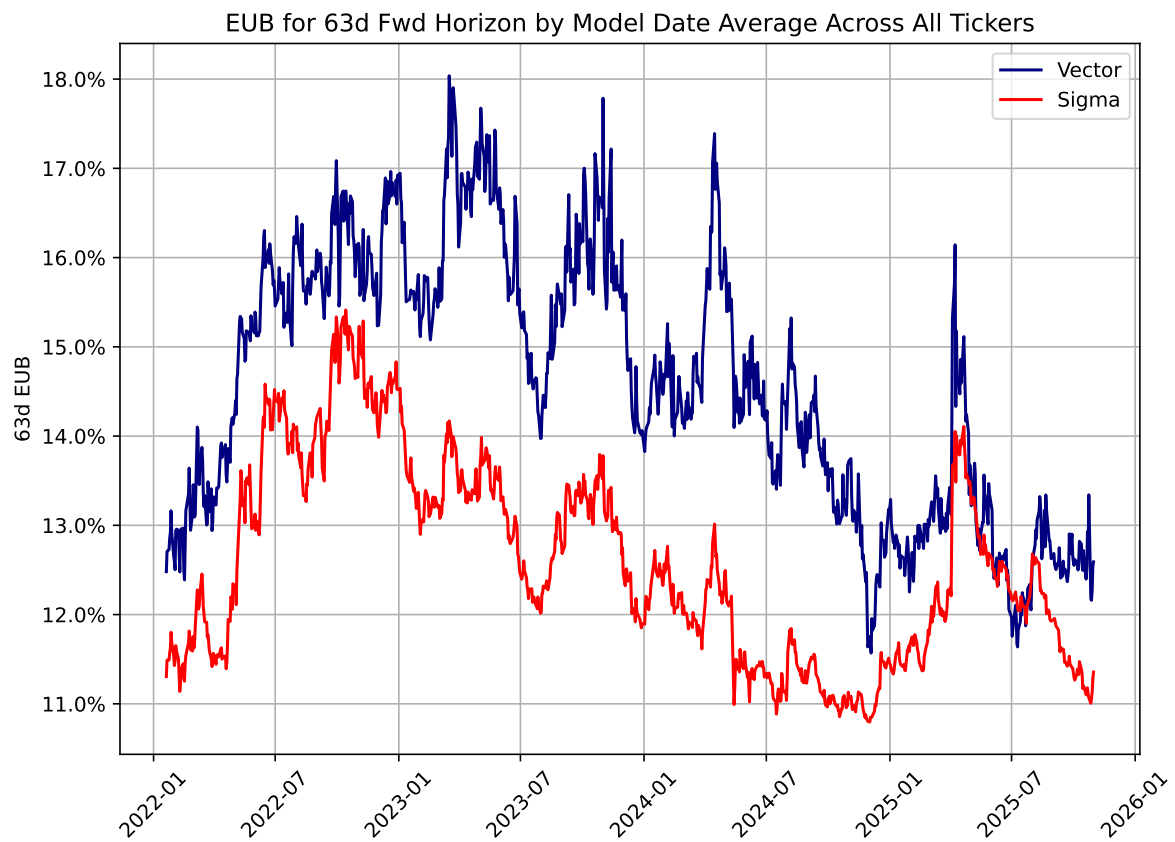
10d Horizon



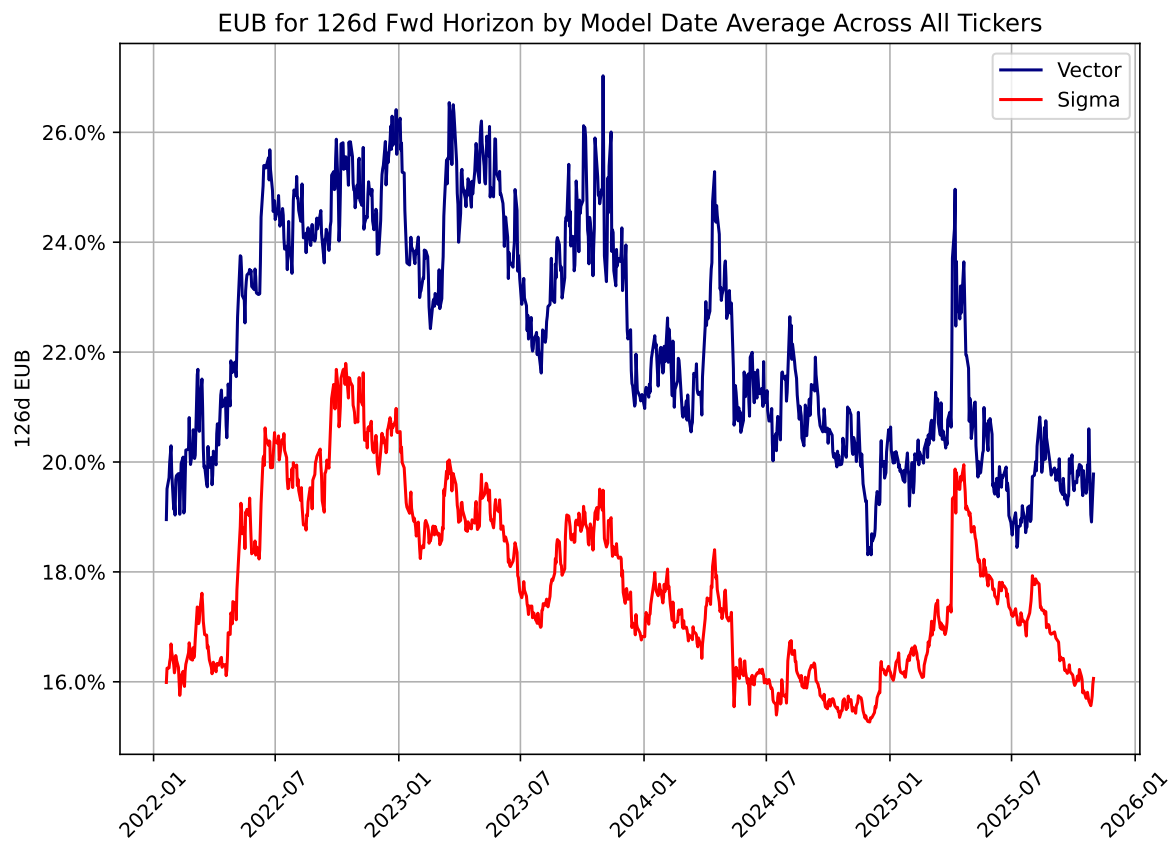
21d Horizon



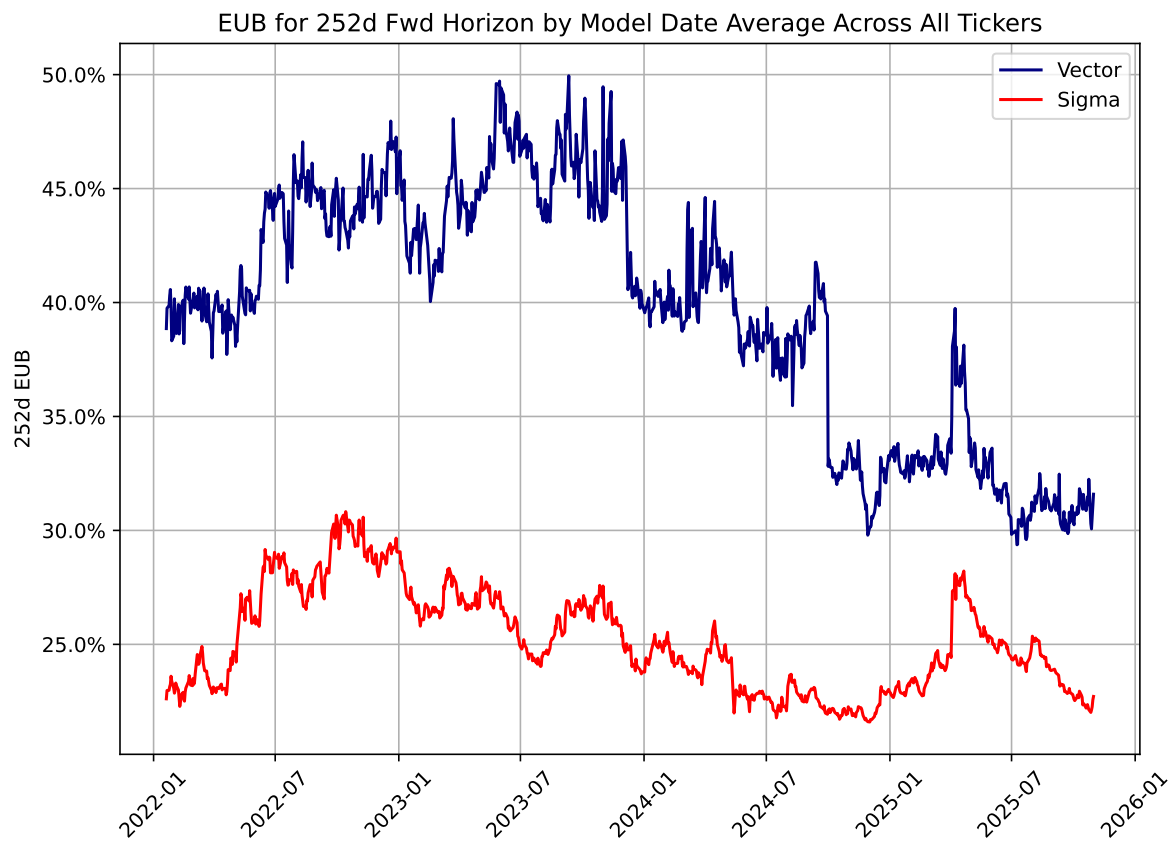
63d Horizon



126d Horizon



252d Horizon



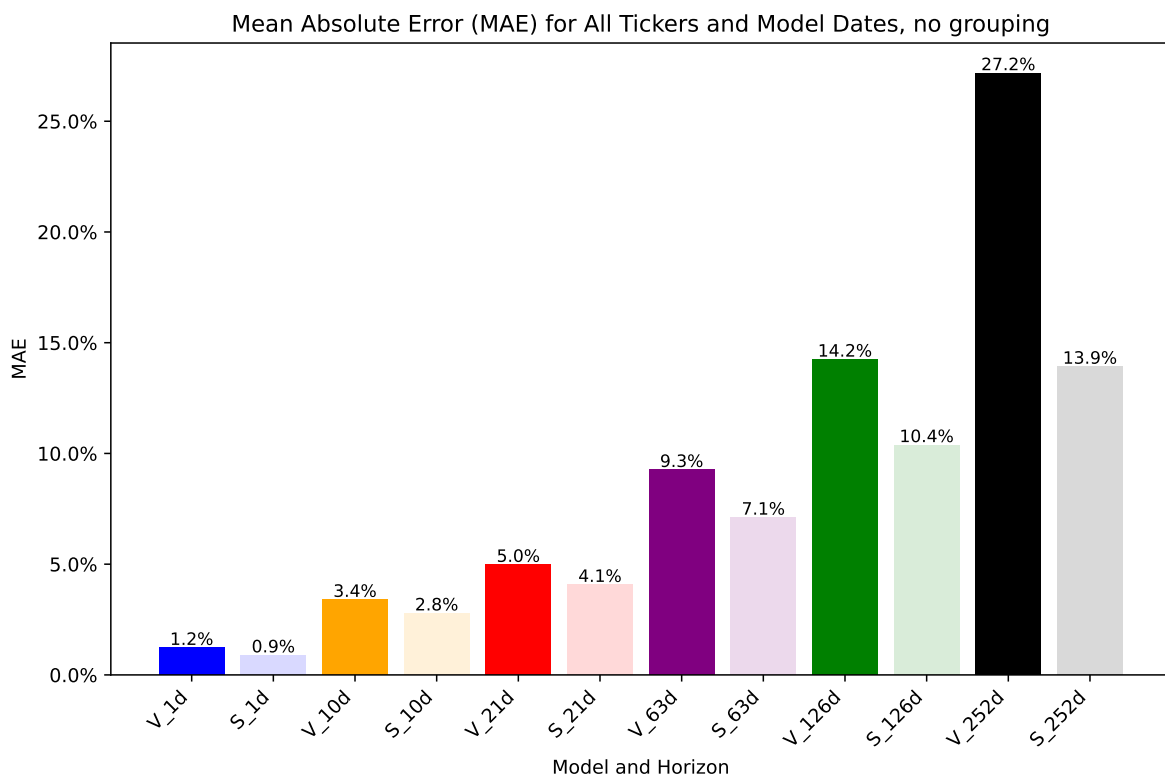
Performance Summary - MAE of EUB vs. Actual Fwd Returns

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

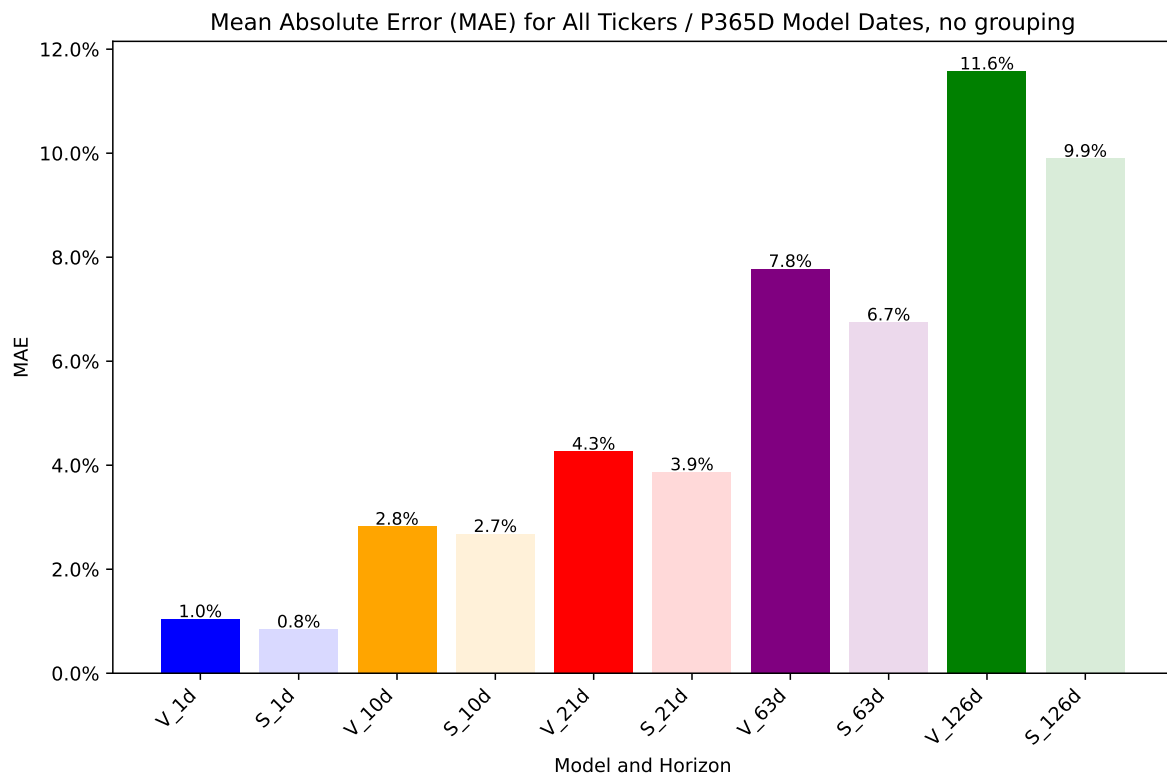
All Out of Sample Model Dates

Period examined: All model dates from 2022-01-31 through 2025-10-30



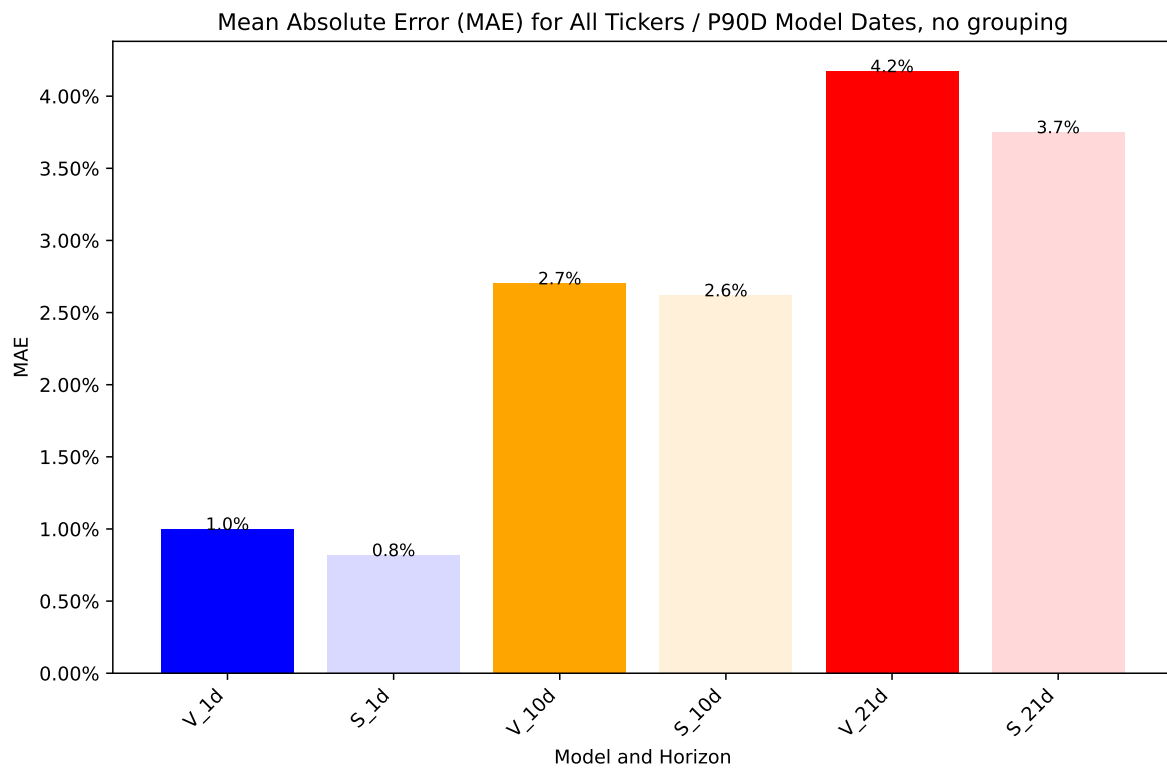
Prior 365 Calendar Days (P365D)

Period examined: All model dates from 2024-11-01 through 2025-10-30



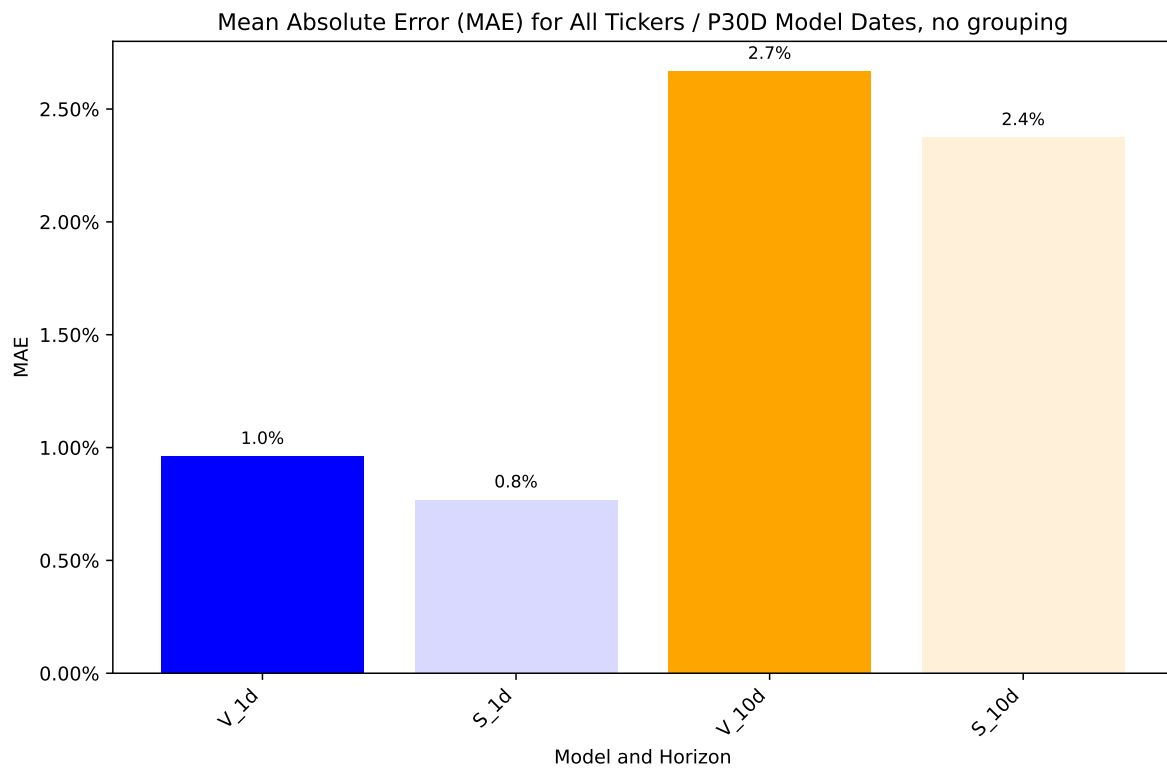
Prior 90 Calendar Days (P90D)

Period examined: All model dates from 2025-08-04 through 2025-10-30



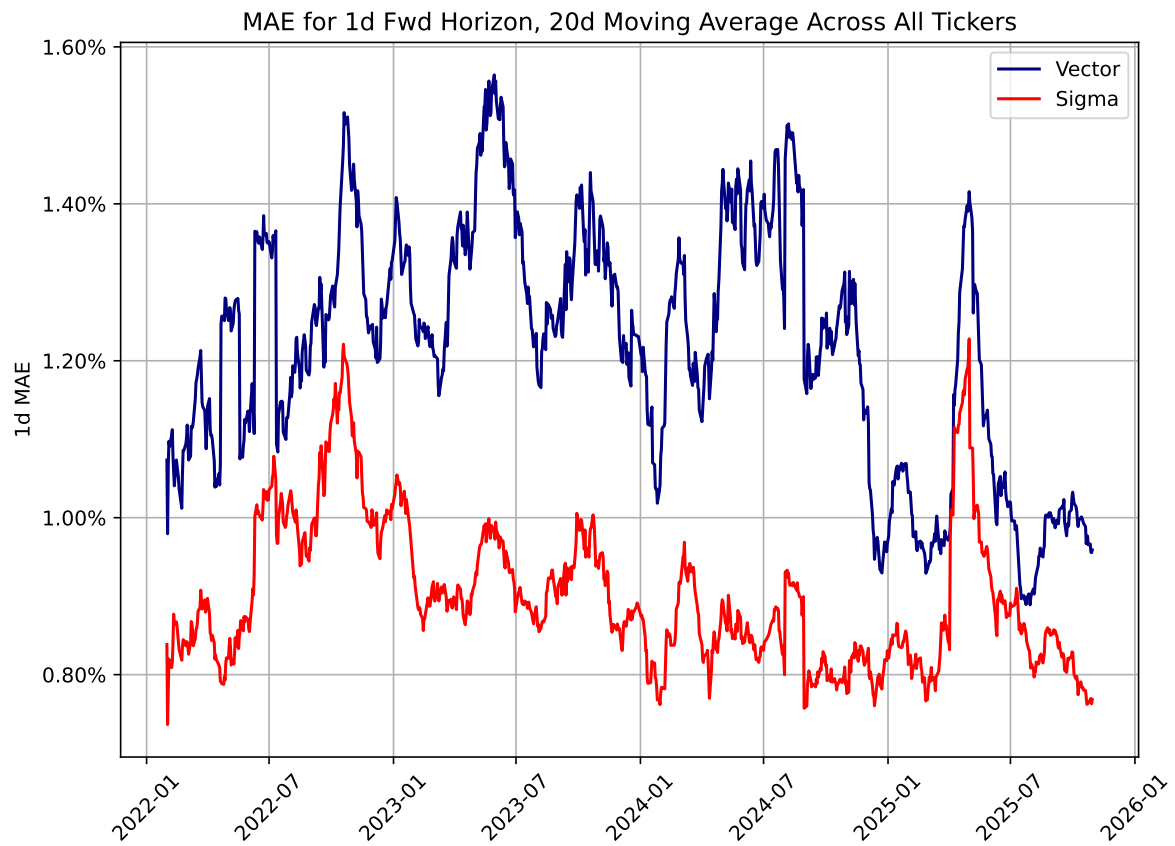
Prior 30 Calendar Days (P30D)

Period examined: All model dates from 2025-10-02 through 2025-10-30

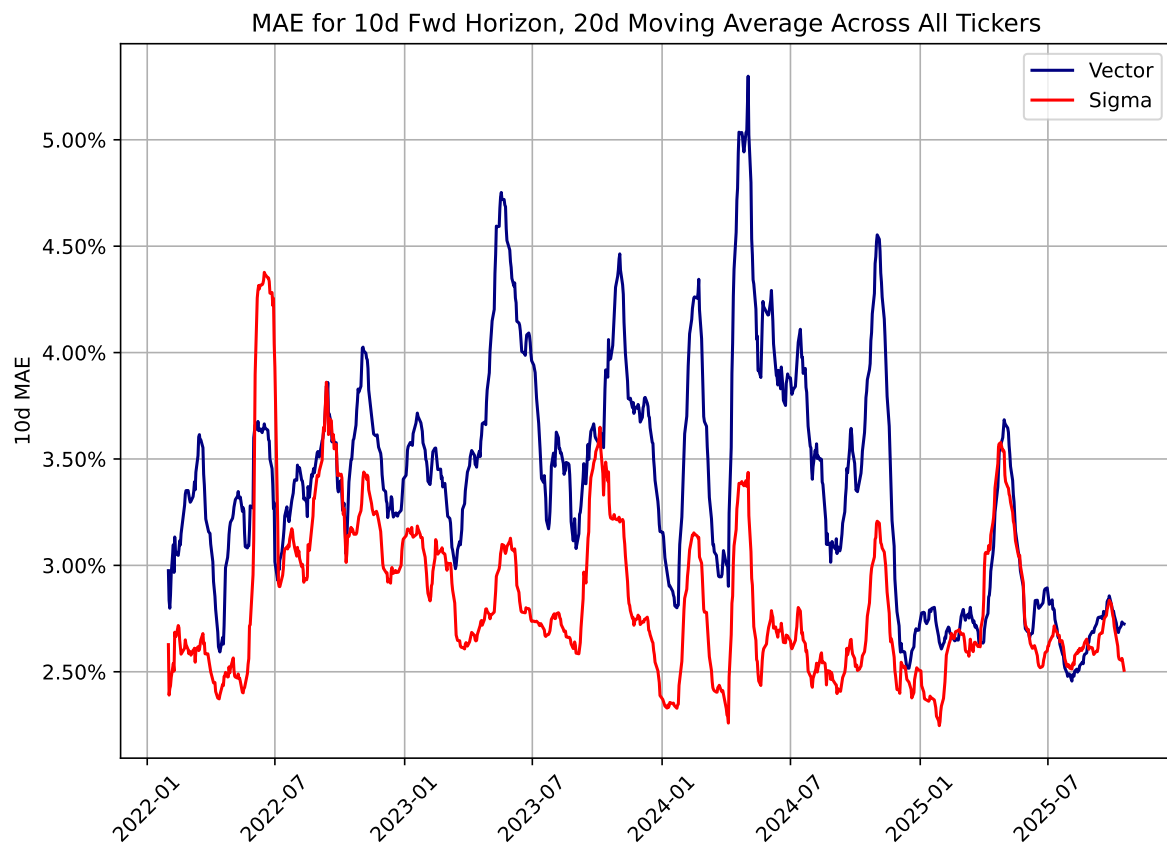


MAE by Model Date Detail

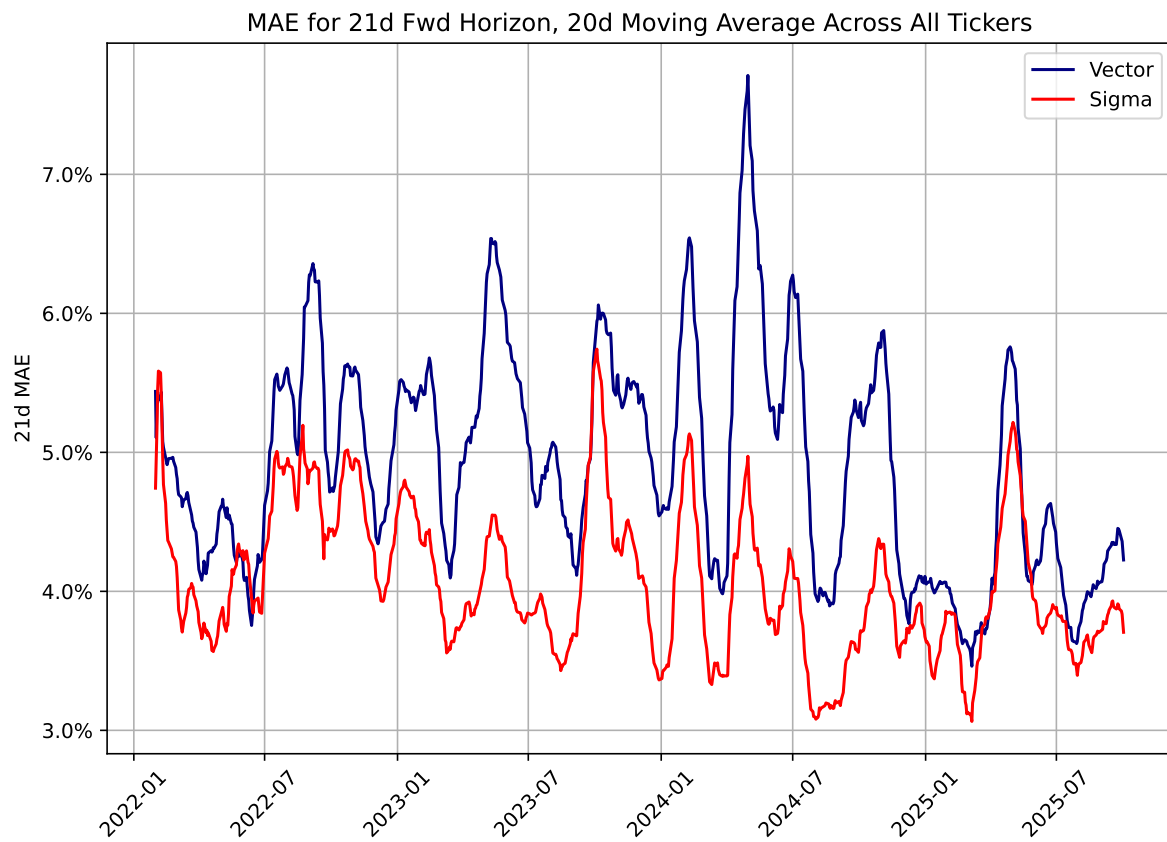
1d Horizon



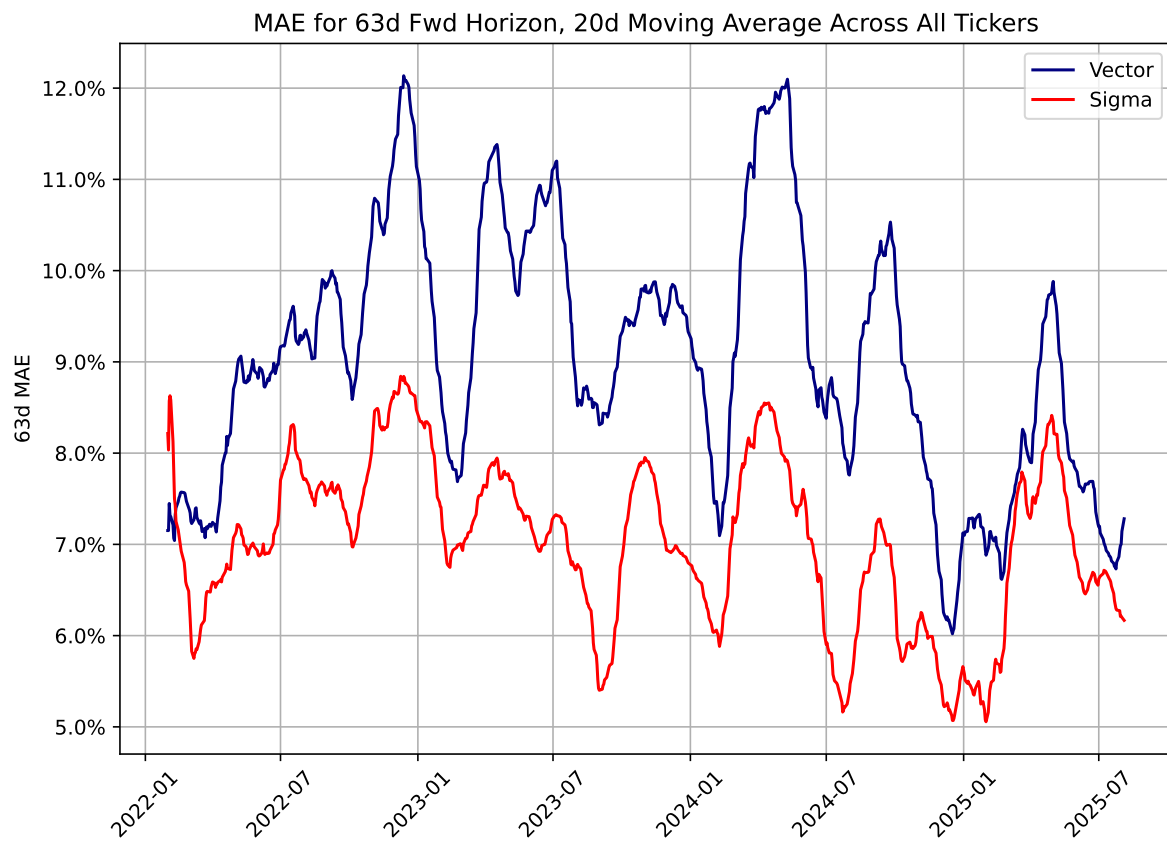
10d Horizon



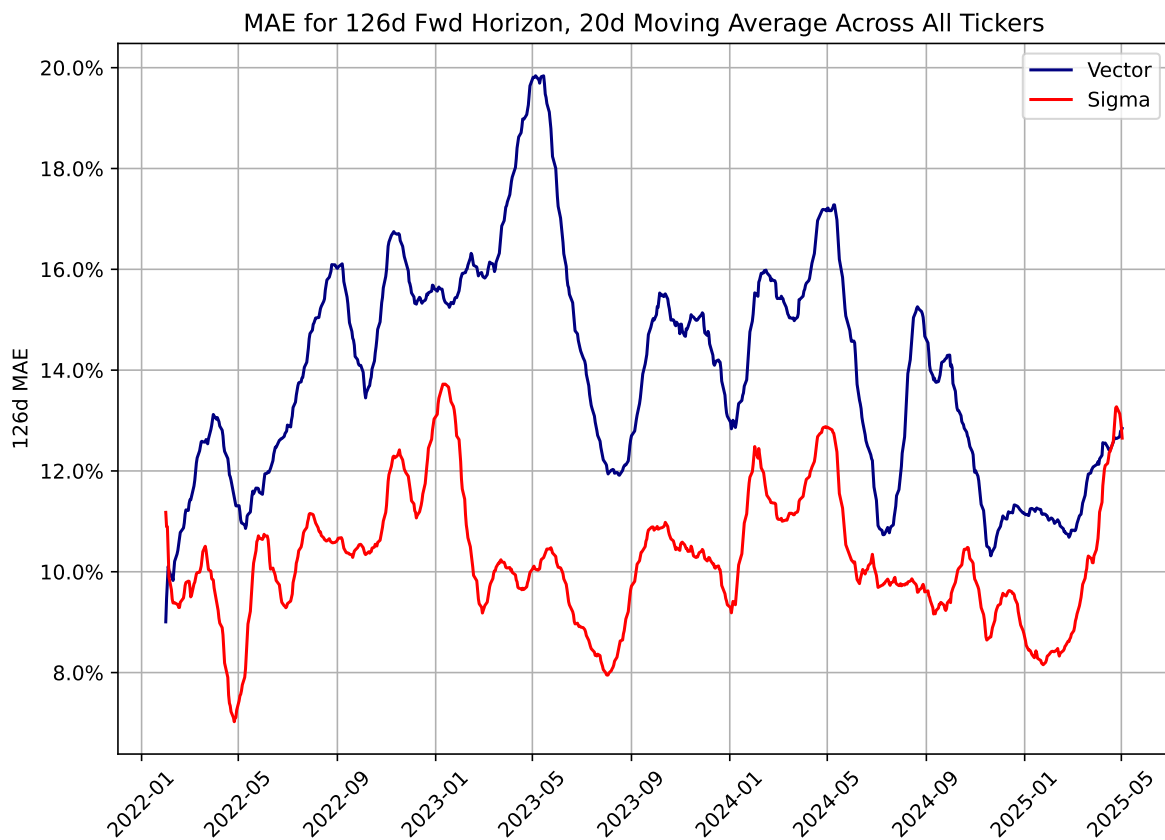
21d Horizon



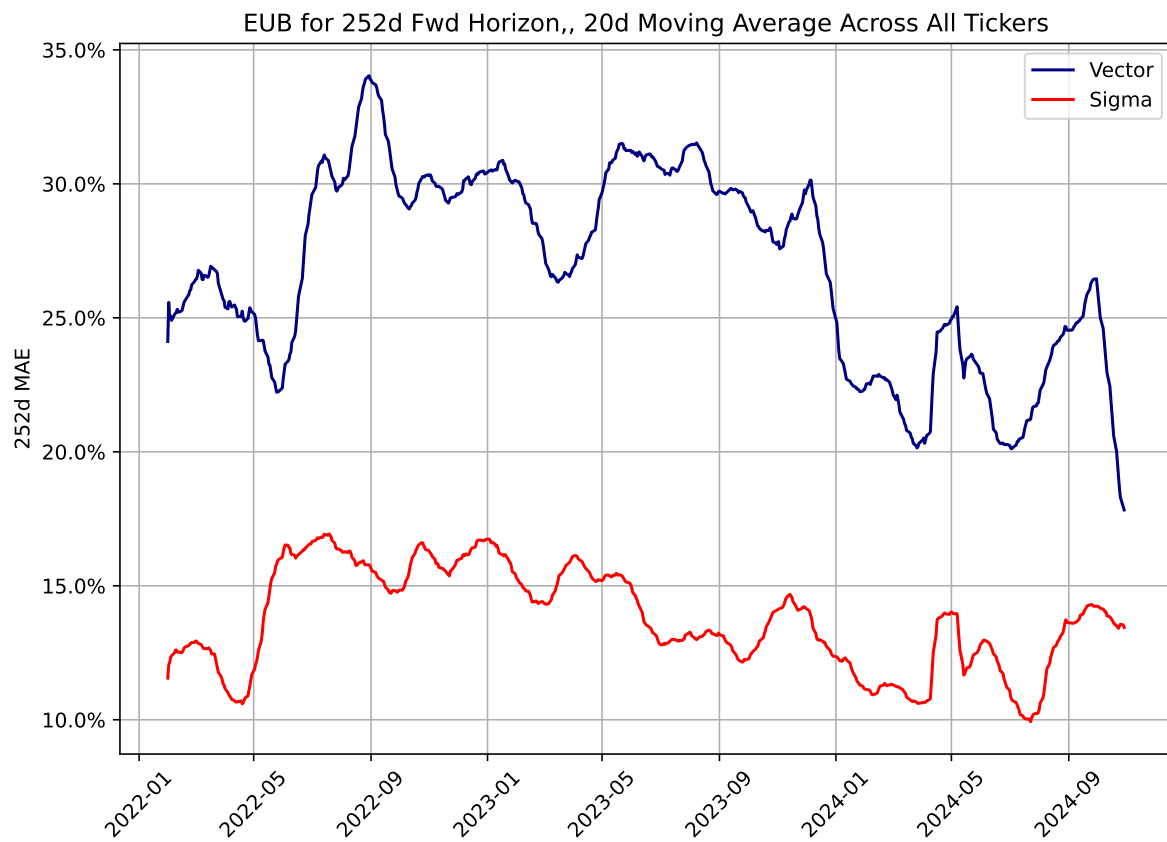
63d Horizon



126d Horizon



252d Horizon



Top 30 Tickers By EUB MAE

All TMD: 1d

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

Period examined: All model dates from 2022-01-31 through 2025-10-30

Horizon	Ticker_V	EUB-MAE_V	Ticker_S	EUB-MAE_S
1.0	AMC	11.37%	AMC	10.23%
1.0	LUMN	7.63%	GME	3.33%
1.0	IEP	6.99%	CYH	2.8%
1.0	TSLA	4.31%	LUMN	2.43%
1.0	ELAN	4.29%	MSTR	2.21%
1.0	CYH	4.07%	GBTC	2.01%
1.0	BHC	3.01%	BHC	1.81%
1.0	NWL	2.88%	IEP	1.57%
1.0	CCL	2.65%	CTLT	1.49%
1.0	GBTC	2.6%	UAA	1.49%
1.0	VNO	2.36%	TSLA	1.47%
1.0	CZR	2.29%	VFC	1.42%
1.0	GNRC	2.27%	AA	1.4%
1.0	MSTR	2.06%	CLF	1.38%
1.0	GT	2.03%	SIVBQ	1.36%
1.0	BXP	2.01%	GT	1.35%
1.0	T	2.01%	CCL	1.35%
1.0	NVDA	1.9%	NWL	1.35%
1.0	UAA	1.85%	CZR	1.32%
1.0	LNC	1.82%	GNRC	1.26%
1.0	AVGO	1.67%	AAP	1.26%
1.0	MOS	1.63%	SBNY	1.22%
1.0	X	1.57%	ON	1.19%
1.0	AMD	1.53%	AMD	1.18%
1.0	MSFT	1.52%	LNC	1.15%
1.0	ON	1.5%	NVDA	1.15%
1.0	AA	1.47%	ELAN	1.13%
1.0	AMAT	1.45%	MU	1.1%
1.0	INTC	1.44%	X	1.09%
1.0	ETRN	1.43%	CSTM	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 2025-10-30

Horizon	Ticker_V	EUB-MAE_V	Ticker_S	EUB-MAE_S
10.0	AMC	43.63%	AMC	31.73%
10.0	LUMN	20.43%	GME	10.44%
10.0	IEP	15.44%	LUMN	8.47%
10.0	ELAN	10.75%	CYH	7.53%
10.0	TSLA	10.44%	MSTR	7.1%
10.0	BHC	8.93%	BHC	6.31%
10.0	CYH	8.4%	GBTC	5.77%
10.0	NWL	8.36%	IEP	4.79%
10.0	GBTC	7.9%	UAA	4.77%
10.0	CZR	6.77%	SIVBQ	4.75%
10.0	CCL	6.28%	GT	4.53%
10.0	GNRC	6.25%	AA	4.51%
10.0	GT	6.16%	TSLA	4.46%
10.0	NVDA	5.96%	CZR	4.31%
10.0	MSTR	5.64%	VFC	4.29%
10.0	LNC	5.51%	CLF	4.21%
10.0	AMD	5.09%	CCL	4.2%
10.0	UAA	4.91%	GNRC	4.18%
10.0	VNO	4.82%	NWL	4.17%
10.0	X	4.81%	SBNY	4.11%
10.0	BXP	4.76%	AMD	4.09%
10.0	MOS	4.6%	CTLT	3.94%
10.0	MSFT	4.58%	LNC	3.92%
10.0	INTC	4.26%	ON	3.81%
10.0	CLF	4.23%	ELAN	3.8%
10.0	T	4.19%	AAP	3.8%
10.0	AMAT	4.12%	INTC	3.78%
10.0	AA	4.0%	NVDA	3.61%
10.0	ON	3.98%	MU	3.59%
10.0	MU	3.95%	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 2025-10-30

Horizon	Ticker_V	EUB-MAE_V	Ticker_S	EUB-MAE_S
21.0	AMC	61.9%	AMC	48.03%
21.0	LUMN	24.26%	GME	15.13%
21.0	IEP	21.83%	CYH	11.63%
21.0	ELAN	16.98%	LUMN	11.33%
21.0	TSLA	14.46%	MSTR	9.85%
21.0	BHC	12.65%	BHC	8.02%
21.0	NWL	11.59%	GBTC	7.9%
21.0	CCL	11.42%	IEP	7.35%
21.0	CYH	11.21%	CCL	7.29%
21.0	CZR	10.48%	TSLA	7.28%
21.0	MSTR	10.16%	UAA	7.21%
21.0	GBTC	9.83%	SIVBQ	7.04%
21.0	GT	9.21%	VFC	6.64%
21.0	GNRC	8.93%	NWL	6.62%
21.0	NVDA	8.64%	GT	6.43%
21.0	AMD	8.09%	AMD	6.39%
21.0	LNC	7.74%	CZR	6.17%
21.0	MOS	7.73%	CLF	6.07%
21.0	UAA	7.29%	AA	6.01%
21.0	VNO	7.25%	GNRC	5.95%
21.0	BXP	7.15%	ON	5.95%
21.0	AMAT	7.03%	AAP	5.67%
21.0	X	6.83%	ELAN	5.64%
21.0	MSFT	6.82%	CTLT	5.63%
21.0	ON	6.71%	NVDA	5.6%
21.0	CLF	6.62%	SBNY	5.33%
21.0	INTC	6.41%	MU	5.25%
21.0	SIVBQ	6.2%	X	5.22%
21.0	T	5.92%	LNC	5.14%
21.0	AA	5.91%	VNO	5.08%



All TMD: 63d

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

Period examined: All model dates from 2022-01-31 through 2025-10-30

Horizon	Ticker_V	EUB-MAE_V	Ticker_S	EUB-MAE_S
63.0	AMC	140.61%	AMC	108.52%
63.0	LUMN	56.37%	GME	30.45%
63.0	IEP	39.27%	LUMN	26.65%
63.0	ELAN	32.59%	CYH	23.94%
63.0	CZR	32.46%	BHC	17.19%
63.0	BHC	31.69%	MSTR	15.61%
63.0	TSLA	30.12%	IEP	14.84%
63.0	NWL	24.45%	GBTC	14.3%
63.0	CCL	24.43%	SBNY	14.24%
63.0	SIVBQ	22.95%	CCL	13.24%
63.0	GBTC	22.44%	UAA	12.57%
63.0	CYH	22.2%	CTLT	12.36%
63.0	MSTR	20.74%	CLF	12.09%
63.0	GT	20.55%	TSLA	12.0%
63.0	VNO	16.46%	X	11.87%
63.0	AMD	16.39%	ELAN	11.61%
63.0	NVDA	15.84%	NWL	11.47%
63.0	LNC	15.63%	GT	11.17%
63.0	MOS	14.9%	VFC	11.07%
63.0	UAA	14.37%	CZR	10.94%
63.0	X	13.0%	SIVBQ	10.74%
63.0	MSFT	12.85%	AMD	10.62%
63.0	INTC	12.77%	MOS	10.46%
63.0	FSUGY	12.26%	AA	10.29%
63.0	CLF	12.2%	NVDA	10.23%
63.0	MU	11.95%	GNRC	9.91%
63.0	AMAT	11.73%	AAP	9.73%
63.0	VFC	11.67%	META	9.42%
63.0	ON	11.39%	CMA	9.15%
63.0	GNRC	11.29%	VNO	9.05%



All TMD: 126d

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

Period examined: All model dates from 2022-01-31 through 2025-10-30

Horizon	Ticker_V	EUB-MAE_V	Ticker_S	EUB-MAE_S
126.0	AMC	287.53%	AMC	207.33%
126.0	LUMN	76.65%	LUMN	54.75%
126.0	CZR	68.56%	GME	45.79%
126.0	ELAN	52.03%	CYH	38.84%
126.0	BHC	50.34%	BHC	26.97%
126.0	TSLA	44.49%	MSTR	25.76%
126.0	NWL	43.08%	NWL	24.14%
126.0	CCL	39.53%	CZR	21.61%
126.0	GT	39.25%	VFC	21.36%
126.0	IEP	36.78%	UAA	19.28%
126.0	CYH	33.77%	CCL	18.9%
126.0	MSTR	32.68%	CLF	18.05%
126.0	GBTC	29.63%	GBTC	17.83%
126.0	NVDA	28.32%	IEP	17.65%
126.0	VNO	28.09%	AA	17.0%
126.0	LNC	27.6%	AAP	16.87%
126.0	UAA	24.36%	AMD	16.83%
126.0	BXP	22.37%	TSLA	16.66%
126.0	GME	21.54%	CTLT	16.25%
126.0	MOS	20.46%	ETRN	15.56%
126.0	NFLX	20.44%	THC	15.17%
126.0	INTC	19.86%	GT	15.12%
126.0	VFC	19.58%	ELAN	14.65%
126.0	CLF	19.56%	BIIB	14.6%
126.0	AMAT	19.52%	LNC	14.57%
126.0	X	19.46%	MOS	14.24%
126.0	THC	19.45%	WRK	14.14%
126.0	ADBE	19.0%	NVDA	14.12%
126.0	MU	18.93%	GNRC	13.81%
126.0	ETRN	18.77%	EXPE	13.69%



All TMD: 252d

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

Period examined: All model dates from 2022-01-31 through 2025-10-30

Horizon	Ticker_V	EUB-MAE_V	Ticker_S	EUB-MAE_S
252.0	AMC	848.37%	AMC	549.03%
252.0	LUMN	126.99%	CYH	79.91%
252.0	CZR	106.08%	BHC	52.34%
252.0	BHC	91.58%	GME	49.91%
252.0	ELAN	85.79%	GBTC	44.29%
252.0	CYH	81.93%	MSTR	42.79%
252.0	GBTC	78.49%	LUMN	37.43%
252.0	CDNS	71.3%	CZR	36.03%
252.0	NVDA	71.1%	CLF	31.71%
252.0	CCL	68.15%	GT	29.47%
252.0	INTU	66.82%	NFLX	28.36%
252.0	AMZN	65.06%	UAA	27.56%
252.0	NWL	61.52%	TSLA	26.88%
252.0	TSLA	57.27%	AA	26.43%
252.0	GT	53.52%	VFC	24.79%
252.0	MSFT	52.72%	GNRC	23.04%
252.0	AMD	49.09%	NWL	22.99%
252.0	COST	49.0%	OXY	22.43%
252.0	CMG	45.47%	META	21.97%
252.0	VNO	44.48%	PRGO	20.52%
252.0	UAA	44.24%	X	20.5%
252.0	DHI	42.84%	CCL	20.14%
252.0	GME	41.12%	CTLT	20.02%
252.0	ORLY	40.98%	AMD	20.01%
252.0	BBY	40.9%	INTC	19.75%
252.0	AZO	40.9%	WRK	19.59%
252.0	CLF	40.22%	DHI	19.49%
252.0	LNC	39.62%	LEN	19.1%
252.0	MS	38.41%	VNO	18.88%
252.0	MU	38.17%	ELAN	18.41%



Bottom 30 Tickers By EUB MAE

All TMD: 1d

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

Period examined: All model dates from 2022-01-31 through 2025-10-30

Horizon	Ticker_V	EUB-MAE_V	Ticker_S	EUB-MAE_S
1.0	VCSH	0.15%	VCSH	0.07%
1.0	MUB	0.16%	MUB	0.1%
1.0	LQD	0.28%	HYG	0.17%
1.0	HYG	0.33%	LQD	0.21%
1.0	FRA	0.35%	EMB	0.23%
1.0	GLD	0.45%	FRA	0.29%
1.0	NVS	0.48%	GLD	0.34%
1.0	PEP	0.49%	TLT	0.38%
1.0	HON	0.51%	SPY	0.39%
1.0	MRK	0.52%	NVS	0.41%
1.0	MSI	0.52%	PEP	0.42%
1.0	POST	0.54%	HON	0.47%
1.0	TMUS	0.55%	POST	0.48%
1.0	GILD	0.55%	MRK	0.48%
1.0	HD	0.55%	TMUS	0.49%
1.0	SNY	0.55%	ABBV	0.49%
1.0	TLT	0.57%	KHC	0.49%
1.0	BUD	0.57%	MSI	0.49%
1.0	MNST	0.59%	VZ	0.5%
1.0	ABBV	0.6%	HSBC	0.5%
1.0	ORLY	0.6%	VICI	0.5%
1.0	ZTS	0.6%	CSCO	0.51%
1.0	XOM	0.61%	COST	0.51%
1.0	SLV	0.61%	AMGN	0.51%
1.0	KHC	0.62%	AZO	0.52%
1.0	SBUX	0.62%	AZN	0.52%
1.0	AMGN	0.62%	ORLY	0.52%
1.0	HCA	0.62%	MNST	0.52%
1.0	GWV	0.63%	GILD	0.52%
1.0	AZN	0.63%	GWV	0.53%



All TMD: 10d

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

Period examined: All model dates from 2022-01-31 through 2025-10-30

Horizon	Ticker_V	EUB-MAE_V	Ticker_S	EUB-MAE_S
10.0	VCSH	0.4%	VCSH	0.22%
10.0	MUB	0.54%	MUB	0.33%
10.0	LQD	0.76%	HYG	0.58%
10.0	FRA	0.96%	LQD	0.7%
10.0	HYG	0.97%	EMB	0.74%
10.0	GLD	1.33%	FRA	0.9%
10.0	PEP	1.45%	SPY	1.16%
10.0	POST	1.46%	GLD	1.17%
10.0	NVS	1.46%	TLT	1.31%
10.0	TLT	1.49%	PEP	1.33%
10.0	GILD	1.5%	NVS	1.46%
10.0	HD	1.52%	POST	1.47%
10.0	HON	1.58%	VZ	1.53%
10.0	MSI	1.58%	HON	1.53%
10.0	SNY	1.59%	ORLY	1.56%
10.0	SPY	1.66%	QQQ	1.57%
10.0	ZTS	1.67%	CSCO	1.58%
10.0	HCA	1.68%	VICI	1.59%
10.0	VICI	1.69%	ACGL	1.61%
10.0	BUD	1.7%	MRK	1.61%
10.0	XOM	1.71%	ABBV	1.63%
10.0	AMGN	1.72%	TMUS	1.65%
10.0	ORLY	1.74%	MSI	1.65%
10.0	ABBV	1.75%	COST	1.66%
10.0	TMUS	1.77%	AMGN	1.67%
10.0	VZ	1.78%	BMJ	1.7%
10.0	BALL	1.79%	GILD	1.7%
10.0	GWW	1.8%	T	1.71%
10.0	TRGP	1.83%	CAH	1.71%
10.0	MRK	1.84%	CPRT	1.71%



All TMD: 21d

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

Period examined: All model dates from 2022-01-31 through 2025-10-30

Horizon	Ticker_V	EUB-MAE_V	Ticker_S	EUB-MAE_S
21.0	VCSH	0.6%	VCSH	0.32%
21.0	MUB	0.77%	MUB	0.43%
21.0	LQD	1.07%	HYG	0.82%
21.0	FRA	1.36%	LQD	0.91%
21.0	HYG	1.67%	EMB	1.0%
21.0	PEP	1.9%	FRA	1.33%
21.0	NVS	2.06%	GLD	1.54%
21.0	GLD	2.22%	SPY	1.57%
21.0	GILD	2.24%	PEP	1.77%
21.0	POST	2.28%	TLT	1.78%
21.0	TLT	2.33%	NVS	2.07%
21.0	BUD	2.35%	HON	2.15%
21.0	HD	2.36%	HSBC	2.17%
21.0	MSI	2.38%	QQQ	2.19%
21.0	SNY	2.38%	POST	2.29%
21.0	HON	2.48%	CAH	2.3%
21.0	HSBC	2.5%	VZ	2.33%
21.0	SPY	2.52%	TMUS	2.34%
21.0	XOM	2.55%	MSI	2.34%
21.0	VZ	2.57%	MRK	2.35%
21.0	ZTS	2.59%	BMJ	2.38%
21.0	ACGL	2.62%	ACGL	2.41%
21.0	VICI	2.63%	CSCO	2.42%
21.0	CMCSA	2.67%	GILD	2.44%
21.0	ORLY	2.71%	VICI	2.46%
21.0	NAVI	2.72%	ORLY	2.47%
21.0	GWW	2.74%	KHC	2.49%
21.0	TMUS	2.74%	T	2.5%
21.0	FRCB	2.77%	ABBV	2.54%
21.0	BAC	2.77%	AMGN	2.55%



All TMD: 63d

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

Period examined: All model dates from 2022-01-31 through 2025-10-30

Horizon	Ticker_V	EUB-MAE_V	Ticker_S	EUB-MAE_S
63.0	VCSH	1.0%	VCSH	0.58%
63.0	MUB	1.2%	MUB	0.83%
63.0	LQD	1.84%	HYG	1.49%
63.0	FRA	2.46%	LQD	1.69%
63.0	PEP	3.16%	EMB	2.11%
63.0	GLD	3.35%	FRA	2.11%
63.0	HYG	3.75%	GLD	2.68%
63.0	BUD	3.89%	SPY	2.77%
63.0	VZ	4.05%	PEP	2.83%
63.0	NVS	4.1%	TLT	3.26%
63.0	ZTS	4.22%	COST	3.35%
63.0	GILD	4.26%	NVS	3.6%
63.0	TLT	4.28%	HON	3.66%
63.0	MSI	4.31%	MRK	3.74%
63.0	POST	4.33%	VICI	3.82%
63.0	HD	4.39%	VZ	3.94%
63.0	SNY	4.39%	AZO	4.1%
63.0	HON	4.4%	QQQ	4.21%
63.0	ORLY	4.51%	POST	4.26%
63.0	CAH	4.55%	AMGN	4.31%
63.0	TMUS	4.6%	HD	4.34%
63.0	JAZZ	4.64%	ORLY	4.35%
63.0	AMGN	4.65%	TMUS	4.39%
63.0	CMCSA	4.66%	MSI	4.44%
63.0	CHTR	4.82%	GILD	4.45%
63.0	VICI	4.84%	HSBC	4.46%
63.0	XOM	4.91%	ZTS	4.57%
63.0	EMB	4.97%	ACGL	4.58%
63.0	HLT	4.99%	CSCO	4.58%
63.0	HCA	5.04%	JPM	4.59%



All TMD: 126d

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

Period examined: All model dates from 2022-01-31 through 2025-10-30

Horizon	Ticker_V	EUB-MAE_V	Ticker_S	EUB-MAE_S
126.0	VCSH	1.03%	VCSH	0.74%
126.0	MUB	1.54%	MUB	1.27%
126.0	LQD	1.86%	HYG	1.74%
126.0	FRA	3.52%	LQD	1.94%
126.0	PEP	3.96%	EMB	2.41%
126.0	TMUS	5.31%	FRA	3.16%
126.0	ABBV	5.31%	PEP	3.8%
126.0	ZTS	5.33%	GLD	4.39%
126.0	NVS	5.53%	SPY	4.39%
126.0	AMGN	5.59%	MNST	4.62%
126.0	MNST	5.64%	TLT	4.88%
126.0	NAVI	5.79%	AMGN	4.9%
126.0	GLD	5.79%	ABBV	4.91%
126.0	SPY	5.84%	HON	4.93%
126.0	IRM	6.02%	BUD	5.23%
126.0	ORLY	6.36%	KHC	5.37%
126.0	VZ	6.37%	UNH	5.38%
126.0	BUD	6.4%	NVS	5.39%
126.0	HLT	6.4%	VICI	5.5%
126.0	VICI	6.43%	TMUS	5.5%
126.0	SNY	6.51%	AZO	5.5%
126.0	CAH	6.57%	QQQ	5.56%
126.0	POST	6.63%	CSCO	5.62%
126.0	EMB	6.73%	ORLY	5.64%
126.0	XOM	6.76%	VZ	5.79%
126.0	BALL	6.82%	ZTS	6.02%
126.0	BMY	6.82%	HD	6.05%
126.0	MSI	7.09%	XOM	6.13%
126.0	JPM	7.09%	JPM	6.14%
126.0	HYG	7.13%	BMY	6.18%



All TMD: 252d

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

Period examined: All model dates from 2022-01-31 through 2025-10-30

Horizon	Ticker_V	EUB-MAE_V	Ticker_S	EUB-MAE_S
252.0	VCSH	1.72%	VCSH	0.96%
252.0	MUB	3.17%	MUB	1.58%
252.0	LQD	4.78%	HYG	3.16%
252.0	NVS	4.91%	FRA	4.31%
252.0	FRA	5.79%	EMB	4.43%
252.0	PEP	6.09%	LQD	4.48%
252.0	BUD	6.96%	BMV	4.94%
252.0	VICI	7.96%	PEP	5.0%
252.0	MRK	8.22%	GLD	5.2%
252.0	ZTS	8.22%	NVS	5.44%
252.0	CVS	8.23%	VICI	6.11%
252.0	POST	8.4%	AZN	6.8%
252.0	CMCSA	8.92%	ABBV	6.98%
252.0	GLD	8.99%	HON	6.98%
252.0	IRM	9.14%	TLT	7.32%
252.0	BALL	9.79%	AMGN	7.36%
252.0	MSI	10.04%	SPY	7.41%
252.0	SLV	10.22%	GSK	7.79%
252.0	XOM	10.3%	MSI	7.97%
252.0	VZ	10.54%	MRK	7.98%
252.0	HYG	10.67%	VZ	8.07%
252.0	AMGN	10.79%	HD	8.12%
252.0	SNY	10.85%	TMUS	8.21%
252.0	EMB	10.89%	HSBC	8.51%
252.0	GILD	11.13%	AZO	8.54%
252.0	NAVI	11.14%	CSCO	8.61%
252.0	CSTM	11.52%	POST	8.61%
252.0	LW	11.53%	BIIB	8.67%
252.0	CNC	11.82%	MNST	8.87%
252.0	GNRC	12.06%	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 Model 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.

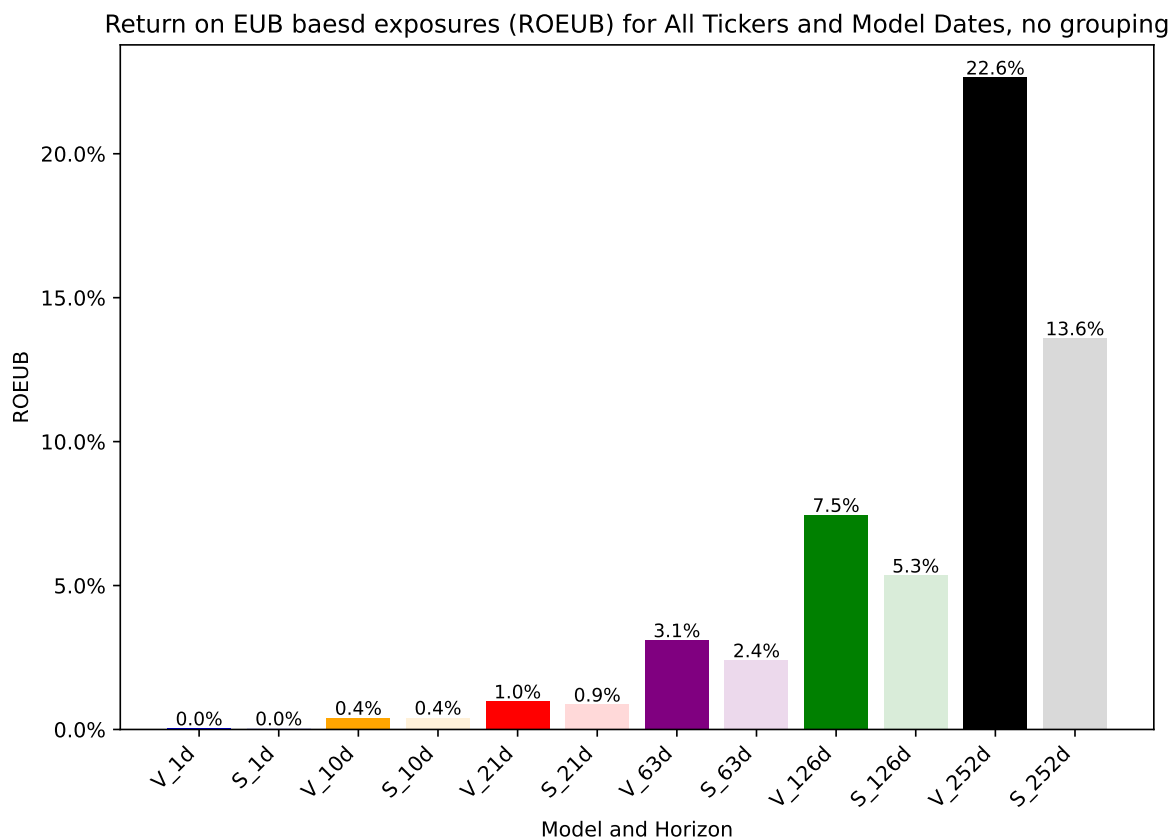
Following each bar chart comparison of ROEUB is a table detailing the alpha (intercept) and slope (beta) of Vector Model EUB based exposure performance to Sigma EUB exposure based performance. The beta arguably provides some indication of the leverage of the Vector Model based exposures and the alpha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

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



All Out of Sample Model Dates

Period examined: All model dates from 2022-01-31 through 2025-10-30



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%	0.28%	0.86%	3.16%
intercept_p_value	73.69%	54.82%	0.00%	0.00%	0.00%	0.00%
slope	99.61%	96.69%	101.91%	117.21%	123.38%	143.36%
slope_p_value	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

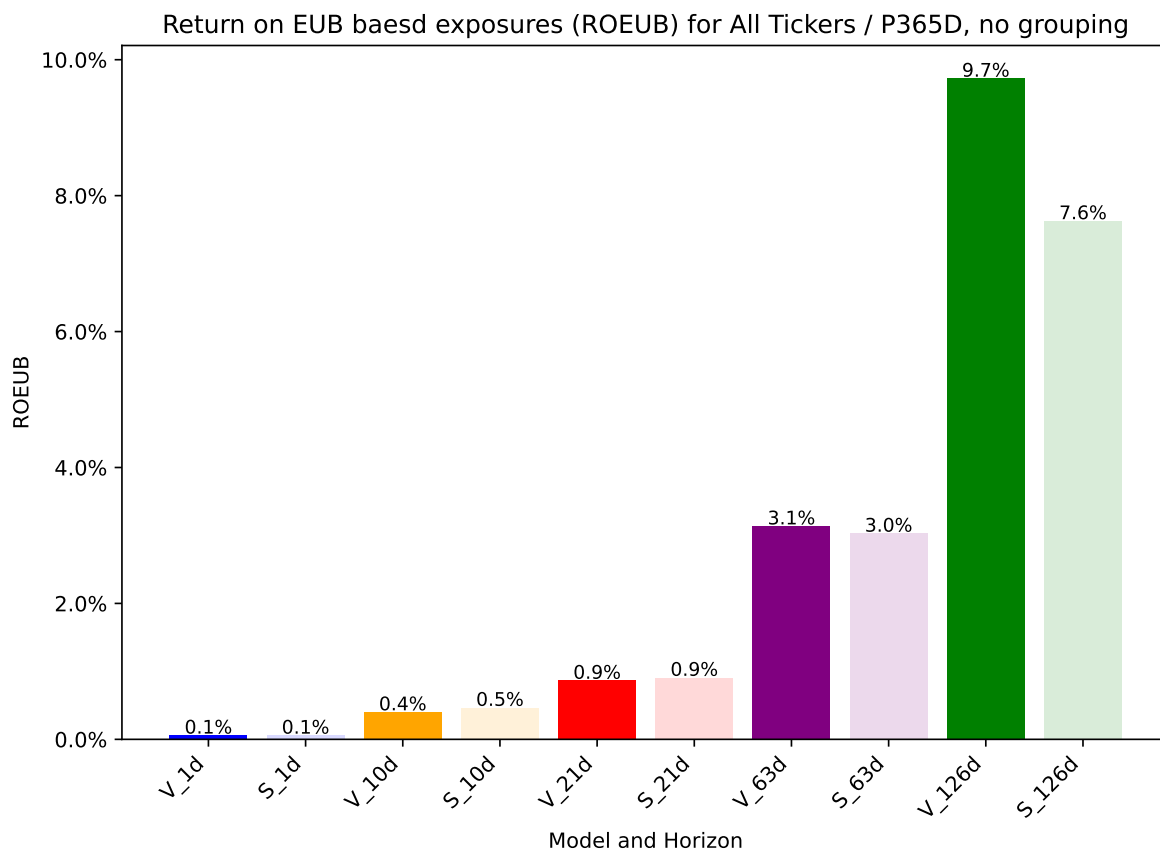
Same as above, but averaged by Ticker across Model Dates:

	1d	10d	21d	63d	126d	252d
intercept	-0.00%	-0.02%	-0.00%	-0.19%	-0.79%	-2.98%
intercept_p_value	48.25%	24.18%	17.58%	12.07%	9.10%	12.61%
slope	100.65%	99.54%	105.71%	118.88%	128.45%	151.47%
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 2024-11-01 through 2025-10-30



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%	-0.03%	-0.02%	-0.18%	0.84%
intercept_p_value	75.42%	14.04%	38.59%	0.20%	0.00%
slope	97.46%	91.81%	97.89%	109.36%	116.50%
slope_p_value	0.00%	0.00%	0.00%	0.00%	0.00%

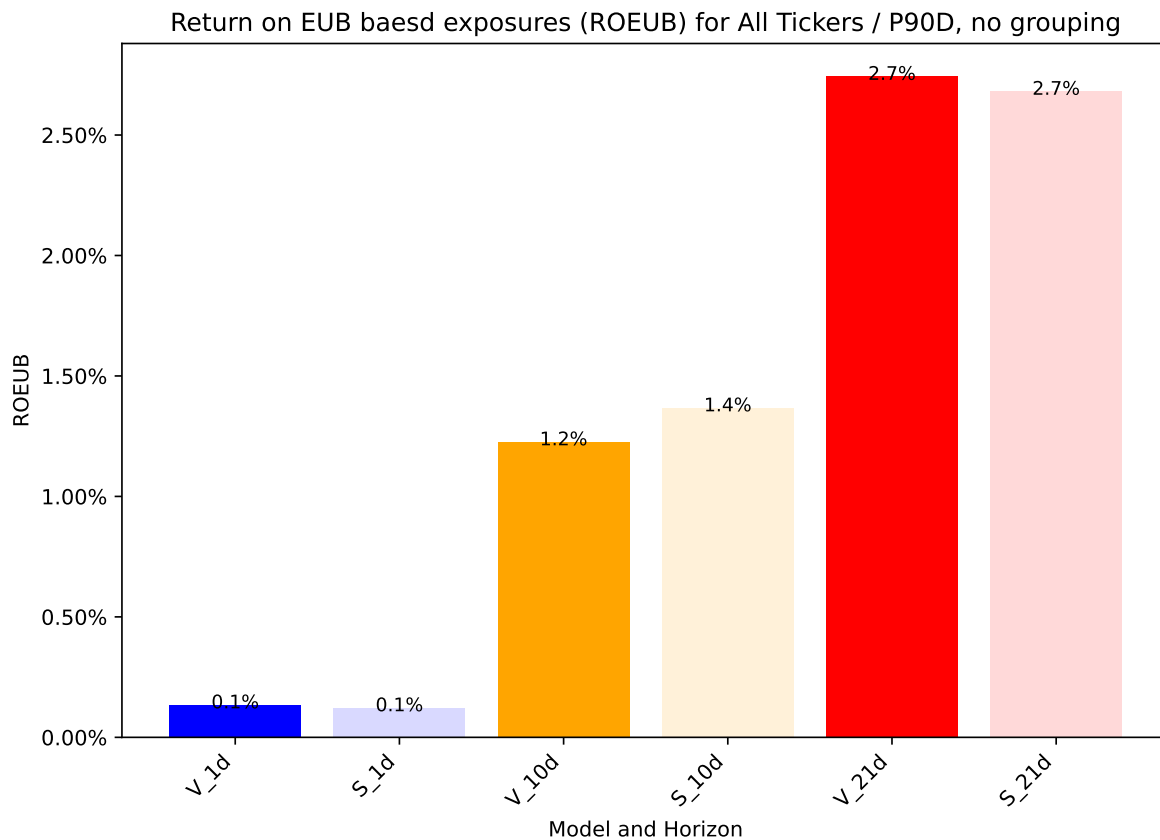
Same as above, but averaged by Ticker across Model Dates:

	1d	10d	21d	63d	126d
intercept	0.01%	-0.02%	-0.03%	-0.32%	0.06%
intercept_p_value	44.89%	23.72%	15.38%	11.30%	16.77%
slope	100.04%	98.73%	105.19%	118.93%	133.30%
slope_p_value	0.00%	0.00%	0.00%	0.00%	0.00%



Prior 90 Calendar Days (P90D)

Period examined: All model dates from 2025-08-04 through 2025-10-30



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

	1d	10d	21d
intercept	0.02%	-0.07%	-0.07%
intercept_p_value	21.59%	4.57%	30.81%
slope	96.27%	95.07%	105.10%
slope_p_value	0.00%	0.00%	0.00%

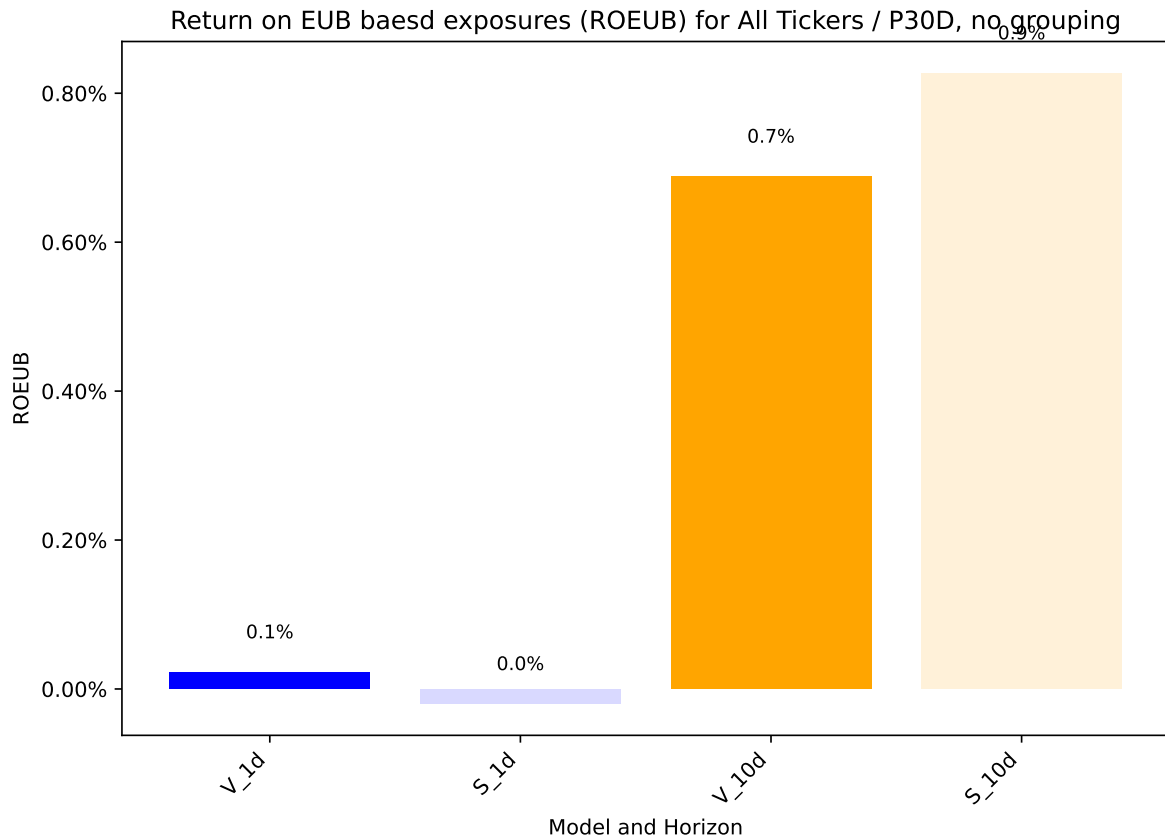
Same as above, but averaged by Ticker across Model Dates:

	1d	10d	21d
intercept	0.02%	0.03%	0.13%
intercept_p_value	47.45%	31.01%	32.70%
slope	95.77%	94.43%	100.27%
slope_p_value	0.00%	0.00%	0.00%



Prior 30 Calendar Days (P30D)

Period examined: All model dates from 2025-10-02 through 2025-10-30



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

	1d	10d
intercept	0.04%	-0.11%
intercept_p_value	10.57%	13.72%
slope	95.78%	96.74%
slope_p_value	0.00%	0.00%

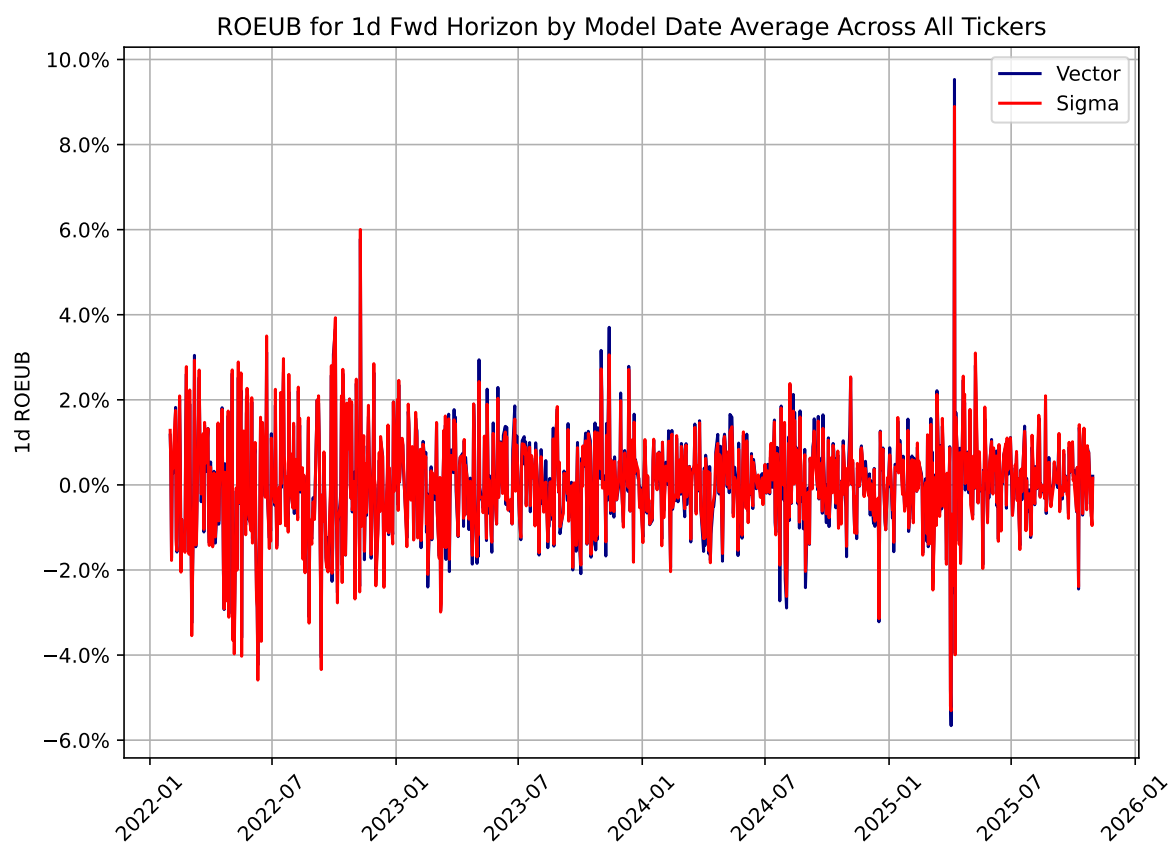
Same as above, but averaged by Ticker across Model Dates:

	1d	10d
intercept	0.02%	-0.08%
intercept_p_value	46.38%	49.08%
slope	96.83%	95.12%
slope_p_value	0.00%	0.00%

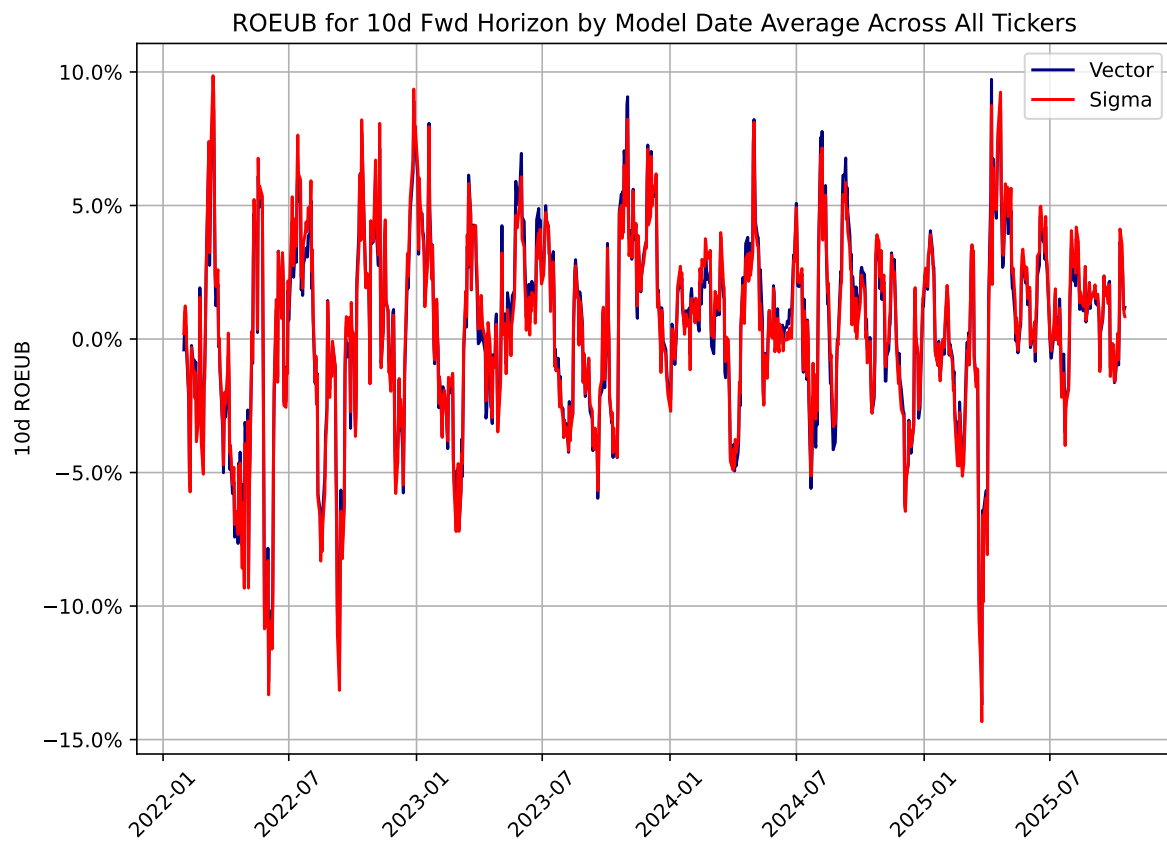


ROEUB by Model Date Detail

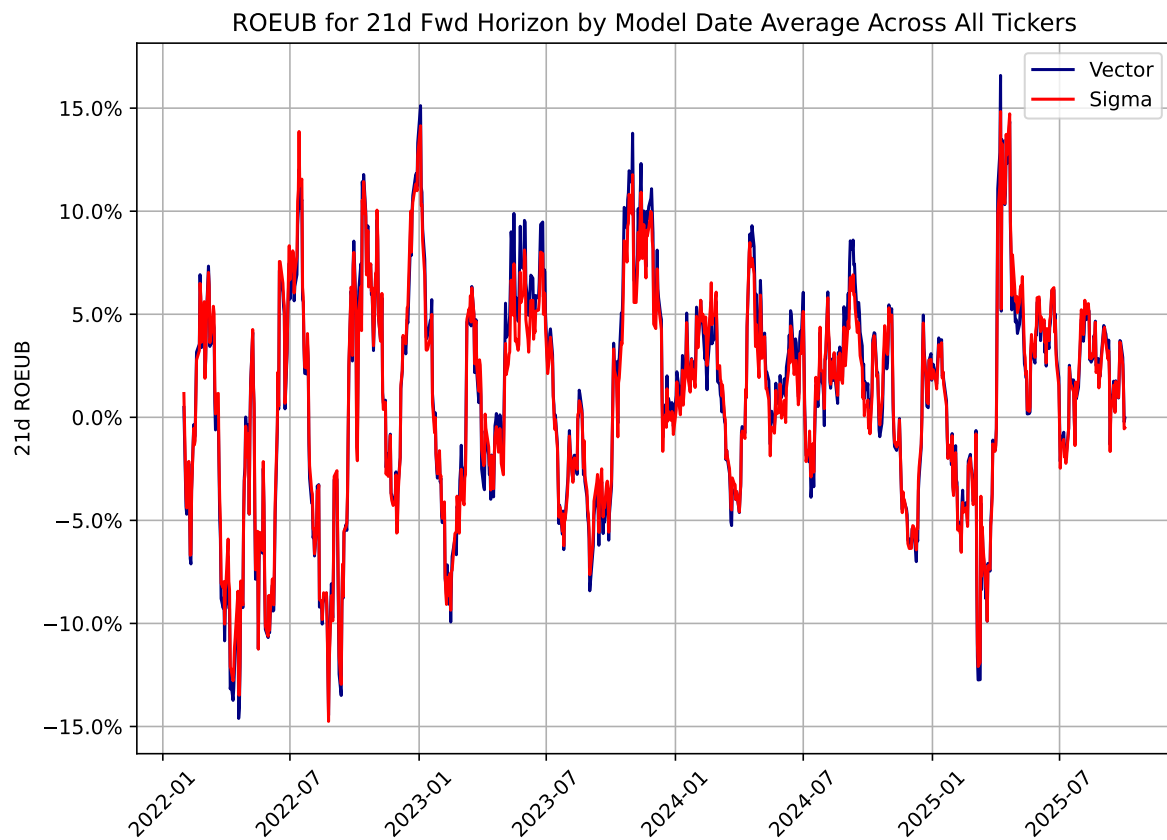
1d Horizon



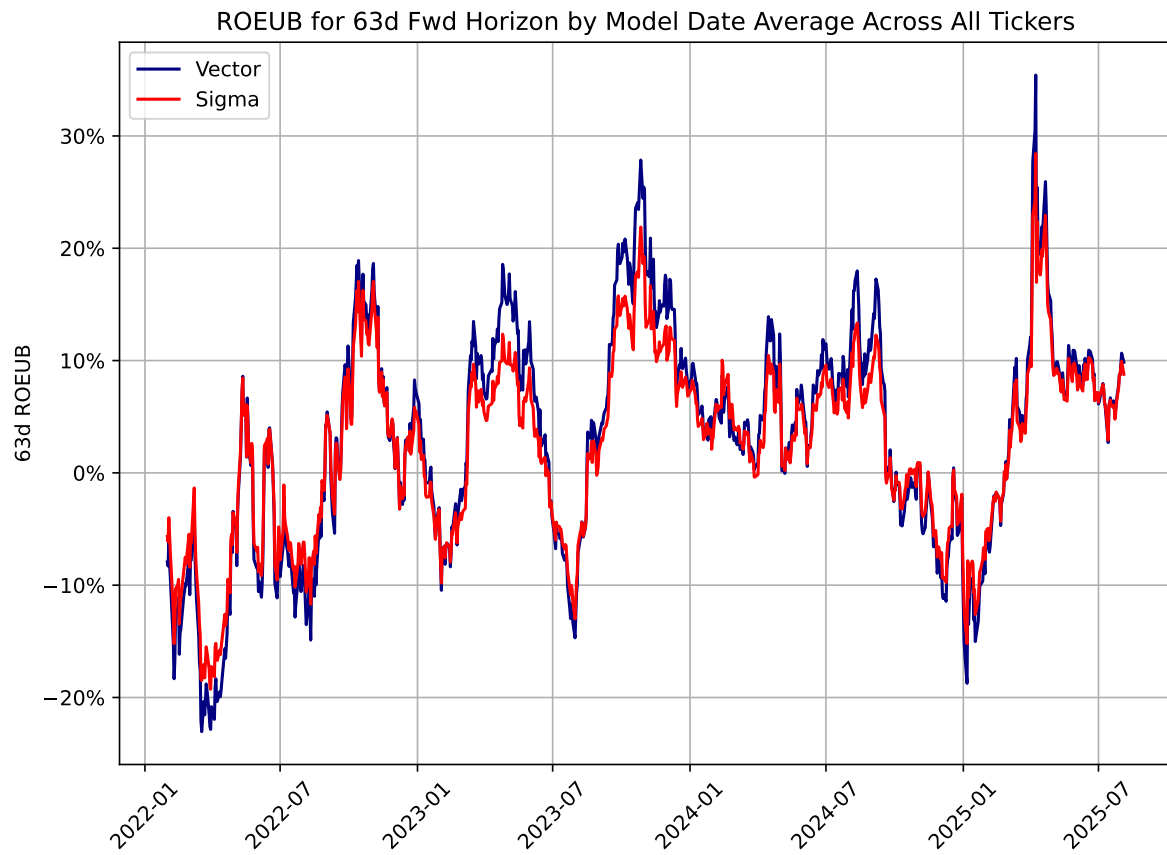
10d Horizon



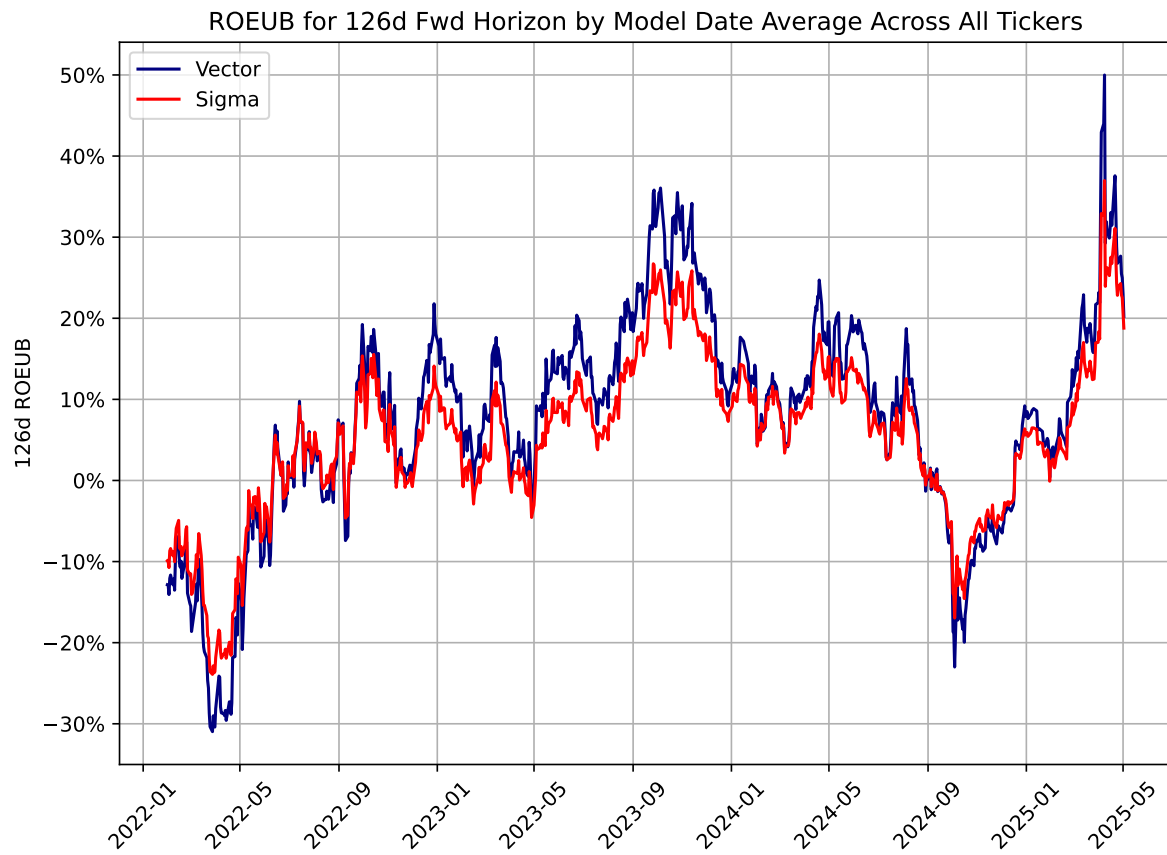
21d Horizon



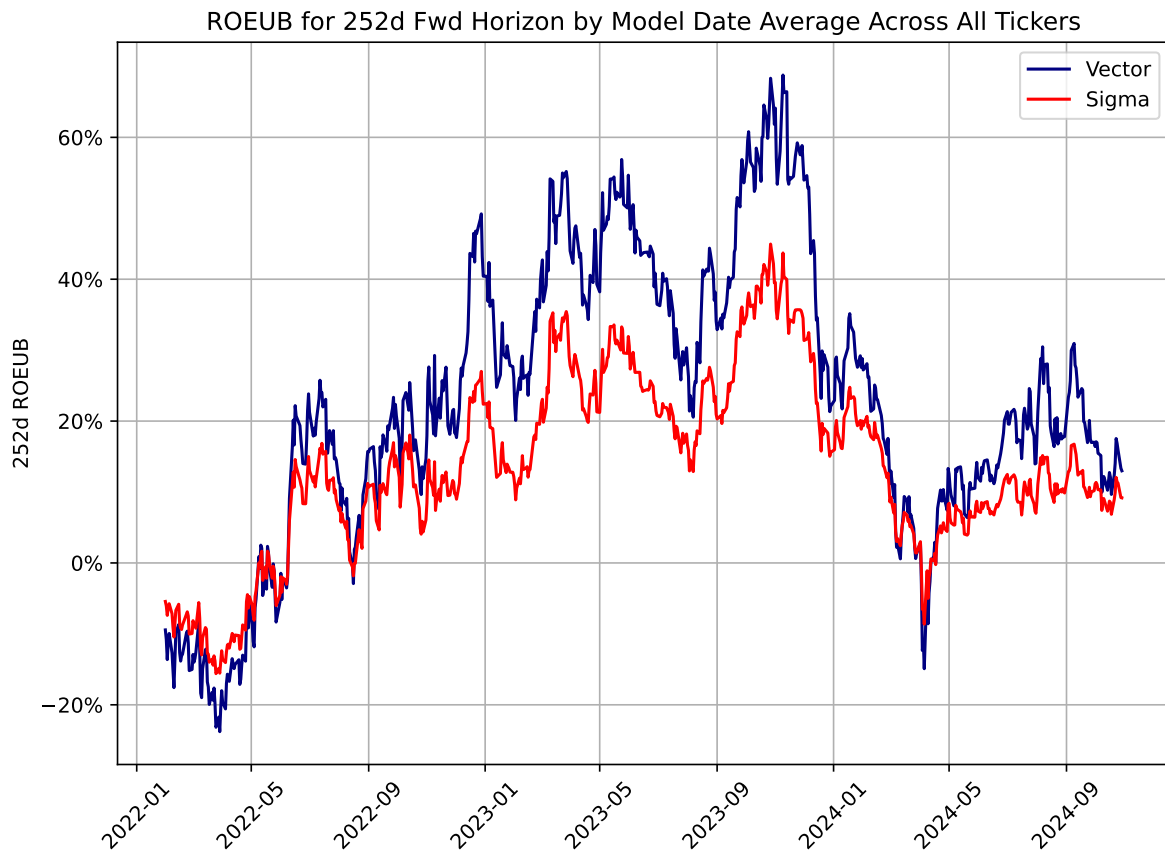
63d Horizon



126d Horizon



252d Horizon



Top 30 Tickers By ROEUB

All TMD: 1d

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

Period examined: All model dates from 2022-01-31 through 2025-10-30

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
1.0	TSLA	0.35%	MSTR	0.39%
1.0	AVGO	0.34%	NVDA	0.28%
1.0	NVDA	0.31%	VST	0.28%
1.0	CCL	0.29%	AVGO	0.24%
1.0	GBTC	0.26%	GBTC	0.2%
1.0	VST	0.25%	PWR	0.18%
1.0	AMD	0.24%	GME	0.18%
1.0	GE	0.23%	GE	0.17%
1.0	X	0.22%	X	0.17%
1.0	LLY	0.22%	WDC	0.16%
1.0	PWR	0.17%	ORCL	0.16%
1.0	B	0.16%	MU	0.15%
1.0	PHM	0.16%	LLY	0.15%
1.0	LVS	0.15%	THC	0.15%
1.0	MSFT	0.15%	CAH	0.15%
1.0	THC	0.14%	AMD	0.14%
1.0	CAH	0.13%	NFLX	0.14%
1.0	TDG	0.13%	TEVA	0.13%
1.0	MU	0.13%	TRGP	0.12%
1.0	TRGP	0.12%	META	0.12%
1.0	VNO	0.12%	ETRN	0.12%
1.0	MSTR	0.12%	TSLA	0.12%
1.0	CDNS	0.11%	PHM	0.11%
1.0	DHI	0.11%	CDNS	0.11%
1.0	WDC	0.11%	CCL	0.1%
1.0	WYNN	0.11%	IRM	0.1%
1.0	AMC	0.1%	GS	0.1%
1.0	GME	0.1%	GOOGL	0.1%
1.0	IRM	0.1%	SLV	0.1%
1.0	JPM	0.09%	TDG	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 2025-10-30

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
10.0	NVDA	4.06%	MSTR	3.99%
10.0	TSLA	3.53%	VST	2.8%
10.0	AVGO	3.15%	NVDA	2.75%
10.0	VST	2.78%	AVGO	2.29%
10.0	CCL	2.41%	GBTC	1.93%
10.0	GBTC	2.34%	PWR	1.77%
10.0	LLY	2.16%	GE	1.7%
10.0	MSTR	2.11%	ORCL	1.59%
10.0	GE	1.78%	X	1.58%
10.0	AMD	1.74%	LLY	1.53%
10.0	PWR	1.64%	GME	1.53%
10.0	MSFT	1.5%	NFLX	1.52%
10.0	X	1.5%	MU	1.51%
10.0	MU	1.42%	META	1.51%
10.0	ETRN	1.32%	WDC	1.48%
10.0	CAH	1.31%	THC	1.44%
10.0	CDNS	1.27%	ETRN	1.41%
10.0	AMAT	1.19%	CAH	1.36%
10.0	THC	1.18%	AMD	1.33%
10.0	PHM	1.17%	TEVA	1.33%
10.0	GME	1.16%	TSLA	1.25%
10.0	AZO	1.16%	TRGP	1.18%
10.0	GS	1.13%	PHM	1.13%
10.0	LVS	1.11%	CDNS	1.1%
10.0	TDG	1.08%	IRM	1.06%
10.0	JPM	1.08%	CCL	1.0%
10.0	QQQ	1.04%	GS	0.98%
10.0	DHI	1.02%	ORLY	0.96%
10.0	HLT	1.01%	SLV	0.94%
10.0	ORCL	0.99%	TDG	0.94%



All TMD: 21d

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

Period examined: All model dates from 2022-01-31 through 2025-10-30

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
21.0	NVDA	9.71%	MSTR	9.1%
21.0	TSLA	8.37%	VST	6.15%
21.0	VST	6.55%	NVDA	5.94%
21.0	AVGO	6.01%	AVGO	4.8%
21.0	GBTC	5.84%	GBTC	4.3%
21.0	CCL	5.78%	PWR	3.75%
21.0	MSTR	5.76%	GE	3.69%
21.0	LLY	4.19%	ORCL	3.57%
21.0	PWR	4.12%	ETRN	3.5%
21.0	GE	4.05%	NFLX	3.42%
21.0	AMD	3.95%	META	3.37%
21.0	ETRN	3.92%	LLY	3.2%
21.0	AMAT	3.7%	X	3.17%
21.0	MU	3.56%	WDC	3.11%
21.0	AZO	3.29%	THC	2.99%
21.0	PHM	3.22%	MU	2.91%
21.0	MSFT	3.19%	TEVA	2.9%
21.0	X	3.17%	TSLA	2.89%
21.0	DHI	3.04%	AMD	2.81%
21.0	CAH	3.04%	CAH	2.8%
21.0	CDNS	2.97%	PHM	2.51%
21.0	ORCL	2.82%	TRGP	2.47%
21.0	THC	2.52%	GME	2.43%
21.0	GS	2.47%	CDNS	2.31%
21.0	ORLY	2.44%	IRM	2.27%
21.0	JPM	2.43%	CCL	2.25%
21.0	TDG	2.37%	GS	2.13%
21.0	QQQ	2.36%	ORLY	2.07%
21.0	HLT	2.33%	SLV	1.96%
21.0	GLD	2.16%	TDG	1.9%



All TMD: 63d

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

Period examined: All model dates from 2022-01-31 through 2025-10-30

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
63.0	NVDA	33.57%	MSTR	27.38%
63.0	MSTR	29.01%	VST	20.27%
63.0	VST	22.8%	NVDA	19.98%
63.0	GBTC	19.24%	AVGO	14.82%
63.0	CCL	18.68%	GBTC	14.68%
63.0	TSLA	16.18%	META	12.2%
63.0	GE	15.22%	NFLX	11.98%
63.0	AVGO	15.09%	GE	11.66%
63.0	DHI	14.61%	ORCL	10.91%
63.0	PWR	12.84%	ETRN	10.28%
63.0	PHM	12.72%	PWR	10.23%
63.0	AMD	11.46%	PHM	9.06%
63.0	ORCL	11.39%	THC	9.01%
63.0	LLY	11.22%	WDC	8.96%
63.0	NFLX	10.44%	LLY	8.59%
63.0	AZO	10.25%	CAH	8.09%
63.0	MU	10.17%	CCL	7.94%
63.0	MSFT	10.16%	MU	7.42%
63.0	THC	10.07%	AMD	7.36%
63.0	ETRN	9.47%	TEVA	7.36%
63.0	CAH	9.32%	TRGP	7.22%
63.0	CDNS	8.94%	DHI	6.9%
63.0	QQQ	8.89%	CDNS	6.87%
63.0	AMAT	8.7%	GS	6.76%
63.0	ORLY	8.44%	TSLA	6.58%
63.0	TDG	8.43%	ORLY	6.35%
63.0	JPM	8.03%	JPM	6.29%
63.0	GS	7.96%	TDG	6.02%
63.0	GOOGL	7.84%	X	5.91%
63.0	X	7.66%	IRM	5.78%



All TMD: 126d

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

Period examined: All model dates from 2022-01-31 through 2025-10-30

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
126.0	NVDA	78.47%	MSTR	67.34%
126.0	MSTR	59.36%	NVDA	49.24%
126.0	GBTC	53.09%	VST	44.1%
126.0	VST	52.87%	GBTC	38.75%
126.0	NFLX	39.32%	AVGO	31.52%
126.0	GE	37.28%	NFLX	29.76%
126.0	CCL	35.9%	META	28.85%
126.0	AVGO	32.93%	GE	27.37%
126.0	TSLA	32.79%	ORCL	21.84%
126.0	ORCL	30.47%	THC	21.51%
126.0	PHM	29.33%	PWR	20.7%
126.0	AMD	28.73%	PHM	19.11%
126.0	DHI	28.47%	ETRN	18.49%
126.0	THC	27.91%	LLY	18.19%
126.0	MU	26.14%	CAH	17.95%
126.0	PWR	26.14%	TRGP	16.82%
126.0	AMAT	24.92%	CCL	16.09%
126.0	QQQ	24.86%	TEVA	15.23%
126.0	AMZN	23.12%	MU	15.22%
126.0	MSFT	22.87%	TDG	15.0%
126.0	AZO	22.86%	WDC	14.63%
126.0	COST	21.72%	AMD	14.49%
126.0	JPM	21.6%	JPM	14.11%
126.0	CAH	21.13%	GS	13.98%
126.0	TDG	20.86%	CDNS	13.71%
126.0	LLY	20.59%	ORLY	13.38%
126.0	CDNS	20.48%	ISRG	13.27%
126.0	VNO	20.1%	DHI	13.15%
126.0	ORLY	19.63%	IRM	13.06%
126.0	ISRG	19.49%	GWV	12.92%



All TMD: 252d

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

Period examined: All model dates from 2022-01-31 through 2025-10-30

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
252.0	NVDA	269.53%	MSTR	215.16%
252.0	MSTR	237.38%	NVDA	134.21%
252.0	GBTC	182.54%	VST	125.4%
252.0	NFLX	134.75%	GBTC	115.0%
252.0	VST	131.62%	META	75.98%
252.0	AVGO	115.02%	AVGO	75.83%
252.0	GE	104.39%	NFLX	69.69%
252.0	CCL	96.87%	GE	61.36%
252.0	PWR	88.74%	PHM	48.79%
252.0	AMZN	84.99%	THC	48.22%
252.0	CDNS	82.56%	LLY	45.93%
252.0	PHM	80.66%	TRGP	45.7%
252.0	LLY	78.28%	PWR	42.61%
252.0	META	74.94%	ORCL	42.57%
252.0	COST	73.12%	CCL	40.52%
252.0	DHI	72.52%	TDG	36.35%
252.0	ORLY	69.89%	ETRN	35.78%
252.0	QQQ	67.67%	ISRG	34.93%
252.0	ORCL	65.94%	TEVA	34.58%
252.0	ISRG	65.32%	CAH	34.45%
252.0	MSFT	63.1%	JPM	32.46%
252.0	THC	62.74%	IRM	31.44%
252.0	JPM	60.1%	GWV	30.16%
252.0	VNO	58.23%	GS	29.43%
252.0	AZO	56.92%	DHI	29.41%
252.0	AMD	56.56%	CDNS	28.87%
252.0	AMAT	55.12%	MU	28.85%
252.0	MU	54.91%	COST	28.73%
252.0	TDG	51.37%	ACGL	28.45%
252.0	ACGL	51.0%	AMZN	28.11%



P365D: 1d

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

Period examined: All model dates from 2024-11-01 through 2025-10-30

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
1.0	LUMN	0.64%	WDC	0.4%
1.0	AVGO	0.61%	MU	0.4%
1.0	AMD	0.52%	AVGO	0.38%
1.0	AAP	0.36%	TSLA	0.33%
1.0	VST	0.35%	AMD	0.3%
1.0	NVDA	0.35%	INTC	0.29%
1.0	ELAN	0.34%	X	0.29%
1.0	TSLA	0.34%	VST	0.28%
1.0	LVS	0.32%	ELAN	0.28%
1.0	CLF	0.32%	NEM	0.26%
1.0	B	0.31%	LUMN	0.26%
1.0	GBTC	0.3%	GE	0.26%
1.0	MU	0.3%	B	0.25%
1.0	WDC	0.29%	ORCL	0.24%
1.0	CCL	0.29%	GBTC	0.22%
1.0	AMAT	0.26%	GOOGL	0.22%
1.0	CAH	0.23%	AAP	0.22%
1.0	GE	0.23%	MSTR	0.22%
1.0	GOOGL	0.21%	CAH	0.21%
1.0	INTC	0.21%	NVDA	0.21%
1.0	LLY	0.19%	GS	0.19%
1.0	NEM	0.19%	PWR	0.19%
1.0	TDG	0.19%	CSTM	0.18%
1.0	CTLT	0.19%	HSBC	0.18%
1.0	NFLX	0.19%	SLV	0.18%
1.0	WYNN	0.18%	NFLX	0.18%
1.0	PWR	0.18%	EXPE	0.16%
1.0	MS	0.18%	CVS	0.16%
1.0	HSBC	0.17%	GLD	0.16%
1.0	SLV	0.17%	MS	0.16%



P365D: 10d

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

Period examined: All model dates from 2024-11-01 through 2025-10-30

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
10.0	AVGO	5.04%	MU	3.82%
10.0	VST	3.36%	WDC	3.73%
10.0	AMD	3.17%	AVGO	3.6%
10.0	MU	3.02%	NEM	2.99%
10.0	B	2.76%	AMD	2.95%
10.0	AAP	2.68%	INTC	2.74%
10.0	LUMN	2.68%	B	2.69%
10.0	CSTM	2.56%	X	2.64%
10.0	BA	2.34%	TSLA	2.56%
10.0	X	2.15%	ELAN	2.53%
10.0	WDC	2.14%	GE	2.46%
10.0	NEM	2.11%	AAP	2.29%
10.0	GLD	2.08%	ORCL	2.26%
10.0	NFLX	2.06%	VST	2.24%
10.0	NVDA	2.0%	CSTM	1.96%
10.0	LVS	1.99%	GOOGL	1.89%
10.0	AMAT	1.96%	SLV	1.89%
10.0	ELAN	1.95%	CVS	1.89%
10.0	MOS	1.95%	BA	1.87%
10.0	CTLT	1.9%	GLD	1.82%
10.0	GE	1.88%	HSBC	1.78%
10.0	WYNN	1.87%	NFLX	1.72%
10.0	CLF	1.87%	WYNN	1.7%
10.0	GBTC	1.71%	GBTC	1.7%
10.0	LLY	1.7%	CTLT	1.69%
10.0	HSBC	1.69%	PWR	1.6%
10.0	CAH	1.51%	NVDA	1.53%
10.0	TSLA	1.41%	CAH	1.51%
10.0	INTC	1.34%	GS	1.5%
10.0	AZO	1.3%	THC	1.31%



P365D: 21d

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

Period examined: All model dates from 2024-11-01 through 2025-10-30

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
21.0	AVGO	8.68%	MU	8.18%
21.0	AMD	8.01%	WDC	8.12%
21.0	MU	7.78%	AVGO	8.07%
21.0	AMAT	7.03%	NEM	7.06%
21.0	VST	6.64%	B	6.43%
21.0	B	6.36%	AMD	6.28%
21.0	GLD	5.54%	INTC	5.46%
21.0	NVDA	5.42%	ELAN	5.44%
21.0	MOS	5.38%	GE	5.34%
21.0	NEM	5.36%	ORCL	5.23%
21.0	BA	5.33%	X	5.04%
21.0	CSTM	5.26%	TSLA	4.76%
21.0	AAP	4.83%	AAP	4.6%
21.0	ORCL	4.81%	SLV	4.57%
21.0	CTLT	4.79%	VST	4.3%
21.0	LUMN	4.56%	CTLT	4.27%
21.0	NFLX	4.54%	GLD	4.09%
21.0	GE	4.44%	GOOGL	4.02%
21.0	WDC	4.07%	BA	3.97%
21.0	HSBC	4.07%	CVS	3.89%
21.0	WYNN	3.8%	CSTM	3.86%
21.0	LVS	3.75%	HSBC	3.83%
21.0	X	3.7%	NFLX	3.55%
21.0	GOOGL	3.54%	WYNN	3.37%
21.0	ELAN	3.49%	NVDA	3.25%
21.0	AZO	3.41%	PWR	3.21%
21.0	AZN	3.38%	THC	3.18%
21.0	CAH	3.25%	GS	3.07%
21.0	CLF	3.19%	GBTC	2.94%
21.0	SLV	3.16%	AMAT	2.91%



P365D: 63d

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

Period examined: All model dates from 2024-11-01 through 2025-10-30

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
63.0	B	25.71%	WDC	27.1%
63.0	NVDA	23.92%	NEM	25.41%
63.0	MOS	23.66%	B	22.68%
63.0	VST	20.55%	AVGO	21.62%
63.0	GLD	20.05%	MU	20.9%
63.0	NEM	19.5%	ORCL	20.43%
63.0	ORCL	19.43%	ELAN	19.34%
63.0	BA	18.9%	GE	18.03%
63.0	CSTM	18.24%	AMD	17.98%
63.0	X	17.34%	X	16.98%
63.0	MU	17.06%	AAP	15.82%
63.0	AMD	16.42%	VST	13.83%
63.0	ELAN	16.34%	CVS	13.62%
63.0	NFLX	16.29%	INTC	13.62%
63.0	THC	16.12%	NVDA	12.91%
63.0	GE	16.0%	SLV	12.86%
63.0	GOOGL	15.25%	CSTM	12.79%
63.0	HSBC	15.03%	WYNN	12.63%
63.0	WDC	14.49%	THC	12.13%
63.0	GNRC	14.35%	HSBC	11.92%
63.0	AAP	14.18%	BA	11.92%
63.0	AVGO	14.1%	GLD	11.81%
63.0	WYNN	13.12%	NFLX	11.58%
63.0	T	12.9%	GS	10.26%
63.0	CLF	12.87%	GOOGL	10.19%
63.0	LUMN	12.6%	PWR	9.88%
63.0	LVS	12.15%	CCL	9.77%
63.0	PHM	11.53%	HCA	9.13%
63.0	AZO	11.43%	MOS	9.06%
63.0	CVS	11.35%	CAH	8.93%



P365D: 126d

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

Period examined: All model dates from 2024-11-01 through 2025-10-30

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
126.0	ORCL	75.83%	WDC	66.58%
126.0	MOS	74.08%	NEM	52.95%
126.0	AMD	72.25%	AVGO	52.36%
126.0	NVDA	71.82%	MU	51.61%
126.0	THC	57.27%	ELAN	50.76%
126.0	BA	56.16%	ORCL	50.16%
126.0	B	54.5%	AMD	47.15%
126.0	ELAN	54.11%	GE	42.96%
126.0	NEM	52.02%	B	41.04%
126.0	VST	50.63%	VST	36.38%
126.0	CSTM	49.87%	CSTM	35.14%
126.0	MU	48.55%	AAP	34.34%
126.0	NFLX	44.4%	NVDA	33.87%
126.0	GE	43.81%	THC	33.61%
126.0	GLD	40.26%	PWR	31.11%
126.0	QQQ	37.81%	BA	31.02%
126.0	WYNN	35.69%	NFLX	30.36%
126.0	AVGO	35.44%	MOS	29.5%
126.0	WDC	34.69%	WYNN	28.98%
126.0	PWR	34.47%	SLV	25.87%
126.0	AMAT	34.3%	X	25.82%
126.0	HSBC	33.96%	CAH	24.0%
126.0	X	33.57%	CCL	23.61%
126.0	MSFT	33.27%	GS	23.55%
126.0	MNST	29.27%	HSBC	23.4%
126.0	JPM	28.54%	GLD	23.26%
126.0	MS	27.28%	MSFT	22.21%
126.0	CAH	27.0%	GBTC	21.72%
126.0	GOOGL	26.15%	HCA	20.71%
126.0	GBTC	25.67%	INTC	20.26%



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 2025-08-04 through 2025-10-30

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
1.0	LUMN	2.66%	LUMN	1.73%
1.0	AMD	1.29%	INTC	1.23%
1.0	AVGO	1.17%	MU	1.21%
1.0	CYH	0.9%	WDC	1.12%
1.0	MU	0.87%	CYH	0.79%
1.0	AMAT	0.86%	ELAN	0.76%
1.0	INTC	0.84%	AMD	0.68%
1.0	WDC	0.8%	B	0.66%
1.0	ELAN	0.65%	TSLA	0.66%
1.0	LLY	0.59%	GOOGL	0.6%
1.0	B	0.58%	UNH	0.58%
1.0	CLF	0.55%	CNC	0.53%
1.0	CAH	0.53%	CLF	0.51%
1.0	BIIB	0.53%	AAPL	0.47%
1.0	LVS	0.5%	SLV	0.45%
1.0	TEVA	0.48%	TEVA	0.44%
1.0	KALU	0.46%	AMAT	0.43%
1.0	GSK	0.45%	AA	0.42%
1.0	QCOM	0.44%	THC	0.41%
1.0	SLV	0.44%	CVS	0.39%
1.0	LW	0.43%	KALU	0.39%
1.0	NVDA	0.42%	HCA	0.38%
1.0	TSLA	0.42%	AVGO	0.38%
1.0	BHC	0.42%	BHC	0.38%
1.0	PWR	0.41%	NEM	0.37%
1.0	CNC	0.39%	BBY	0.37%
1.0	AA	0.39%	GSK	0.36%
1.0	QQQ	0.38%	QCOM	0.35%
1.0	GOOGL	0.38%	CAH	0.32%
1.0	RIO	0.38%	CSTM	0.32%



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 2025-08-04 through 2025-10-30

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
10.0	LUMN	22.9%	LUMN	16.47%
10.0	AMD	11.24%	INTC	12.71%
10.0	MU	11.01%	MU	12.31%
10.0	AVGO	8.69%	WDC	10.93%
10.0	AMAT	8.36%	AMD	7.84%
10.0	B	7.36%	CYH	7.83%
10.0	INTC	6.61%	B	6.67%
10.0	CYH	6.61%	UNH	6.51%
10.0	WDC	6.04%	TSLA	6.33%
10.0	LLY	5.57%	CLF	6.14%
10.0	BIIB	4.73%	ELAN	5.92%
10.0	LW	4.68%	CNC	5.82%
10.0	ELAN	4.57%	GOOGL	5.52%
10.0	UNH	4.55%	AMAT	4.89%
10.0	AA	4.09%	SLV	4.66%
10.0	TSLA	3.87%	AA	4.51%
10.0	CNC	3.81%	CVS	4.28%
10.0	SLV	3.58%	THC	4.27%
10.0	NEM	3.38%	NEM	4.13%
10.0	RIO	3.38%	VFC	4.04%
10.0	JAZZ	3.31%	LW	3.88%
10.0	CLF	3.25%	JAZZ	3.71%
10.0	QQQ	3.17%	LLY	3.68%
10.0	GLD	2.99%	GLD	3.65%
10.0	NWL	2.99%	BBY	3.46%
10.0	PWR	2.98%	AAPL	3.46%
10.0	CSTM	2.96%	KALU	3.45%
10.0	ORCL	2.84%	CSTM	3.45%
10.0	GSK	2.75%	AVGO	3.45%
10.0	TEVA	2.71%	HCA	3.37%



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 2025-08-04 through 2025-10-30

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
21.0	LUMN	47.82%	LUMN	33.51%
21.0	AMAT	39.36%	MU	30.55%
21.0	MU	35.69%	INTC	29.21%
21.0	AMD	33.55%	WDC	27.52%
21.0	B	17.98%	AMD	19.42%
21.0	WDC	17.14%	B	16.5%
21.0	INTC	16.91%	TSLA	15.41%
21.0	AVGO	15.32%	AMAT	15.28%
21.0	ORCL	14.49%	CLF	14.73%
21.0	LLY	11.59%	CNC	14.18%
21.0	CNC	11.47%	SLV	13.69%
21.0	CYH	10.85%	UNH	13.1%
21.0	SLV	10.83%	CYH	12.71%
21.0	UNH	10.65%	GOOGL	12.07%
21.0	TSLA	10.33%	NEM	11.45%
21.0	AA	9.87%	ELAN	11.12%
21.0	GLD	9.83%	AA	9.79%
21.0	BIIB	9.77%	GLD	9.59%
21.0	NEM	9.76%	ORCL	9.58%
21.0	LW	9.17%	LW	8.57%
21.0	PWR	8.25%	LLY	8.54%
21.0	CLF	7.78%	AVGO	8.14%
21.0	RIO	7.72%	CVS	7.91%
21.0	IRM	7.59%	THC	7.91%
21.0	ELAN	7.57%	JAZZ	7.41%
21.0	GOOGL	6.92%	AAPL	6.89%
21.0	JAZZ	6.83%	TEVA	6.58%
21.0	CAH	6.79%	IRM	6.57%
21.0	GSK	6.28%	PWR	6.55%
21.0	AZN	5.15%	GSK	6.48%



P30D: 1d

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

Period examined: All model dates from 2025-10-02 through 2025-10-30

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
1.0	AMD	3.54%	LUMN	2.44%
1.0	LUMN	3.11%	AMD	2.17%
1.0	CYH	2.52%	CYH	1.4%
1.0	AVGO	1.42%	MU	0.99%
1.0	CAH	1.28%	ISRG	0.95%
1.0	LVS	1.13%	CAH	0.94%
1.0	CLF	0.85%	WDC	0.75%
1.0	KALU	0.82%	KALU	0.74%
1.0	WDC	0.79%	GOOGL	0.66%
1.0	INTC	0.7%	AMZN	0.48%
1.0	QCOM	0.69%	CMA	0.48%
1.0	BHC	0.63%	AVGO	0.47%
1.0	PWR	0.62%	FSUGY	0.46%
1.0	AMAT	0.61%	LVS	0.44%
1.0	FSUGY	0.6%	BHC	0.4%
1.0	MU	0.52%	GILD	0.39%
1.0	GOOGL	0.52%	WFC	0.39%
1.0	GSK	0.46%	RIO	0.39%
1.0	CMA	0.45%	ELAN	0.39%
1.0	QQQ	0.45%	QCOM	0.38%
1.0	TDG	0.45%	BBY	0.37%
1.0	RIO	0.39%	HCA	0.37%
1.0	ISRG	0.39%	INTC	0.36%
1.0	AA	0.36%	FCX	0.36%
1.0	LNC	0.36%	NVDA	0.36%
1.0	MS	0.35%	AA	0.36%
1.0	ELAN	0.33%	GSK	0.35%
1.0	NVDA	0.32%	PWR	0.34%
1.0	SLV	0.29%	CSCO	0.33%
1.0	FCX	0.28%	BAC	0.29%



P30D: 10d

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

Period examined: All model dates from 2025-10-02 through 2025-10-30

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
10.0	LUMN	31.9%	LUMN	24.02%
10.0	AMD	21.03%	CYH	20.05%
10.0	CYH	16.82%	AMD	16.19%
10.0	LVS	14.57%	ISRG	15.78%
10.0	AVGO	10.87%	MU	11.36%
10.0	MU	9.3%	KALU	10.35%
10.0	CAH	8.1%	LVS	9.11%
10.0	AMAT	7.83%	BBY	7.37%
10.0	ELAN	7.02%	ELAN	7.12%
10.0	KALU	6.55%	GOOGL	6.59%
10.0	ISRG	6.3%	AA	6.35%
10.0	RIO	5.99%	GNRC	6.17%
10.0	AA	5.88%	CSTM	6.1%
10.0	BBY	5.16%	WDC	5.83%
10.0	QCOM	4.92%	CAH	5.78%
10.0	QQQ	4.81%	HCA	5.7%
10.0	CSTM	4.66%	FSUGY	5.45%
10.0	GOOGL	4.43%	QCOM	5.39%
10.0	WFC	4.38%	INTC	5.16%
10.0	FSUGY	4.3%	WFC	5.02%
10.0	INTC	4.12%	ON	4.86%
10.0	PEP	4.11%	VFC	4.59%
10.0	GNRC	3.83%	RIO	4.57%
10.0	ON	3.68%	AVGO	4.43%
10.0	BAC	3.67%	AAPL	4.19%
10.0	NVDA	3.62%	AMAT	3.92%
10.0	MS	3.58%	THC	3.9%
10.0	EMB	2.92%	BAC	3.79%
10.0	AAPL	2.9%	CVS	3.43%
10.0	WDC	2.75%	MS	3.38%



Bottom 30 Tickers By ROEUB

All TMD: 1d

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

Period examined: All model dates from 2022-01-31 through 2025-10-30

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	LUMN	-0.26%	FRCB	-0.23%
1.0	CZR	-0.25%	IEP	-0.16%
1.0	SBNY	-0.24%	AMC	-0.14%
1.0	NWL	-0.22%	NWL	-0.14%
1.0	UAA	-0.15%	AAP	-0.11%
1.0	FRCB	-0.1%	VFC	-0.1%
1.0	GNRC	-0.08%	UAA	-0.09%
1.0	CHTR	-0.07%	CZR	-0.08%
1.0	UNH	-0.07%	CHTR	-0.07%
1.0	CNC	-0.06%	GT	-0.06%
1.0	FIS	-0.06%	BALL	-0.06%
1.0	BALL	-0.06%	CNC	-0.05%
1.0	AAP	-0.05%	CMCSA	-0.05%
1.0	AA	-0.05%	FIS	-0.04%
1.0	BXP	-0.05%	PRGO	-0.04%
1.0	TLT	-0.05%	BHC	-0.04%
1.0	GT	-0.05%	TLT	-0.04%
1.0	VFC	-0.04%	KHC	-0.03%
1.0	CMCSA	-0.04%	BXP	-0.02%
1.0	BIIB	-0.04%	BMY	-0.02%
1.0	VZ	-0.04%	VZ	-0.02%
1.0	CTLT	-0.03%	ADBE	-0.02%
1.0	NAVI	-0.03%	ZTS	-0.02%
1.0	LNC	-0.03%	BIIB	-0.02%
1.0	OXY	-0.03%	CTLT	-0.01%
1.0	ZTS	-0.03%	CVS	-0.01%
1.0	BA	-0.02%	NAVI	-0.01%
1.0	PRGO	-0.02%	TFC	-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 2025-10-30

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
10.0	SIVBQ	-3.66%	SBNY	-4.05%
10.0	IEP	-2.81%	SIVBQ	-3.9%
10.0	CZR	-2.76%	FRCB	-2.19%
10.0	SBNY	-1.64%	IEP	-1.52%
10.0	NWL	-1.49%	AMC	-1.51%
10.0	LUMN	-1.29%	NWL	-1.14%
10.0	FRCB	-1.18%	UAA	-1.02%
10.0	UAA	-1.12%	VFC	-0.99%
10.0	GNRC	-0.84%	CZR	-0.96%
10.0	AMC	-0.77%	AAP	-0.91%
10.0	VFC	-0.76%	CHTR	-0.64%
10.0	BALL	-0.63%	GT	-0.63%
10.0	CNC	-0.59%	CNC	-0.61%
10.0	BXP	-0.59%	BALL	-0.52%
10.0	BIIB	-0.46%	CMCSA	-0.45%
10.0	AAP	-0.44%	BHC	-0.42%
10.0	FIS	-0.43%	TLT	-0.41%
10.0	CMCSA	-0.43%	PRGO	-0.39%
10.0	KHC	-0.38%	FIS	-0.38%
10.0	VZ	-0.36%	BMY	-0.32%
10.0	UNH	-0.35%	BXP	-0.28%
10.0	GT	-0.34%	KHC	-0.27%
10.0	CHTR	-0.34%	BIIB	-0.26%
10.0	TLT	-0.34%	ZION	-0.24%
10.0	LNC	-0.31%	VZ	-0.23%
10.0	PRGO	-0.3%	LNC	-0.22%
10.0	AA	-0.29%	ZTS	-0.22%
10.0	ZTS	-0.25%	NAVI	-0.2%
10.0	CTLT	-0.23%	TFC	-0.18%
10.0	NAVI	-0.18%	ADBE	-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 2025-10-30

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
21.0	SIVBQ	-8.0%	SBNY	-11.16%
21.0	IEP	-6.63%	SIVBQ	-9.37%
21.0	CZR	-5.9%	FRCB	-6.02%
21.0	SBNY	-4.88%	AMC	-3.59%
21.0	FRCB	-3.24%	IEP	-3.28%
21.0	NWL	-2.81%	NWL	-2.48%
21.0	UAA	-2.06%	VFC	-2.17%
21.0	VFC	-1.96%	CZR	-2.01%
21.0	LUMN	-1.83%	UAA	-1.98%
21.0	GNRC	-1.67%	AAP	-1.85%
21.0	AMC	-1.35%	CHTR	-1.24%
21.0	BALL	-1.25%	GT	-1.24%
21.0	CNC	-1.19%	CNC	-1.17%
21.0	AAP	-1.08%	BHC	-1.16%
21.0	BXP	-1.05%	BALL	-1.1%
21.0	GT	-0.91%	CMCSA	-0.87%
21.0	KHC	-0.88%	TLT	-0.86%
21.0	VZ	-0.87%	PRGO	-0.85%
21.0	TLT	-0.86%	BMY	-0.72%
21.0	CHTR	-0.73%	KHC	-0.66%
21.0	FIS	-0.68%	BXP	-0.64%
21.0	CMCSA	-0.62%	FIS	-0.63%
21.0	PRGO	-0.57%	LNC	-0.58%
21.0	BIIB	-0.55%	BIIB	-0.49%
21.0	AA	-0.5%	ZTS	-0.47%
21.0	UNH	-0.48%	NAVI	-0.47%
21.0	LNC	-0.46%	VZ	-0.46%
21.0	BHC	-0.39%	TFC	-0.37%
21.0	CVS	-0.39%	AA	-0.34%
21.0	ZTS	-0.38%	ZION	-0.29%



All TMD: 63d

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

Period examined: All model dates from 2022-01-31 through 2025-10-30

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
63.0	SIVBQ	-30.27%	SBNY	-37.59%
63.0	IEP	-22.19%	SIVBQ	-33.73%
63.0	SBNY	-19.01%	FRCB	-24.04%
63.0	FRCB	-15.74%	AMC	-14.11%
63.0	NWL	-12.32%	IEP	-10.84%
63.0	CZR	-9.64%	NWL	-7.47%
63.0	VFC	-9.17%	VFC	-6.66%
63.0	GNRC	-7.49%	CZR	-6.04%
63.0	AMC	-7.47%	UAA	-5.5%
63.0	UAA	-6.98%	AAP	-5.33%
63.0	LUMN	-5.99%	CNC	-4.96%
63.0	AAP	-4.89%	CHTR	-3.56%
63.0	BALL	-4.73%	AA	-3.28%
63.0	CNC	-4.04%	BHC	-3.27%
63.0	CHTR	-3.17%	BALL	-3.03%
63.0	KHC	-3.08%	PRGO	-2.95%
63.0	CLF	-3.06%	MOS	-2.83%
63.0	BXP	-2.98%	TLT	-2.5%
63.0	VZ	-2.91%	GT	-2.49%
63.0	AA	-2.86%	BMJ	-2.43%
63.0	CYH	-2.82%	KHC	-2.36%
63.0	TLT	-2.74%	BXP	-2.26%
63.0	PRGO	-2.48%	CMCSA	-2.16%
63.0	BHC	-2.28%	CLF	-2.08%
63.0	CVS	-2.03%	BIIB	-1.78%
63.0	INTC	-2.01%	UNH	-1.76%
63.0	CTLT	-1.99%	FIS	-1.69%
63.0	OXY	-1.76%	LNC	-1.56%
63.0	CMCSA	-1.57%	NAVI	-1.4%
63.0	UNH	-1.56%	CVS	-1.39%



All TMD: 126d

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

Period examined: All model dates from 2022-01-31 through 2025-10-30

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
126.0	SIVBQ	-64.31%	SIVBQ	-65.15%
126.0	IEP	-45.62%	SBNY	-64.8%
126.0	FRCB	-39.92%	FRCB	-51.17%
126.0	SBNY	-33.47%	AMC	-27.08%
126.0	NWL	-32.71%	IEP	-21.19%
126.0	VFC	-20.4%	NWL	-16.38%
126.0	GNRC	-17.96%	VFC	-13.89%
126.0	AMC	-15.87%	AAP	-12.75%
126.0	LUMN	-14.7%	CZR	-9.58%
126.0	AAP	-13.59%	CNC	-9.48%
126.0	CZR	-12.56%	UAA	-8.06%
126.0	UAA	-10.69%	CLF	-7.28%
126.0	CNC	-9.64%	AA	-6.78%
126.0	CLF	-8.67%	BHC	-6.29%
126.0	BALL	-7.68%	PRGO	-5.95%
126.0	CVS	-6.54%	CTLT	-5.69%
126.0	KHC	-6.41%	MOS	-5.66%
126.0	CTLT	-6.16%	BMY	-5.51%
126.0	PRGO	-6.1%	KHC	-5.11%
126.0	BHC	-5.98%	TLT	-4.82%
126.0	AA	-5.87%	UNH	-4.79%
126.0	VZ	-5.68%	CHTR	-4.49%
126.0	TLT	-5.63%	BXP	-4.3%
126.0	CHTR	-5.21%	BALL	-4.25%
126.0	BXP	-4.66%	BIIB	-4.22%
126.0	OXY	-4.42%	CVS	-4.08%
126.0	UNH	-4.17%	GT	-3.34%
126.0	GT	-4.07%	LNC	-3.32%
126.0	FIS	-3.95%	INTC	-3.26%
126.0	CYH	-3.7%	CMCSA	-3.16%



All TMD: 252d

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

Period examined: All model dates from 2022-01-31 through 2025-10-30

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	-91.53%	FRCB	-91.61%
252.0	SBNY	-81.71%	AMC	-54.63%
252.0	NWL	-62.06%	IEP	-44.22%
252.0	AMC	-37.22%	AAP	-34.02%
252.0	AAP	-36.02%	NWL	-28.0%
252.0	VFC	-33.05%	VFC	-23.4%
252.0	CVS	-30.69%	CLF	-16.68%
252.0	CLF	-29.14%	MOS	-16.46%
252.0	CZR	-27.01%	CZR	-16.29%
252.0	GNRC	-26.47%	CNC	-15.5%
252.0	MOS	-22.38%	UAA	-13.87%
252.0	LUMN	-19.81%	CVS	-13.05%
252.0	UAA	-19.55%	PRGO	-12.76%
252.0	GT	-16.98%	BIIB	-12.63%
252.0	CNC	-16.55%	AA	-11.25%
252.0	PRGO	-15.86%	BMJ	-10.5%
252.0	AA	-15.66%	KHC	-9.77%
252.0	KHC	-15.17%	OXY	-8.68%
252.0	CYH	-11.88%	TLT	-8.37%
252.0	BMJ	-11.39%	BHC	-8.29%
252.0	BALL	-11.15%	GT	-7.3%
252.0	TLT	-10.94%	CYH	-6.93%
252.0	ON	-10.66%	JAZZ	-6.88%
252.0	BHC	-10.41%	INTC	-6.65%
252.0	JAZZ	-9.98%	CTLT	-6.24%
252.0	CHTR	-8.72%	CHTR	-5.97%
252.0	UNH	-8.69%	UNH	-5.73%
252.0	BIIB	-8.45%	BHP	-5.44%



P365D: 1d

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

Period examined: All model dates from 2024-11-01 through 2025-10-30

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
1.0	MSTR	-0.42%	NWL	-0.29%
1.0	UAA	-0.4%	CZR	-0.22%
1.0	CZR	-0.33%	CMG	-0.22%
1.0	IEP	-0.26%	UAA	-0.18%
1.0	CNC	-0.26%	AMC	-0.16%
1.0	PCG	-0.25%	CMCSA	-0.16%
1.0	CMG	-0.23%	CNC	-0.16%
1.0	FIS	-0.23%	UNH	-0.15%
1.0	CMCSA	-0.21%	IEP	-0.15%
1.0	UNH	-0.21%	CHTR	-0.15%
1.0	NWL	-0.19%	FIS	-0.12%
1.0	LEN	-0.16%	ADBE	-0.12%
1.0	OXY	-0.12%	KHC	-0.11%
1.0	AMC	-0.11%	LEN	-0.1%
1.0	CHTR	-0.1%	ZTS	-0.08%
1.0	ON	-0.1%	BALL	-0.08%
1.0	VFC	-0.09%	ON	-0.07%
1.0	BXP	-0.08%	PCG	-0.07%
1.0	ZTS	-0.08%	BHC	-0.07%
1.0	BIIB	-0.07%	VFC	-0.07%
1.0	GWV	-0.05%	PRGO	-0.07%
1.0	NAVI	-0.05%	TXN	-0.06%
1.0	BMV	-0.05%	SBUX	-0.06%
1.0	TMUS	-0.05%	CPRT	-0.06%
1.0	BALL	-0.05%	MRK	-0.05%
1.0	BBY	-0.05%	LW	-0.05%
1.0	ISRG	-0.05%	BMV	-0.05%
1.0	FITB	-0.04%	OXY	-0.05%
1.0	CPRT	-0.04%	IRM	-0.04%
1.0	AMZN	-0.04%	PEP	-0.04%



P365D: 10d

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

Period examined: All model dates from 2024-11-01 through 2025-10-30

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
10.0	IEP	-2.99%	UAA	-2.4%
10.0	UAA	-2.71%	CZR	-2.14%
10.0	CZR	-2.22%	NWL	-1.85%
10.0	CNC	-1.8%	CMCSA	-1.61%
10.0	CMCSA	-1.72%	CNC	-1.59%
10.0	FIS	-1.71%	IEP	-1.58%
10.0	PCG	-1.68%	AMC	-1.57%
10.0	CMG	-1.58%	CHTR	-1.54%
10.0	UNH	-1.56%	UNH	-1.47%
10.0	BHC	-1.52%	CMG	-1.43%
10.0	LEN	-1.39%	ADBE	-1.31%
10.0	MSTR	-1.35%	FIS	-1.06%
10.0	BIIB	-1.31%	LEN	-1.05%
10.0	OXY	-1.31%	KHC	-1.02%
10.0	ADBE	-1.29%	BMY	-0.9%
10.0	KHC	-1.25%	BALL	-0.77%
10.0	ON	-1.25%	CPRT	-0.76%
10.0	BMY	-0.89%	PCG	-0.75%
10.0	GT	-0.88%	BHC	-0.73%
10.0	CHTR	-0.82%	ON	-0.73%
10.0	TRGP	-0.62%	GT	-0.71%
10.0	BALL	-0.5%	GWV	-0.7%
10.0	CPRT	-0.5%	ZTS	-0.69%
10.0	ACGL	-0.5%	PRGO	-0.66%
10.0	ZTS	-0.47%	TXN	-0.62%
10.0	GWV	-0.46%	LW	-0.59%
10.0	PRGO	-0.46%	OXY	-0.58%
10.0	AMC	-0.44%	TRGP	-0.53%
10.0	NWL	-0.43%	NAVI	-0.52%
10.0	BXP	-0.42%	ACGL	-0.5%



P365D: 21d

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

Period examined: All model dates from 2024-11-01 through 2025-10-30

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
21.0	IEP	-5.96%	UAA	-5.27%
21.0	UAA	-5.13%	CZR	-4.14%
21.0	CZR	-4.56%	NWL	-4.1%
21.0	MSTR	-3.78%	AMC	-3.69%
21.0	ON	-3.74%	CMCSA	-3.29%
21.0	UNH	-3.67%	UNH	-3.1%
21.0	FIS	-3.66%	CMG	-3.08%
21.0	PCG	-3.54%	ADBE	-3.03%
21.0	CMG	-3.52%	IEP	-2.96%
21.0	CMCSA	-3.48%	CHTR	-2.94%
21.0	GT	-3.44%	CNC	-2.79%
21.0	CNC	-3.36%	LEN	-2.44%
21.0	ADBE	-3.33%	FIS	-2.18%
21.0	LEN	-3.03%	BMJ	-2.17%
21.0	BHC	-2.67%	KHC	-2.04%
21.0	OXY	-2.65%	GT	-2.04%
21.0	NWL	-2.53%	CPRT	-2.02%
21.0	BMJ	-2.39%	BALL	-1.86%
21.0	BIIB	-2.27%	ON	-1.8%
21.0	KHC	-2.15%	PCG	-1.78%
21.0	TRGP	-1.78%	PRGO	-1.75%
21.0	CHTR	-1.73%	TRGP	-1.72%
21.0	CPRT	-1.71%	GWV	-1.72%
21.0	PRGO	-1.42%	ZTS	-1.65%
21.0	ISRG	-1.38%	BHC	-1.4%
21.0	GWV	-1.24%	OXY	-1.28%
21.0	AMC	-1.22%	NAVI	-1.28%
21.0	BALL	-1.21%	LW	-1.25%
21.0	FITB	-1.12%	SBUX	-1.11%
21.0	ZTS	-1.02%	MRK	-1.07%



P365D: 63d

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

Period examined: All model dates from 2024-11-01 through 2025-10-30

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
63.0	NWL	-21.64%	UAA	-15.83%
63.0	ON	-16.31%	NWL	-15.74%
63.0	CMG	-15.17%	CNC	-14.87%
63.0	CNC	-15.1%	UNH	-12.74%
63.0	UNH	-14.38%	CMG	-11.39%
63.0	UAA	-14.2%	CZR	-11.03%
63.0	CZR	-14.02%	AMC	-9.87%
63.0	ADBE	-11.8%	ADBE	-9.23%
63.0	PCG	-11.07%	CHTR	-8.74%
63.0	CPRT	-8.67%	VFC	-8.38%
63.0	VFC	-8.4%	BMY	-7.05%
63.0	BMY	-8.27%	CPRT	-7.04%
63.0	IEP	-8.14%	CMCSA	-7.03%
63.0	TRGP	-8.1%	IEP	-6.31%
63.0	CMCSA	-8.07%	FIS	-5.91%
63.0	OXY	-7.96%	PCG	-5.86%
63.0	FIS	-7.69%	TRGP	-5.22%
63.0	MRK	-5.74%	MRK	-5.02%
63.0	BIIB	-5.17%	KHC	-4.94%
63.0	KHC	-5.1%	ZTS	-4.73%
63.0	BHC	-5.03%	ISRG	-4.69%
63.0	CHTR	-5.01%	PRGO	-4.62%
63.0	ISRG	-4.91%	LW	-4.47%
63.0	BBY	-4.88%	GWV	-4.46%
63.0	MSTR	-4.85%	GME	-4.25%
63.0	AMC	-4.62%	AA	-3.72%
63.0	GWV	-4.52%	BBY	-3.67%
63.0	LEN	-4.26%	LEN	-3.66%
63.0	GT	-3.88%	BALL	-3.56%
63.0	PRGO	-3.87%	ON	-3.43%



P365D: 126d

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

Period examined: All model dates from 2024-11-01 through 2025-10-30

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
126.0	UNH	-52.6%	UNH	-39.01%
126.0	NWL	-41.9%	CNC	-34.68%
126.0	CNC	-33.36%	NWL	-27.32%
126.0	ADBE	-29.33%	VFC	-25.39%
126.0	UAA	-26.63%	UAA	-23.32%
126.0	PCG	-26.29%	BMY	-17.87%
126.0	CMG	-25.55%	CZR	-17.86%
126.0	TRGP	-24.69%	CMG	-17.24%
126.0	VFC	-23.42%	CPRT	-15.4%
126.0	CZR	-22.72%	ADBE	-14.97%
126.0	CPRT	-21.82%	PCG	-14.15%
126.0	IEP	-20.88%	AMC	-13.88%
126.0	BMY	-20.38%	TRGP	-13.37%
126.0	OXY	-15.34%	KHC	-11.91%
126.0	MRK	-15.3%	IEP	-11.81%
126.0	KHC	-13.31%	MRK	-11.38%
126.0	BHC	-12.69%	CHTR	-11.32%
126.0	CMCSA	-12.07%	CMCSA	-11.17%
126.0	BBY	-11.2%	SBUX	-9.26%
126.0	LEN	-11.03%	BHC	-9.21%
126.0	SBUX	-10.87%	BBY	-8.37%
126.0	ON	-10.6%	ZTS	-7.6%
126.0	FIS	-10.49%	LEN	-7.51%
126.0	ISRG	-10.02%	AA	-7.23%
126.0	PEP	-9.78%	LW	-7.16%
126.0	BIIB	-8.64%	ISRG	-6.92%
126.0	LLY	-7.72%	PEP	-6.72%
126.0	AMC	-7.48%	OXY	-6.46%
126.0	CHTR	-6.3%	GME	-6.04%
126.0	ZTS	-5.91%	PRGO	-5.76%



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 2025-08-04 through 2025-10-30

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
1.0	UAA	-1.11%	UAA	-0.56%
1.0	GT	-0.74%	GT	-0.53%
1.0	MOS	-0.63%	MSTR	-0.52%
1.0	MSTR	-0.5%	NWL	-0.5%
1.0	FIS	-0.45%	CMG	-0.44%
1.0	CZR	-0.44%	PRGO	-0.39%
1.0	CMG	-0.35%	MOS	-0.37%
1.0	BALL	-0.3%	FIS	-0.35%
1.0	PRGO	-0.25%	BALL	-0.31%
1.0	VICI	-0.25%	CZR	-0.31%
1.0	INTU	-0.24%	TDG	-0.3%
1.0	IEP	-0.23%	META	-0.27%
1.0	CMCSA	-0.23%	INTU	-0.24%
1.0	T	-0.22%	CMCSA	-0.24%
1.0	TMUS	-0.16%	GNRC	-0.21%
1.0	BA	-0.16%	TMUS	-0.21%
1.0	AMC	-0.16%	VICI	-0.19%
1.0	AZO	-0.15%	TXN	-0.18%
1.0	CHTR	-0.13%	T	-0.17%
1.0	GNRC	-0.12%	CHTR	-0.16%
1.0	CPRT	-0.11%	VST	-0.16%
1.0	COST	-0.11%	IEP	-0.16%
1.0	TXN	-0.1%	SBUX	-0.15%
1.0	HON	-0.1%	AAP	-0.15%
1.0	ORLY	-0.1%	BA	-0.14%
1.0	OXY	-0.1%	HON	-0.13%
1.0	ZTS	-0.09%	AMC	-0.13%
1.0	NFLX	-0.09%	AZO	-0.11%
1.0	META	-0.08%	VZ	-0.11%
1.0	AAP	-0.08%	MSI	-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 2025-08-04 through 2025-10-30

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
10.0	GT	-7.89%	MSTR	-5.41%
10.0	MSTR	-6.88%	GT	-4.25%
10.0	CZR	-3.58%	UAA	-3.16%
10.0	UAA	-2.97%	CZR	-2.34%
10.0	KHC	-2.75%	IEP	-2.21%
10.0	MOS	-2.74%	TMUS	-2.01%
10.0	BALL	-2.43%	CMCSA	-1.93%
10.0	T	-2.19%	T	-1.87%
10.0	VICI	-1.95%	BALL	-1.86%
10.0	IEP	-1.94%	MOS	-1.84%
10.0	TMUS	-1.88%	TXN	-1.83%
10.0	FIS	-1.59%	PRGO	-1.67%
10.0	OXY	-1.59%	INTU	-1.65%
10.0	CMG	-1.56%	FIS	-1.57%
10.0	ORLY	-1.5%	VZ	-1.56%
10.0	COST	-1.5%	KHC	-1.52%
10.0	BMJ	-1.42%	AMC	-1.43%
10.0	INTU	-1.34%	CMG	-1.39%
10.0	VZ	-1.34%	VICI	-1.31%
10.0	PRGO	-1.31%	TRGP	-1.31%
10.0	CMCSA	-1.28%	SBUX	-1.3%
10.0	CPRT	-1.24%	CHTR	-1.26%
10.0	BA	-1.17%	TDG	-1.25%
10.0	AZO	-1.02%	META	-1.19%
10.0	CHTR	-1.0%	AAP	-1.13%
10.0	ACGL	-0.97%	BA	-1.08%
10.0	TRGP	-0.83%	NFLX	-1.02%
10.0	GBTC	-0.77%	FRA	-1.01%
10.0	FRA	-0.72%	CPRT	-1.01%
10.0	TXN	-0.66%	GBTC	-0.98%



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 2025-08-04 through 2025-10-30

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
21.0	GT	-19.45%	GT	-9.52%
21.0	MSTR	-13.93%	MSTR	-8.74%
21.0	CZR	-8.54%	CZR	-5.69%
21.0	KHC	-6.58%	TXN	-5.63%
21.0	BALL	-6.29%	TMUS	-5.26%
21.0	T	-6.16%	CMCSA	-5.23%
21.0	TMUS	-5.39%	UAA	-5.02%
21.0	CPRT	-5.09%	T	-4.79%
21.0	BMY	-4.88%	BHC	-4.53%
21.0	BHC	-4.21%	BALL	-4.51%
21.0	VICI	-4.2%	PRGO	-4.37%
21.0	UAA	-4.02%	NWL	-4.05%
21.0	MOS	-3.57%	KHC	-4.0%
21.0	CMCSA	-3.54%	VZ	-3.95%
21.0	BA	-3.44%	SBUX	-3.64%
21.0	IEP	-3.4%	TDG	-3.61%
21.0	OXY	-3.35%	IEP	-3.43%
21.0	PRGO	-3.33%	CPRT	-3.31%
21.0	FIS	-3.22%	AAP	-3.16%
21.0	CMG	-3.1%	GNRC	-3.12%
21.0	COST	-2.97%	VICI	-3.07%
21.0	VZ	-2.86%	BA	-3.04%
21.0	TXN	-2.67%	BMY	-3.02%
21.0	KEY	-2.36%	FIS	-2.89%
21.0	TDG	-2.31%	INTU	-2.86%
21.0	INTU	-2.29%	MOS	-2.85%
21.0	DHI	-2.21%	TRGP	-2.76%
21.0	TRGP	-2.12%	META	-2.68%
21.0	CDNS	-1.9%	CMG	-2.61%
21.0	SBUX	-1.87%	ZTS	-2.57%



P30D: 1d

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

Period examined: All model dates from 2025-10-02 through 2025-10-30

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
1.0	MOS	-1.93%	NWL	-1.78%
1.0	MSTR	-1.32%	CZR	-1.27%
1.0	CZR	-1.11%	AAP	-1.23%
1.0	AAP	-1.0%	MSTR	-1.19%
1.0	CMG	-0.96%	MOS	-1.09%
1.0	NWL	-0.91%	CMG	-1.04%
1.0	NEM	-0.91%	GME	-0.92%
1.0	PHM	-0.85%	AMC	-0.9%
1.0	ORCL	-0.84%	AZO	-0.69%
1.0	AZO	-0.84%	CHTR	-0.65%
1.0	UAA	-0.83%	DHI	-0.64%
1.0	VNO	-0.69%	TXN	-0.56%
1.0	AMC	-0.65%	PHM	-0.54%
1.0	VICI	-0.63%	META	-0.5%
1.0	DHI	-0.6%	WYNN	-0.5%
1.0	CHTR	-0.55%	ORLY	-0.5%
1.0	GT	-0.51%	UAA	-0.46%
1.0	ORLY	-0.48%	MSI	-0.44%
1.0	CMCSA	-0.47%	GBTC	-0.44%
1.0	BALL	-0.45%	TMUS	-0.42%
1.0	VFC	-0.45%	VICI	-0.41%
1.0	BA	-0.42%	CMCSA	-0.41%
1.0	IEP	-0.4%	GT	-0.41%
1.0	GME	-0.39%	ORCL	-0.4%
1.0	CNC	-0.39%	VZ	-0.4%
1.0	FITB	-0.36%	T	-0.4%
1.0	MSI	-0.35%	ABBV	-0.38%
1.0	WYNN	-0.35%	VNO	-0.36%
1.0	GBTC	-0.35%	VFC	-0.36%
1.0	UNH	-0.34%	BA	-0.35%



P30D: 10d

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

Period examined: All model dates from 2025-10-02 through 2025-10-30

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
10.0	MOS	-15.25%	MSTR	-10.84%
10.0	MSTR	-12.83%	MOS	-9.52%
10.0	ORCL	-11.56%	CZR	-8.41%
10.0	CZR	-9.56%	CHTR	-8.06%
10.0	ACGL	-7.52%	AMC	-6.11%
10.0	CHTR	-6.54%	GBTC	-5.83%
10.0	AZO	-6.29%	AZO	-5.4%
10.0	PHM	-5.99%	ORCL	-5.36%
10.0	GBTC	-5.5%	CNC	-4.88%
10.0	ORLY	-5.36%	VST	-4.72%
10.0	ZION	-4.67%	ZION	-4.62%
10.0	OXY	-4.48%	ACGL	-4.58%
10.0	NEM	-3.64%	NFLX	-4.51%
10.0	VICI	-3.58%	PHM	-4.48%
10.0	B	-3.56%	NWL	-4.39%
10.0	VNO	-3.48%	GME	-4.37%
10.0	CNC	-3.32%	OXY	-4.36%
10.0	CMG	-3.18%	TXN	-4.09%
10.0	DHI	-3.18%	ORLY	-4.09%
10.0	KEY	-3.0%	CMCSA	-3.46%
10.0	VST	-2.88%	NEM	-3.41%
10.0	T	-2.81%	VZ	-3.4%
10.0	UAA	-2.8%	CMG	-3.38%
10.0	AMC	-2.71%	MSI	-3.06%
10.0	CMCSA	-2.62%	B	-3.04%
10.0	JPM	-2.45%	UAA	-2.9%
10.0	FITB	-2.45%	TRGP	-2.88%
10.0	VZ	-2.29%	DHI	-2.83%
10.0	GT	-2.16%	T	-2.8%
10.0	MSI	-2.16%	VNO	-2.75%



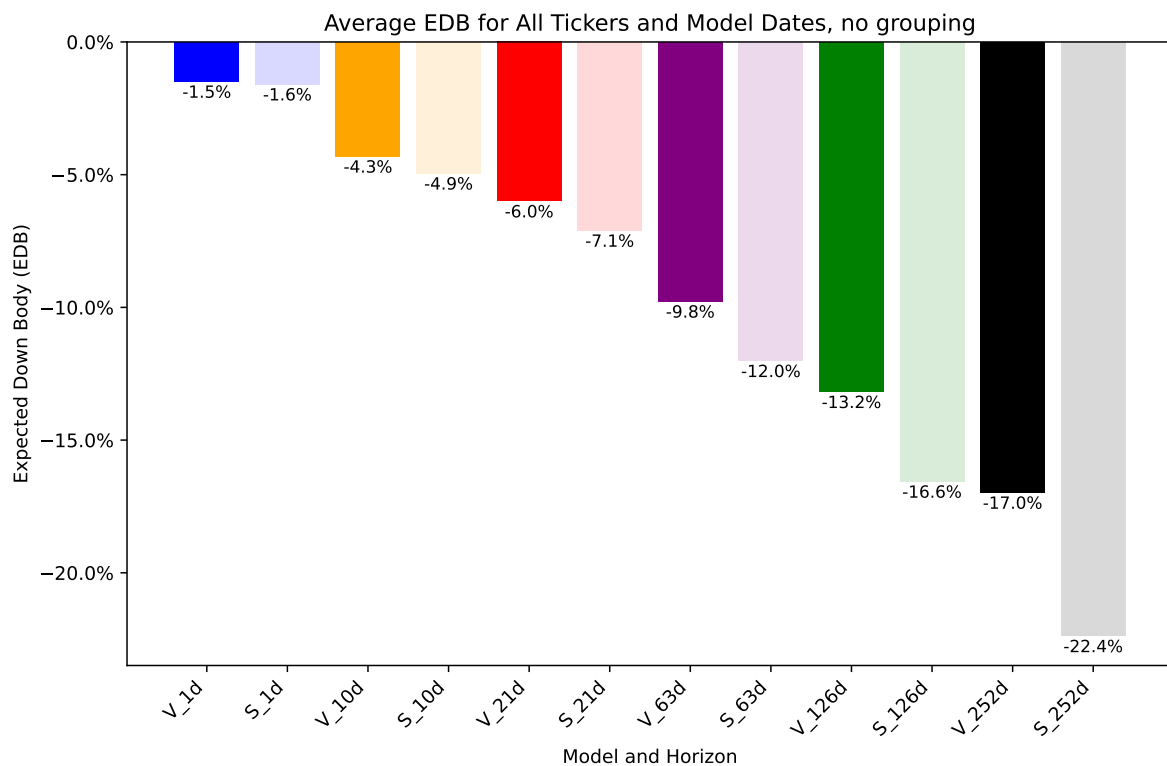
Expected Down Body (EDB)

Historic Average Levels

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

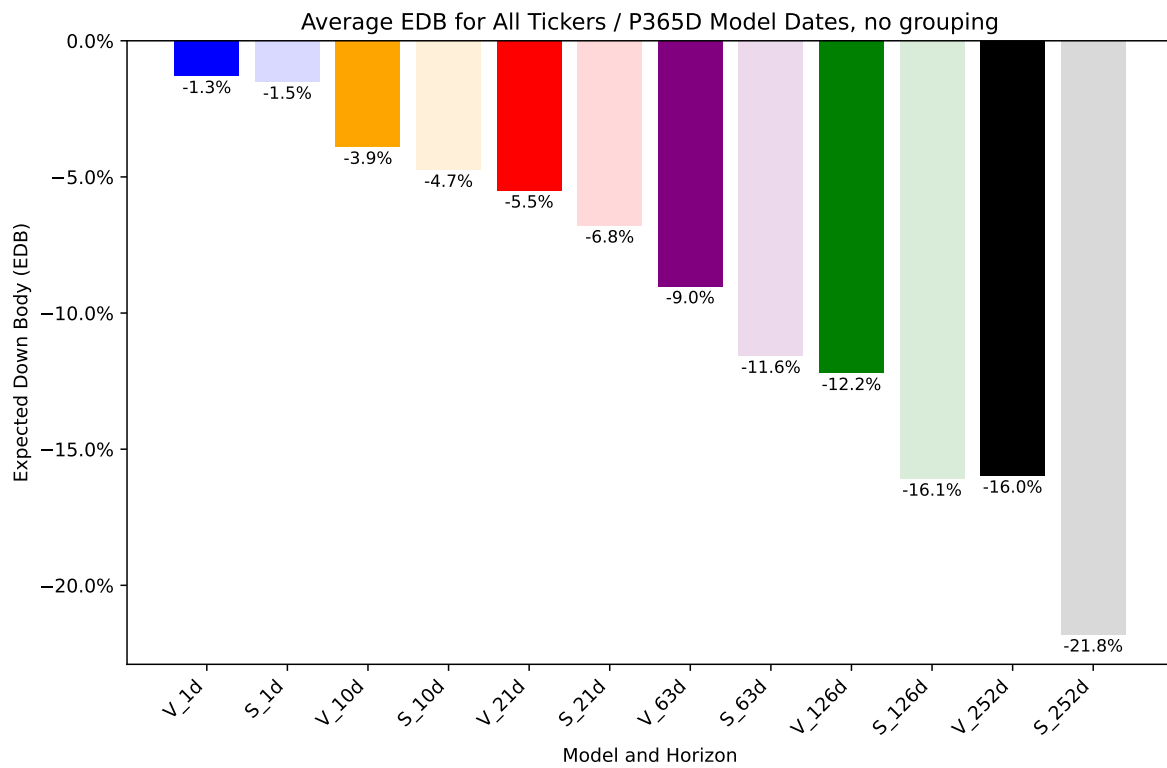
All Out of Sample Model Dates

Period examined: All model dates from 2022-01-31 through 2025-10-30



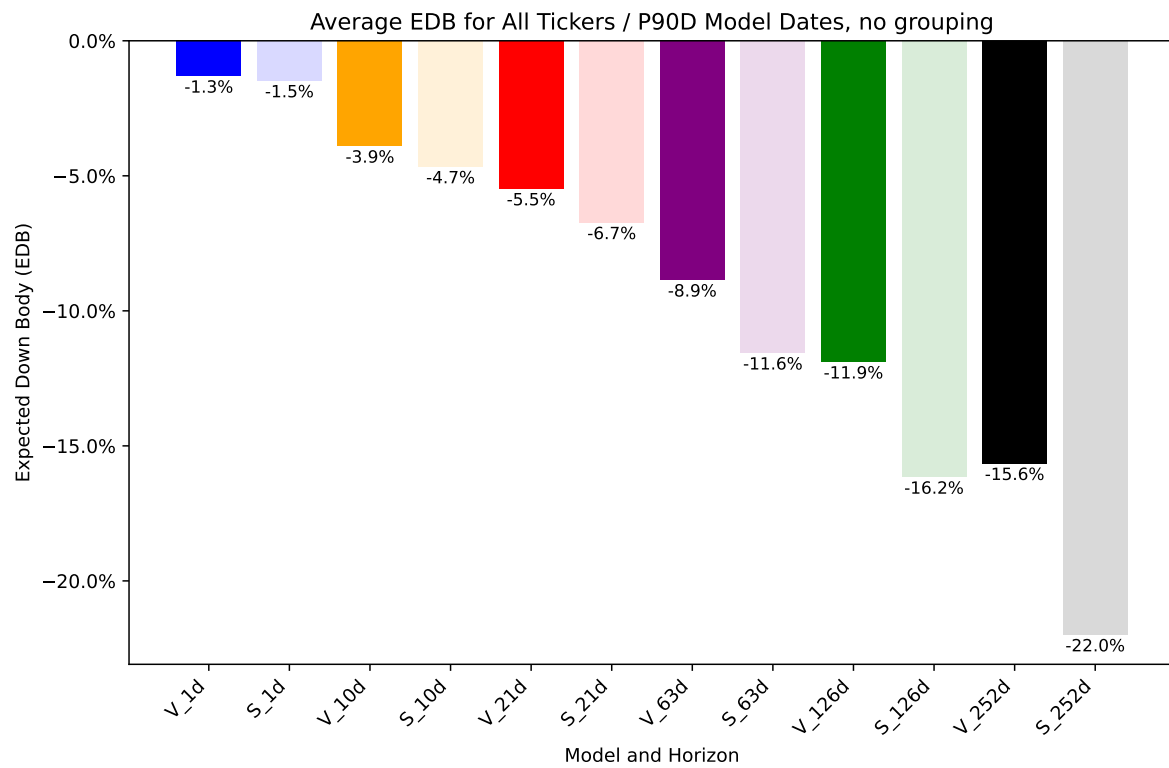
Prior 365 Calendar Days (P365D)

Period examined: All model dates from 2024-11-01 through 2025-10-30



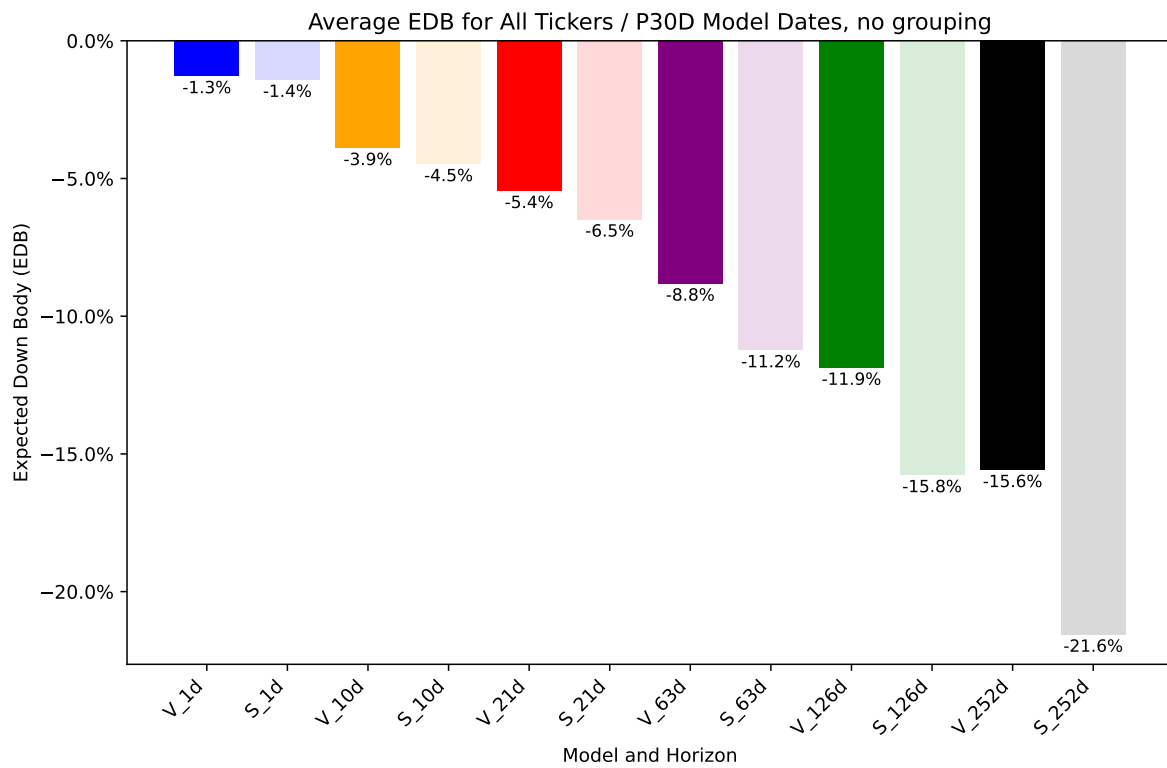
Prior 90 Calendar Days (P90D)

Period examined: All model dates from 2025-08-04 through 2025-10-30



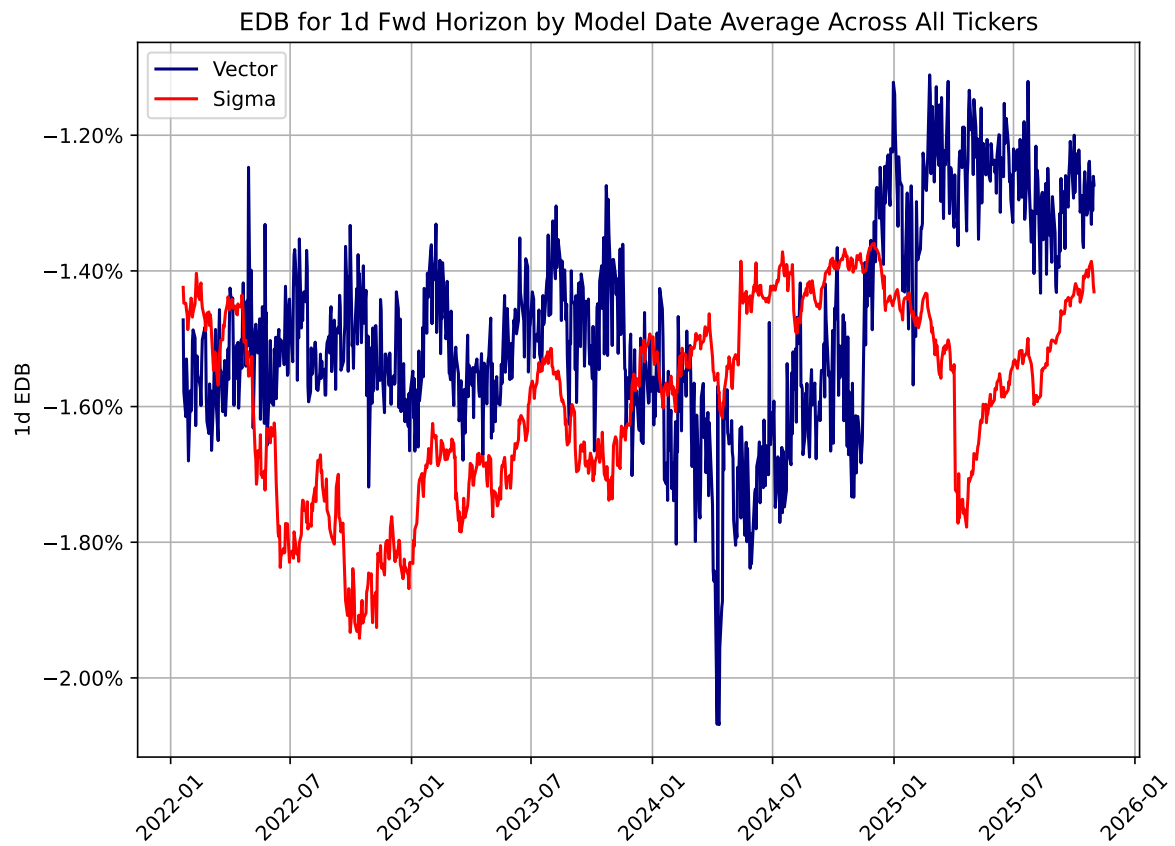
Prior 30 Calendar Days (P30D)

Period examined: All model dates from 2025-10-02 through 2025-10-30

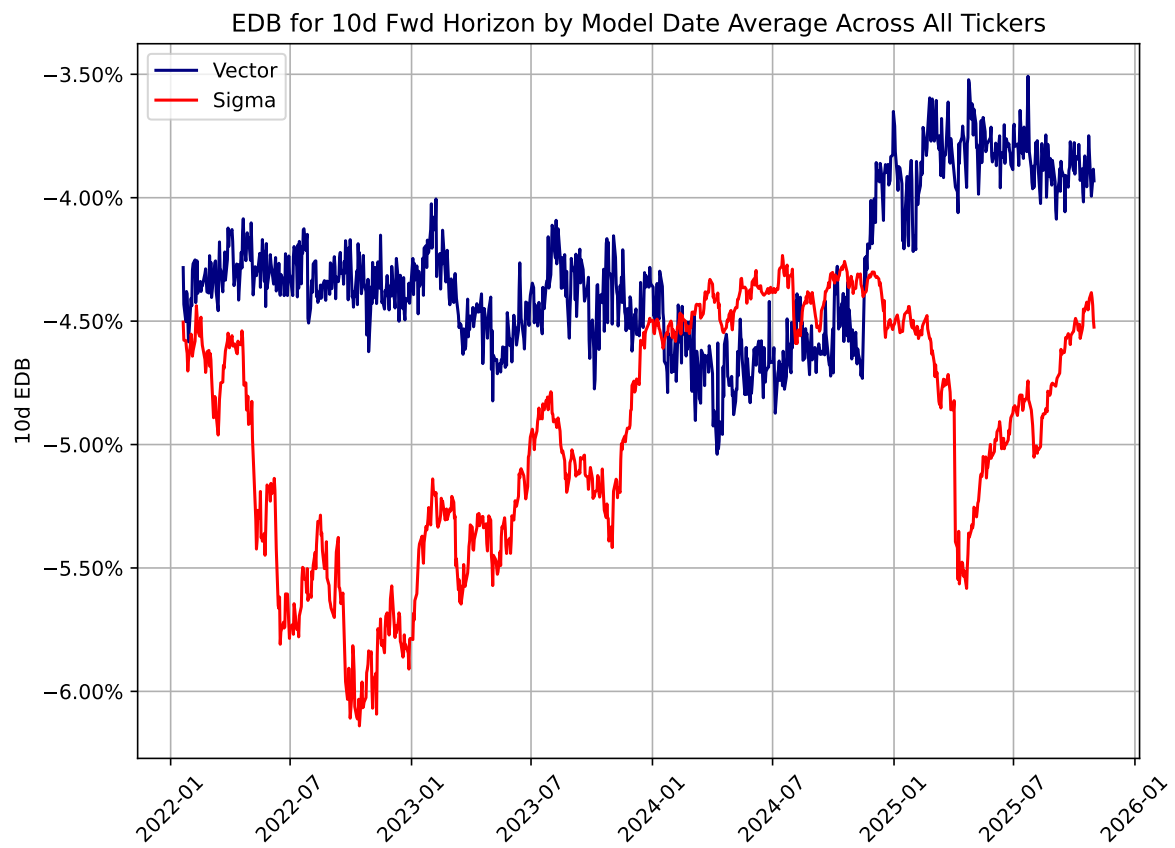


EDB by Model Date Detail

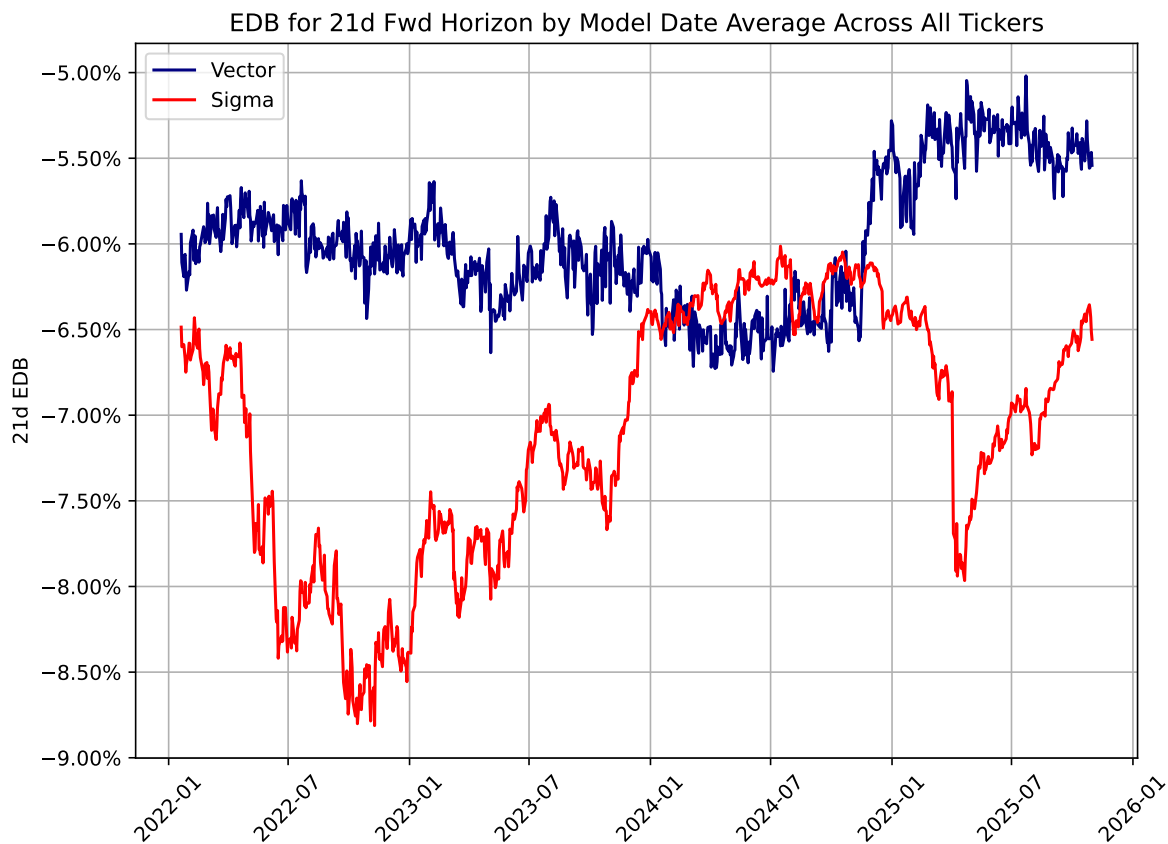
1d Horizon



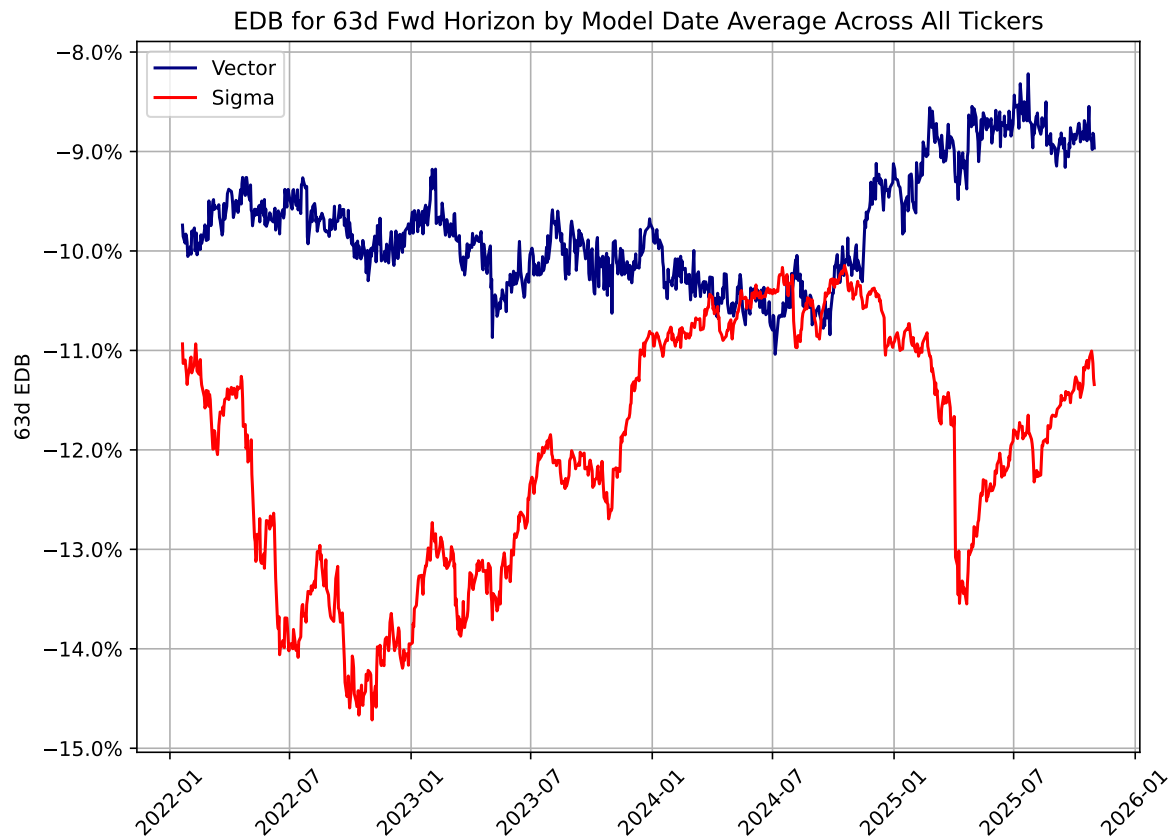
10d Horizon



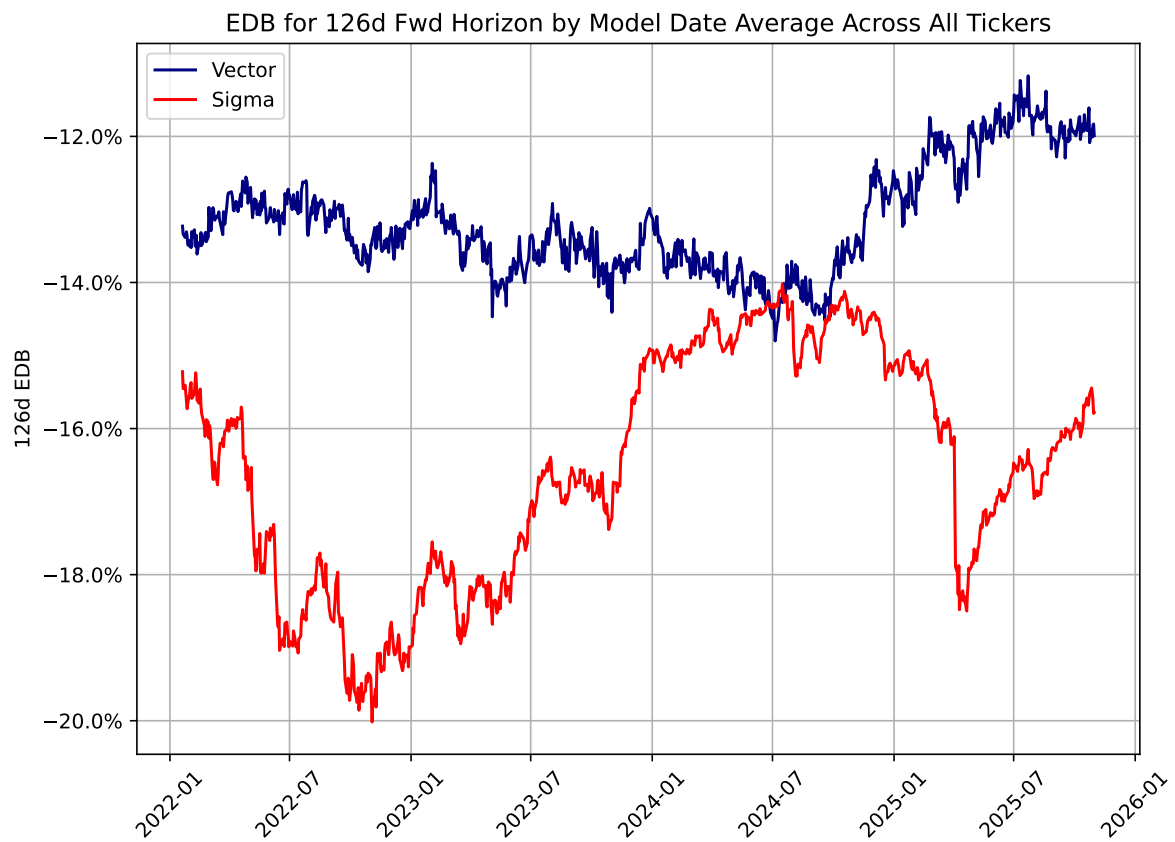
21d Horizon



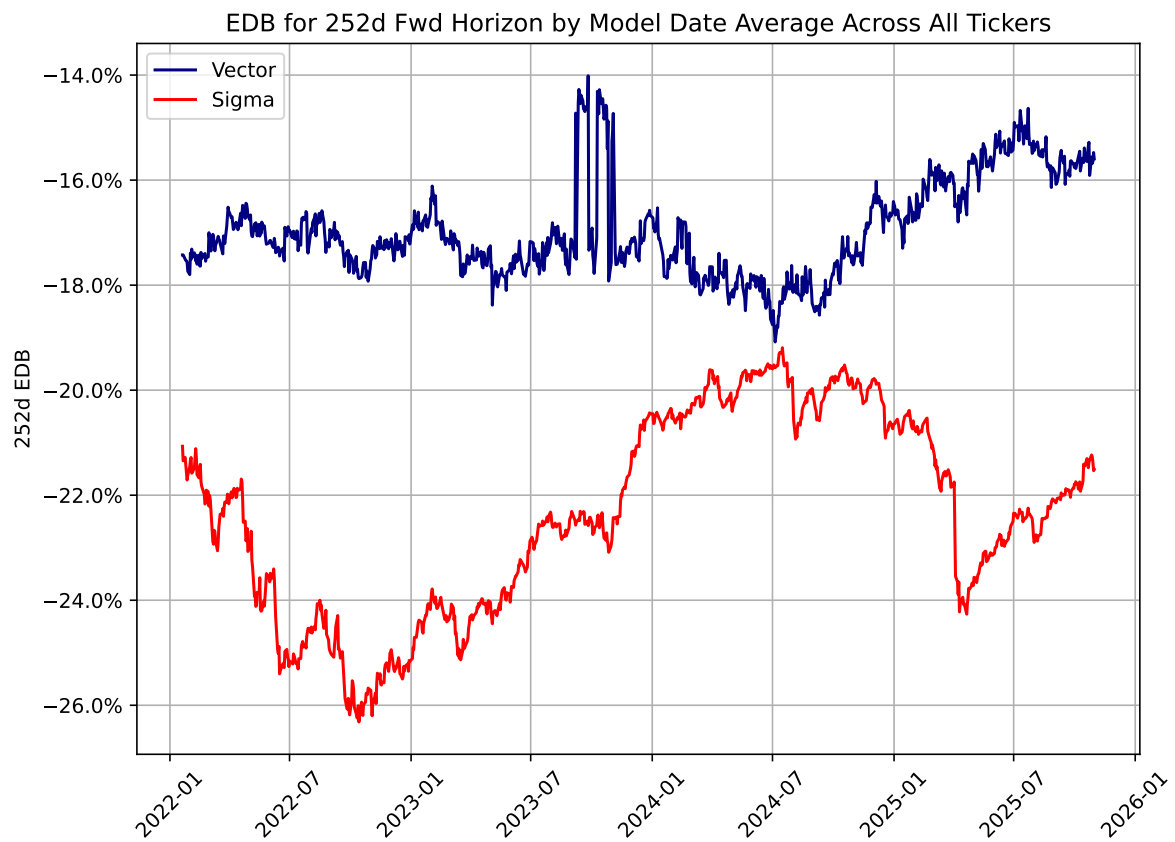
63d Horizon



126d Horizon



252d Horizon



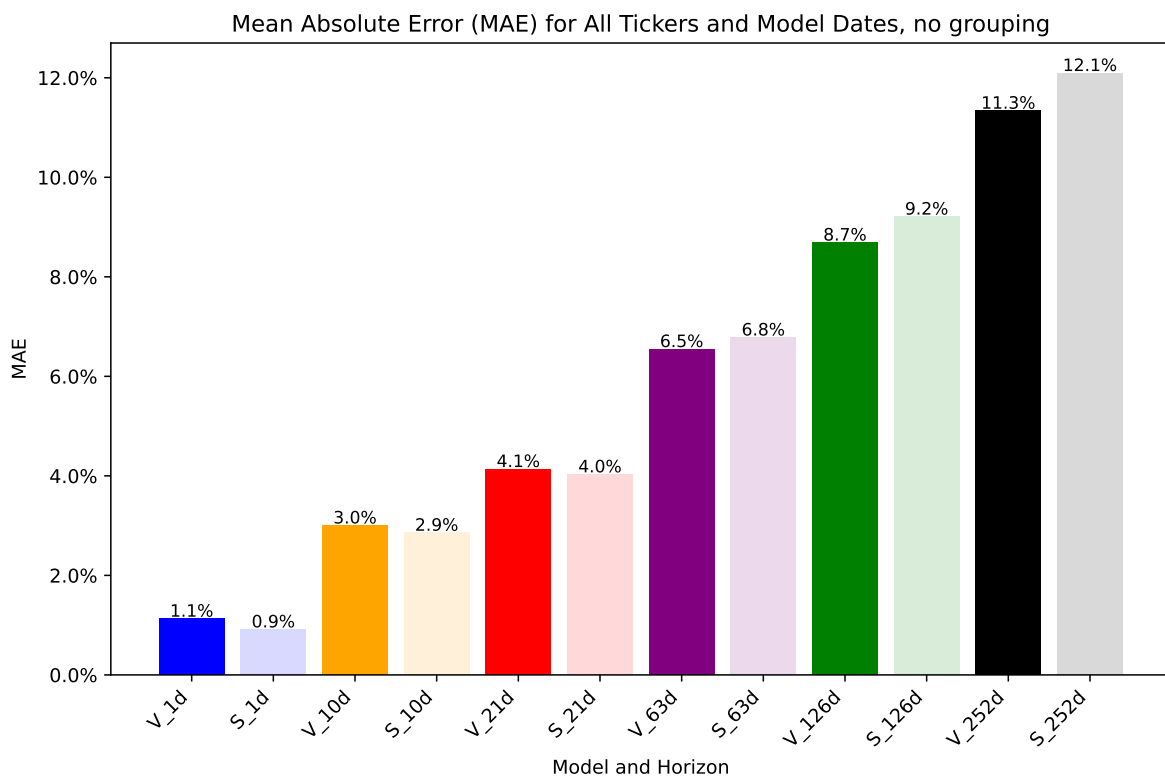
Performance Summary - MAE of EDB vs. Actual Fwd Returns

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 forward performance is directionally “down” but inside of the 95th %tile forecasted for given model. Thus, these statistics are not perfectly comparable across models, or even horizons. Consider them alongside each model’s breakage rates for the 95D percentile (i.e., VaR breakage rates).

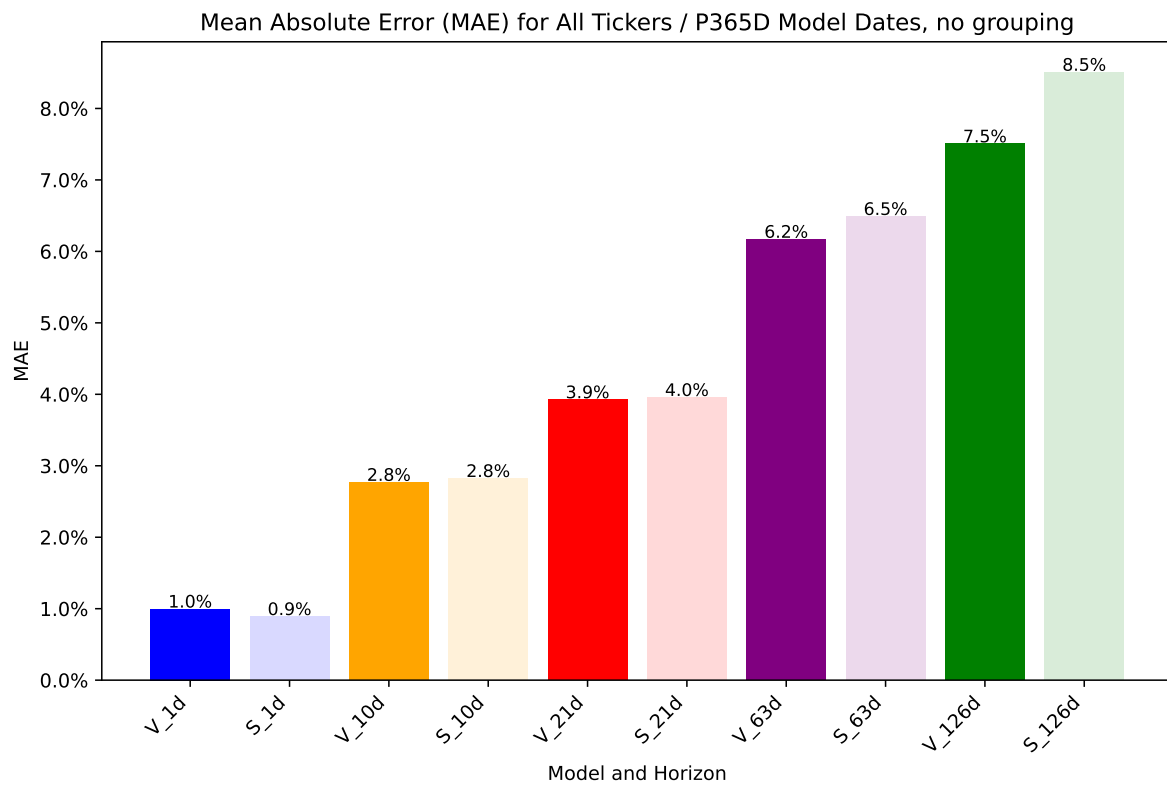
All Out of Sample Model Dates

Period examined: All model dates from 2022-01-31 through 2025-10-30



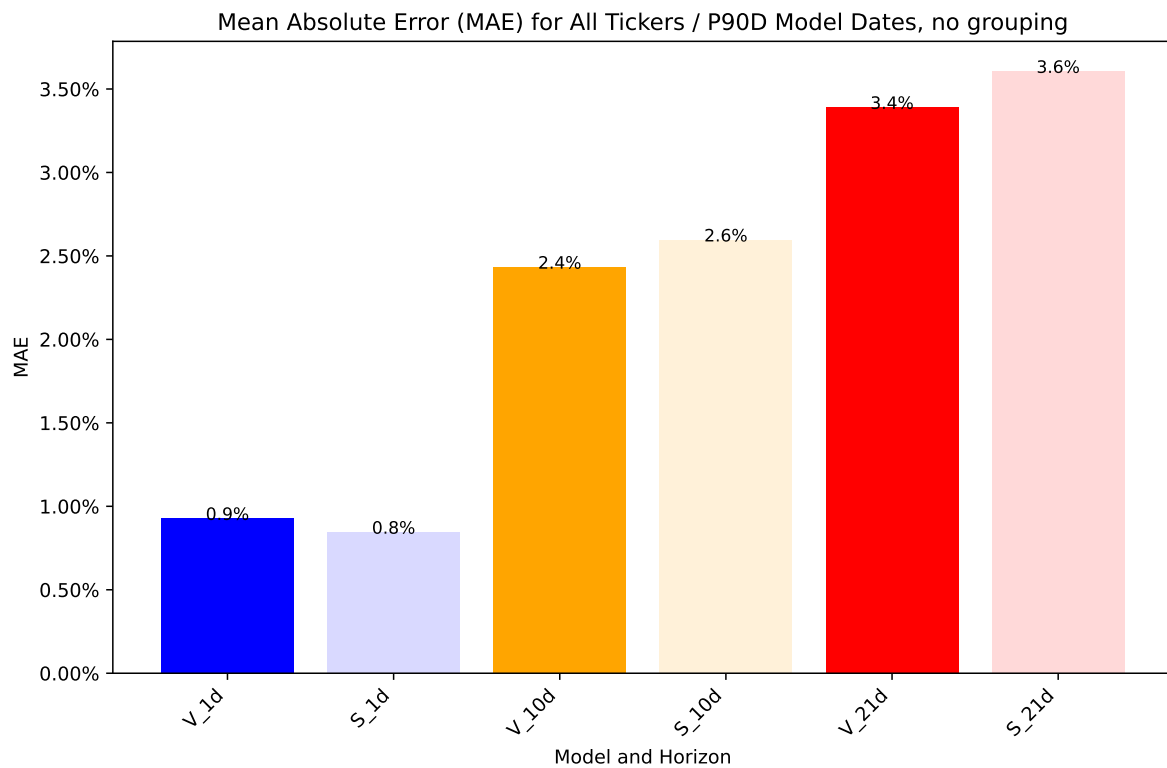
Prior 365 Calendar Days (P365D)

Period examined: All model dates from 2024-11-01 through 2025-10-30



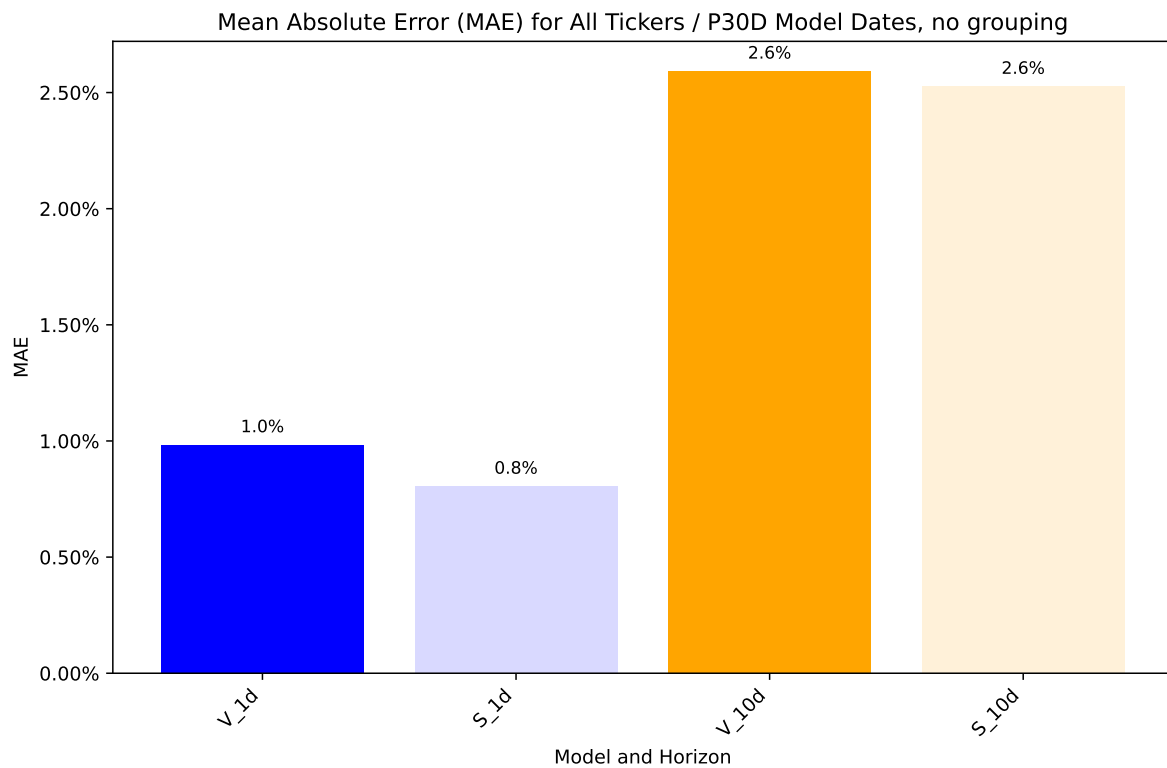
Prior 90 Calendar Days (P90D)

Period examined: All model dates from 2025-08-04 through 2025-10-30



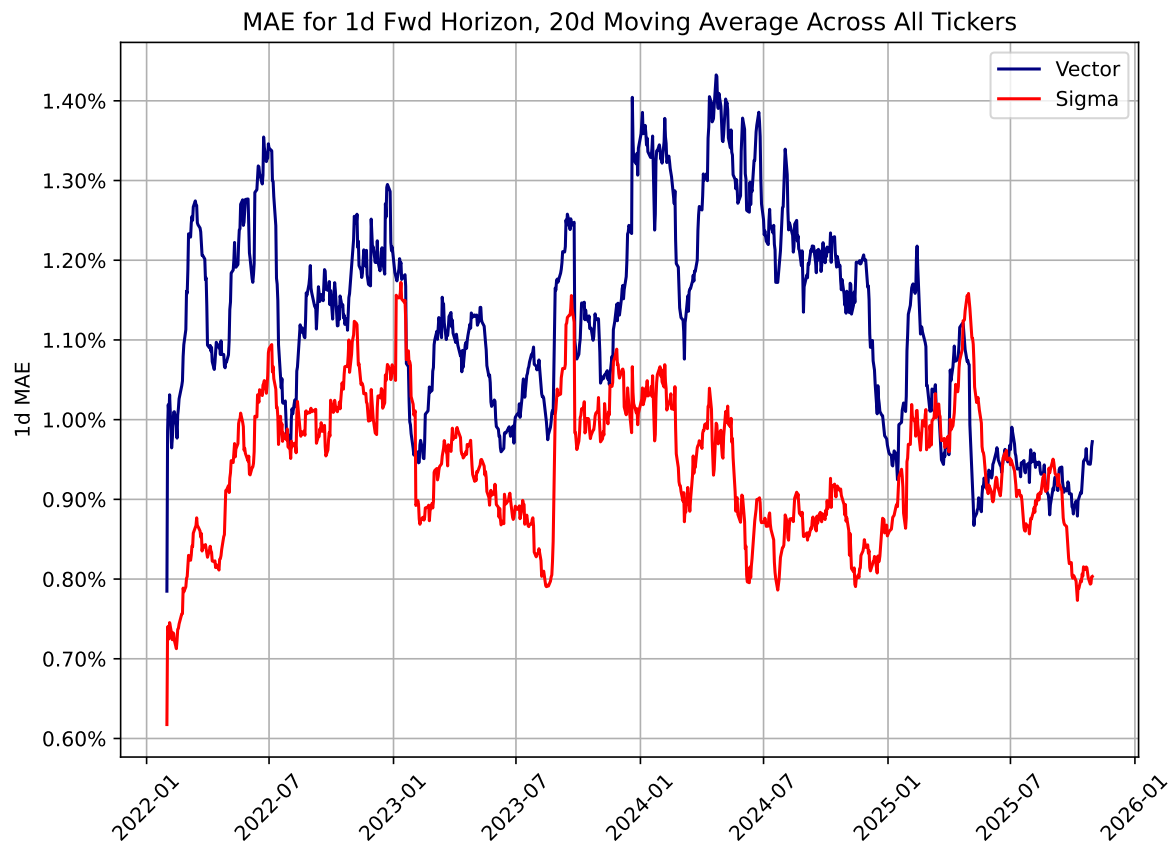
Prior 30 Calendar Days (P30D)

Period examined: All model dates from 2025-10-02 through 2025-10-30

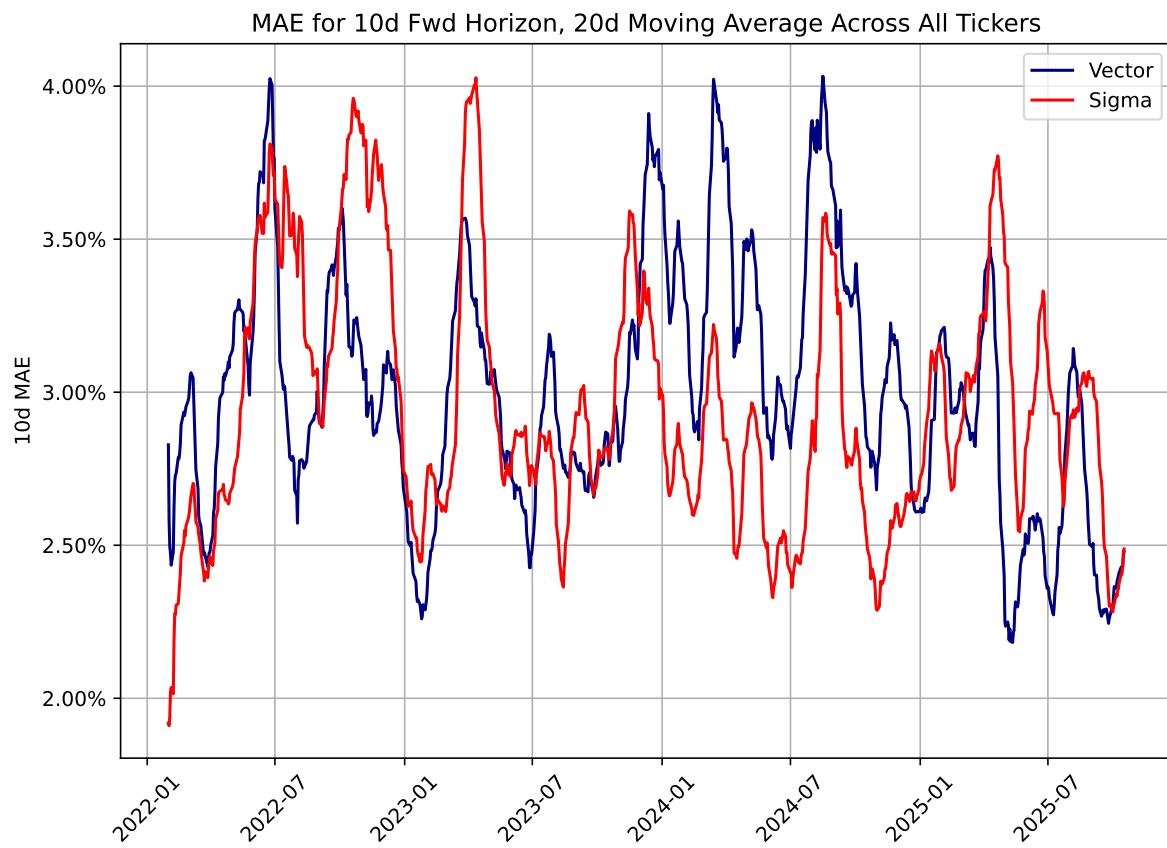


MAE by Model Date Detail

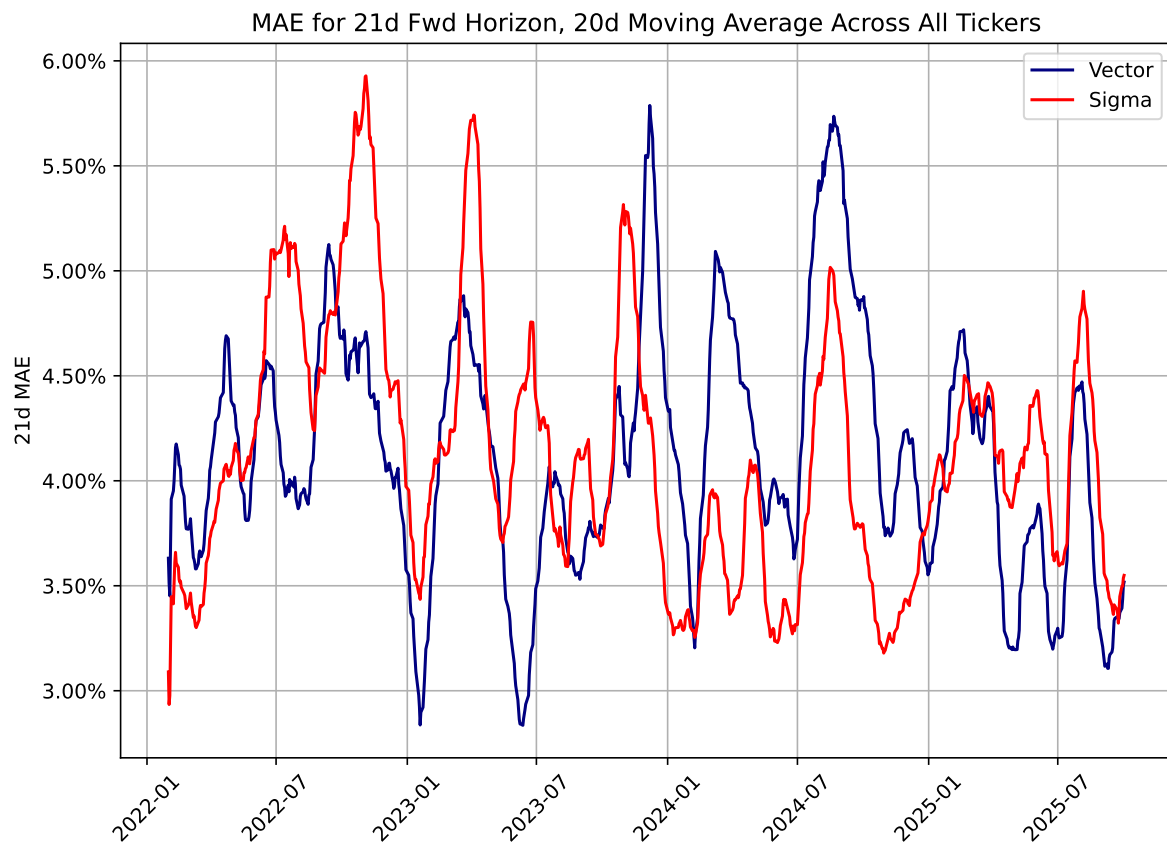
1d Horizon



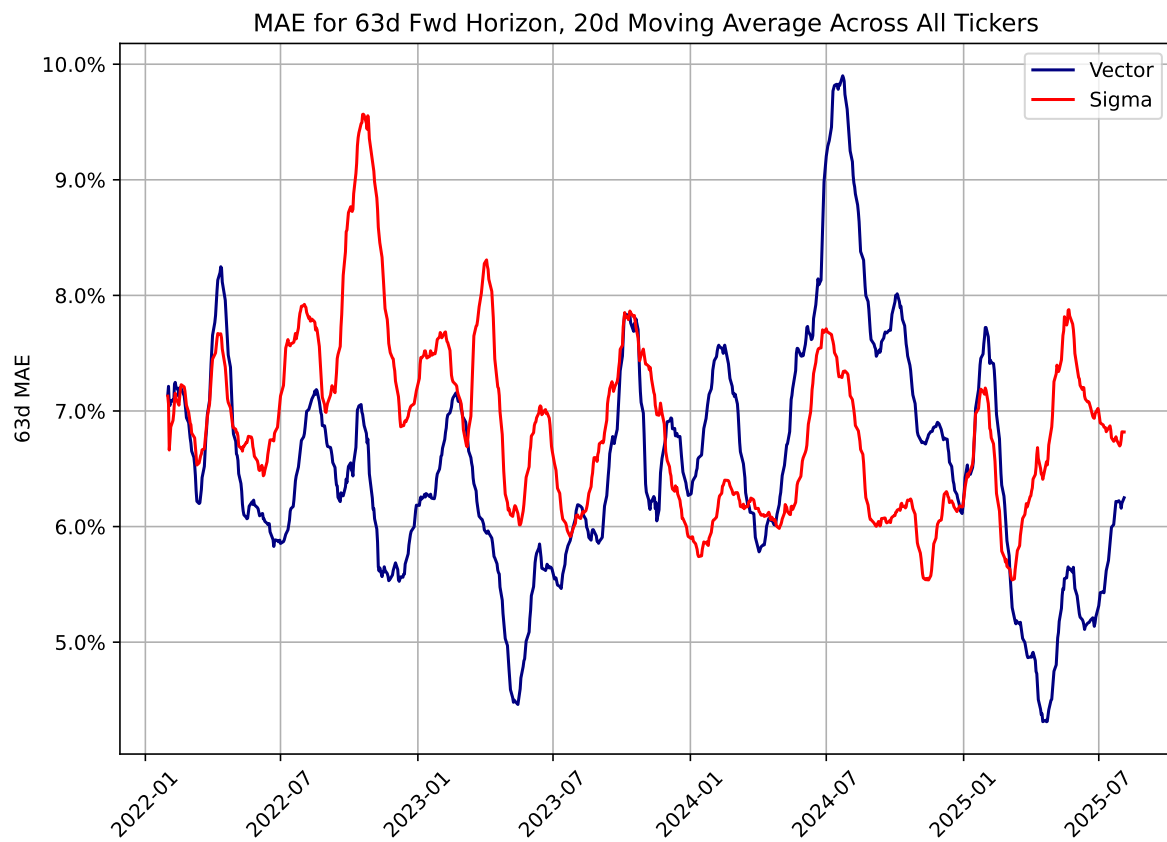
10d Horizon



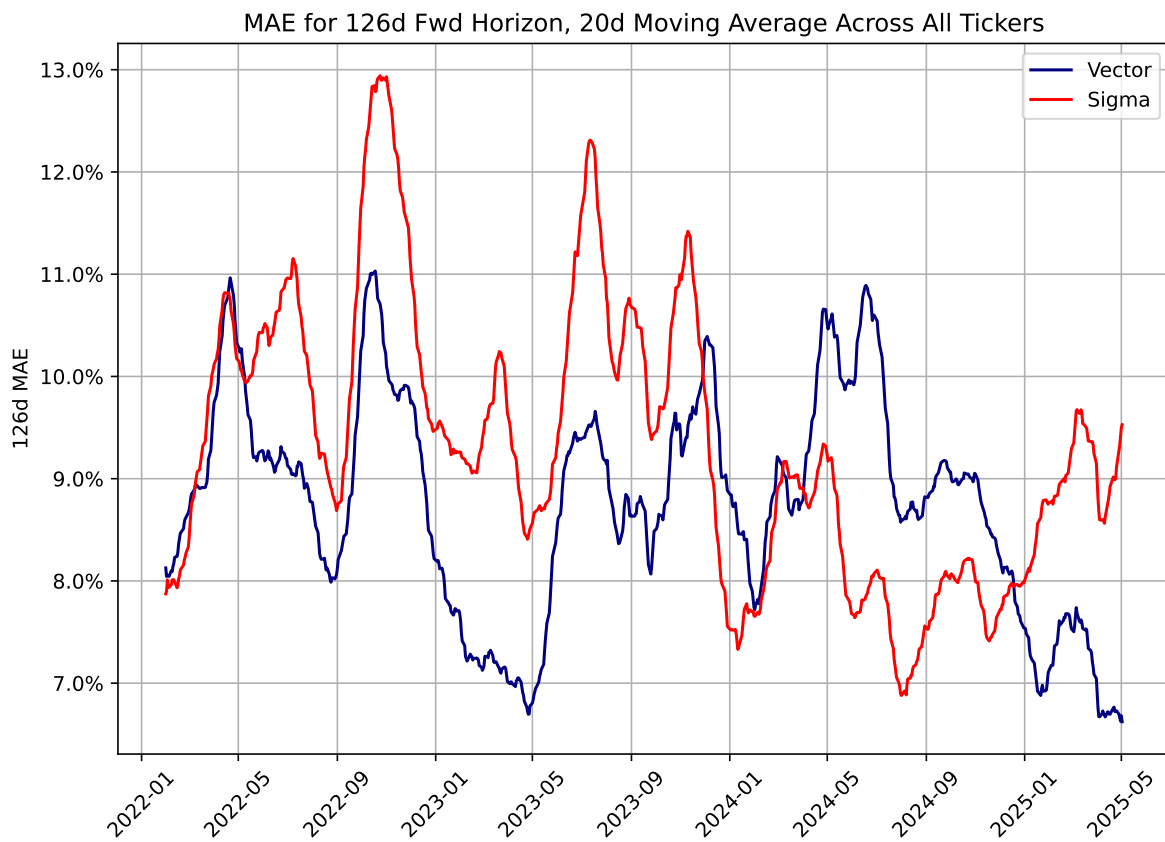
21d Horizon



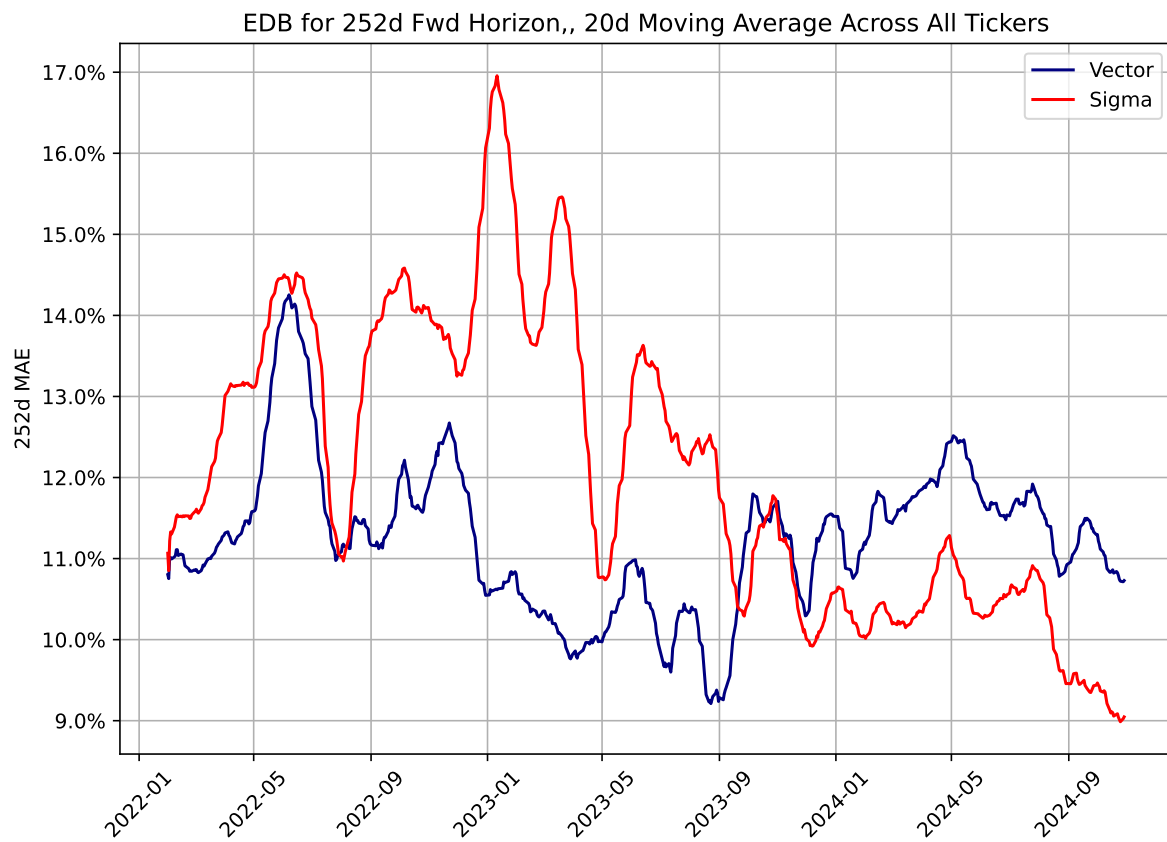
63d Horizon



126d Horizon



252d Horizon



Top 30 Tickers By EDB MAE

All TMD: 1d

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

Period examined: All model dates from 2022-01-31 through 2025-10-30

Horizon	Ticker_V	EDB-MAE_V	Ticker_S	EDB-MAE_S
1.0	AMC	10.82%	AMC	10.01%
1.0	CZR	3.5%	GME	2.96%
1.0	CYH	3.39%	CYH	2.8%
1.0	LUMN	3.21%	LUMN	2.35%
1.0	GBTC	3.17%	MSTR	1.99%
1.0	AMAT	2.78%	GBTC	1.85%
1.0	TSLA	2.52%	BHC	1.75%
1.0	NVDA	2.26%	IEP	1.65%
1.0	PHM	2.21%	TSLA	1.42%
1.0	CCL	2.1%	UAA	1.4%
1.0	IEP	1.82%	CTLT	1.4%
1.0	VNO	1.81%	VFC	1.39%
1.0	GT	1.8%	AA	1.34%
1.0	ELAN	1.79%	SIVBQ	1.34%
1.0	BHC	1.74%	CCL	1.31%
1.0	THC	1.73%	CLF	1.3%
1.0	MSFT	1.73%	GNRC	1.29%
1.0	MSTR	1.72%	CZR	1.28%
1.0	AVGO	1.71%	SBNY	1.27%
1.0	GNRC	1.7%	NWL	1.27%
1.0	CLF	1.57%	GT	1.23%
1.0	NWL	1.57%	AAP	1.22%
1.0	MS	1.55%	AMD	1.17%
1.0	AMD	1.54%	NVDA	1.15%
1.0	X	1.52%	LNC	1.14%
1.0	MOS	1.49%	ON	1.13%
1.0	VST	1.47%	X	1.09%
1.0	PWR	1.46%	INTC	1.08%
1.0	TEVA	1.4%	MU	1.08%
1.0	ETRN	1.39%	ELAN	1.06%



All TMD: 10d

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

Period examined: All model dates from 2022-01-31 through 2025-10-30

Horizon	Ticker_V	EDB-MAE_V	Ticker_S	EDB-MAE_S
10.0	AMC	23.27%	AMC	20.47%
10.0	GBTC	9.71%	CYH	9.2%
10.0	CYH	8.97%	GME	9.18%
10.0	LUMN	7.56%	LUMN	7.89%
10.0	CZR	5.92%	GBTC	6.53%
10.0	GT	5.72%	MSTR	6.28%
10.0	NVDA	5.42%	BHC	5.36%
10.0	CCL	5.26%	IEP	4.87%
10.0	IEP	5.19%	UAA	4.75%
10.0	AMAT	4.96%	TSLA	4.47%
10.0	PHM	4.83%	VFC	4.45%
10.0	VNO	4.71%	GNRC	4.41%
10.0	LNC	4.54%	NWL	4.39%
10.0	X	4.54%	AA	4.38%
10.0	BHC	4.49%	CTLT	4.36%
10.0	NWL	4.49%	GT	4.3%
10.0	MSTR	4.41%	CLF	4.28%
10.0	TSLA	4.34%	CCL	4.21%
10.0	CLF	4.2%	SBNY	4.13%
10.0	MU	4.12%	LNC	4.13%
10.0	GME	4.07%	CZR	4.04%
10.0	SIVBQ	4.01%	AAP	3.89%
10.0	THC	3.95%	SIVBQ	3.83%
10.0	TEVA	3.93%	NVDA	3.75%
10.0	ELAN	3.92%	INTC	3.66%
10.0	AA	3.83%	ON	3.5%
10.0	AMD	3.81%	ELAN	3.49%
10.0	ON	3.71%	AMD	3.46%
10.0	AVGO	3.7%	EXPE	3.4%
10.0	MSFT	3.68%	X	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 2025-10-30

Horizon	Ticker_V	EDB-MAE_V	Ticker_S	EDB-MAE_S
21.0	AMC	29.16%	AMC	21.39%
21.0	GBTC	11.94%	GME	12.16%
21.0	CYH	10.04%	LUMN	11.96%
21.0	LUMN	9.61%	CYH	10.38%
21.0	NVDA	7.89%	GBTC	9.15%
21.0	GT	7.27%	MSTR	8.3%
21.0	CZR	7.08%	BHC	7.91%
21.0	CCL	6.8%	CTLT	6.81%
21.0	IEP	6.77%	UAA	6.69%
21.0	AMAT	6.74%	IEP	6.6%
21.0	NWL	6.57%	NWL	6.54%
21.0	BHC	6.51%	VFC	6.35%
21.0	TSLA	6.27%	CCL	6.32%
21.0	PHM	6.24%	CLF	6.29%
21.0	CLF	6.21%	AA	6.19%
21.0	ELAN	6.19%	LNC	6.06%
21.0	GME	6.17%	GT	6.03%
21.0	VNO	6.14%	TSLA	6.02%
21.0	LNC	6.1%	GNRC	5.89%
21.0	UAA	6.07%	ELAN	5.81%
21.0	MSTR	5.97%	SIVBQ	5.75%
21.0	TEVA	5.77%	CZR	5.66%
21.0	X	5.58%	X	5.59%
21.0	AVGO	5.37%	NVDA	5.4%
21.0	ON	5.34%	INTC	5.21%
21.0	MOS	5.3%	ON	5.12%
21.0	VFC	5.29%	NFLX	5.03%
21.0	ETRN	5.26%	AAP	5.0%
21.0	THC	5.26%	AMD	4.99%
21.0	MU	5.14%	KALU	4.91%



All TMD: 63d

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

Period examined: All model dates from 2022-01-31 through 2025-10-30

Horizon	Ticker_V	EDB-MAE_V	Ticker_S	EDB-MAE_S
63.0	AMC	35.08%	AMC	21.35%
63.0	CYH	15.19%	GME	18.2%
63.0	LUMN	15.1%	MSTR	16.64%
63.0	GBTC	14.62%	CYH	15.1%
63.0	IEP	14.4%	LUMN	15.06%
63.0	PHM	11.05%	BHC	13.91%
63.0	AMAT	10.91%	IEP	13.52%
63.0	UAA	10.4%	CCL	13.21%
63.0	CCL	10.33%	CTLT	12.64%
63.0	NVDA	10.26%	GNRC	12.14%
63.0	X	10.15%	GBTC	12.08%
63.0	TSLA	10.1%	UAA	11.31%
63.0	GME	10.05%	TSLA	11.2%
63.0	CTLT	9.82%	INTC	10.6%
63.0	MU	9.81%	GT	10.46%
63.0	VNO	9.68%	SIVBQ	9.95%
63.0	ELAN	9.64%	CZR	9.89%
63.0	GT	9.34%	NWL	9.83%
63.0	SIVBQ	9.14%	LNC	9.71%
63.0	BHC	8.98%	AA	9.33%
63.0	NWL	8.84%	CLF	9.18%
63.0	INTC	8.82%	ON	9.08%
63.0	CZR	8.8%	VFC	8.9%
63.0	THC	8.75%	X	8.7%
63.0	MSFT	8.67%	NFLX	8.57%
63.0	LNC	8.53%	AMZN	8.55%
63.0	MOS	8.51%	MU	8.5%
63.0	CLF	8.31%	SBNY	8.42%
63.0	WDC	8.23%	LW	8.41%
63.0	PWR	8.22%	THC	8.36%



All TMD: 126d

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

Period examined: All model dates from 2022-01-31 through 2025-10-30

Horizon	Ticker_V	EDB-MAE_V	Ticker_S	EDB-MAE_S
126.0	AMC	36.72%	AMC	21.61%
126.0	CYH	25.74%	MSTR	21.19%
126.0	LUMN	23.49%	CYH	21.11%
126.0	IEP	22.69%	BHC	19.48%
126.0	NFLX	19.04%	GNRC	19.48%
126.0	GBTC	18.85%	LUMN	19.37%
126.0	SIVBQ	18.52%	IEP	17.86%
126.0	ETRN	15.25%	GME	16.35%
126.0	AMAT	15.02%	NFLX	16.05%
126.0	CSTM	14.33%	CCL	15.47%
126.0	ELAN	14.3%	SBNY	15.33%
126.0	LNC	14.3%	ETRN	15.13%
126.0	NWL	13.57%	SIVBQ	14.87%
126.0	NVDA	13.42%	UAA	14.86%
126.0	PWR	12.85%	GT	14.79%
126.0	TSLA	12.75%	GBTC	14.43%
126.0	GME	12.5%	LNC	14.3%
126.0	INTC	12.49%	EXPE	14.29%
126.0	CLF	12.43%	CZR	14.25%
126.0	MU	12.43%	NVDA	14.24%
126.0	VNO	12.37%	CTLT	14.12%
126.0	AZO	11.96%	VFC	13.93%
126.0	BHC	11.88%	CLF	13.67%
126.0	UAA	11.83%	AAP	13.57%
126.0	PHM	11.69%	NWL	13.54%
126.0	GT	11.68%	AA	13.26%
126.0	AA	11.61%	INTC	12.99%
126.0	BBY	11.51%	KEY	12.46%
126.0	X	11.35%	CSTM	12.01%
126.0	CTLT	11.22%	THC	11.64%



All TMD: 252d

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

Period examined: All model dates from 2022-01-31 through 2025-10-30

Horizon	Ticker_V	EDB-MAE_V	Ticker_S	EDB-MAE_S
252.0	AMC	50.4%	SBNY	53.5%
252.0	NVDA	36.82%	LUMN	25.27%
252.0	CYH	33.79%	AMC	24.65%
252.0	LUMN	31.85%	SIVBQ	23.37%
252.0	LNC	26.54%	BHC	22.96%
252.0	PHM	25.59%	CTLT	22.33%
252.0	AMAT	25.05%	META	21.76%
252.0	SIVBQ	24.89%	LNC	21.73%
252.0	IEP	20.82%	TSLA	21.64%
252.0	CCL	20.37%	NVDA	21.3%
252.0	GBTC	20.03%	CLF	20.89%
252.0	ORCL	19.87%	EXPE	20.7%
252.0	AVGO	19.63%	UAA	20.27%
252.0	AZO	19.46%	GNRC	19.78%
252.0	GT	18.61%	AVGO	19.62%
252.0	EXPE	18.27%	AAP	19.43%
252.0	ELAN	17.42%	VFC	19.38%
252.0	TRGP	17.34%	VNO	19.1%
252.0	CPRT	17.16%	ORCL	18.82%
252.0	TXN	17.03%	TEVA	18.76%
252.0	PWR	16.74%	NFLX	18.57%
252.0	NWL	16.54%	CYH	18.01%
252.0	ETRN	16.26%	AZO	17.06%
252.0	INTC	16.14%	FSUGY	16.81%
252.0	HCA	15.71%	ELAN	16.73%
252.0	KEY	15.37%	CMA	16.1%
252.0	CMA	15.3%	AMZN	16.1%
252.0	MSTR	15.29%	NWL	16.08%
252.0	VFC	15.18%	GT	15.94%
252.0	AA	14.88%	CSTM	15.77%



Bottom 30 Tickers By EDB MAE

All TMD: 1d

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

Period examined: All model dates from 2022-01-31 through 2025-10-30

Horizon	Ticker_V	EDB-MAE_V	Ticker_S	EDB-MAE_S
1.0	VCSH	0.08%	VCSH	0.07%
1.0	MUB	0.1%	MUB	0.1%
1.0	LQD	0.17%	HYG	0.2%
1.0	HYG	0.27%	LQD	0.22%
1.0	EMB	0.3%	EMB	0.25%
1.0	FRA	0.35%	FRA	0.29%
1.0	TLT	0.42%	GLD	0.32%
1.0	VZ	0.49%	TLT	0.38%
1.0	NVS	0.49%	PEP	0.39%
1.0	PEP	0.49%	SPY	0.42%
1.0	AMGN	0.49%	NVS	0.43%
1.0	SNY	0.52%	POST	0.44%
1.0	HD	0.52%	ABBV	0.48%
1.0	POST	0.52%	HON	0.49%
1.0	GSK	0.54%	KHC	0.5%
1.0	GILD	0.54%	ORLY	0.5%
1.0	BUD	0.55%	AMGN	0.5%
1.0	SBUX	0.55%	MRK	0.5%
1.0	HON	0.56%	BMY	0.5%
1.0	BMY	0.57%	VZ	0.51%
1.0	ABBV	0.57%	CSCO	0.51%
1.0	ZTS	0.58%	COST	0.51%
1.0	CHTR	0.59%	AZN	0.51%
1.0	VICI	0.59%	MNST	0.51%
1.0	CMCSA	0.59%	VICI	0.51%
1.0	XOM	0.59%	CAH	0.52%
1.0	JAZZ	0.6%	MSI	0.52%
1.0	AZN	0.61%	TMUS	0.53%
1.0	ORLY	0.61%	AZO	0.53%
1.0	BALL	0.62%	GILD	0.53%



All TMD: 10d

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

Period examined: All model dates from 2022-01-31 through 2025-10-30

Horizon	Ticker_V	EDB-MAE_V	Ticker_S	EDB-MAE_S
10.0	VCSH	0.23%	VCSH	0.24%
10.0	MUB	0.4%	MUB	0.32%
10.0	HYG	0.64%	HYG	0.64%
10.0	LQD	0.65%	LQD	0.69%
10.0	EMB	0.9%	EMB	0.76%
10.0	FRA	1.0%	FRA	0.98%
10.0	TLT	1.12%	GLD	0.99%
10.0	NVS	1.44%	TLT	1.23%
10.0	POST	1.47%	SPY	1.34%
10.0	VZ	1.47%	PEP	1.37%
10.0	GILD	1.49%	POST	1.38%
10.0	BUD	1.51%	ORLY	1.45%
10.0	SNY	1.54%	NVS	1.46%
10.0	ZTS	1.55%	ABBV	1.51%
10.0	BMY	1.55%	HON	1.53%
10.0	PEP	1.58%	KHC	1.54%
10.0	GLD	1.64%	VICI	1.55%
10.0	TMUS	1.66%	TMUS	1.56%
10.0	GSK	1.67%	MRK	1.58%
10.0	XOM	1.68%	VZ	1.59%
10.0	AMGN	1.68%	GILD	1.61%
10.0	MSI	1.72%	COST	1.61%
10.0	JAZZ	1.74%	CAH	1.62%
10.0	ABBV	1.75%	BMY	1.63%
10.0	TDG	1.76%	CSCO	1.65%
10.0	SLV	1.76%	AZO	1.66%
10.0	GWW	1.76%	MSI	1.67%
10.0	CHTR	1.77%	AMGN	1.68%
10.0	VICI	1.78%	GSK	1.71%
10.0	OXY	1.82%	AZN	1.72%



All TMD: 21d

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

Period examined: All model dates from 2022-01-31 through 2025-10-30

Horizon	Ticker_V	EDB-MAE_V	Ticker_S	EDB-MAE_S
21.0	VCSH	0.29%	VCSH	0.35%
21.0	MUB	0.67%	MUB	0.47%
21.0	LQD	0.93%	HYG	0.89%
21.0	HYG	0.94%	LQD	1.04%
21.0	EMB	1.45%	EMB	1.23%
21.0	FRA	1.55%	FRA	1.47%
21.0	TLT	1.68%	GLD	1.54%
21.0	BUD	1.96%	SPY	1.91%
21.0	NVS	1.98%	PEP	1.93%
21.0	GILD	1.99%	TLT	1.95%
21.0	POST	2.03%	POST	2.0%
21.0	SNY	2.05%	NVS	2.04%
21.0	BMY	2.1%	MRK	2.1%
21.0	MSI	2.17%	BMY	2.14%
21.0	GSK	2.22%	VICI	2.15%
21.0	PEP	2.26%	ORLY	2.21%
21.0	VICI	2.26%	ACGL	2.23%
21.0	CHTR	2.27%	MSI	2.25%
21.0	GLD	2.29%	HON	2.25%
21.0	ZTS	2.31%	CAH	2.3%
21.0	CVS	2.31%	TMUS	2.31%
21.0	AMGN	2.38%	KHC	2.32%
21.0	HON	2.38%	MNST	2.34%
21.0	XOM	2.41%	AMGN	2.34%
21.0	TMUS	2.41%	GW	2.35%
21.0	BIIB	2.43%	BUD	2.36%
21.0	MRK	2.44%	GILD	2.38%
21.0	GW	2.46%	ABBV	2.39%
21.0	JAZZ	2.48%	CPRT	2.45%
21.0	KHC	2.49%	IRM	2.47%



All TMD: 63d

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

Period examined: All model dates from 2022-01-31 through 2025-10-30

Horizon	Ticker_V	EDB-MAE_V	Ticker_S	EDB-MAE_S
63.0	VCSH	0.42%	VCSH	0.63%
63.0	MUB	0.94%	MUB	0.77%
63.0	LQD	1.18%	LQD	1.76%
63.0	HYG	1.58%	HYG	1.82%
63.0	EMB	2.23%	EMB	2.19%
63.0	TLT	2.33%	GLD	2.4%
63.0	FRA	2.48%	FRA	2.41%
63.0	POST	2.66%	TLT	3.16%
63.0	GLD	2.85%	POST	3.17%
63.0	GSK	3.04%	SPY	3.19%
63.0	TMUS	3.08%	PEP	3.21%
63.0	ABBV	3.17%	ABBV	3.28%
63.0	VICI	3.18%	VICI	3.43%
63.0	CHTR	3.28%	GWV	3.45%
63.0	GILD	3.33%	HON	3.46%
63.0	BUD	3.42%	NVS	3.48%
63.0	SPY	3.52%	VZ	3.76%
63.0	NVS	3.56%	BUD	3.81%
63.0	PEP	3.64%	ORLY	3.81%
63.0	HON	3.64%	GILD	3.81%
63.0	BMV	3.66%	CPRT	3.84%
63.0	HD	3.74%	CAH	3.84%
63.0	GWV	3.75%	AZN	3.94%
63.0	ORLY	3.75%	BMV	3.97%
63.0	AMGN	3.78%	HD	3.97%
63.0	XOM	3.88%	MNST	4.06%
63.0	SBNY	3.89%	AMGN	4.06%
63.0	CAH	3.91%	MRK	4.13%
63.0	VZ	3.92%	KHC	4.21%
63.0	MSI	3.94%	COST	4.24%



All TMD: 126d

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

Period examined: All model dates from 2022-01-31 through 2025-10-30

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	3.19%	CAH	3.99%
126.0	FRA	3.51%	NVS	4.03%
126.0	HON	3.96%	FRA	4.2%
126.0	BUD	3.99%	GLD	4.4%
126.0	SNY	4.07%	TLT	4.52%
126.0	ZTS	4.12%	KHC	4.55%
126.0	HD	4.15%	PEP	4.59%
126.0	EMB	4.15%	MNST	4.79%
126.0	GWV	4.26%	POST	4.87%
126.0	GSK	4.27%	UNH	4.88%
126.0	GLD	4.46%	GILD	4.99%
126.0	GILD	4.56%	MSI	5.07%
126.0	MSI	4.63%	SPY	5.17%
126.0	VST	4.65%	ABBV	5.21%
126.0	KHC	4.71%	JAZZ	5.22%
126.0	AZN	4.78%	GWV	5.23%
126.0	JAZZ	4.85%	HON	5.34%
126.0	BHP	4.97%	AMGN	5.36%
126.0	POST	4.97%	FRCB	5.39%
126.0	GS	5.02%	CSCO	5.45%
126.0	OXY	5.05%	VICI	5.48%
126.0	CMCSA	5.06%	CMCSA	5.6%
126.0	PEP	5.08%	ZTS	5.64%
126.0	B	5.13%	AZN	5.68%
126.0	AMGN	5.13%	TMUS	5.75%



All TMD: 252d

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

Period examined: All model dates from 2022-01-31 through 2025-10-30

Horizon	Ticker_V	EDB-MAE_V	Ticker_S	EDB-MAE_S
252.0	VCSH	1.04%	VCSH	1.12%
252.0	LQD	2.7%	MUB	1.42%
252.0	MUB	2.9%	HYG	3.65%
252.0	HYG	3.46%	FRA	4.03%
252.0	FRA	3.53%	SPY	4.18%
252.0	QQQ	3.88%	LQD	4.39%
252.0	GLD	4.02%	TLT	4.63%
252.0	TLT	4.34%	QQQ	4.72%
252.0	GILD	4.47%	EMB	4.98%
252.0	COST	4.86%	CPRT	5.1%
252.0	BHP	5.0%	GLD	5.17%
252.0	VICI	5.14%	PEP	5.42%
252.0	SPY	5.14%	MSI	5.6%
252.0	SNY	5.23%	GILD	5.64%
252.0	ZTS	5.28%	MNST	5.71%
252.0	OXY	5.3%	ACGL	6.12%
252.0	NVS	5.41%	IRM	6.14%
252.0	AMGN	5.49%	CMCSA	6.23%
252.0	T	5.68%	FRCB	6.47%
252.0	BUD	5.68%	JAZZ	6.72%
252.0	META	5.85%	AMGN	6.79%
252.0	KHC	6.09%	COST	6.88%
252.0	GSK	6.17%	DHI	7.02%
252.0	CMCSA	6.33%	VICI	7.13%
252.0	RIO	6.37%	CMG	7.2%
252.0	IRM	6.6%	CNC	7.22%
252.0	B	6.78%	CDNS	7.28%
252.0	WFC	6.82%	GSK	7.47%
252.0	PRGO	6.86%	LLY	7.47%
252.0	BA	6.87%	ABBV	7.6%



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 Model 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.

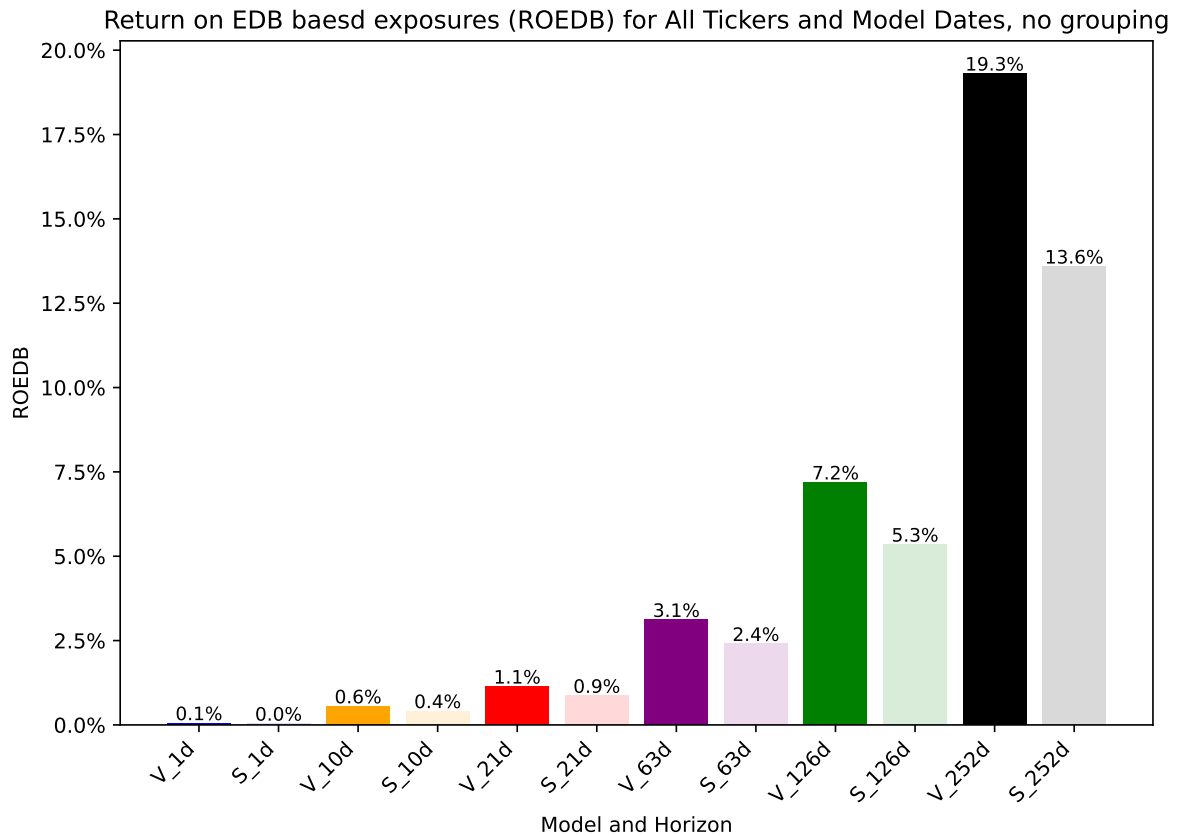
Following each bar chart comparison of ROEDB is a table detailing the alpha (intercept) and slope (beta) of Vector Model EDB based exposure performance to Sigma EDB exposure based performance. The beta arguably provides some indication of the leverage of the Vector Model based exposures and the alpha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

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



All Out of Sample Model Dates

Period examined: All model dates from 2022-01-31 through 2025-10-30



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%	-0.10%	-0.24%	-0.65%	-1.31%	-2.47%
intercept_p_value	5.84%	0.00%	0.00%	0.00%	0.00%	0.00%
slope	164.70%	159.03%	159.47%	156.74%	158.90%	160.25%
slope_p_value	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

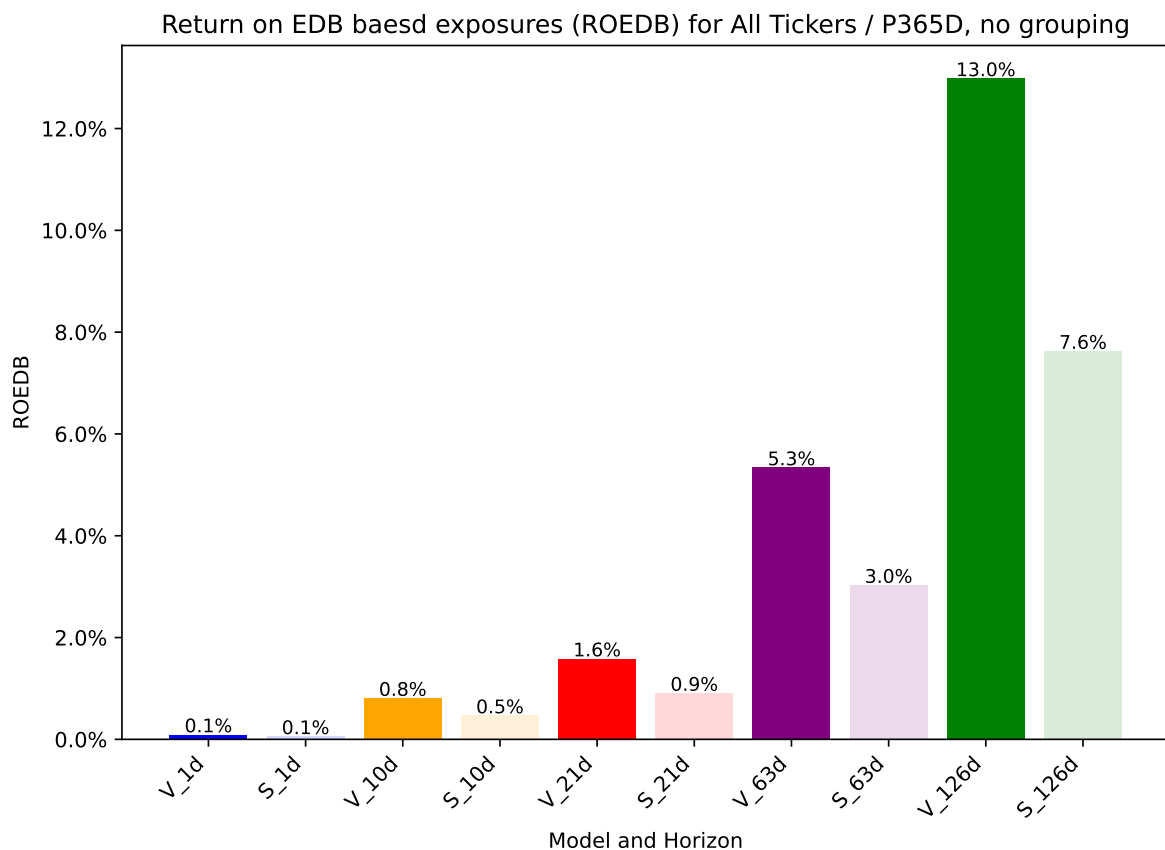
Same as above, but averaged by Ticker across Model Dates:

	1d	10d	21d	63d	126d	252d
intercept	0.01%	0.10%	0.21%	0.73%	1.58%	2.71%
intercept_p_value	46.11%	21.30%	14.41%	13.33%	7.53%	13.18%
slope	154.08%	145.47%	147.07%	147.81%	151.85%	161.34%
slope_p_value	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%



Prior 365 Calendar Days (P365D)

Period examined: All model dates from 2024-11-01 through 2025-10-30



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

	1d	10d	21d	63d	126d
intercept	0.00%	0.09%	0.19%	0.52%	-1.05%
intercept_p_value	97.56%	0.34%	0.00%	0.00%	0.00%
slope	162.72%	153.62%	154.05%	158.99%	184.05%
slope_p_value	0.00%	0.00%	0.00%	0.00%	0.00%

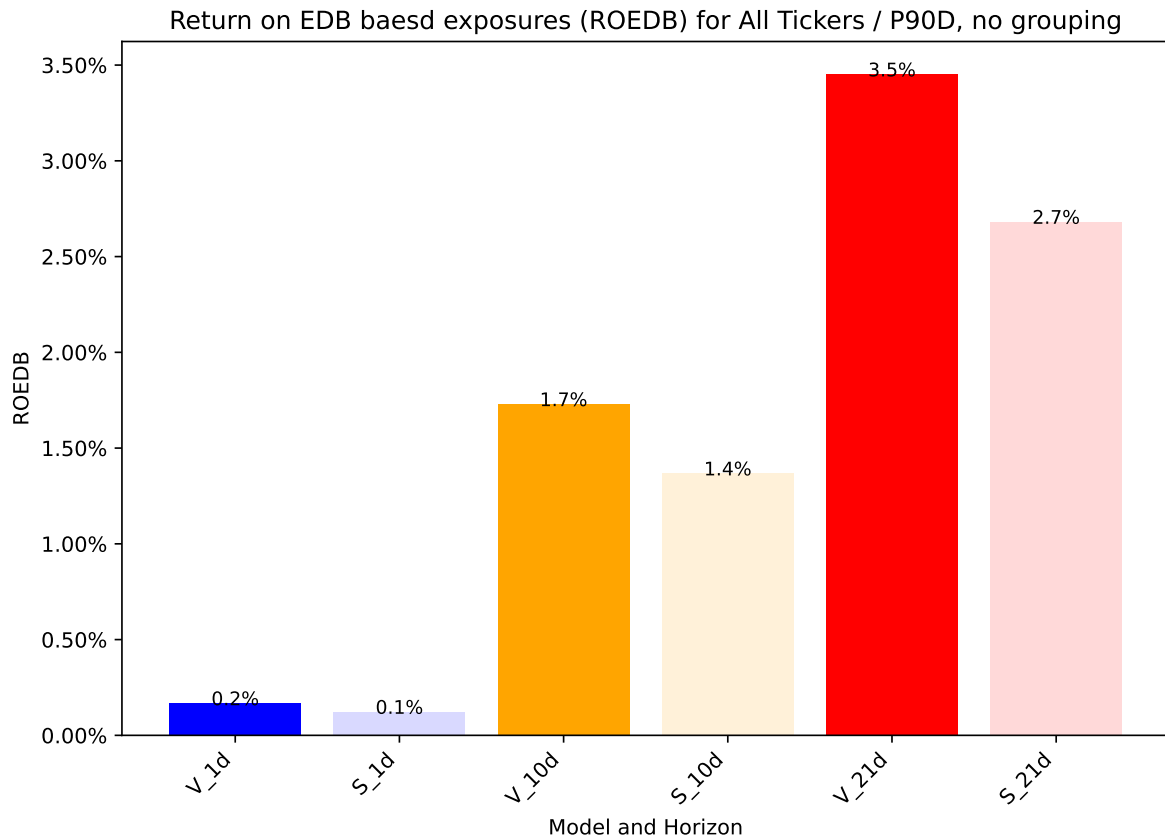
Same as above, but averaged by Ticker across Model Dates:

	1d	10d	21d	63d	126d
intercept	0.02%	0.17%	0.31%	0.94%	-0.35%
intercept_p_value	47.37%	16.77%	13.93%	11.06%	15.19%
slope	153.41%	142.20%	141.76%	142.97%	145.55%
slope_p_value	0.00%	0.00%	0.00%	0.00%	0.01%



Prior 90 Calendar Days (P90D)

Period examined: All model dates from 2025-08-04 through 2025-10-30



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

	1d	10d	21d
intercept	-0.02%	-0.16%	-0.37%
intercept_p_value	41.52%	0.35%	0.00%
slope	150.10%	137.97%	142.57%
slope_p_value	0.00%	0.00%	0.00%

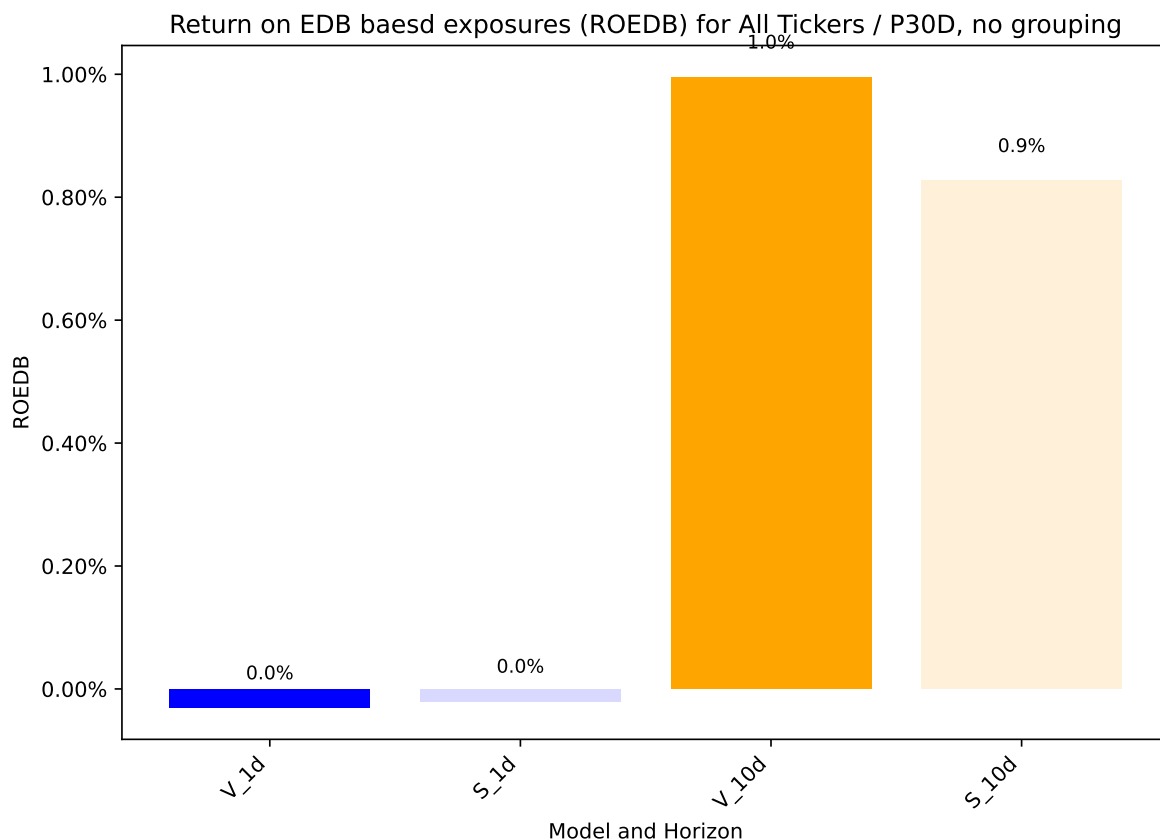
Same as above, but averaged by Ticker across Model Dates:

	1d	10d	21d
intercept	0.02%	0.01%	-0.07%
intercept_p_value	48.71%	28.67%	30.35%
slope	148.06%	140.38%	141.49%
slope_p_value	0.00%	0.00%	0.05%



Prior 30 Calendar Days (P30D)

Period examined: All model dates from 2025-10-02 through 2025-10-30



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

	1d	10d
intercept	-0.00%	-0.09%
intercept_p_value	98.32%	49.04%
slope	150.09%	130.69%
slope_p_value	0.00%	0.00%

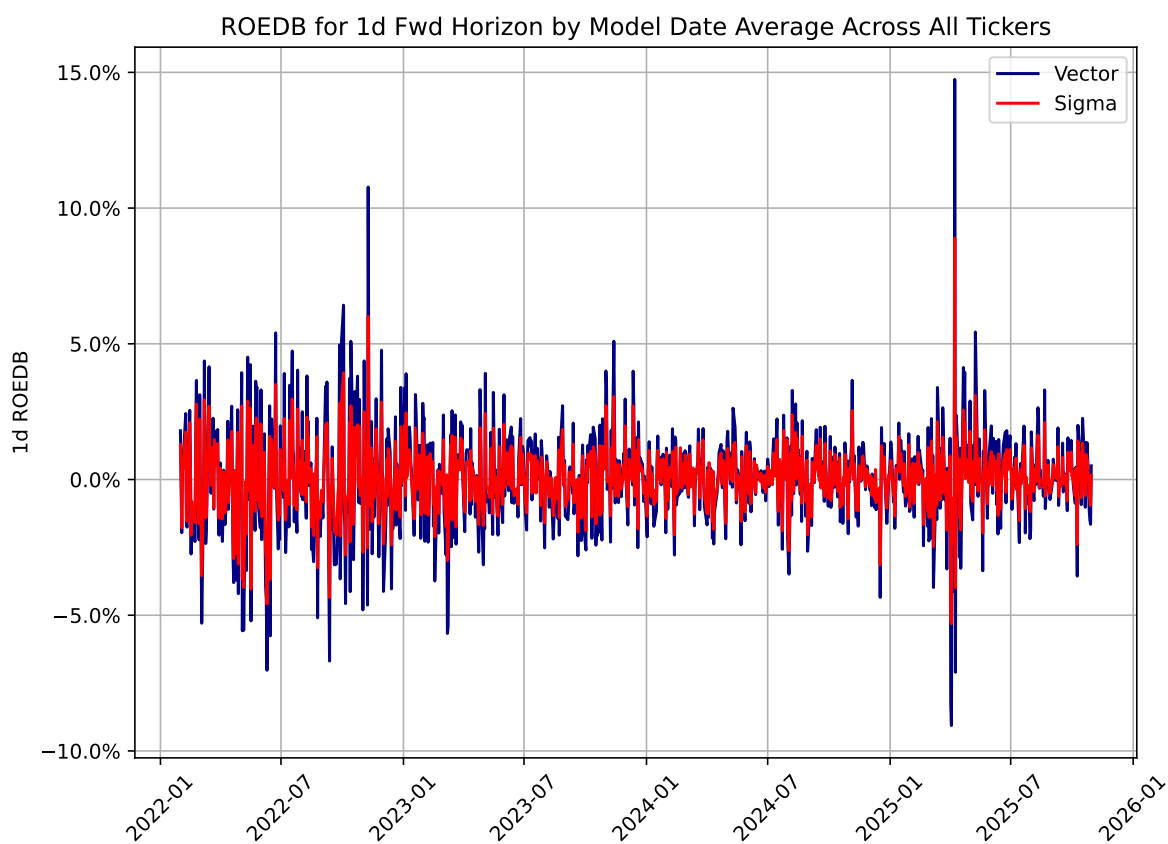
Same as above, but averaged by Ticker across Model Dates:

	1d	10d
intercept	0.05%	-0.02%
intercept_p_value	44.49%	50.49%
slope	146.00%	139.09%
slope_p_value	0.00%	0.00%

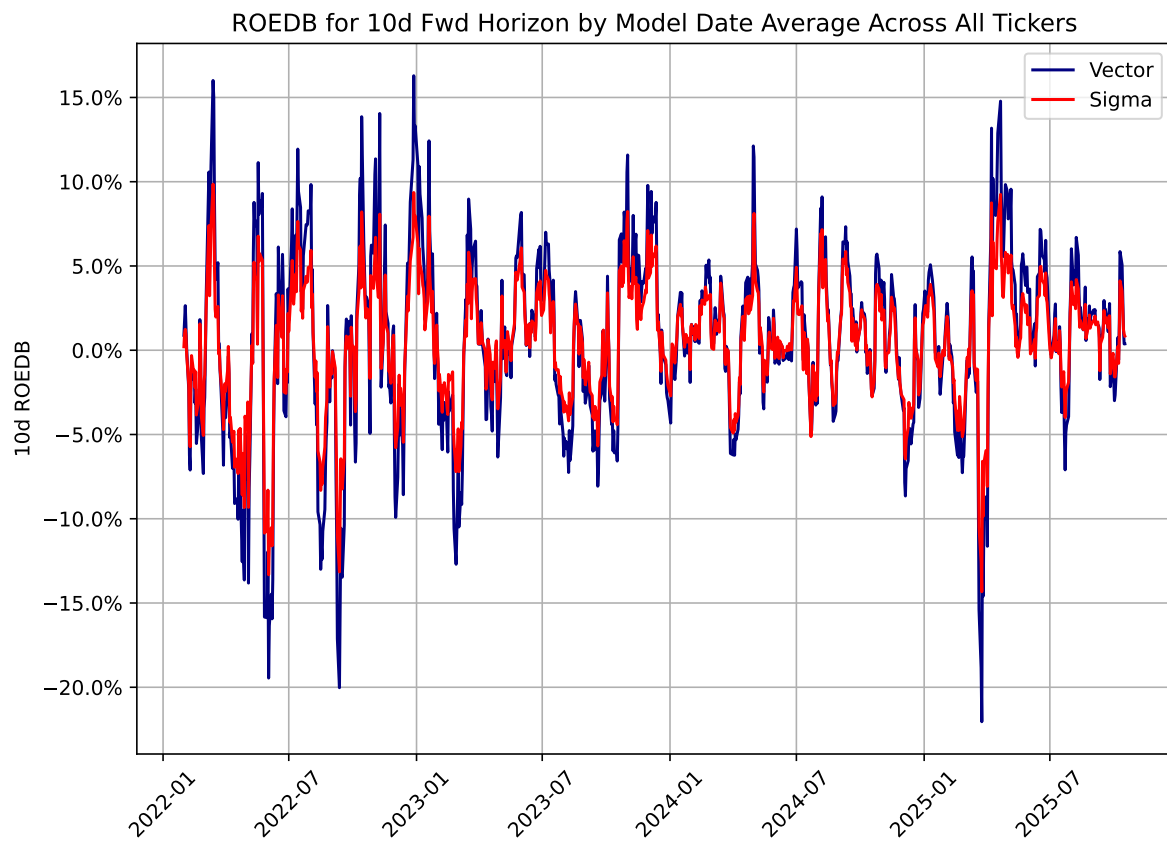


ROEDB by Model Date Detail

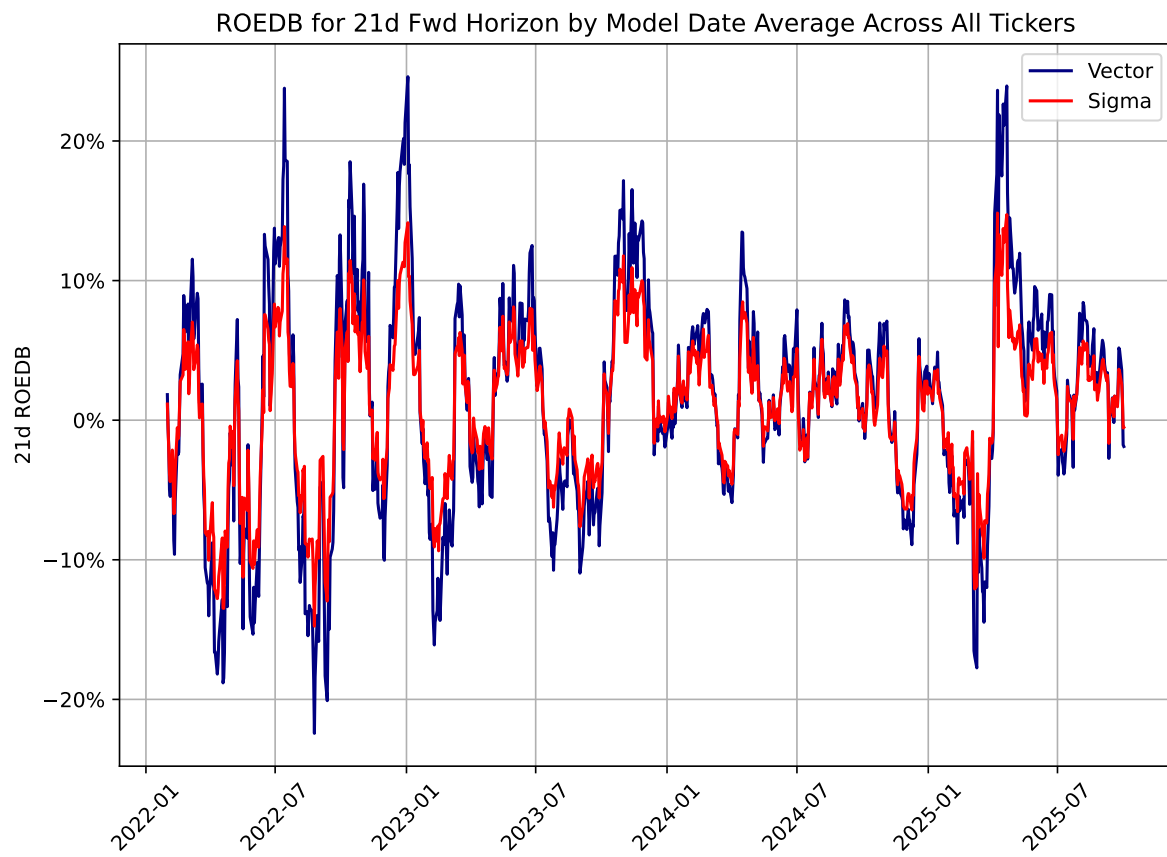
1d Horizon



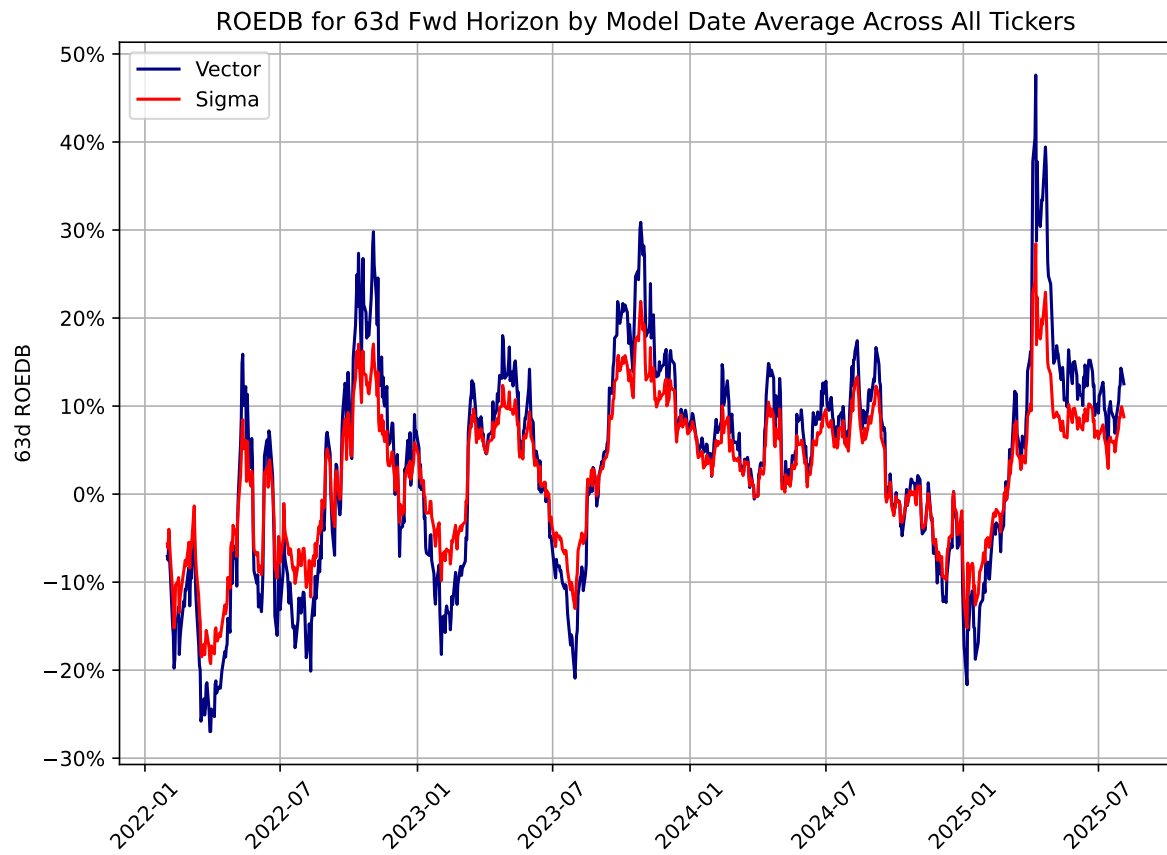
10d Horizon



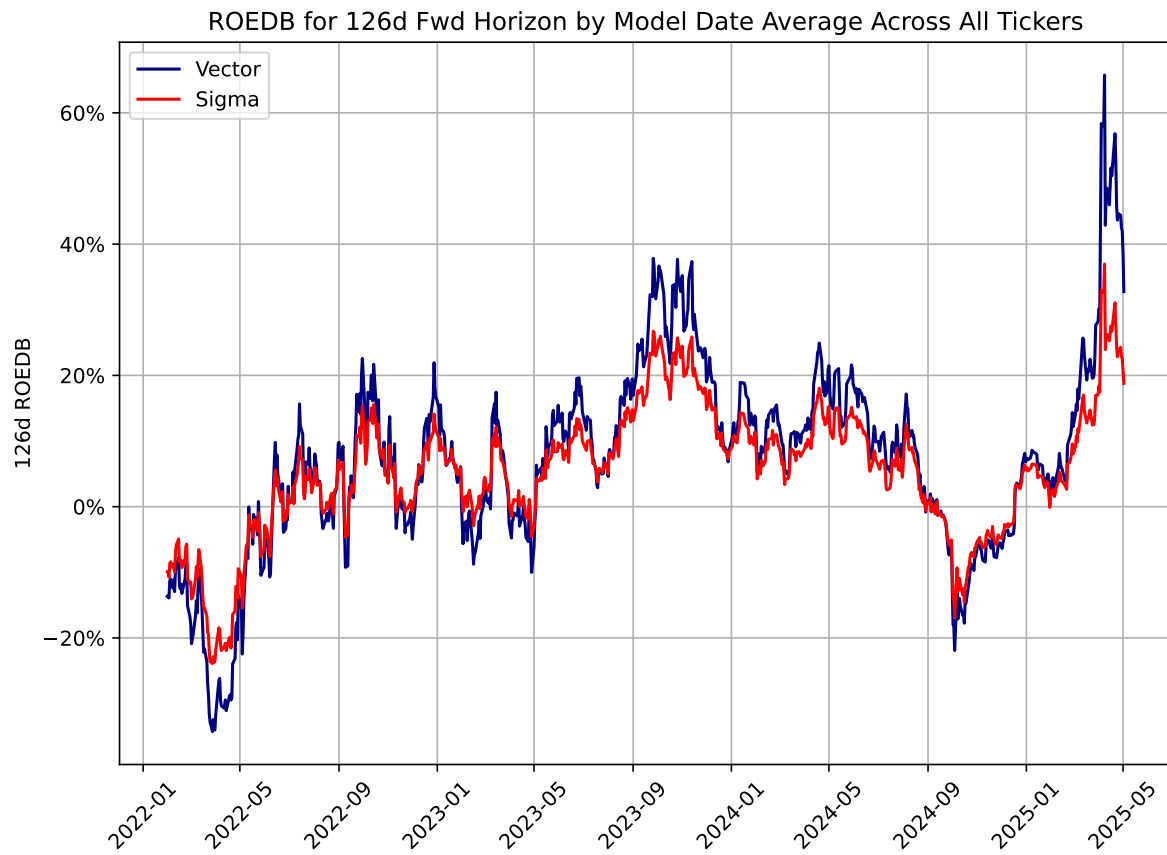
21d Horizon



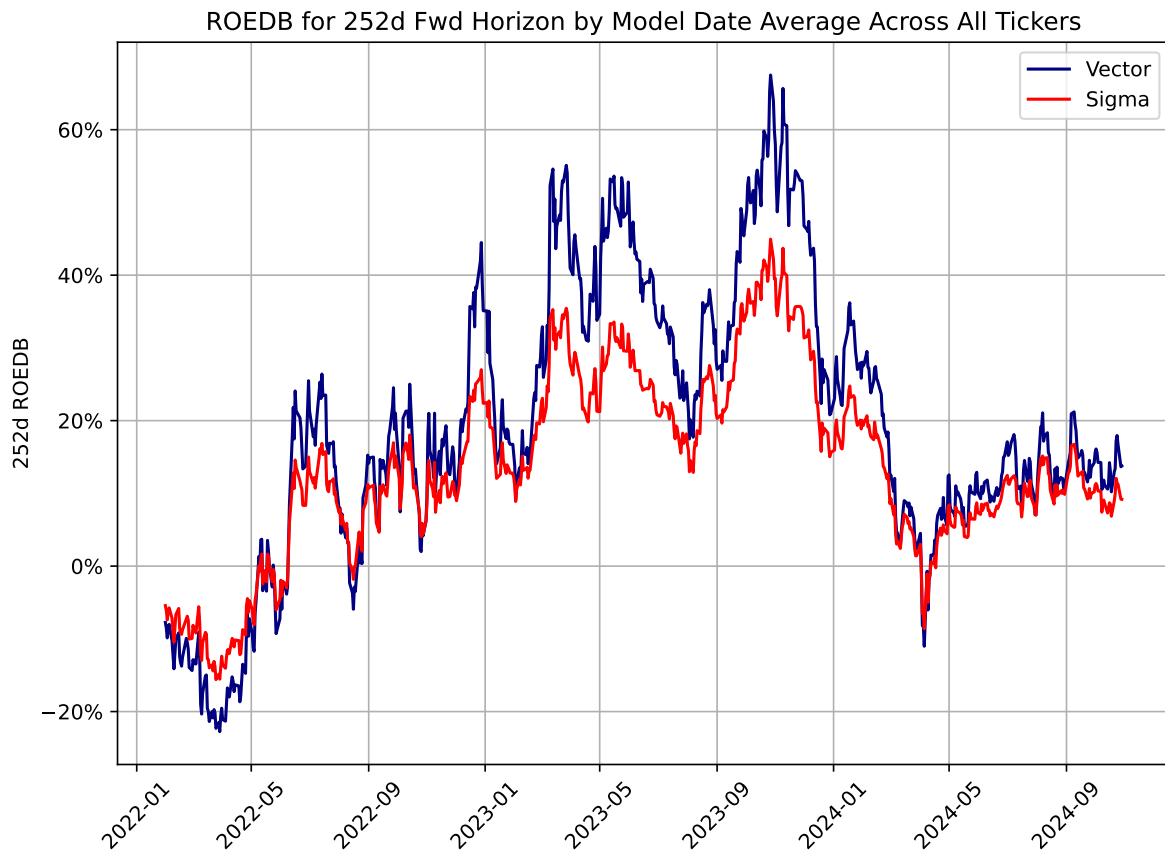
63d Horizon



126d Horizon



252d Horizon



Top 30 Tickers By ROEDB

All TMD: 1d

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

Period examined: All model dates from 2022-01-31 through 2025-10-30

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
1.0	MSTR	0.82%	MSTR	0.39%
1.0	GME	0.56%	NVDA	0.28%
1.0	NFLX	0.42%	VST	0.28%
1.0	META	0.34%	AVGO	0.24%
1.0	AVGO	0.33%	GBTC	0.2%
1.0	ORCL	0.29%	PWR	0.18%
1.0	MU	0.29%	GME	0.18%
1.0	WDC	0.26%	GE	0.17%
1.0	AMD	0.26%	X	0.17%
1.0	NVDA	0.26%	WDC	0.16%
1.0	CLF	0.25%	ORCL	0.16%
1.0	PWR	0.24%	MU	0.15%
1.0	CDNS	0.24%	LLY	0.15%
1.0	GOOGL	0.23%	THC	0.15%
1.0	AAPL	0.2%	CAH	0.15%
1.0	XOM	0.19%	AMD	0.14%
1.0	INTC	0.19%	NFLX	0.14%
1.0	VST	0.19%	TEVA	0.13%
1.0	AMZN	0.18%	TRGP	0.12%
1.0	ORLY	0.18%	META	0.12%
1.0	LLY	0.18%	ETRN	0.12%
1.0	GWG	0.17%	TSLA	0.12%
1.0	INTU	0.16%	PHM	0.11%
1.0	X	0.16%	CDNS	0.11%
1.0	IRM	0.15%	CCL	0.1%
1.0	MSI	0.15%	IRM	0.1%
1.0	NEM	0.15%	GS	0.1%
1.0	JPM	0.15%	GOOGL	0.1%
1.0	TSLA	0.15%	SLV	0.1%
1.0	SLV	0.15%	TDG	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 2025-10-30

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
10.0	MSTR	9.33%	MSTR	3.99%
10.0	GME	5.16%	VST	2.8%
10.0	META	3.65%	NVDA	2.75%
10.0	NFLX	3.19%	AVGO	2.29%
10.0	ORCL	2.98%	GBTC	1.93%
10.0	WDC	2.79%	PWR	1.77%
10.0	VST	2.71%	GE	1.7%
10.0	MU	2.53%	ORCL	1.59%
10.0	AVGO	2.53%	X	1.58%
10.0	NVDA	2.44%	LLY	1.53%
10.0	TEVA	2.38%	GME	1.53%
10.0	AMD	2.08%	NFLX	1.52%
10.0	PWR	1.95%	MU	1.51%
10.0	CDNS	1.84%	META	1.51%
10.0	SLV	1.84%	WDC	1.48%
10.0	GOOGL	1.79%	THC	1.44%
10.0	INTC	1.75%	ETRN	1.41%
10.0	GE	1.71%	CAH	1.36%
10.0	AAPL	1.69%	AMD	1.33%
10.0	AMZN	1.61%	TEVA	1.33%
10.0	GWV	1.53%	TSLA	1.25%
10.0	CAH	1.51%	TRGP	1.18%
10.0	X	1.49%	PHM	1.13%
10.0	HCA	1.47%	CDNS	1.1%
10.0	THC	1.47%	IRM	1.06%
10.0	GILD	1.4%	CCL	1.0%
10.0	ETRN	1.4%	GS	0.98%
10.0	XOM	1.39%	ORLY	0.96%
10.0	MSI	1.34%	SLV	0.94%
10.0	ISRG	1.33%	TDG	0.94%



All TMD: 21d

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

Period examined: All model dates from 2022-01-31 through 2025-10-30

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
21.0	MSTR	20.36%	MSTR	9.1%
21.0	META	8.36%	VST	6.15%
21.0	GME	8.36%	NVDA	5.94%
21.0	NFLX	6.58%	AVGO	4.8%
21.0	WDC	6.4%	GBTC	4.3%
21.0	ORCL	6.35%	PWR	3.75%
21.0	TEVA	5.82%	GE	3.69%
21.0	VST	5.49%	ORCL	3.57%
21.0	AVGO	5.46%	ETRN	3.5%
21.0	MU	5.21%	NFLX	3.42%
21.0	NVDA	5.05%	META	3.37%
21.0	PWR	4.28%	LLY	3.2%
21.0	ETRN	4.25%	X	3.17%
21.0	GE	4.0%	WDC	3.11%
21.0	AMD	3.89%	THC	2.99%
21.0	SLV	3.78%	MU	2.91%
21.0	GOOGL	3.73%	TEVA	2.9%
21.0	CDNS	3.66%	TSLA	2.89%
21.0	GILD	3.28%	AMD	2.81%
21.0	AMZN	3.27%	CAH	2.8%
21.0	CAH	3.25%	PHM	2.51%
21.0	THC	3.25%	TRGP	2.47%
21.0	INTC	3.11%	GME	2.43%
21.0	GS	3.01%	CDNS	2.31%
21.0	GS	3.0%	IRM	2.27%
21.0	XOM	2.98%	CCL	2.25%
21.0	GBTC	2.97%	GS	2.13%
21.0	X	2.92%	ORLY	2.07%
21.0	AAPL	2.89%	SLV	1.96%
21.0	MSI	2.85%	TDG	1.9%



All TMD: 63d

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

Period examined: All model dates from 2022-01-31 through 2025-10-30

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
63.0	MSTR	51.78%	MSTR	27.38%
63.0	META	30.85%	VST	20.27%
63.0	NFLX	24.67%	NVDA	19.98%
63.0	WDC	22.08%	AVGO	14.82%
63.0	VST	19.46%	GBTC	14.68%
63.0	ORCL	19.22%	META	12.2%
63.0	NVDA	18.43%	NFLX	11.98%
63.0	AVGO	17.63%	GE	11.66%
63.0	GE	13.96%	ORCL	10.91%
63.0	TEVA	12.86%	ETRN	10.28%
63.0	MU	12.03%	PWR	10.23%
63.0	PWR	11.64%	PHM	9.06%
63.0	GBTC	10.94%	THC	9.01%
63.0	CDNS	10.92%	WDC	8.96%
63.0	ETRN	10.51%	LLY	8.59%
63.0	AMD	10.51%	CAH	8.09%
63.0	CTLT	10.48%	CCL	7.94%
63.0	GILD	10.19%	MU	7.42%
63.0	THC	10.16%	AMD	7.36%
63.0	GS	9.91%	TEVA	7.36%
63.0	CAH	9.76%	TRGP	7.22%
63.0	GWV	9.56%	DHI	6.9%
63.0	SLV	9.5%	CDNS	6.87%
63.0	MSI	8.91%	GS	6.76%
63.0	GME	8.81%	TSLA	6.58%
63.0	DHI	8.75%	ORLY	6.35%
63.0	GOOGL	8.73%	JPM	6.29%
63.0	CCL	8.42%	TDG	6.02%
63.0	INTU	8.08%	X	5.91%
63.0	ISRG	7.74%	IRM	5.78%



All TMD: 126d

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

Period examined: All model dates from 2022-01-31 through 2025-10-30

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
126.0	MSTR	145.14%	MSTR	67.34%
126.0	META	75.17%	NVDA	49.24%
126.0	NFLX	61.15%	VST	44.1%
126.0	NVDA	49.54%	GBTC	38.75%
126.0	VST	47.17%	AVGO	31.52%
126.0	AVGO	44.09%	NFLX	29.76%
126.0	WDC	41.51%	META	28.85%
126.0	ORCL	38.91%	GE	27.37%
126.0	GE	33.87%	ORCL	21.84%
126.0	GBTC	29.9%	THC	21.51%
126.0	TEVA	27.99%	PWR	20.7%
126.0	MU	25.32%	PHM	19.11%
126.0	CAH	24.54%	ETRN	18.49%
126.0	THC	24.15%	LLY	18.19%
126.0	GILD	23.5%	CAH	17.95%
126.0	ISRG	23.34%	TRGP	16.82%
126.0	AMD	22.78%	CCL	16.09%
126.0	INTU	21.25%	TEVA	15.23%
126.0	CDNS	20.97%	MU	15.22%
126.0	TDG	20.5%	TDG	15.0%
126.0	SLV	19.97%	WDC	14.63%
126.0	GWV	19.63%	AMD	14.49%
126.0	MSI	19.4%	JPM	14.11%
126.0	ETRN	19.22%	GS	13.98%
126.0	PWR	18.94%	CDNS	13.71%
126.0	LLY	18.47%	ORLY	13.38%
126.0	DHI	18.16%	ISRG	13.27%
126.0	GOOGL	18.0%	DHI	13.15%
126.0	GS	17.77%	IRM	13.06%
126.0	AMZN	16.7%	GWV	12.92%



All TMD: 252d

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

Period examined: All model dates from 2022-01-31 through 2025-10-30

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
252.0	MSTR	434.44%	MSTR	215.16%
252.0	META	191.03%	NVDA	134.21%
252.0	VST	171.37%	VST	125.4%
252.0	NFLX	151.25%	GBTC	115.0%
252.0	NVDA	119.97%	META	75.98%
252.0	AVGO	112.95%	AVGO	75.83%
252.0	GBTC	94.58%	NFLX	69.69%
252.0	ORCL	76.44%	GE	61.36%
252.0	GE	75.25%	PHM	48.79%
252.0	TEVA	65.97%	THC	48.22%
252.0	ISRG	64.69%	LLY	45.93%
252.0	AMZN	60.92%	TRGP	45.7%
252.0	TDG	58.07%	PWR	42.61%
252.0	THC	57.68%	ORCL	42.57%
252.0	LLY	56.05%	CCL	40.52%
252.0	MSI	53.05%	TDG	36.35%
252.0	CAH	52.9%	ETRN	35.78%
252.0	INTU	52.69%	ISRG	34.93%
252.0	GILD	50.16%	TEVA	34.58%
252.0	TRGP	47.71%	CAH	34.45%
252.0	WDC	47.71%	JPM	32.46%
252.0	GWV	47.31%	IRM	31.44%
252.0	EXPE	46.73%	GWV	30.16%
252.0	AMD	45.8%	GS	29.43%
252.0	COST	44.3%	DHI	29.41%
252.0	PHM	43.94%	CDNS	28.87%
252.0	LEN	42.89%	MU	28.85%
252.0	DHI	42.08%	COST	28.73%
252.0	ACGL	41.5%	ACGL	28.45%
252.0	CCL	41.31%	AMZN	28.11%



P365D: 1d

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

Period examined: All model dates from 2024-11-01 through 2025-10-30

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
1.0	MU	0.99%	WDC	0.4%
1.0	AAP	0.98%	MU	0.4%
1.0	WDC	0.71%	AVGO	0.38%
1.0	INTC	0.7%	TSLA	0.33%
1.0	TSLA	0.62%	AMD	0.3%
1.0	NEM	0.54%	INTC	0.29%
1.0	PWR	0.54%	X	0.29%
1.0	AMD	0.47%	VST	0.28%
1.0	ORCL	0.46%	ELAN	0.28%
1.0	MSTR	0.46%	NEM	0.26%
1.0	CLF	0.44%	LUMN	0.26%
1.0	CVS	0.41%	GE	0.26%
1.0	META	0.38%	B	0.25%
1.0	GOOGL	0.38%	ORCL	0.24%
1.0	ELAN	0.37%	GBTC	0.22%
1.0	LUMN	0.37%	GOOGL	0.22%
1.0	NVDA	0.36%	AAP	0.22%
1.0	X	0.35%	MSTR	0.22%
1.0	NFLX	0.35%	CAH	0.21%
1.0	AMZN	0.32%	NVDA	0.21%
1.0	GME	0.3%	GS	0.19%
1.0	LVS	0.29%	PWR	0.19%
1.0	AVGO	0.29%	CSTM	0.18%
1.0	B	0.28%	HSBC	0.18%
1.0	GS	0.27%	SLV	0.18%
1.0	QCOM	0.27%	NFLX	0.18%
1.0	GBTC	0.27%	EXPE	0.16%
1.0	EXPE	0.25%	CVS	0.16%
1.0	SLV	0.25%	GLD	0.16%
1.0	QQQ	0.24%	MS	0.16%



P365D: 10d

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

Period examined: All model dates from 2024-11-01 through 2025-10-30

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
10.0	WDC	8.15%	MU	3.82%
10.0	MU	8.13%	WDC	3.73%
10.0	AAP	6.52%	AVGO	3.6%
10.0	INTC	5.54%	NEM	2.99%
10.0	TSLA	5.31%	AMD	2.95%
10.0	ORCL	4.74%	INTC	2.74%
10.0	NEM	4.59%	B	2.69%
10.0	MSTR	4.44%	X	2.64%
10.0	META	4.2%	TSLA	2.56%
10.0	CVS	4.19%	ELAN	2.53%
10.0	AMD	4.07%	GE	2.46%
10.0	PWR	4.04%	AAP	2.29%
10.0	GOOGL	4.0%	ORCL	2.26%
10.0	B	3.77%	VST	2.24%
10.0	AVGO	3.29%	CSTM	1.96%
10.0	X	2.95%	GOOGL	1.89%
10.0	GE	2.72%	SLV	1.89%
10.0	SLV	2.65%	CVS	1.89%
10.0	NVDA	2.5%	BA	1.87%
10.0	CSTM	2.49%	GLD	1.82%
10.0	EXPE	2.45%	HSBC	1.78%
10.0	VST	2.44%	NFLX	1.72%
10.0	MSFT	2.42%	WYNN	1.7%
10.0	AMZN	2.41%	GBTC	1.7%
10.0	ELAN	2.4%	CTLT	1.69%
10.0	BA	2.36%	PWR	1.6%
10.0	QQQ	2.35%	NVDA	1.53%
10.0	CDNS	2.34%	CAH	1.51%
10.0	ABBV	2.24%	GS	1.5%
10.0	GS	2.11%	THC	1.31%



P365D: 21d

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

Period examined: All model dates from 2024-11-01 through 2025-10-30

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
21.0	WDC	20.38%	MU	8.18%
21.0	MU	17.37%	WDC	8.12%
21.0	AAP	12.45%	AVGO	8.07%
21.0	TSLA	12.44%	NEM	7.06%
21.0	NEM	10.86%	B	6.43%
21.0	ORCL	10.48%	AMD	6.28%
21.0	INTC	9.79%	INTC	5.46%
21.0	B	9.23%	ELAN	5.44%
21.0	META	8.89%	GE	5.34%
21.0	PWR	8.86%	ORCL	5.23%
21.0	CVS	8.72%	X	5.04%
21.0	GOOGL	8.35%	TSLA	4.76%
21.0	AVGO	7.74%	AAP	4.6%
21.0	AMD	6.65%	SLV	4.57%
21.0	GE	6.43%	VST	4.3%
21.0	ELAN	6.29%	CTLT	4.27%
21.0	SLV	6.26%	GLD	4.09%
21.0	X	5.56%	GOOGL	4.02%
21.0	CSTM	5.35%	BA	3.97%
21.0	AMZN	5.26%	CVS	3.89%
21.0	BA	5.25%	CSTM	3.86%
21.0	GS	4.99%	HSBC	3.83%
21.0	MSFT	4.97%	NFLX	3.55%
21.0	NVDA	4.85%	WYNN	3.37%
21.0	ABBV	4.75%	NVDA	3.25%
21.0	AMAT	4.66%	PWR	3.21%
21.0	QQQ	4.59%	THC	3.18%
21.0	CDNS	4.38%	GS	3.07%
21.0	TEVA	4.17%	GBTC	2.94%
21.0	GILD	4.13%	AMAT	2.91%



P365D: 63d

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

Period examined: All model dates from 2024-11-01 through 2025-10-30

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
63.0	WDC	77.67%	WDC	27.1%
63.0	NEM	50.07%	NEM	25.41%
63.0	MU	46.43%	B	22.68%
63.0	B	43.43%	AVGO	21.62%
63.0	ORCL	39.69%	MU	20.9%
63.0	AAP	34.38%	ORCL	20.43%
63.0	ELAN	32.25%	ELAN	19.34%
63.0	CVS	30.45%	GE	18.03%
63.0	GE	27.07%	AMD	17.98%
63.0	AMD	26.93%	X	16.98%
63.0	INTC	25.66%	AAP	15.82%
63.0	PWR	25.44%	VST	13.83%
63.0	AVGO	24.24%	CVS	13.62%
63.0	META	21.29%	INTC	13.62%
63.0	SLV	20.82%	NVDA	12.91%
63.0	TSLA	20.27%	SLV	12.86%
63.0	GS	19.48%	CSTM	12.79%
63.0	CSTM	18.77%	WYNN	12.63%
63.0	NVDA	18.33%	THC	12.13%
63.0	BA	17.23%	HSBC	11.92%
63.0	X	17.14%	BA	11.92%
63.0	THC	16.52%	GLD	11.81%
63.0	CDNS	16.48%	NFLX	11.58%
63.0	ABBV	15.82%	GS	10.26%
63.0	AMAT	14.52%	GOOGL	10.19%
63.0	GNRC	14.12%	PWR	9.88%
63.0	MSFT	13.91%	CCL	9.77%
63.0	KALU	13.43%	HCA	9.13%
63.0	QQQ	13.14%	MOS	9.06%
63.0	WYNN	13.04%	CAH	8.93%



P365D: 126d

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

Period examined: All model dates from 2024-11-01 through 2025-10-30

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
126.0	WDC	197.93%	WDC	66.58%
126.0	ELAN	147.76%	NEM	52.95%
126.0	MU	122.61%	AVGO	52.36%
126.0	NEM	105.08%	MU	51.61%
126.0	B	87.99%	ELAN	50.76%
126.0	ORCL	80.3%	ORCL	50.16%
126.0	AAP	71.11%	AMD	47.15%
126.0	AMD	67.34%	GE	42.96%
126.0	GE	65.96%	B	41.04%
126.0	AVGO	64.02%	VST	36.38%
126.0	CSTM	58.29%	CSTM	35.14%
126.0	PWR	51.81%	AAP	34.34%
126.0	INTC	51.8%	NVDA	33.87%
126.0	SLV	50.96%	THC	33.61%
126.0	BA	50.67%	PWR	31.11%
126.0	THC	50.5%	BA	31.02%
126.0	CVS	47.89%	NFLX	30.36%
126.0	GNRC	42.45%	MOS	29.5%
126.0	MSFT	42.25%	WYNN	28.98%
126.0	META	41.64%	SLV	25.87%
126.0	VST	39.72%	X	25.82%
126.0	NVDA	38.47%	CAH	24.0%
126.0	BUD	38.22%	CCL	23.61%
126.0	TSLA	35.58%	GS	23.55%
126.0	NFLX	33.0%	HSBC	23.4%
126.0	GS	32.27%	GLD	23.26%
126.0	KALU	31.05%	MSFT	22.21%
126.0	CCL	29.39%	GBTC	21.72%
126.0	X	29.28%	HCA	20.71%
126.0	AMAT	28.59%	INTC	20.26%



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 2025-08-04 through 2025-10-30

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
1.0	INTC	3.1%	LUMN	1.73%
1.0	MU	2.14%	INTC	1.23%
1.0	CLF	1.78%	MU	1.21%
1.0	WDC	1.6%	WDC	1.12%
1.0	TSLA	1.54%	CYH	0.79%
1.0	LUMN	1.39%	ELAN	0.76%
1.0	UNH	1.29%	AMD	0.68%
1.0	QCOM	1.23%	B	0.66%
1.0	CVS	1.22%	TSLA	0.66%
1.0	GOOGL	1.21%	GOOGL	0.6%
1.0	AAPL	1.07%	UNH	0.58%
1.0	CMA	0.89%	CNC	0.53%
1.0	AMD	0.88%	CLF	0.51%
1.0	AA	0.79%	AAPL	0.47%
1.0	CYH	0.77%	SLV	0.45%
1.0	GSK	0.64%	TEVA	0.44%
1.0	LVS	0.64%	AMAT	0.43%
1.0	AMZN	0.58%	AA	0.42%
1.0	AMAT	0.52%	THC	0.41%
1.0	CNC	0.52%	CVS	0.39%
1.0	IRM	0.51%	KALU	0.39%
1.0	CSTM	0.51%	HCA	0.38%
1.0	BBY	0.51%	AVGO	0.38%
1.0	RIO	0.5%	BHC	0.38%
1.0	JAZZ	0.5%	NEM	0.37%
1.0	HCA	0.5%	BBY	0.37%
1.0	FCX	0.49%	GSK	0.36%
1.0	SNY	0.46%	QCOM	0.35%
1.0	LLY	0.45%	CAH	0.32%
1.0	ELAN	0.44%	CSTM	0.32%



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 2025-08-04 through 2025-10-30

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
10.0	INTC	21.76%	LUMN	16.47%
10.0	MU	18.47%	INTC	12.71%
10.0	WDC	17.93%	MU	12.31%
10.0	TSLA	16.17%	WDC	10.93%
10.0	UNH	13.41%	AMD	7.84%
10.0	GOOGL	12.17%	CYH	7.83%
10.0	CLF	11.43%	B	6.67%
10.0	CVS	10.66%	UNH	6.51%
10.0	LUMN	10.46%	TSLA	6.33%
10.0	CYH	9.11%	CLF	6.14%
10.0	CNC	7.69%	ELAN	5.92%
10.0	ISRG	7.56%	CNC	5.82%
10.0	LLY	7.35%	GOOGL	5.52%
10.0	QCOM	6.94%	AMAT	4.89%
10.0	AAPL	6.87%	SLV	4.66%
10.0	JAZZ	6.76%	AA	4.51%
10.0	VFC	6.69%	CVS	4.28%
10.0	AMD	6.42%	THC	4.27%
10.0	AA	6.15%	NEM	4.13%
10.0	LW	6.13%	VFC	4.04%
10.0	B	6.04%	LW	3.88%
10.0	ELAN	5.13%	JAZZ	3.71%
10.0	BBY	4.73%	LLY	3.68%
10.0	HCA	4.52%	GLD	3.65%
10.0	KALU	4.36%	BBY	3.46%
10.0	CSTM	4.29%	AAPL	3.46%
10.0	AMAT	4.11%	KALU	3.45%
10.0	SNY	4.1%	CSTM	3.45%
10.0	GSK	4.02%	AVGO	3.45%
10.0	NEM	4.01%	HCA	3.37%



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 2025-08-04 through 2025-10-30

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
21.0	INTC	51.14%	LUMN	33.51%
21.0	WDC	51.05%	MU	30.55%
21.0	MU	45.38%	INTC	29.21%
21.0	TSLA	43.1%	WDC	27.52%
21.0	GOOGL	30.05%	AMD	19.42%
21.0	UNH	29.39%	B	16.5%
21.0	LUMN	24.61%	TSLA	15.41%
21.0	CVS	21.07%	AMAT	15.28%
21.0	CNC	20.59%	CLF	14.73%
21.0	CLF	19.57%	CNC	14.18%
21.0	AMAT	19.5%	SLV	13.69%
21.0	CYH	17.16%	UNH	13.1%
21.0	B	16.85%	CYH	12.71%
21.0	LLY	16.25%	GOOGL	12.07%
21.0	AMD	14.77%	NEM	11.45%
21.0	JAZZ	13.69%	ELAN	11.12%
21.0	AAPL	13.37%	AA	9.79%
21.0	AA	12.86%	GLD	9.59%
21.0	LW	12.28%	ORCL	9.58%
21.0	SLV	11.24%	LW	8.57%
21.0	QCOM	10.74%	LLY	8.54%
21.0	NEM	10.72%	AVGO	8.14%
21.0	IRM	10.56%	CVS	7.91%
21.0	ELAN	9.1%	THC	7.91%
21.0	CMA	8.3%	JAZZ	7.41%
21.0	BBY	7.97%	AAPL	6.89%
21.0	CSTM	7.93%	TEVA	6.58%
21.0	PCG	7.79%	IRM	6.57%
21.0	GSK	7.75%	PWR	6.55%
21.0	ABBV	7.74%	GSK	6.48%



P30D: 1d

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

Period examined: All model dates from 2025-10-02 through 2025-10-30

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
1.0	AMD	3.28%	LUMN	2.44%
1.0	CLF	2.77%	AMD	2.17%
1.0	CYH	2.23%	CYH	1.4%
1.0	QCOM	1.88%	MU	0.99%
1.0	MU	1.81%	ISRG	0.95%
1.0	ISRG	1.75%	CAH	0.94%
1.0	CMA	1.68%	WDC	0.75%
1.0	LUMN	1.5%	KALU	0.74%
1.0	FSUGY	1.33%	GOOGL	0.66%
1.0	AMZN	1.32%	AMZN	0.48%
1.0	LVS	1.29%	CMA	0.48%
1.0	INTC	1.17%	AVGO	0.47%
1.0	FCX	1.12%	FSUGY	0.46%
1.0	WDC	0.92%	LVS	0.44%
1.0	KALU	0.8%	BHC	0.4%
1.0	CAH	0.77%	GILD	0.39%
1.0	GSK	0.74%	WFC	0.39%
1.0	LNC	0.73%	RIO	0.39%
1.0	LLY	0.72%	ELAN	0.39%
1.0	AVGO	0.69%	QCOM	0.38%
1.0	GILD	0.64%	BBY	0.37%
1.0	TSLA	0.6%	HCA	0.37%
1.0	CVS	0.56%	INTC	0.36%
1.0	AAPL	0.5%	FCX	0.36%
1.0	BAC	0.48%	NVDA	0.36%
1.0	AA	0.47%	AA	0.36%
1.0	GOOGL	0.47%	GSK	0.35%
1.0	GWV	0.46%	PWR	0.34%
1.0	CSTM	0.45%	CSCO	0.33%
1.0	HCA	0.45%	BAC	0.29%



P30D: 10d

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

Period examined: All model dates from 2025-10-02 through 2025-10-30

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
10.0	ISRG	46.19%	LUMN	24.02%
10.0	CYH	25.9%	CYH	20.05%
10.0	AMD	16.23%	AMD	16.19%
10.0	MU	15.88%	ISRG	15.78%
10.0	LUMN	14.58%	MU	11.36%
10.0	KALU	13.24%	KALU	10.35%
10.0	QCOM	12.46%	LVS	9.11%
10.0	BBY	10.01%	BBY	7.37%
10.0	LVS	9.47%	ELAN	7.12%
10.0	AA	9.04%	GOOGL	6.59%
10.0	ON	8.98%	AA	6.35%
10.0	CVS	8.77%	GNRC	6.17%
10.0	SBUX	8.22%	CSTM	6.1%
10.0	AAPL	8.11%	WDC	5.83%
10.0	CSTM	8.07%	CAH	5.78%
10.0	WFC	7.83%	HCA	5.7%
10.0	BAC	7.37%	FSUGY	5.45%
10.0	VFC	7.34%	QCOM	5.39%
10.0	HCA	6.66%	INTC	5.16%
10.0	GNRC	6.45%	WFC	5.02%
10.0	WDC	6.33%	ON	4.86%
10.0	BUD	5.96%	VFC	4.59%
10.0	GOOGL	5.51%	RIO	4.57%
10.0	ELAN	5.5%	AVGO	4.43%
10.0	FSUGY	5.44%	AAPL	4.19%
10.0	AMZN	5.2%	AMAT	3.92%
10.0	TDG	5.07%	THC	3.9%
10.0	INTC	4.94%	BAC	3.79%
10.0	PEP	4.73%	CVS	3.43%
10.0	CAH	4.64%	MS	3.38%



Bottom 30 Tickers By ROEDB

All TMD: 1d

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

Period examined: All model dates from 2022-01-31 through 2025-10-30

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	-0.29%	IEP	-0.16%
1.0	NWL	-0.22%	AMC	-0.14%
1.0	CHTR	-0.22%	NWL	-0.14%
1.0	UAA	-0.22%	AAP	-0.11%
1.0	LUMN	-0.2%	VFC	-0.1%
1.0	CNC	-0.17%	UAA	-0.09%
1.0	FIS	-0.14%	CZR	-0.08%
1.0	AAP	-0.13%	CHTR	-0.07%
1.0	CYH	-0.13%	GT	-0.06%
1.0	AMC	-0.13%	BALL	-0.06%
1.0	USB	-0.13%	CNC	-0.05%
1.0	VFC	-0.11%	CMCSA	-0.05%
1.0	T	-0.1%	FIS	-0.04%
1.0	GT	-0.1%	PRGO	-0.04%
1.0	TLT	-0.1%	BHC	-0.04%
1.0	CZR	-0.08%	TLT	-0.04%
1.0	PRGO	-0.08%	KHC	-0.03%
1.0	CSTM	-0.08%	BXP	-0.02%
1.0	VZ	-0.06%	BMY	-0.02%
1.0	NAVI	-0.06%	VZ	-0.02%
1.0	GSK	-0.06%	ADBE	-0.02%
1.0	ZION	-0.06%	ZTS	-0.02%
1.0	PEP	-0.06%	BIIB	-0.02%
1.0	BMY	-0.05%	CTLT	-0.01%
1.0	CMCSA	-0.05%	CVS	-0.01%
1.0	WRK	-0.05%	NAVI	-0.01%
1.0	EMB	-0.04%	TFC	-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 2025-10-30

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
10.0	SBNY	-11.81%	SBNY	-4.05%
10.0	SIVBQ	-8.56%	SIVBQ	-3.9%
10.0	FRCB	-4.1%	FRCB	-2.19%
10.0	AMC	-3.83%	IEP	-1.52%
10.0	CHTR	-2.17%	AMC	-1.51%
10.0	IEP	-2.14%	NWL	-1.14%
10.0	PRGO	-1.52%	UAA	-1.02%
10.0	NWL	-1.42%	VFC	-0.99%
10.0	UAA	-1.36%	CZR	-0.96%
10.0	VFC	-1.32%	AAP	-0.91%
10.0	AAP	-1.29%	CHTR	-0.64%
10.0	GT	-1.24%	GT	-0.63%
10.0	FIS	-1.09%	CNC	-0.61%
10.0	CNC	-0.95%	BALL	-0.52%
10.0	BHC	-0.91%	CMCSA	-0.45%
10.0	LUMN	-0.81%	BHC	-0.42%
10.0	TLT	-0.79%	TLT	-0.41%
10.0	VZ	-0.72%	PRGO	-0.39%
10.0	BMV	-0.69%	FIS	-0.38%
10.0	GSK	-0.65%	BMV	-0.32%
10.0	CMCSA	-0.64%	BXP	-0.28%
10.0	BALL	-0.62%	KHC	-0.27%
10.0	ELAN	-0.59%	BIIB	-0.26%
10.0	BXP	-0.58%	ZION	-0.24%
10.0	LNC	-0.49%	VZ	-0.23%
10.0	ZION	-0.48%	LNC	-0.22%
10.0	T	-0.48%	ZTS	-0.22%
10.0	BIIB	-0.47%	NAVI	-0.2%
10.0	KHC	-0.37%	TFC	-0.18%
10.0	CYH	-0.35%	ADBE	-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 2025-10-30

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
21.0	SBNY	-32.56%	SBNY	-11.16%
21.0	SIVBQ	-21.2%	SIVBQ	-9.37%
21.0	FRCB	-13.47%	FRCB	-6.02%
21.0	AMC	-8.94%	AMC	-3.59%
21.0	NWL	-4.18%	IEP	-3.28%
21.0	CHTR	-4.15%	NWL	-2.48%
21.0	IEP	-3.81%	VFC	-2.17%
21.0	AAP	-3.11%	CZR	-2.01%
21.0	VFC	-3.08%	UAA	-1.98%
21.0	PRGO	-2.63%	AAP	-1.85%
21.0	BHC	-2.49%	CHTR	-1.24%
21.0	TLT	-2.0%	GT	-1.24%
21.0	FIS	-1.94%	CNC	-1.17%
21.0	GT	-1.81%	BHC	-1.16%
21.0	UAA	-1.68%	BALL	-1.1%
21.0	CNC	-1.66%	CMCSA	-0.87%
21.0	BMY	-1.49%	TLT	-0.86%
21.0	LNC	-1.36%	PRGO	-0.85%
21.0	CMCSA	-1.34%	BMY	-0.72%
21.0	GSK	-1.24%	KHC	-0.66%
21.0	BIIB	-1.2%	BXP	-0.64%
21.0	VZ	-1.18%	FIS	-0.63%
21.0	BALL	-1.18%	LNC	-0.58%
21.0	LUMN	-1.16%	BIIB	-0.49%
21.0	BXP	-1.15%	ZTS	-0.47%
21.0	ELAN	-1.11%	NAVI	-0.47%
21.0	CYH	-0.87%	VZ	-0.46%
21.0	VNO	-0.82%	TFC	-0.37%
21.0	CZR	-0.64%	AA	-0.34%
21.0	T	-0.63%	ZION	-0.29%



All TMD: 63d

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

Period examined: All model dates from 2022-01-31 through 2025-10-30

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
63.0	SBNY	-111.62%	SBNY	-37.59%
63.0	SIVBQ	-84.01%	SIVBQ	-33.73%
63.0	FRCB	-59.55%	FRCB	-24.04%
63.0	AMC	-28.09%	AMC	-14.11%
63.0	IEP	-13.19%	IEP	-10.84%
63.0	AAP	-12.44%	NWL	-7.47%
63.0	VFC	-11.98%	VFC	-6.66%
63.0	NWL	-11.42%	CZR	-6.04%
63.0	CHTR	-9.81%	UAA	-5.5%
63.0	CNC	-8.51%	AAP	-5.33%
63.0	PRGO	-5.67%	CNC	-4.96%
63.0	TLT	-5.58%	CHTR	-3.56%
63.0	FIS	-5.31%	AA	-3.28%
63.0	BHC	-5.04%	BHC	-3.27%
63.0	CZR	-4.87%	BALL	-3.03%
63.0	BALL	-4.09%	PRGO	-2.95%
63.0	UNH	-4.07%	MOS	-2.83%
63.0	BMY	-4.07%	TLT	-2.5%
63.0	UAA	-4.04%	GT	-2.49%
63.0	CYH	-3.9%	BMY	-2.43%
63.0	MOS	-3.65%	KHC	-2.36%
63.0	CMCSA	-3.23%	BXP	-2.26%
63.0	LNC	-3.05%	CMCSA	-2.16%
63.0	BIIB	-2.75%	CLF	-2.08%
63.0	GSK	-2.58%	BIIB	-1.78%
63.0	VNO	-2.09%	UNH	-1.76%
63.0	BXP	-2.02%	FIS	-1.69%
63.0	VZ	-2.01%	LNC	-1.56%
63.0	GT	-2.01%	NAVI	-1.4%
63.0	JAZZ	-1.89%	CVS	-1.39%



All TMD: 126d

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

Period examined: All model dates from 2022-01-31 through 2025-10-30

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	-47.11%	AMC	-27.08%
126.0	VFC	-29.23%	IEP	-21.19%
126.0	AAP	-28.19%	NWL	-16.38%
126.0	IEP	-28.05%	VFC	-13.89%
126.0	NWL	-24.81%	AAP	-12.75%
126.0	CNC	-16.41%	CZR	-9.58%
126.0	BHC	-14.19%	CNC	-9.48%
126.0	CHTR	-14.13%	UAA	-8.06%
126.0	PRGO	-11.65%	CLF	-7.28%
126.0	CZR	-11.41%	AA	-6.78%
126.0	UNH	-10.42%	BHC	-6.29%
126.0	BMY	-9.49%	PRGO	-5.95%
126.0	TLT	-9.33%	CTLT	-5.69%
126.0	MOS	-9.19%	MOS	-5.66%
126.0	AA	-8.08%	BMY	-5.51%
126.0	JAZZ	-7.93%	KHC	-5.11%
126.0	LNC	-7.54%	TLT	-4.82%
126.0	CLF	-6.99%	UNH	-4.79%
126.0	UAA	-6.91%	CHTR	-4.49%
126.0	CYH	-6.58%	BXP	-4.3%
126.0	BIIB	-6.07%	BALL	-4.25%
126.0	GSK	-5.91%	BIIB	-4.22%
126.0	FIS	-5.88%	CVS	-4.08%
126.0	LUMN	-5.18%	GT	-3.34%
126.0	KHC	-5.11%	LNC	-3.32%
126.0	CMCSA	-4.82%	INTC	-3.26%
126.0	BALL	-4.32%	CMCSA	-3.16%



All TMD: 252d

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

Period examined: All model dates from 2022-01-31 through 2025-10-30

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	-87.63%	AMC	-54.63%
252.0	AAP	-78.49%	IEP	-44.22%
252.0	IEP	-59.1%	AAP	-34.02%
252.0	VFC	-58.09%	NWL	-28.0%
252.0	NWL	-46.37%	VFC	-23.4%
252.0	UAA	-29.95%	CLF	-16.68%
252.0	BIIB	-28.14%	MOS	-16.46%
252.0	MOS	-28.03%	CZR	-16.29%
252.0	PRGO	-25.95%	CNC	-15.5%
252.0	CZR	-25.45%	UAA	-13.87%
252.0	CVS	-24.81%	CVS	-13.05%
252.0	CLF	-24.53%	PRGO	-12.76%
252.0	AA	-21.2%	BIIB	-12.63%
252.0	BHC	-20.34%	AA	-11.25%
252.0	CNC	-19.07%	BMY	-10.5%
252.0	CHTR	-18.07%	KHC	-9.77%
252.0	OXY	-17.8%	OXY	-8.68%
252.0	TLT	-17.71%	TLT	-8.37%
252.0	JAZZ	-16.82%	BHC	-8.29%
252.0	KHC	-13.33%	GT	-7.3%
252.0	CYH	-12.33%	CYH	-6.93%
252.0	BMY	-11.89%	JAZZ	-6.88%
252.0	LNC	-11.81%	INTC	-6.65%
252.0	GT	-9.28%	CTLT	-6.24%
252.0	LUMN	-8.89%	CHTR	-5.97%
252.0	BHP	-8.57%	UNH	-5.73%
252.0	BXP	-7.67%	BHP	-5.44%



P365D: 1d

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

Period examined: All model dates from 2024-11-01 through 2025-10-30

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
1.0	UAA	-0.75%	NWL	-0.29%
1.0	CNC	-0.63%	CZR	-0.22%
1.0	CZR	-0.5%	CMG	-0.22%
1.0	AMC	-0.47%	UAA	-0.18%
1.0	CMG	-0.4%	AMC	-0.16%
1.0	NWL	-0.38%	CMCSA	-0.16%
1.0	NAVI	-0.28%	CNC	-0.16%
1.0	CHTR	-0.27%	UNH	-0.15%
1.0	UNH	-0.26%	IEP	-0.15%
1.0	ACGL	-0.25%	CHTR	-0.15%
1.0	ON	-0.25%	FIS	-0.12%
1.0	CYH	-0.21%	ADBE	-0.12%
1.0	PEP	-0.2%	KHC	-0.11%
1.0	CMCSA	-0.2%	LEN	-0.1%
1.0	FIS	-0.18%	ZTS	-0.08%
1.0	SBUX	-0.14%	BALL	-0.08%
1.0	KHC	-0.14%	ON	-0.07%
1.0	VFC	-0.14%	PCG	-0.07%
1.0	IEP	-0.14%	BHC	-0.07%
1.0	BBY	-0.13%	VFC	-0.07%
1.0	ZTS	-0.11%	PRGO	-0.07%
1.0	CPRT	-0.11%	TXN	-0.06%
1.0	USB	-0.11%	SBUX	-0.06%
1.0	BUD	-0.11%	CPRT	-0.06%
1.0	TDG	-0.1%	MRK	-0.05%
1.0	ADBE	-0.1%	LW	-0.05%
1.0	GT	-0.09%	BMJ	-0.05%
1.0	BALL	-0.08%	OXY	-0.05%
1.0	TXN	-0.08%	IRM	-0.04%
1.0	TMUS	-0.08%	PEP	-0.04%



P365D: 10d

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

Period examined: All model dates from 2024-11-01 through 2025-10-30

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
10.0	AMC	-5.28%	UAA	-2.4%
10.0	UAA	-4.76%	CZR	-2.14%
10.0	CHTR	-3.55%	NWL	-1.85%
10.0	CZR	-3.31%	CMCSA	-1.61%
10.0	CNC	-2.92%	CNC	-1.59%
10.0	ADBE	-2.37%	IEP	-1.58%
10.0	CMCSA	-2.19%	AMC	-1.57%
10.0	KHC	-2.15%	CHTR	-1.54%
10.0	NWL	-2.15%	UNH	-1.47%
10.0	ON	-2.06%	CMG	-1.43%
10.0	CMG	-1.97%	ADBE	-1.31%
10.0	BHC	-1.86%	FIS	-1.06%
10.0	PRGO	-1.78%	LEN	-1.05%
10.0	GT	-1.51%	KHC	-1.02%
10.0	IEP	-1.48%	BMY	-0.9%
10.0	BALL	-1.48%	BALL	-0.77%
10.0	ZTS	-1.37%	CPRT	-0.76%
10.0	BMY	-1.28%	PCG	-0.75%
10.0	SBUX	-1.25%	BHC	-0.73%
10.0	NAVI	-1.09%	ON	-0.73%
10.0	CPRT	-0.92%	GT	-0.71%
10.0	UNH	-0.84%	GWV	-0.7%
10.0	ACGL	-0.83%	ZTS	-0.69%
10.0	FIS	-0.79%	PRGO	-0.66%
10.0	TDG	-0.68%	TXN	-0.62%
10.0	VZ	-0.66%	LW	-0.59%
10.0	BIIB	-0.56%	OXY	-0.58%
10.0	LLY	-0.54%	TRGP	-0.53%
10.0	PEP	-0.48%	NAVI	-0.52%
10.0	TXN	-0.39%	ACGL	-0.5%



P365D: 21d

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

Period examined: All model dates from 2024-11-01 through 2025-10-30

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
21.0	AMC	-9.26%	UAA	-5.27%
21.0	UAA	-8.37%	CZR	-4.14%
21.0	NWL	-7.6%	NWL	-4.1%
21.0	CHTR	-7.35%	AMC	-3.69%
21.0	CZR	-6.78%	CMCSA	-3.29%
21.0	ON	-5.22%	UNH	-3.1%
21.0	CNC	-4.98%	CMG	-3.08%
21.0	ADBE	-4.8%	ADBE	-3.03%
21.0	CMCSA	-4.73%	IEP	-2.96%
21.0	ZTS	-4.12%	CHTR	-2.94%
21.0	PRGO	-4.11%	CNC	-2.79%
21.0	BHC	-4.04%	LEN	-2.44%
21.0	BMY	-3.86%	FIS	-2.18%
21.0	KHC	-3.51%	BMY	-2.17%
21.0	CMG	-3.35%	KHC	-2.04%
21.0	GT	-3.1%	GT	-2.04%
21.0	BALL	-2.97%	CPRT	-2.02%
21.0	NAVI	-2.96%	BALL	-1.86%
21.0	UNH	-2.64%	ON	-1.8%
21.0	IEP	-2.6%	PCG	-1.78%
21.0	SBUX	-2.31%	PRGO	-1.75%
21.0	CPRT	-2.08%	TRGP	-1.72%
21.0	LW	-1.93%	GWV	-1.72%
21.0	ACGL	-1.64%	ZTS	-1.65%
21.0	FIS	-1.47%	BHC	-1.4%
21.0	GWV	-1.43%	OXY	-1.28%
21.0	VZ	-1.33%	NAVI	-1.28%
21.0	BBY	-1.24%	LW	-1.25%
21.0	BIIB	-1.2%	SBUX	-1.11%
21.0	LEN	-0.81%	MRK	-1.07%



P365D: 63d

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

Period examined: All model dates from 2024-11-01 through 2025-10-30

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
63.0	NWL	-27.21%	UAA	-15.83%
63.0	UAA	-25.32%	NWL	-15.74%
63.0	UNH	-24.88%	CNC	-14.87%
63.0	CNC	-24.34%	UNH	-12.74%
63.0	CHTR	-19.52%	CMG	-11.39%
63.0	CZR	-18.09%	CZR	-11.03%
63.0	ADBE	-14.4%	AMC	-9.87%
63.0	BMJ	-13.63%	ADBE	-9.23%
63.0	ON	-13.09%	CHTR	-8.74%
63.0	CMCSA	-11.99%	VFC	-8.38%
63.0	ZTS	-11.46%	BMJ	-7.05%
63.0	VFC	-10.84%	CPRT	-7.04%
63.0	PRGO	-9.95%	CMCSA	-7.03%
63.0	CMG	-9.86%	IEP	-6.31%
63.0	GME	-9.53%	FIS	-5.91%
63.0	AMC	-9.18%	PCG	-5.86%
63.0	BBY	-7.23%	TRGP	-5.22%
63.0	IEP	-7.15%	MRK	-5.02%
63.0	LW	-6.34%	KHC	-4.94%
63.0	NAVI	-6.14%	ZTS	-4.73%
63.0	PCG	-5.91%	ISRG	-4.69%
63.0	KHC	-5.88%	PRGO	-4.62%
63.0	FIS	-5.73%	LW	-4.47%
63.0	CPRT	-5.69%	GWV	-4.46%
63.0	MRK	-5.33%	GME	-4.25%
63.0	BALL	-5.12%	AA	-3.72%
63.0	ISRG	-4.52%	BBY	-3.67%
63.0	GWV	-4.36%	LEN	-3.66%
63.0	BHC	-3.8%	BALL	-3.56%
63.0	SBUX	-3.56%	ON	-3.43%



P365D: 126d

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

Period examined: All model dates from 2024-11-01 through 2025-10-30

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
126.0	UNH	-76.89%	UNH	-39.01%
126.0	CNC	-67.12%	CNC	-34.68%
126.0	NWL	-51.29%	NWL	-27.32%
126.0	VFC	-49.65%	VFC	-25.39%
126.0	BMJ	-38.86%	UAA	-23.32%
126.0	UAA	-31.22%	BMJ	-17.87%
126.0	CHTR	-29.3%	CZR	-17.86%
126.0	CZR	-27.01%	CMG	-17.24%
126.0	ADBE	-19.83%	CPRT	-15.4%
126.0	CMCSA	-19.2%	ADBE	-14.97%
126.0	SBUX	-19.0%	PCG	-14.15%
126.0	BHC	-17.33%	AMC	-13.88%
126.0	ZTS	-16.6%	TRGP	-13.37%
126.0	CMG	-14.87%	KHC	-11.91%
126.0	MRK	-14.34%	IEP	-11.81%
126.0	IEP	-13.19%	MRK	-11.38%
126.0	KHC	-13.12%	CHTR	-11.32%
126.0	AMC	-12.85%	CMCSA	-11.17%
126.0	BBY	-12.78%	SBUX	-9.26%
126.0	PRGO	-12.07%	BHC	-9.21%
126.0	LW	-11.01%	BBY	-8.37%
126.0	CPRT	-10.96%	ZTS	-7.6%
126.0	GME	-10.75%	LEN	-7.51%
126.0	PEP	-10.16%	AA	-7.23%
126.0	PCG	-9.98%	LW	-7.16%
126.0	BIIB	-8.26%	ISRG	-6.92%
126.0	SNY	-7.73%	PEP	-6.72%
126.0	TRGP	-6.96%	OXY	-6.46%
126.0	LLY	-6.55%	GME	-6.04%
126.0	GWV	-5.98%	PRGO	-5.76%



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 2025-08-04 through 2025-10-30

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
1.0	UAA	-1.54%	UAA	-0.56%
1.0	MSTR	-1.22%	GT	-0.53%
1.0	TDG	-0.94%	MSTR	-0.52%
1.0	PRGO	-0.91%	NWL	-0.5%
1.0	CMG	-0.85%	CMG	-0.44%
1.0	CZR	-0.8%	PRGO	-0.39%
1.0	NWL	-0.8%	MOS	-0.37%
1.0	META	-0.72%	FIS	-0.35%
1.0	FIS	-0.67%	BALL	-0.31%
1.0	GNRC	-0.52%	CZR	-0.31%
1.0	VST	-0.52%	TDG	-0.3%
1.0	TXN	-0.52%	META	-0.27%
1.0	GT	-0.51%	INTU	-0.24%
1.0	CMCSA	-0.48%	CMCSA	-0.24%
1.0	AMC	-0.44%	GNRC	-0.21%
1.0	CHTR	-0.38%	TMUS	-0.21%
1.0	CCL	-0.34%	VICI	-0.19%
1.0	TMUS	-0.33%	TXN	-0.18%
1.0	AZO	-0.31%	T	-0.17%
1.0	BALL	-0.3%	CHTR	-0.16%
1.0	INTU	-0.28%	VST	-0.16%
1.0	SBUX	-0.26%	IEP	-0.16%
1.0	ZTS	-0.26%	SBUX	-0.15%
1.0	T	-0.23%	AAP	-0.15%
1.0	VICI	-0.21%	BA	-0.14%
1.0	ACGL	-0.21%	HON	-0.13%
1.0	MOS	-0.17%	AMC	-0.13%
1.0	IEP	-0.15%	AZO	-0.11%
1.0	COST	-0.13%	VZ	-0.11%
1.0	CPRT	-0.13%	MSI	-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 2025-08-04 through 2025-10-30

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
10.0	MSTR	-12.61%	MSTR	-5.41%
10.0	UAA	-6.5%	GT	-4.25%
10.0	GT	-5.01%	UAA	-3.16%
10.0	CMCSA	-4.85%	CZR	-2.34%
10.0	PRGO	-4.59%	IEP	-2.21%
10.0	AMC	-4.51%	TMUS	-2.01%
10.0	TDG	-4.26%	CMCSA	-1.93%
10.0	TXN	-3.94%	T	-1.87%
10.0	GNRC	-3.66%	BALL	-1.86%
10.0	META	-3.57%	MOS	-1.84%
10.0	CZR	-3.53%	TXN	-1.83%
10.0	CMG	-3.19%	PRGO	-1.67%
10.0	VZ	-2.86%	INTU	-1.65%
10.0	NWL	-2.71%	FIS	-1.57%
10.0	BHC	-2.54%	VZ	-1.56%
10.0	T	-2.47%	KHC	-1.52%
10.0	TMUS	-2.43%	AMC	-1.43%
10.0	KHC	-2.38%	CMG	-1.39%
10.0	SBUX	-2.37%	VICI	-1.31%
10.0	IEP	-2.09%	TRGP	-1.31%
10.0	VST	-2.08%	SBUX	-1.3%
10.0	NFLX	-1.99%	CHTR	-1.26%
10.0	VICI	-1.96%	TDG	-1.25%
10.0	CHTR	-1.92%	META	-1.19%
10.0	FIS	-1.89%	AAP	-1.13%
10.0	BALL	-1.7%	BA	-1.08%
10.0	INTU	-1.63%	NFLX	-1.02%
10.0	CDNS	-1.56%	FRA	-1.01%
10.0	MOS	-1.54%	CPRT	-1.01%
10.0	ACGL	-1.21%	GBTC	-0.98%



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 2025-08-04 through 2025-10-30

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
21.0	MSTR	-16.97%	GT	-9.52%
21.0	CMCSA	-13.44%	MSTR	-8.74%
21.0	NWL	-13.42%	CZR	-5.69%
21.0	TXN	-12.23%	TXN	-5.63%
21.0	GT	-11.83%	TMUS	-5.26%
21.0	GNRC	-10.89%	CMCSA	-5.23%
21.0	TDG	-10.64%	UAA	-5.02%
21.0	PRGO	-9.99%	T	-4.79%
21.0	CZR	-9.3%	BHC	-4.53%
21.0	BHC	-8.59%	BALL	-4.51%
21.0	META	-8.05%	PRGO	-4.37%
21.0	UAA	-7.62%	NWL	-4.05%
21.0	VZ	-7.43%	KHC	-4.0%
21.0	SBUX	-6.82%	VZ	-3.95%
21.0	TMUS	-6.56%	SBUX	-3.64%
21.0	T	-6.18%	TDG	-3.61%
21.0	KHC	-5.89%	IEP	-3.43%
21.0	ZTS	-5.52%	CPRT	-3.31%
21.0	BMV	-5.15%	AAP	-3.16%
21.0	AAP	-5.05%	GNRC	-3.12%
21.0	CMG	-4.92%	VICI	-3.07%
21.0	AMC	-4.61%	BA	-3.04%
21.0	IEP	-4.59%	BMV	-3.02%
21.0	BALL	-4.3%	FIS	-2.89%
21.0	VICI	-3.96%	INTU	-2.86%
21.0	CPRT	-3.94%	MOS	-2.85%
21.0	NAVI	-3.92%	TRGP	-2.76%
21.0	HON	-3.33%	META	-2.68%
21.0	OXY	-3.25%	CMG	-2.61%
21.0	CHTR	-3.17%	ZTS	-2.57%



P30D: 1d

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

Period examined: All model dates from 2025-10-02 through 2025-10-30

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
1.0	MSTR	-2.69%	NWL	-1.78%
1.0	CZR	-2.52%	CZR	-1.27%
1.0	NWL	-2.49%	AAP	-1.23%
1.0	VFC	-2.11%	MSTR	-1.19%
1.0	AMC	-2.03%	MOS	-1.09%
1.0	CMG	-1.86%	CMG	-1.04%
1.0	TXN	-1.69%	GME	-0.92%
1.0	AAP	-1.57%	AMC	-0.9%
1.0	META	-1.43%	AZO	-0.69%
1.0	CHTR	-1.42%	CHTR	-0.65%
1.0	UAA	-1.41%	DHI	-0.64%
1.0	GME	-1.32%	TXN	-0.56%
1.0	AZO	-1.3%	PHM	-0.54%
1.0	CNC	-1.09%	META	-0.5%
1.0	DHI	-1.03%	WYNN	-0.5%
1.0	FIS	-1.01%	ORLY	-0.5%
1.0	SBUX	-0.87%	UAA	-0.46%
1.0	TMUS	-0.8%	MSI	-0.44%
1.0	VICI	-0.76%	GBTC	-0.44%
1.0	NFLX	-0.75%	TMUS	-0.42%
1.0	CMCSA	-0.71%	VICI	-0.41%
1.0	MOS	-0.64%	CMCSA	-0.41%
1.0	VST	-0.62%	GT	-0.41%
1.0	PRGO	-0.48%	ORCL	-0.4%
1.0	HD	-0.48%	VZ	-0.4%
1.0	BXP	-0.48%	T	-0.4%
1.0	NEM	-0.48%	ABBV	-0.38%
1.0	T	-0.47%	VNO	-0.36%
1.0	NAVI	-0.46%	VFC	-0.36%
1.0	ABBV	-0.46%	BA	-0.35%



P30D: 10d

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

Period examined: All model dates from 2025-10-02 through 2025-10-30

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
10.0	MSTR	-25.5%	MSTR	-10.84%
10.0	AMC	-17.2%	MOS	-9.52%
10.0	CZR	-13.18%	CZR	-8.41%
10.0	CHTR	-12.36%	CHTR	-8.06%
10.0	TXN	-12.28%	AMC	-6.11%
10.0	NFLX	-9.54%	GBTC	-5.83%
10.0	MOS	-9.27%	AZO	-5.4%
10.0	CMCSA	-7.75%	ORCL	-5.36%
10.0	CMG	-7.64%	CNC	-4.88%
10.0	VST	-7.13%	VST	-4.72%
10.0	ACGL	-6.52%	ZION	-4.62%
10.0	CNC	-6.43%	ACGL	-4.58%
10.0	NWL	-6.06%	NFLX	-4.51%
10.0	AZO	-6.03%	PHM	-4.48%
10.0	OXY	-5.4%	NWL	-4.39%
10.0	GME	-5.4%	GME	-4.37%
10.0	VZ	-5.22%	OXY	-4.36%
10.0	UAA	-5.03%	TXN	-4.09%
10.0	KEY	-4.85%	ORLY	-4.09%
10.0	ORCL	-4.82%	CMCSA	-3.46%
10.0	FITB	-3.94%	NEM	-3.41%
10.0	VICI	-3.72%	VZ	-3.4%
10.0	T	-3.45%	CMG	-3.38%
10.0	FIS	-3.39%	MSI	-3.06%
10.0	VNO	-3.38%	B	-3.04%
10.0	MSI	-3.3%	UAA	-2.9%
10.0	TMUS	-3.02%	TRGP	-2.88%
10.0	LLY	-2.9%	DHI	-2.83%
10.0	DHI	-2.73%	T	-2.8%
10.0	ORLY	-2.63%	VNO	-2.75%



Appendix 1: Calculating “Expected Body” for Sigma

An expected value is a probability 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 distribution 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 cumulative probability of the standard normal distribution up through x . 3) In column C take the differences between each value and its prior value in B. These are the probabilities 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 probability weighted average value of x . It should equal 0.295832. 6) Sum column C. This is your cumulative probability that x is between 0 and 1.645. It should equal 0.450002 7) Divide your probability weighted average value of x by your cumulative probability that x is between 0 and 1.645. You should get a value of 0.657383.



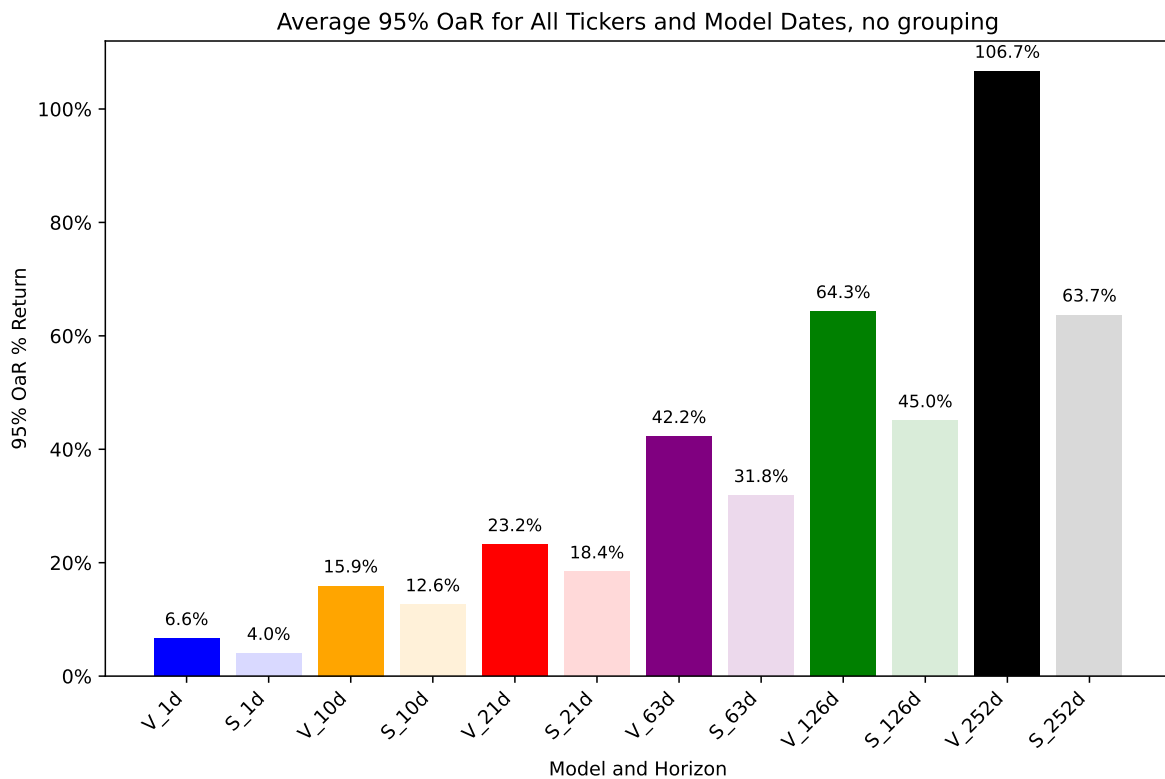
Appendix 2: 95% Opportunity at Risk (OaR)

Historic Average Levels

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

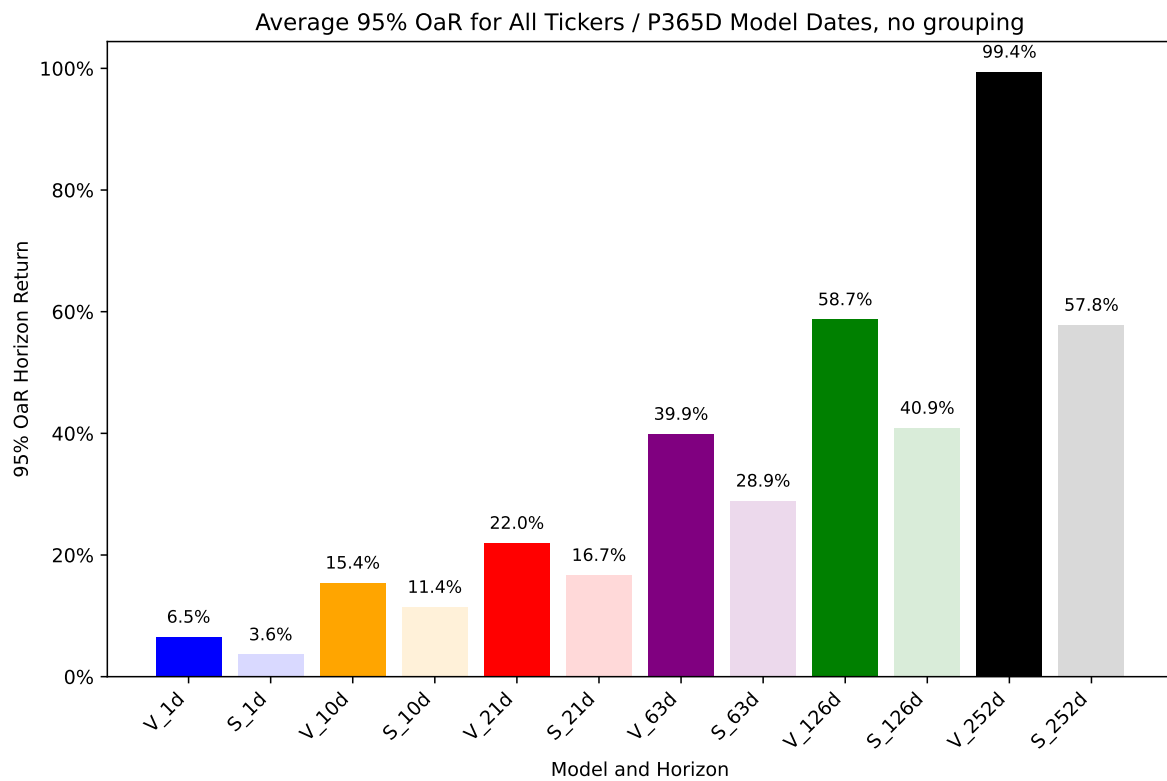
All Out of Sample Model Dates

Period examined: All model dates from 2022-01-31 through 2025-10-30



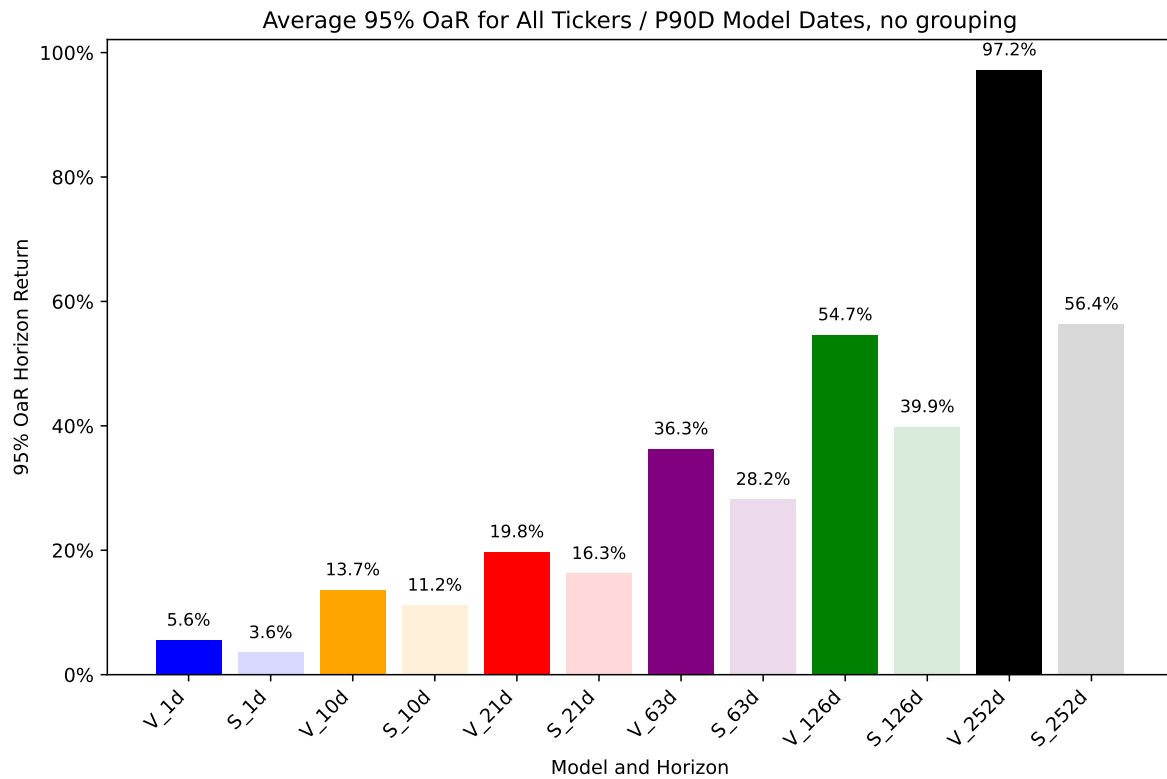
Prior 365 Calendar Days (P365D)

Period examined: All model dates from 2024-11-01 through 2025-10-30



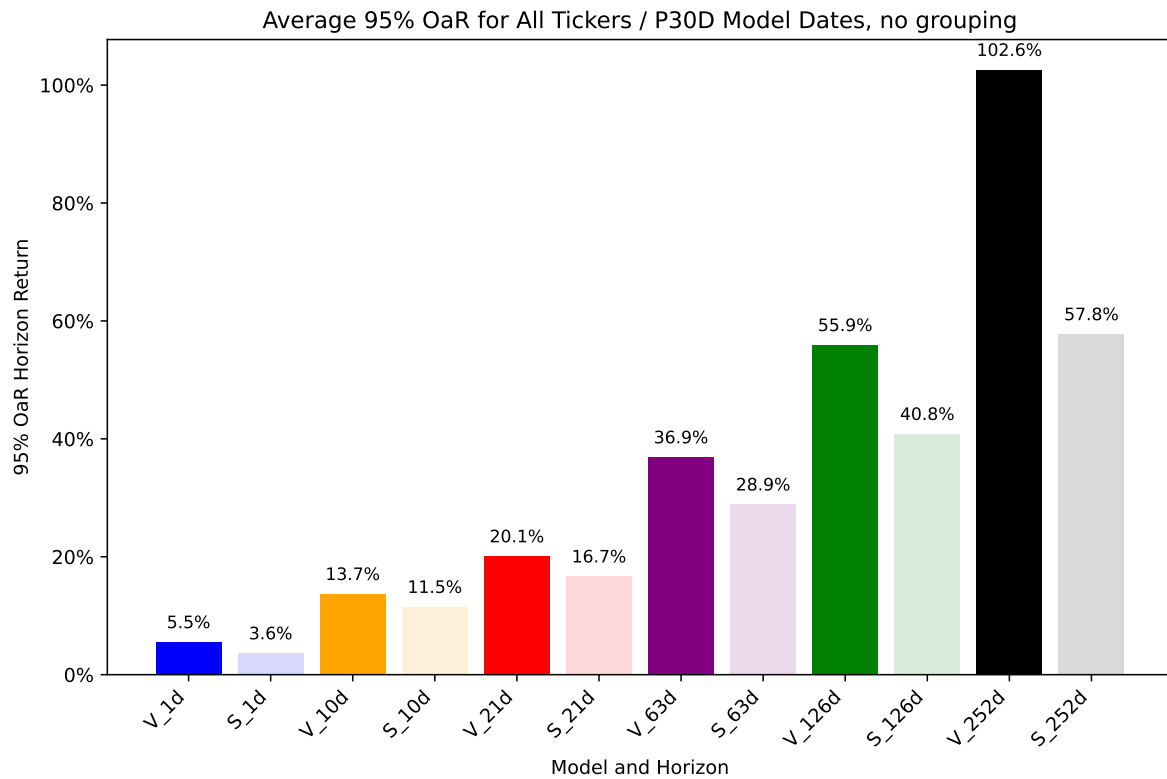
Prior 90 Calendar Days (P90D)

Period examined: All model dates from 2025-08-04 through 2025-10-30



Prior 30 Calendar Days (P30D)

Period examined: All model dates from 2025-10-02 through 2025-10-30



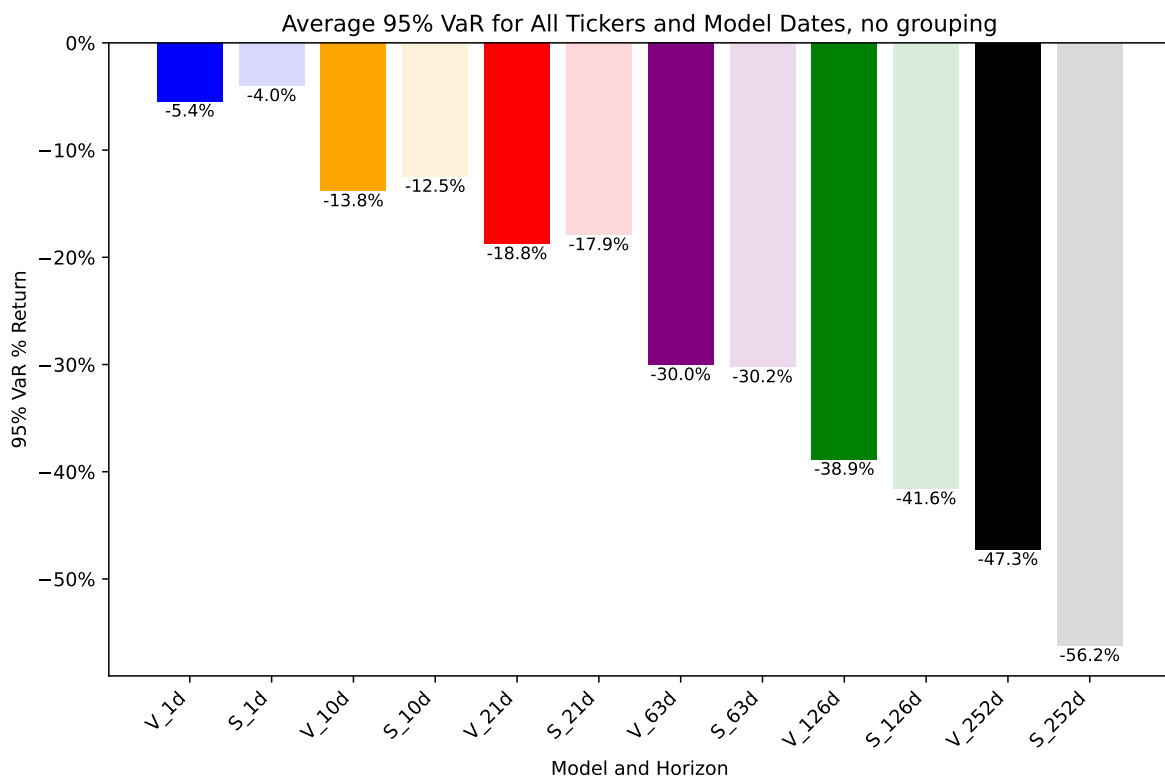
Appendix 3: 95% Value at Risk (VaR)

Historic Average Levels

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

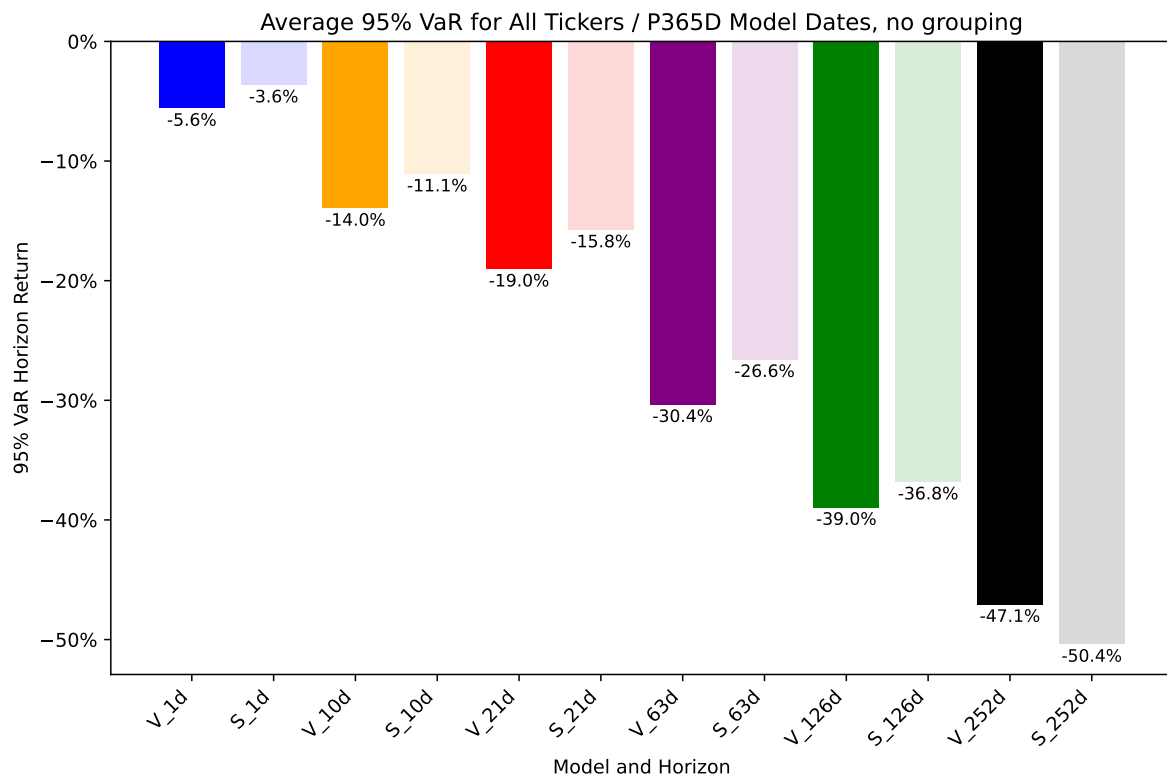
All Out of Sample Model Dates

Period examined: All model dates from 2022-01-31 through 2025-10-30



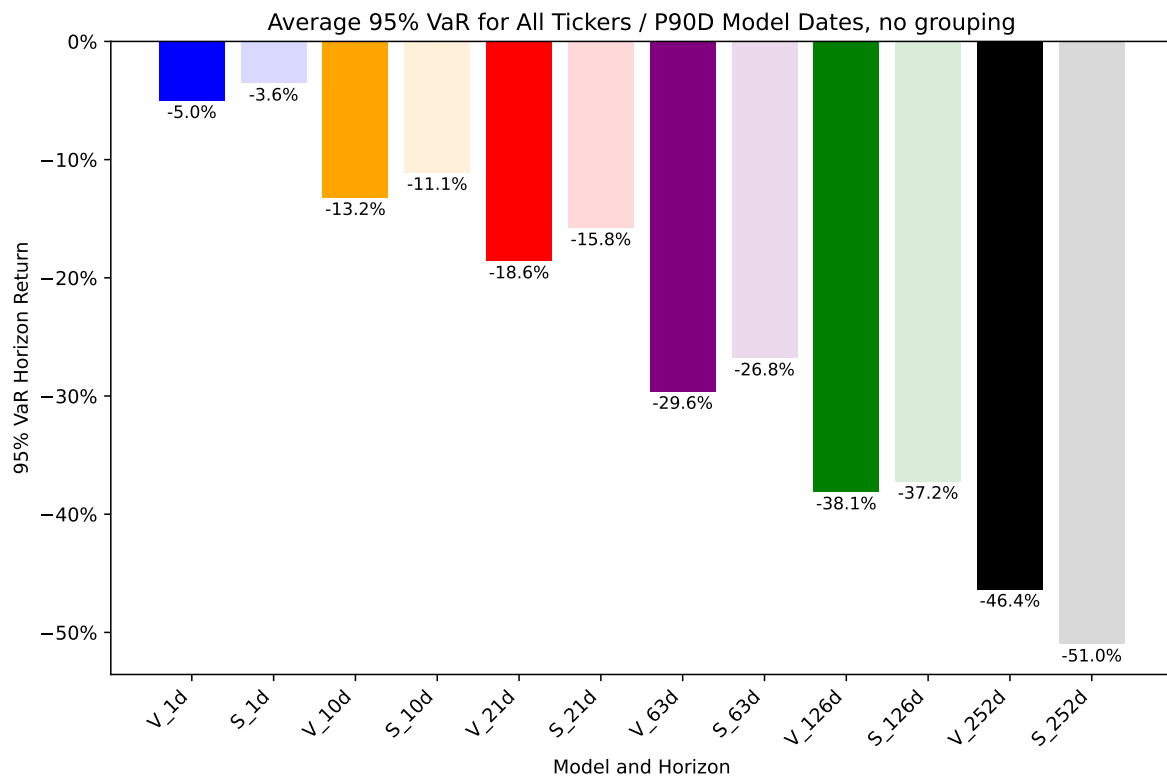
Prior 365 Calendar Days (P365D)

Period examined: All model dates from 2024-11-01 through 2025-10-30



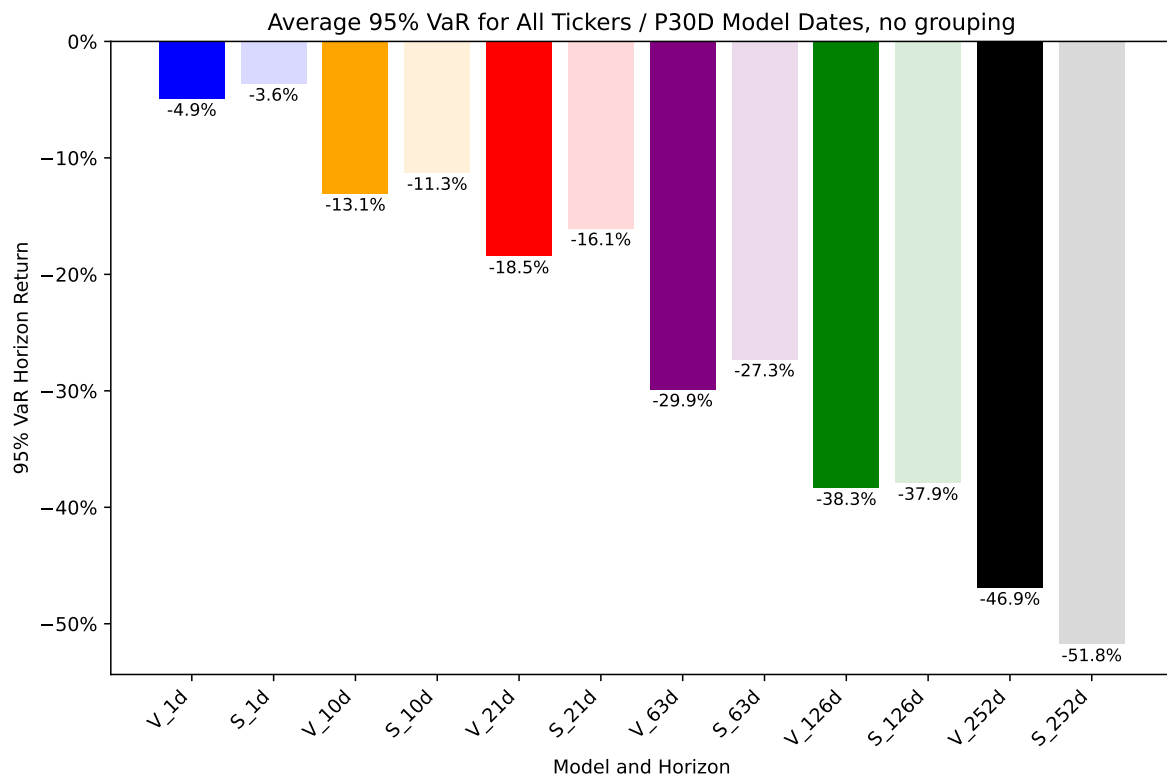
Prior 90 Calendar Days (P90D)

Period examined: All model dates from 2025-08-04 through 2025-10-30



Prior 30 Calendar Days (P30D)

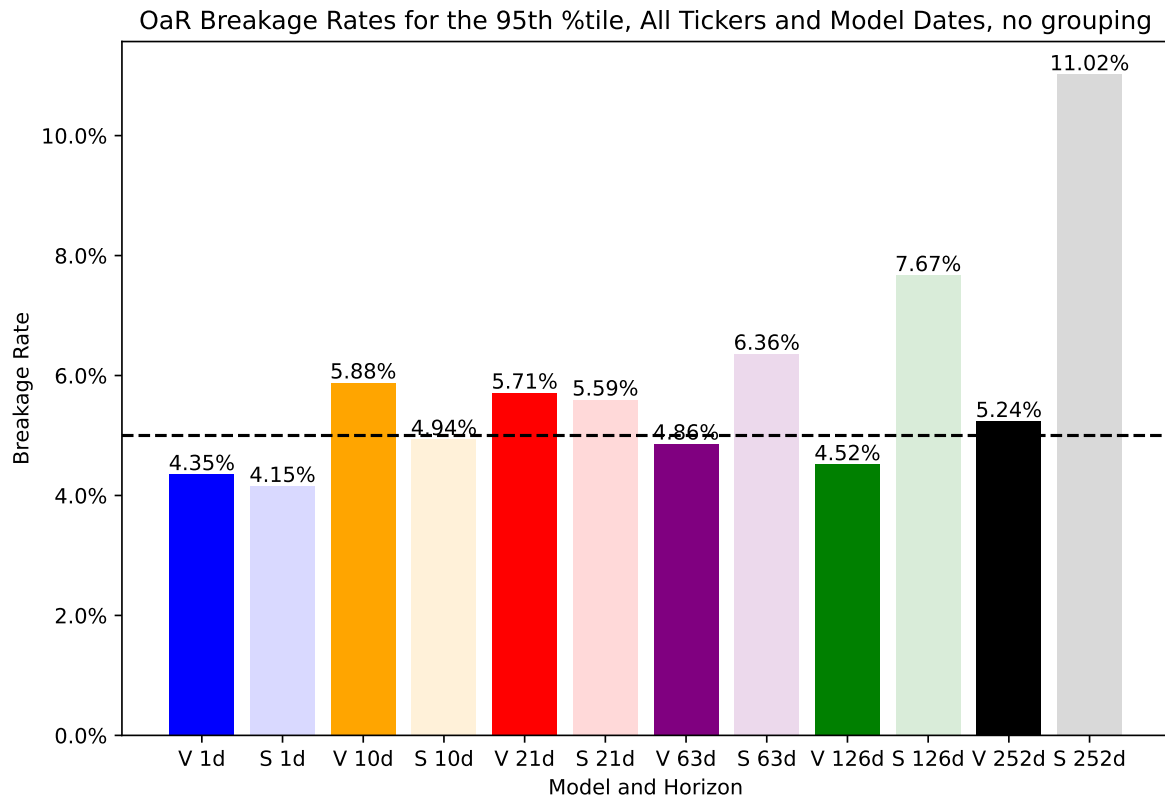
Period examined: All model dates from 2025-10-02 through 2025-10-30



Appendix 4: 95% OaR Breakage Rates

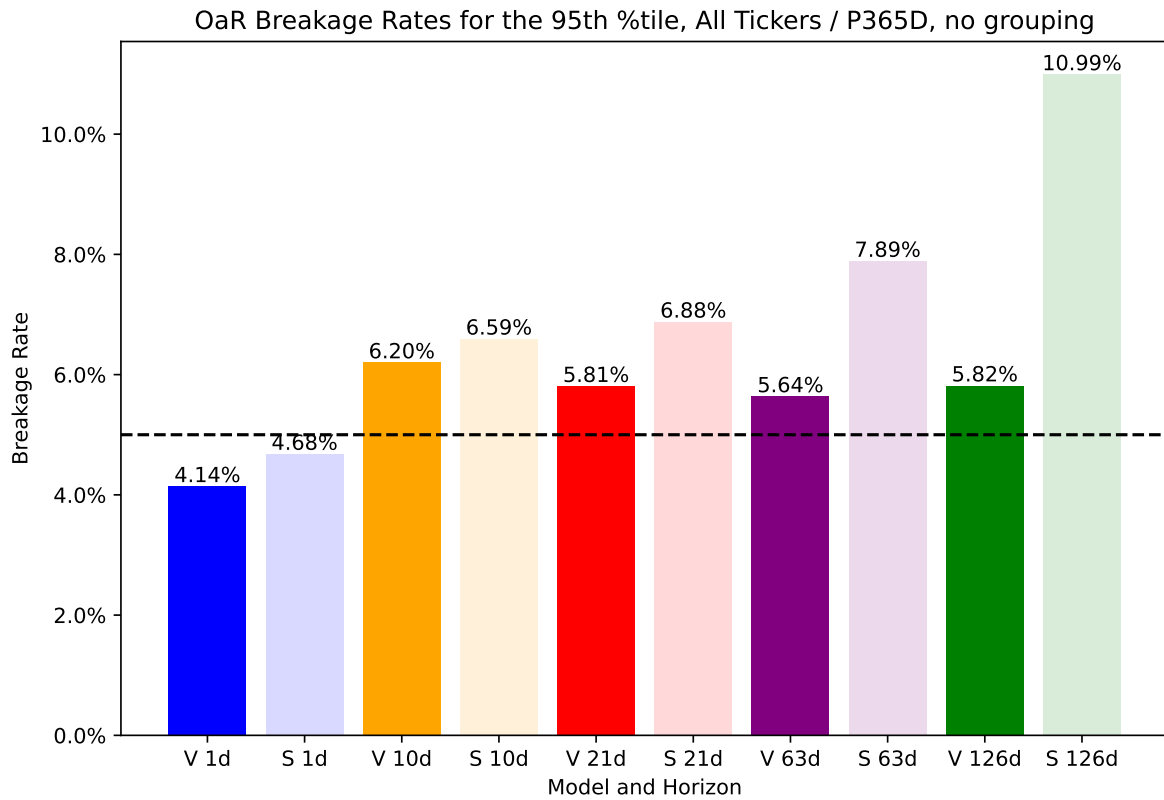
All Out of Sample Model Dates

Period examined: All model dates from 2022-01-31 through 2025-10-30



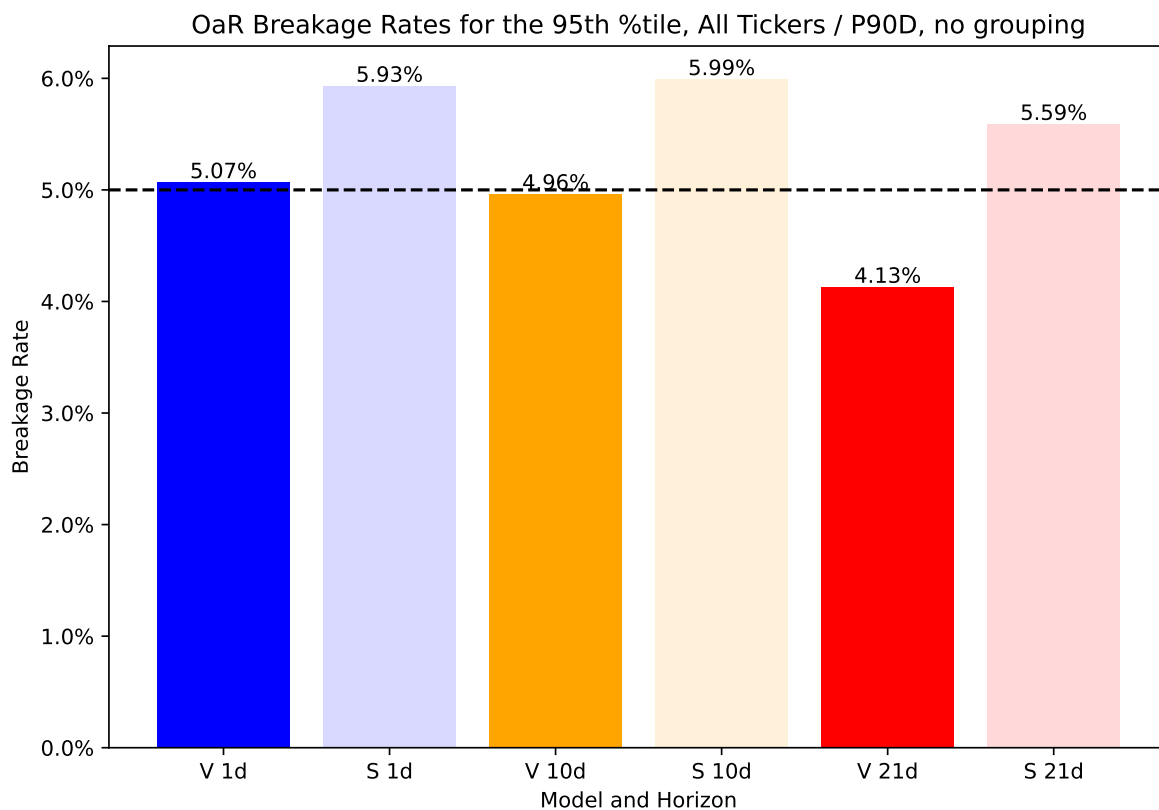
Prior 365 Calendar Days (P365D)

Period examined: All model dates from 2024-11-01 through 2025-10-30



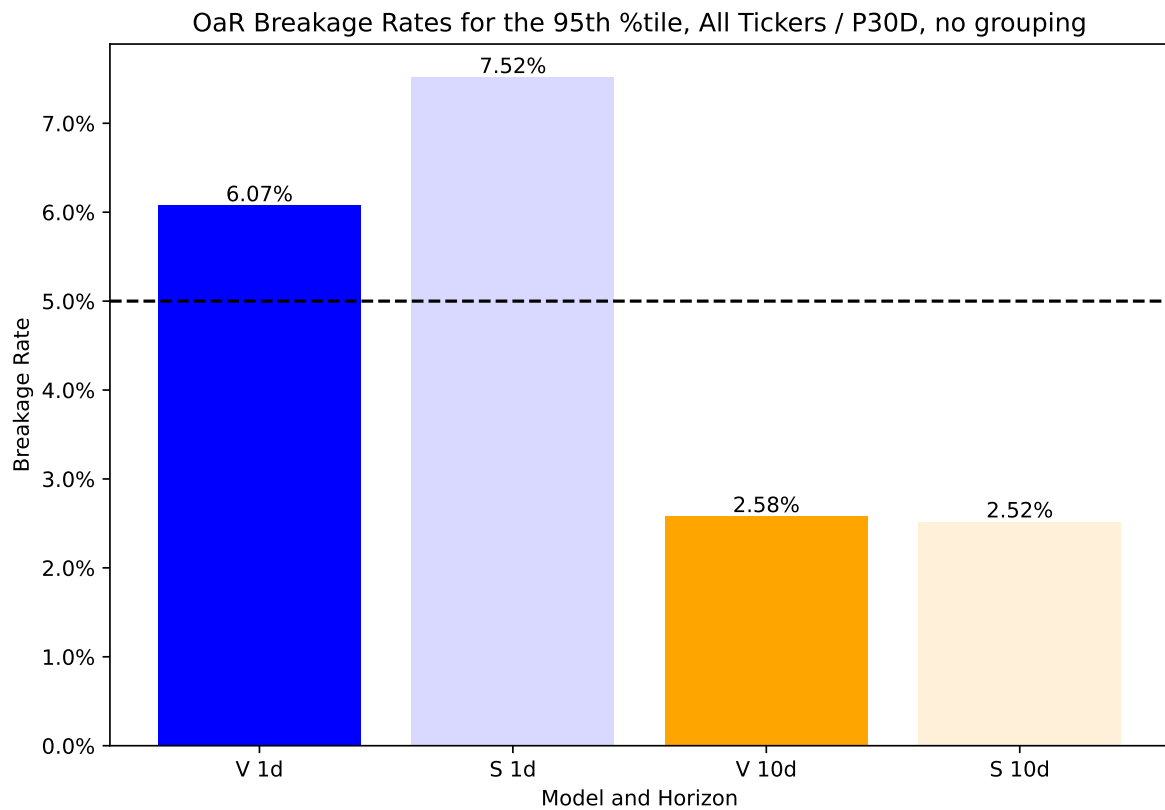
Prior 90 Calendar Days (P90D)

Period examined: All model dates from 2025-08-04 through 2025-10-30



Prior 30 Calendar Days (P30D)

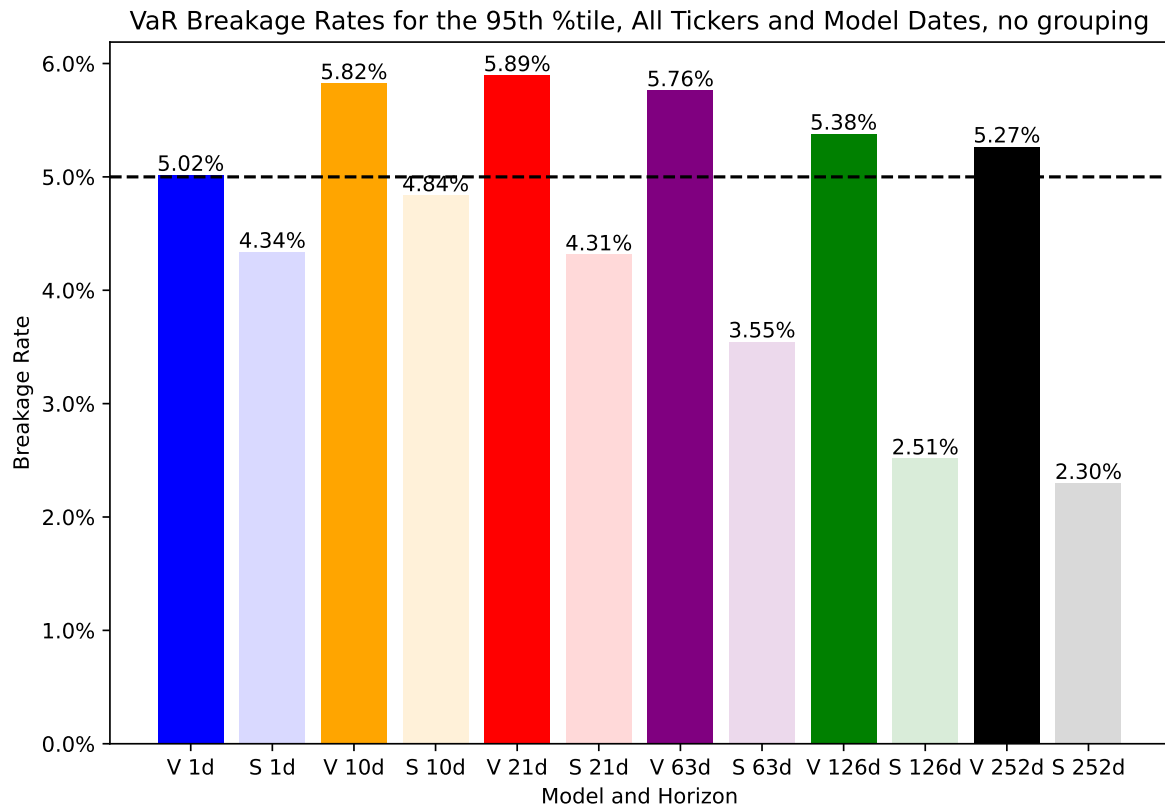
Period examined: All model dates from 2025-10-02 through 2025-10-30



Appendix 5: 95% VaR Breakage Rates

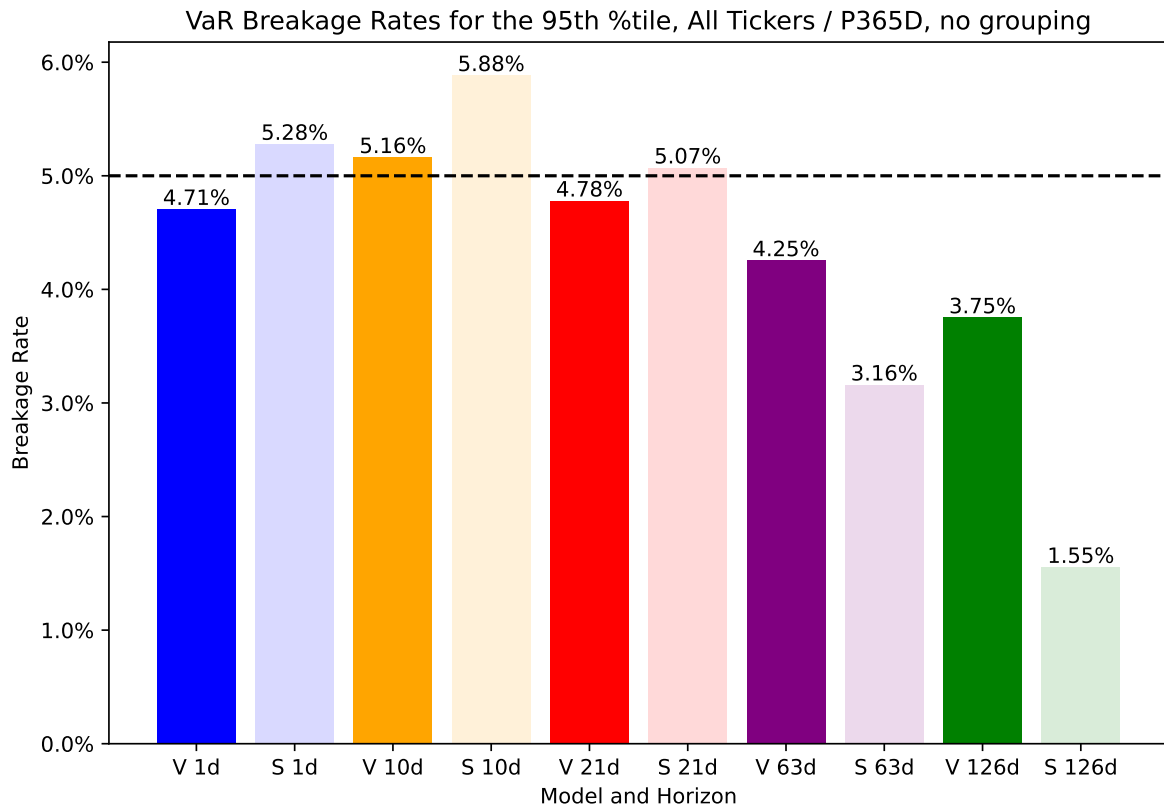
All Out of Sample Model Dates

Period examined: All model dates from 2022-01-31 through 2025-10-30



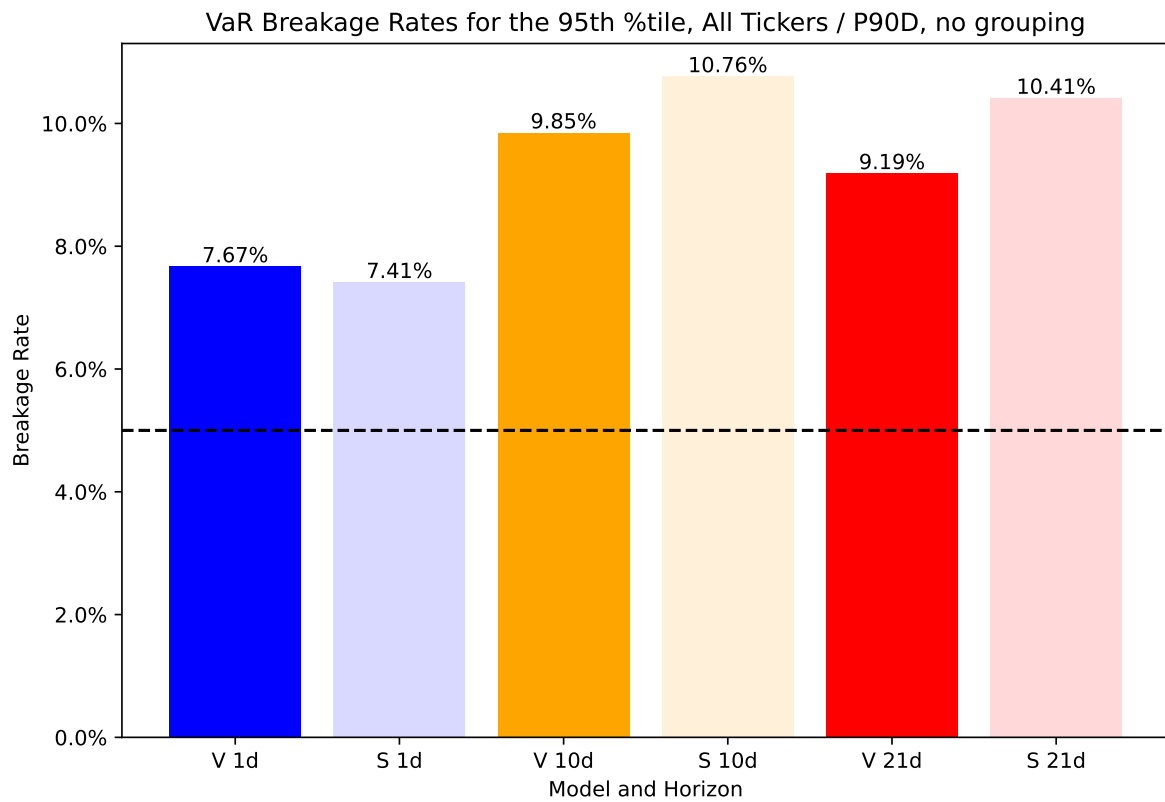
Prior 365 Calendar Days (P365D)

Period examined: All model dates from 2024-11-01 through 2025-10-30



Prior 90 Calendar Days (P90D)

Period examined: All model dates from 2025-08-04 through 2025-10-30



Prior 30 Calendar Days (P30D)

Period examined: All model dates from 2025-10-02 through 2025-10-30

