

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

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## Introduction

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

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

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

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

## Evaluation of EUB and EDB Estimates

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

### Mean absolute average error (MAE)

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

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



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

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

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

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

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

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

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

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

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

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



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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



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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  $\sim 550$  tickers (including equities, currencies, and commodities) and  $\sim 120$  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  $\sim 150$  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.



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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](http://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.



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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-vecvzis-analytics/) (<https://vecviz.com/let-me-warn-you-of-the-limitations-of-vecvzis-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.

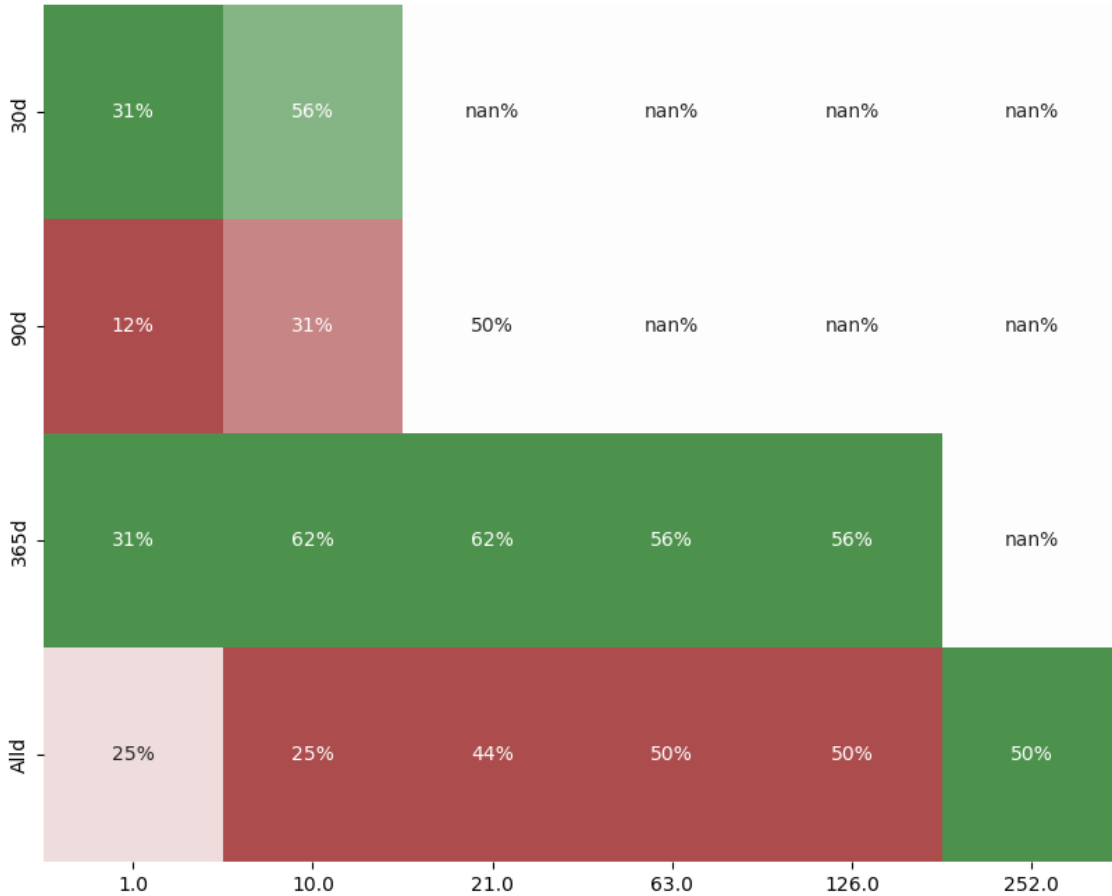
Thus, in summary, all metrics presented in this report are presented and are to be considered on a comparative basis. Are Vector Model breakage rates closer to target than Sigma’s? Does Vector Model ROEUB or ROEDB outperform Sigma ROEUB or ROEDB? Is the relative performance driven by alpha or beta? By 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 2026-04-29 while 365D /90D/ 30D include the 365/90/30 days ended 2026-04-29, respectively.

% of Expected Body Objectives Met By Lookback Window vs. Trading Day Horizon, as of 2026-04-30



EB Criteria	Average Score(%)
1. Smaller EUB MAE (mean absolute error)	0
2. Smaller EUB MAE after 95%tile adjustment	0
3. Less adjusted EUB MAE Variability across dates	0
4. Less adjusted EUB MAE Variability across tickers	25
5. Smaller EDB MAE	56.25
6. Smaller EDB MAE after 95%tile adjustment	50
7. Less adjusted EDB MAE Variability across dates	25
8. Less adjusted EDB MAE Variability across tickers	56.25
9. Greater ROEUB	37.5



EB Criteria	Average Score(%)
10. Greater ROEUB after adjusting for EUB magnitude	56.25
11. ROEUB alpha across tickers and dates > 0	62.5
12. ROEUB alpha across dates > 0	18.75
13. Greater ROEDB	100
14. Greater ROEDB after adjusting for EDB magnitude	93.75
15. ROEDB alpha across tickers and dates > 0	18.75
16. ROEDB alpha across dates > 0	93.75
Overall Average	43.36

EB and ROEB Criteria by Fwd Hzn	1D	10D	21D	63D	126D	252D
1. Smaller EUB MAE (mean absolute error)	0	0	0	0	0	0
2. Smaller EUB MAE after 95%tile adjustment	0	0	0	0	0	0
3. Less adjusted EUB MAE Variability across dates	0	0	0	0	0	0
4. Less adjusted EUB MAE Variability across tickers	25	25	33.33	50	0	0
5. Smaller EDB MAE	0	50	66.67	100	100	100
6. Smaller EDB MAE after 95%tile adjustment	0	50	66.67	100	100	0
7. Less adjusted EDB MAE Variability across dates	0	50	33.33	0	0	100
8. Less adjusted EDB MAE Variability across tickers	50	75	66.67	50	50	0
9. Greater ROEUB	0	0	33.33	100	100	100
10. Greater ROEUB after adjusting for EUB magnitude	0	50	66.67	100	100	100
11. ROEUB alpha across tickers and dates > 0	0	75	66.67	100	100	100
12. ROEUB alpha across dates > 0	25	0	66.67	0	0	0
13. Greater ROEDB	100	100	100	100	100	100
14. Greater ROEDB after adjusting for EDB magnitude	100	100	100	50	100	100
15. ROEDB alpha across tickers and dates > 0	25	25	33.33	0	0	0
16. ROEDB alpha across dates > 0	75	100	100	100	100	100
TotalScore	25	43.75	52.08	53.12	53.12	50



EB and ROEB Criteria by Lookback Window	30D	90D	365D	AllD
1. Smaller EUB MAE (mean absolute error)	0	0	0	0
2. Smaller EUB MAE after 95%tile adjustment	0	0	0	0
3. Less adjusted EUB MAE Variability across dates	0	0	0	0
4. Less adjusted EUB MAE Variability across tickers	0	0	80	0
5. Smaller EDB MAE	50	33.33	80	50
6. Smaller EDB MAE after 95%tile adjustment	50	33.33	80	33.33
7. Less adjusted EDB MAE Variability across dates	50	0	20	33.33
8. Less adjusted EDB MAE Variability across tickers	50	66.67	100	16.67
9. Greater ROEUB	0	0	40	66.67
10. Greater ROEUB after adjusting for EUB magnitude	50	0	80	66.67
11. ROEUB alpha across tickers and dates > 0	50	0	80	83.33
12. ROEUB alpha across dates > 0	50	33.33	20	0
13. Greater ROEDB	100	100	100	100
14. Greater ROEDB after adjusting for EDB magnitude	100	100	80	100
15. ROEDB alpha across tickers and dates > 0	50	66.67	0	0
16. ROEDB alpha across dates > 0	100	66.67	100	100
TotalScore	43.75	31.25	53.75	40.62

See the prior page for associated definitions of the criteria.



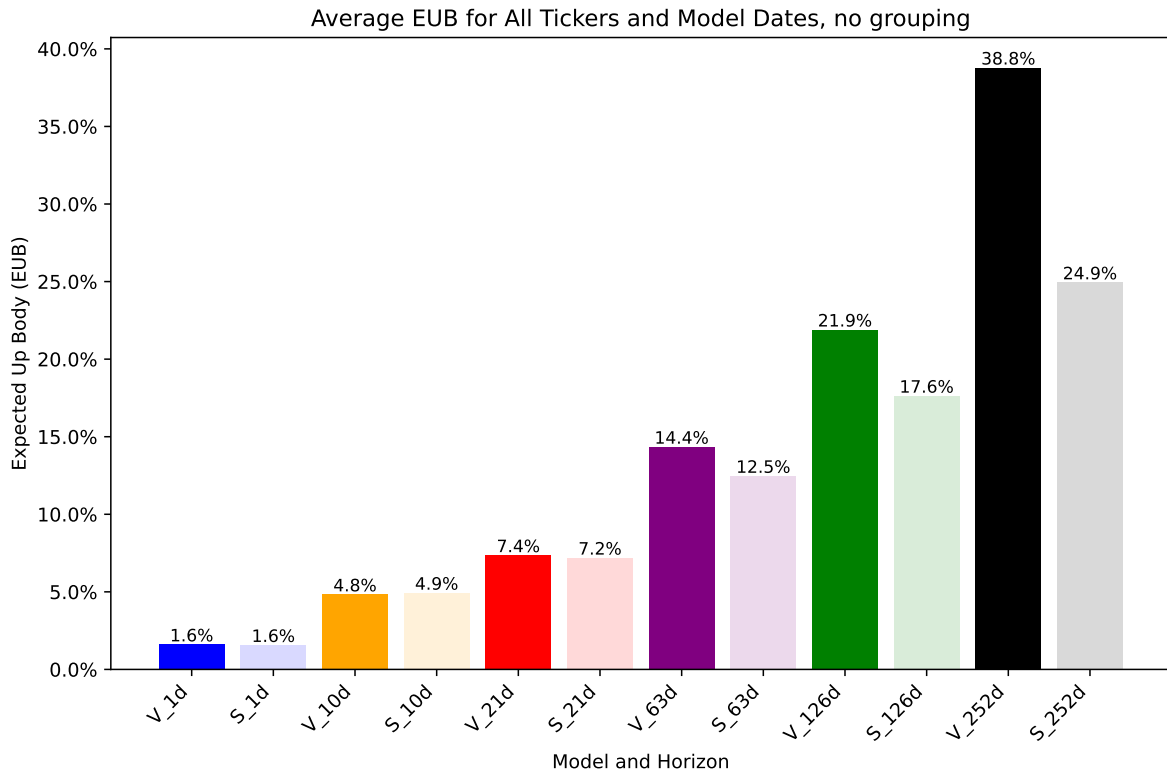
# Expected Up Body (EUB)

## Historic Average Levels

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

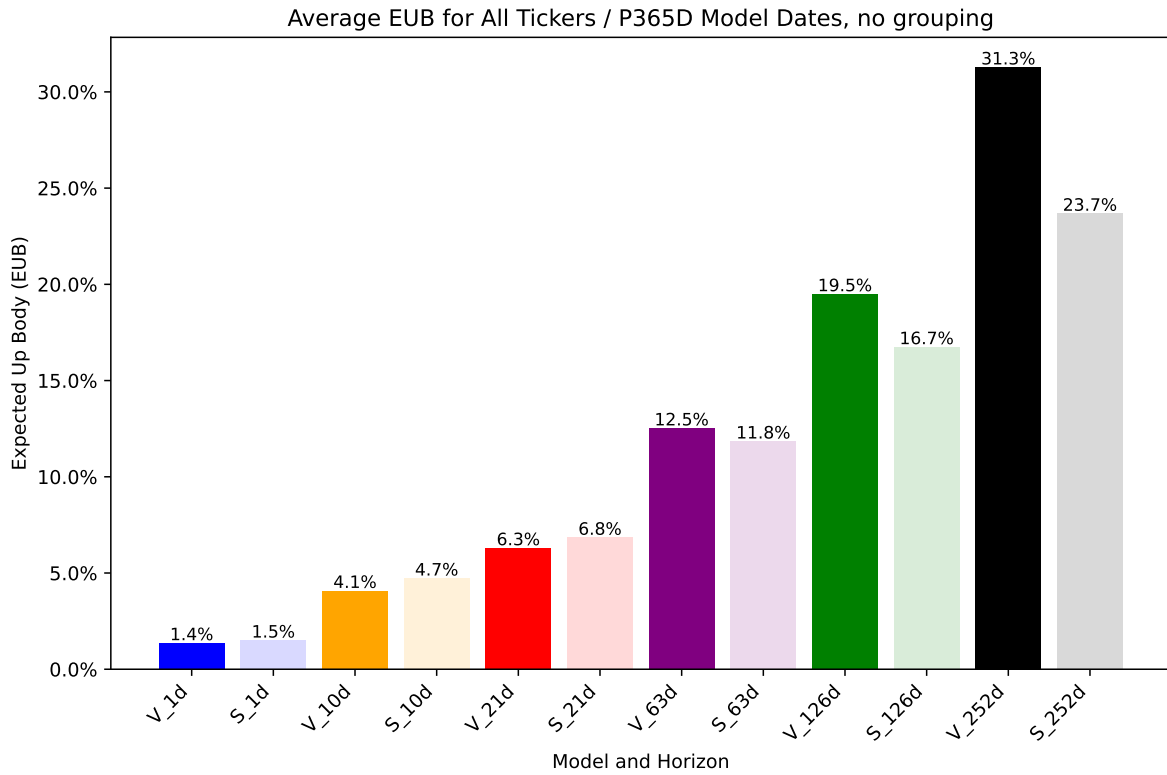
## All Out of Sample Model Dates

Period examined: All model dates from 2022-01-31 through 2026-04-29



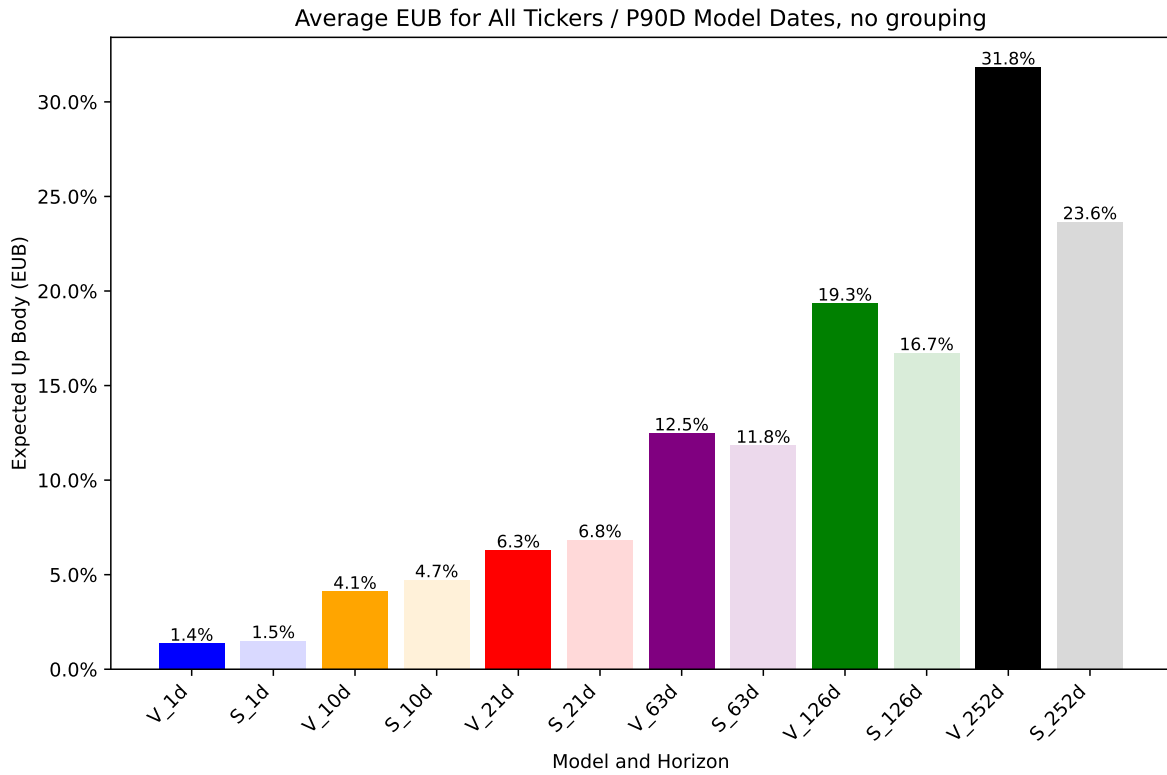
## Prior 365 Calendar Days (P365D)

Period examined: All model dates from 2025-05-01 through 2026-04-29



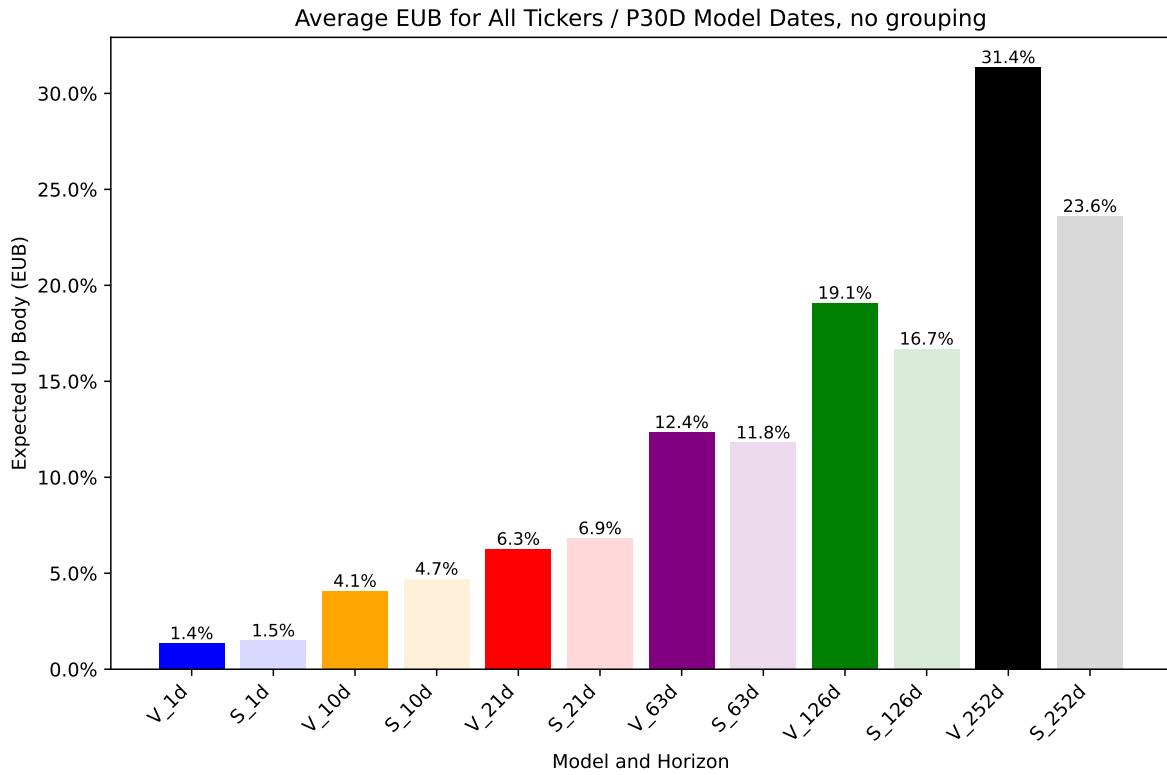
## Prior 90 Calendar Days (P90D)

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



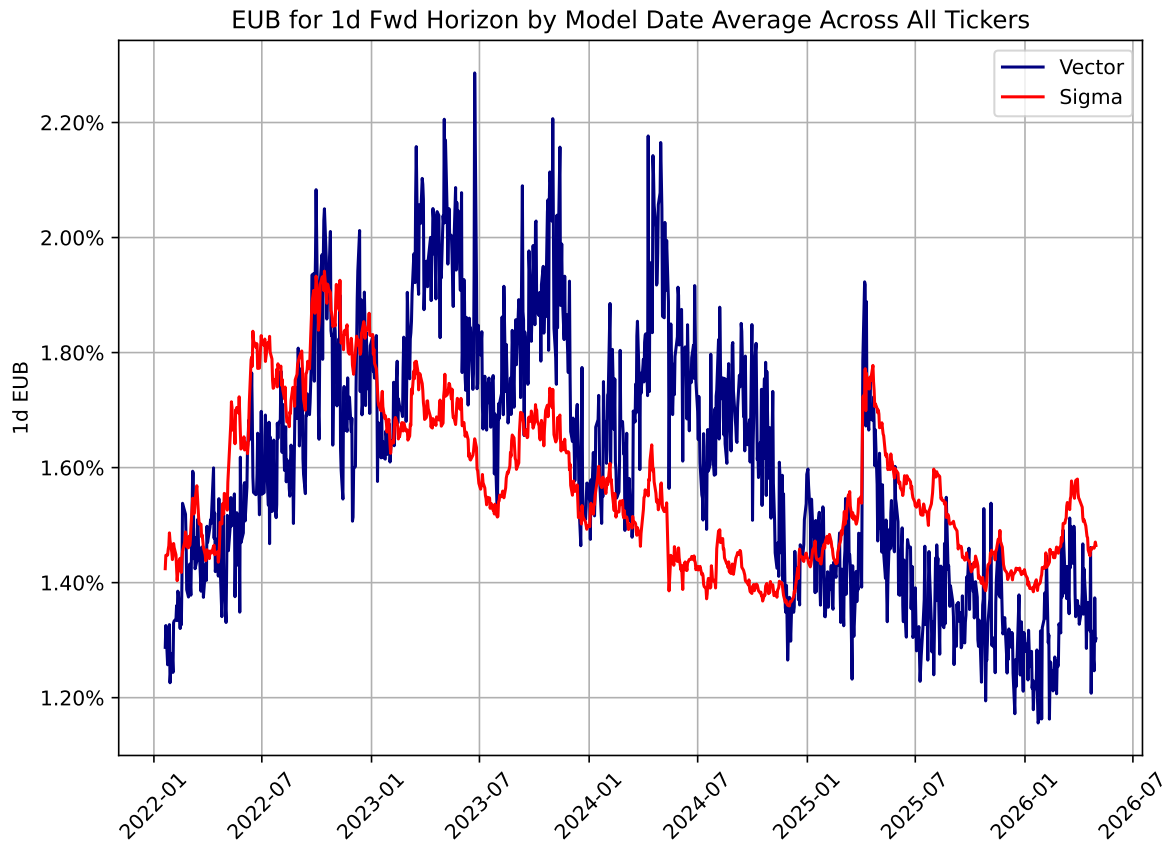
## Prior 30 Calendar Days (P30D)

Period examined: All model dates from 2026-04-01 through 2026-04-29

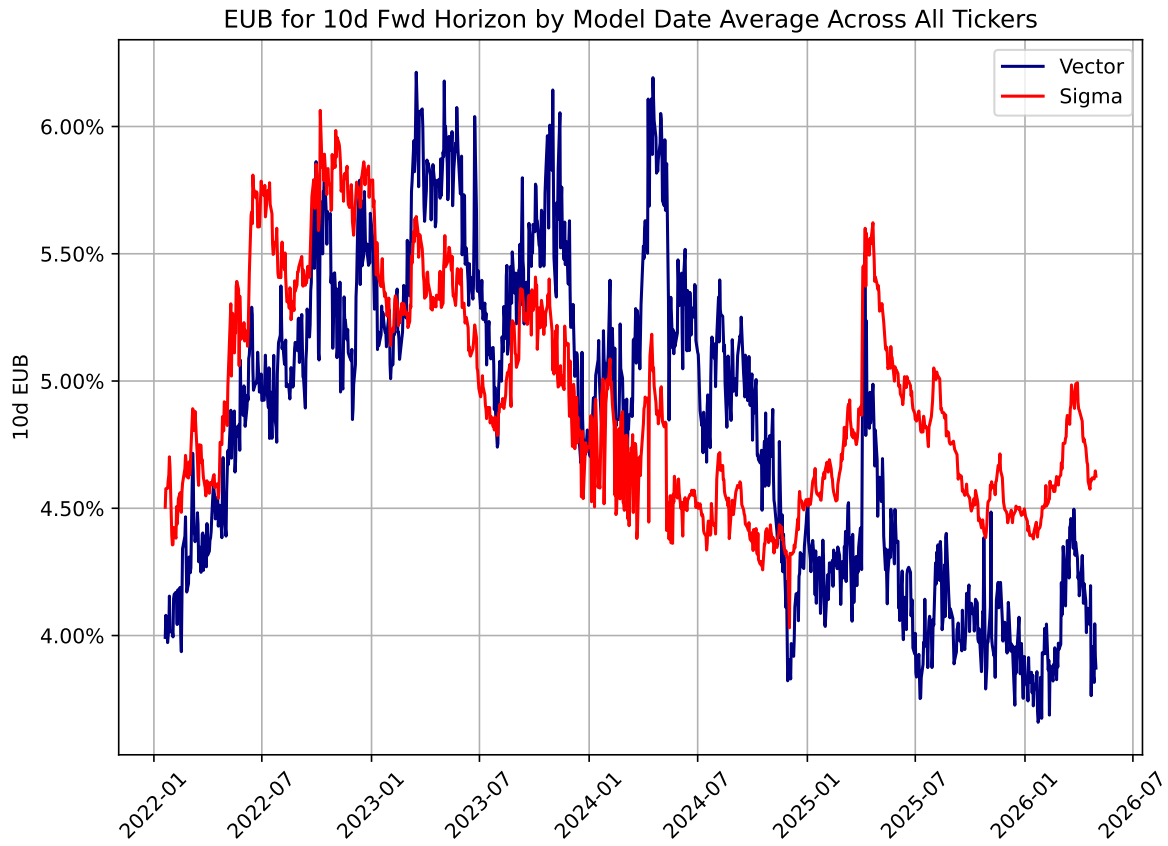


# EUB by Model Date Detail

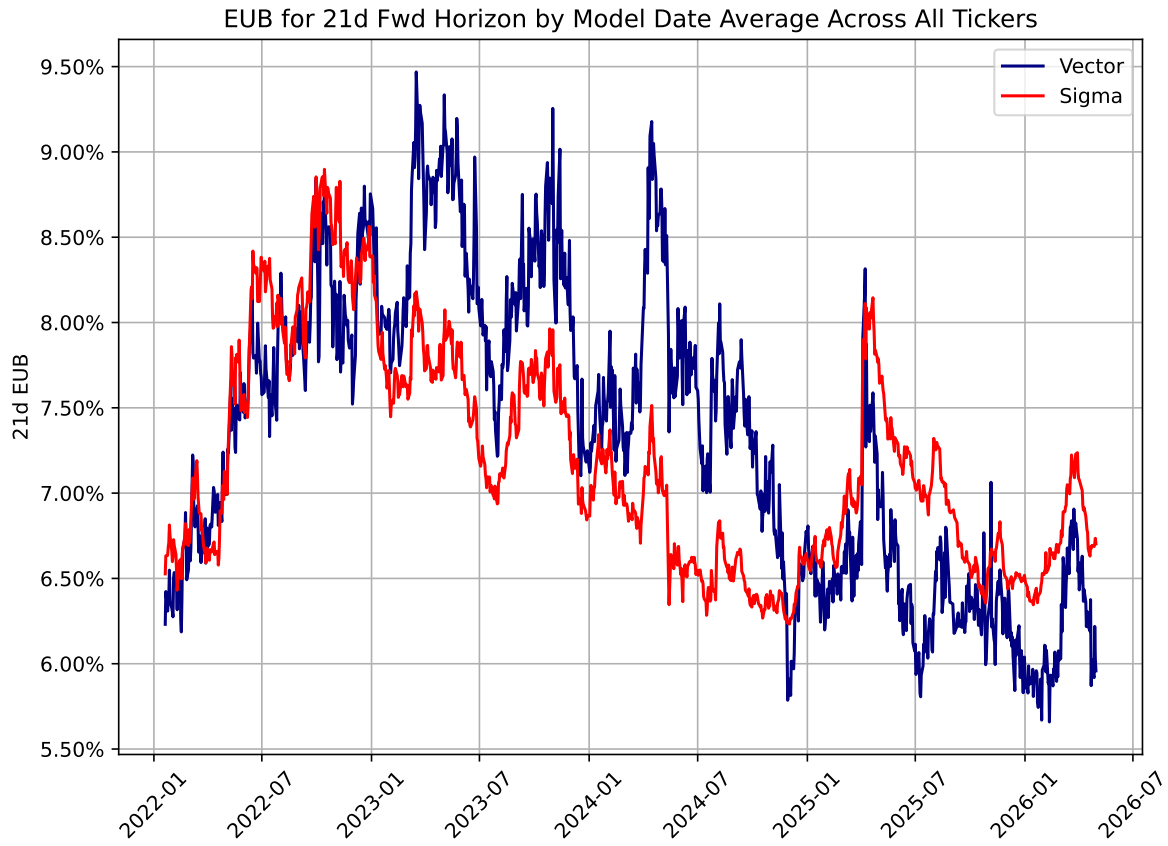
## 1d Horizon



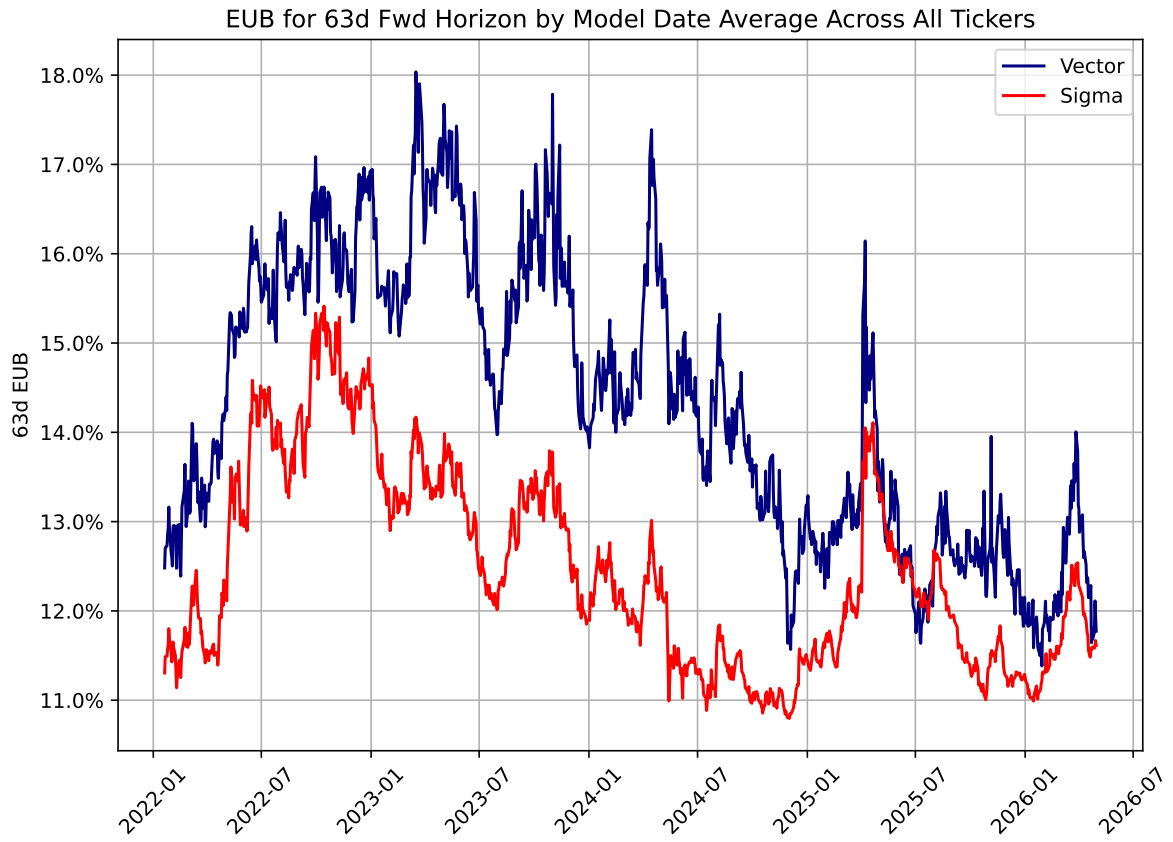
## 10d Horizon



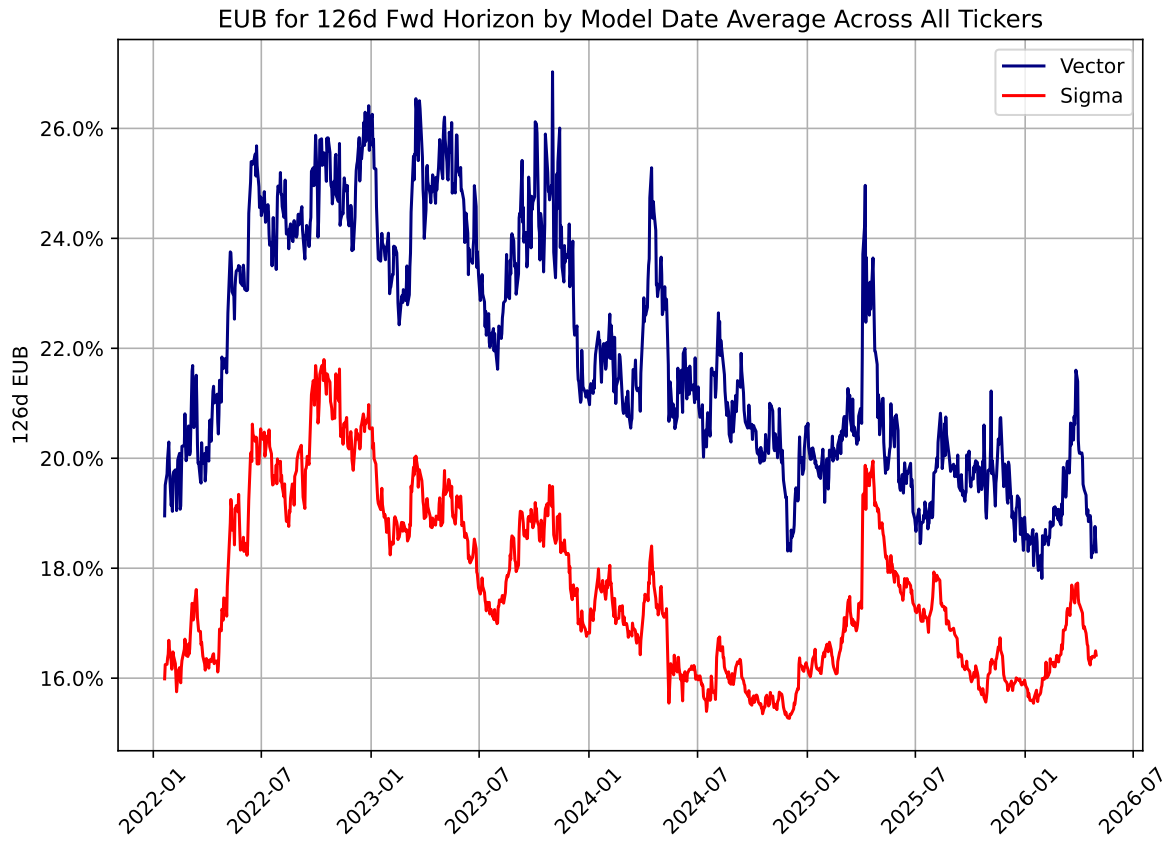
## 21d Horizon



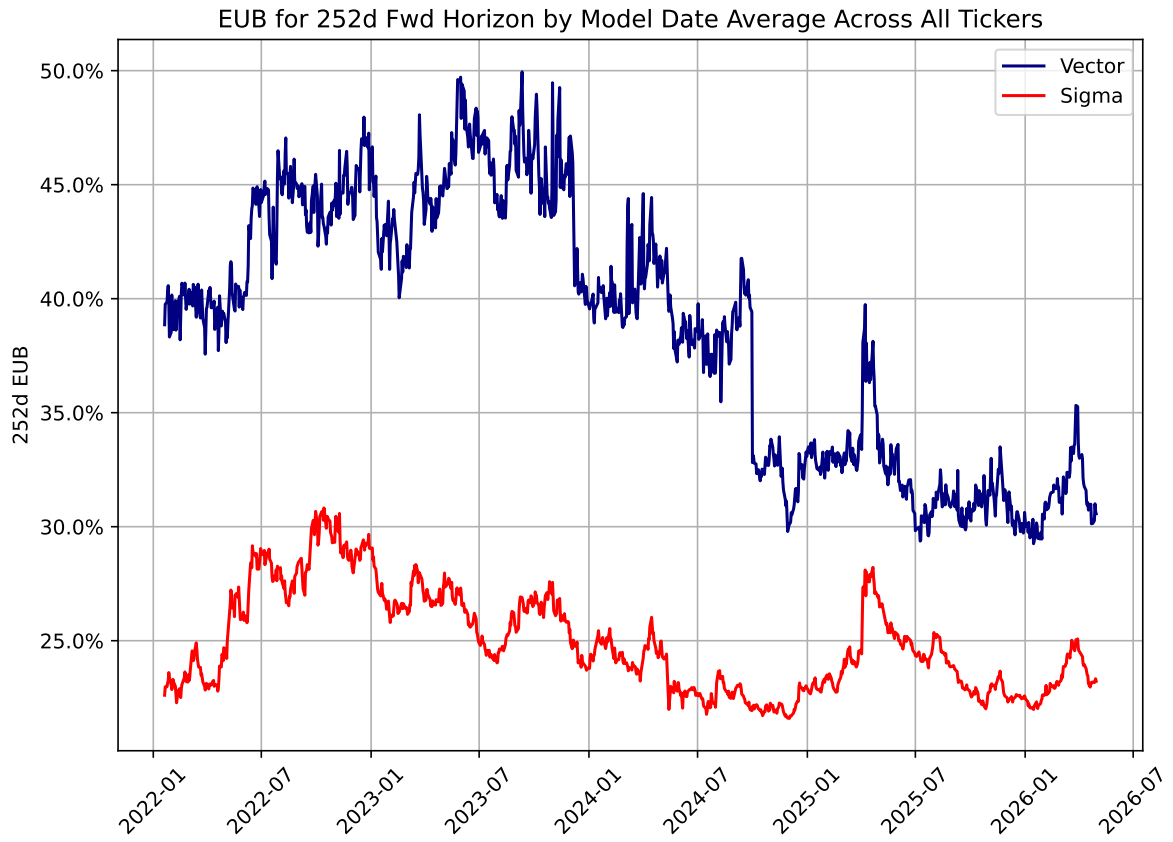
## 63d Horizon



## 126d Horizon



## 252d Horizon



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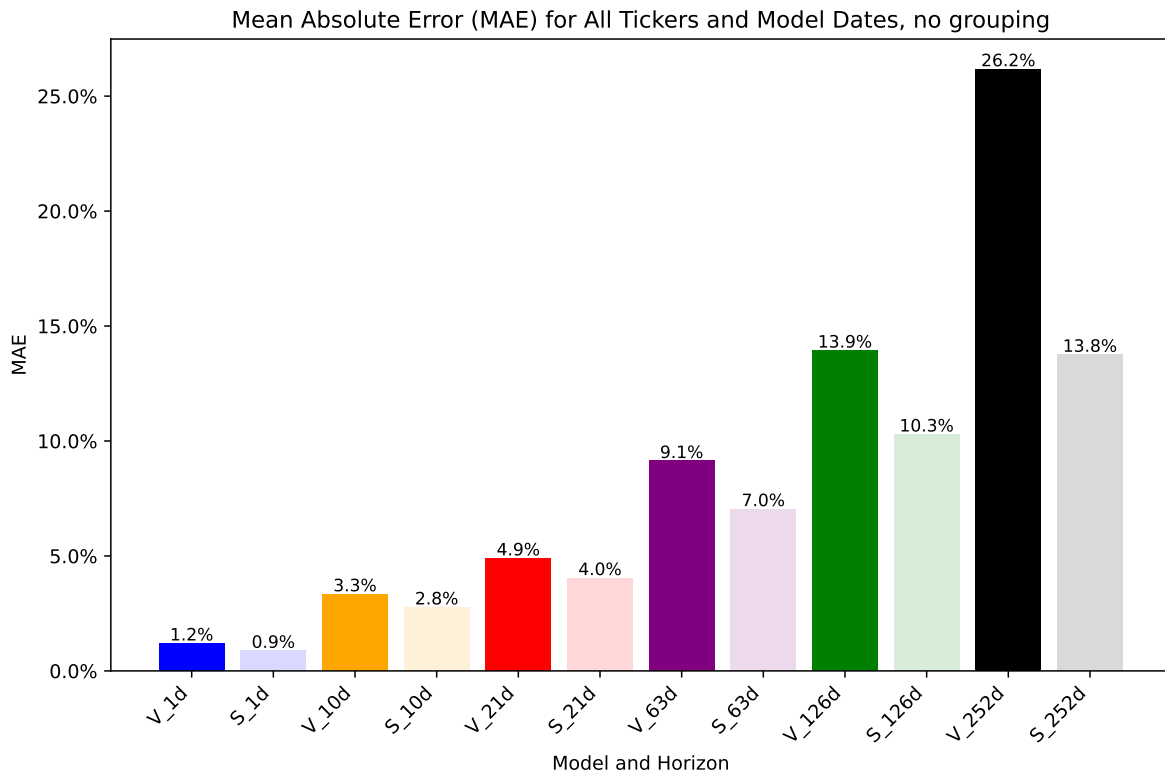
## Performance Summary - MAE of EUB vs. Actual Fwd Returns

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).

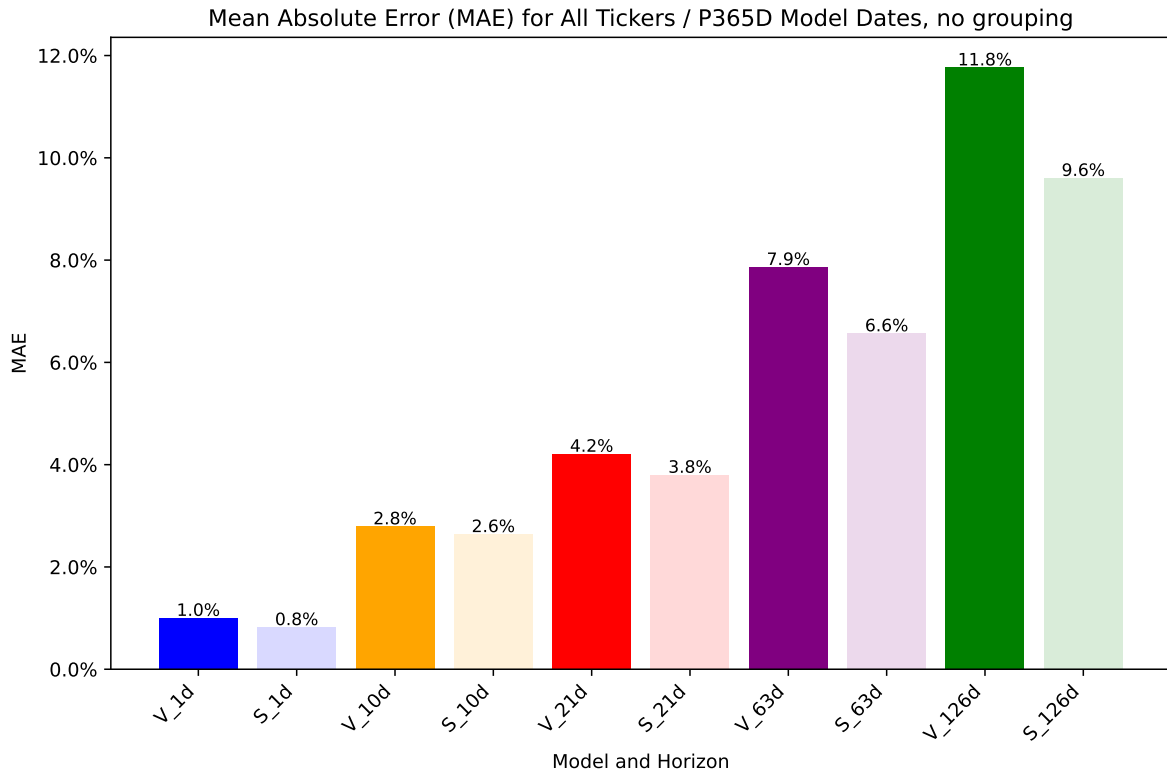
### All Out of Sample Model Dates

Period examined: All model dates from 2022-01-31 through 2026-04-29



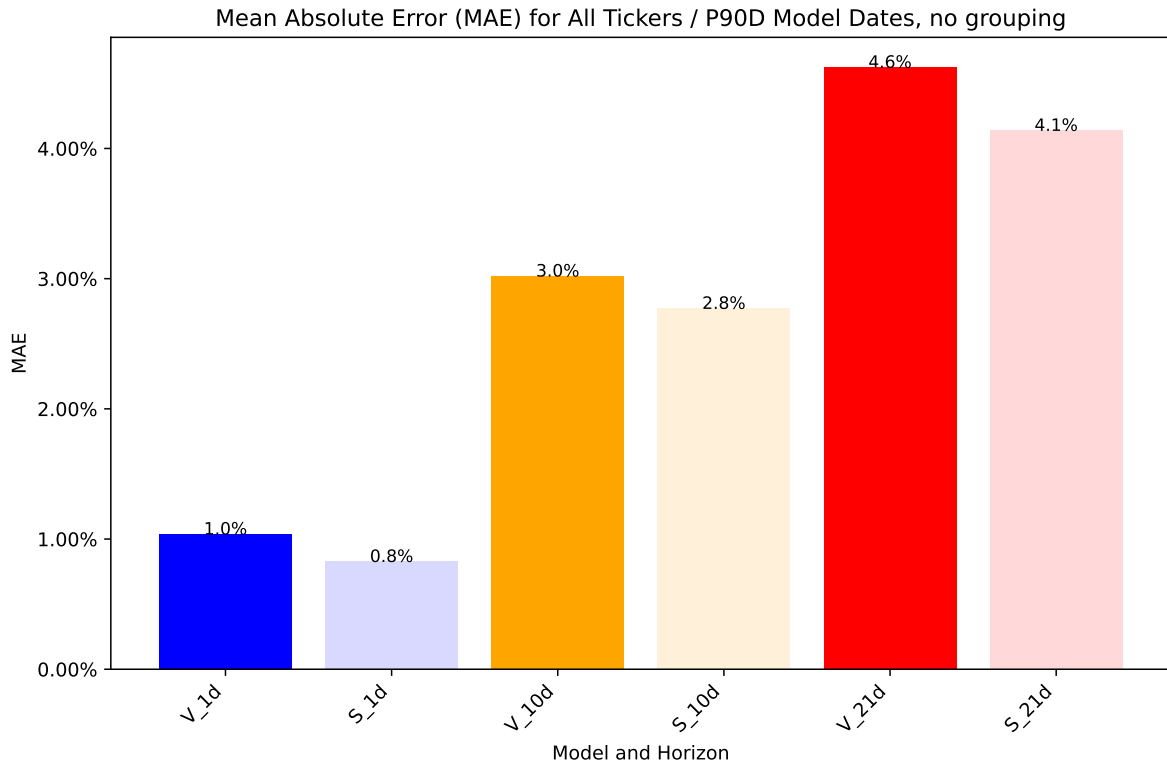
## Prior 365 Calendar Days (P365D)

Period examined: All model dates from 2025-05-01 through 2026-04-29



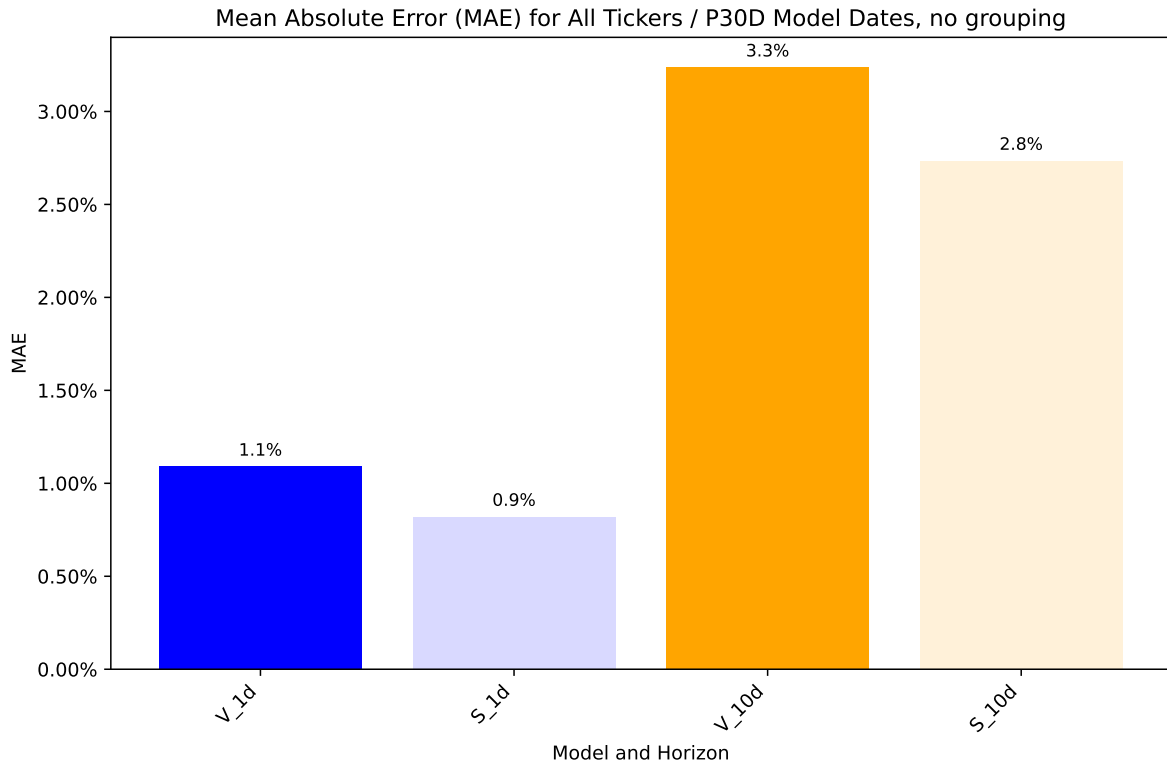
## Prior 90 Calendar Days (P90D)

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



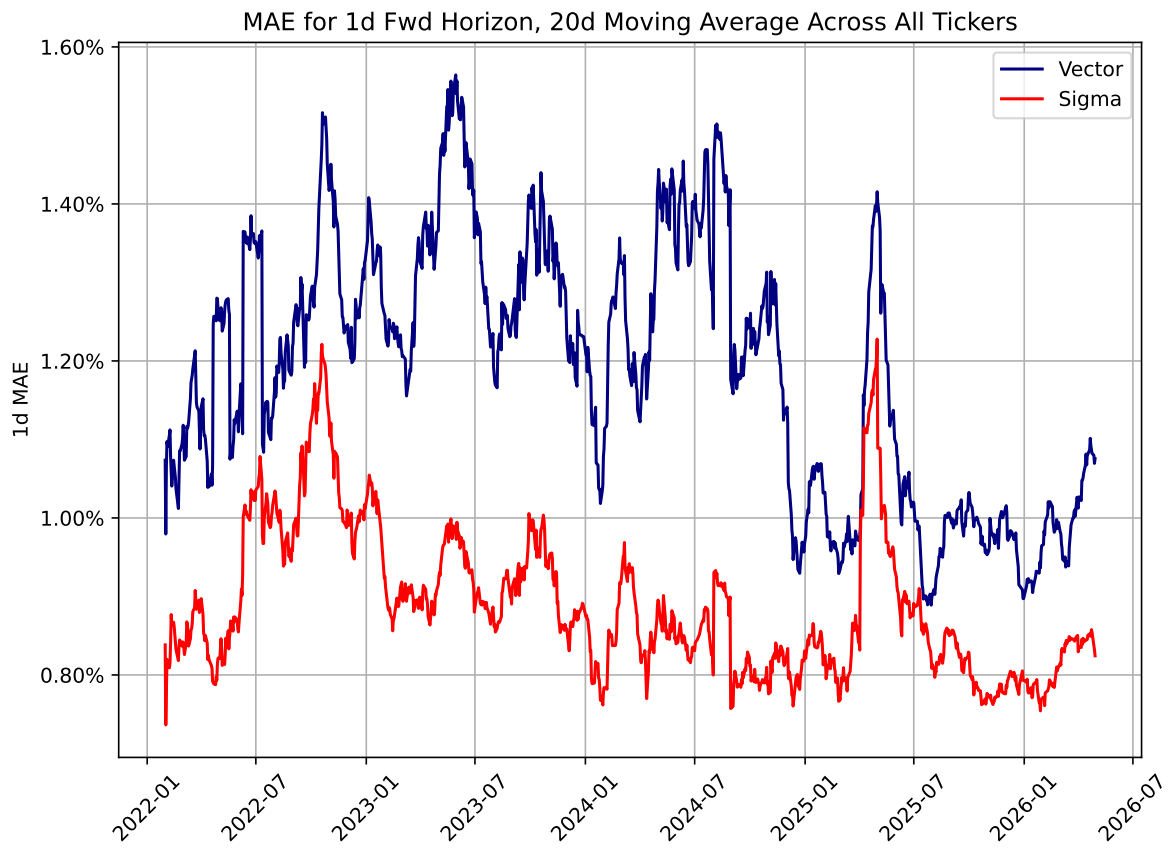
## Prior 30 Calendar Days (P30D)

Period examined: All model dates from 2026-04-01 through 2026-04-29

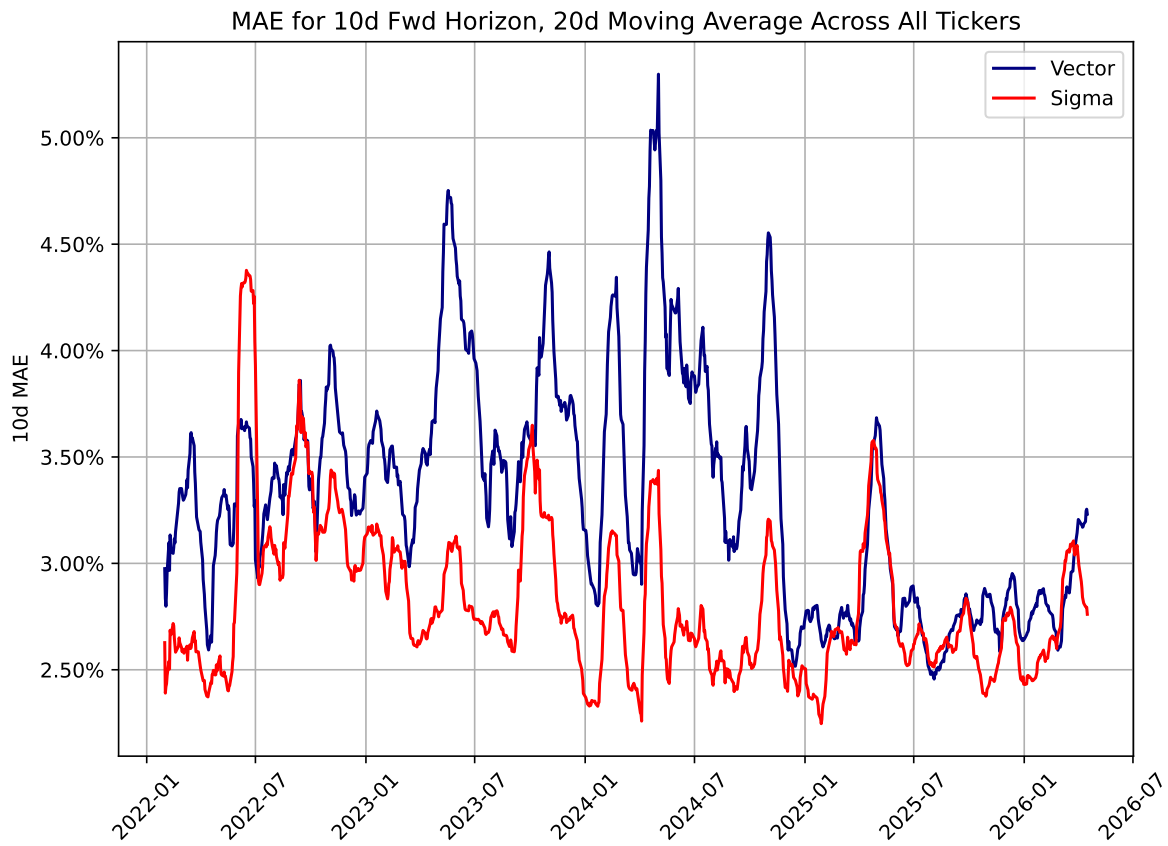


## MAE by Model Date Detail

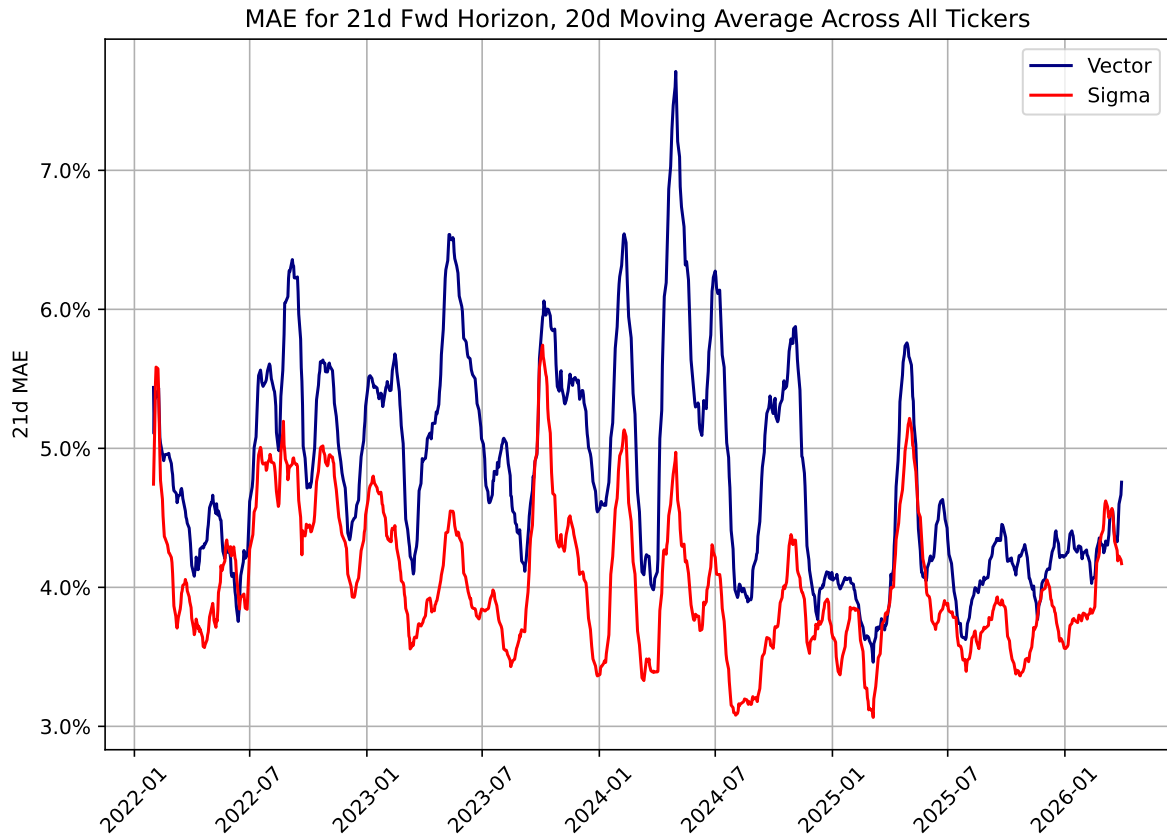
### 1d Horizon



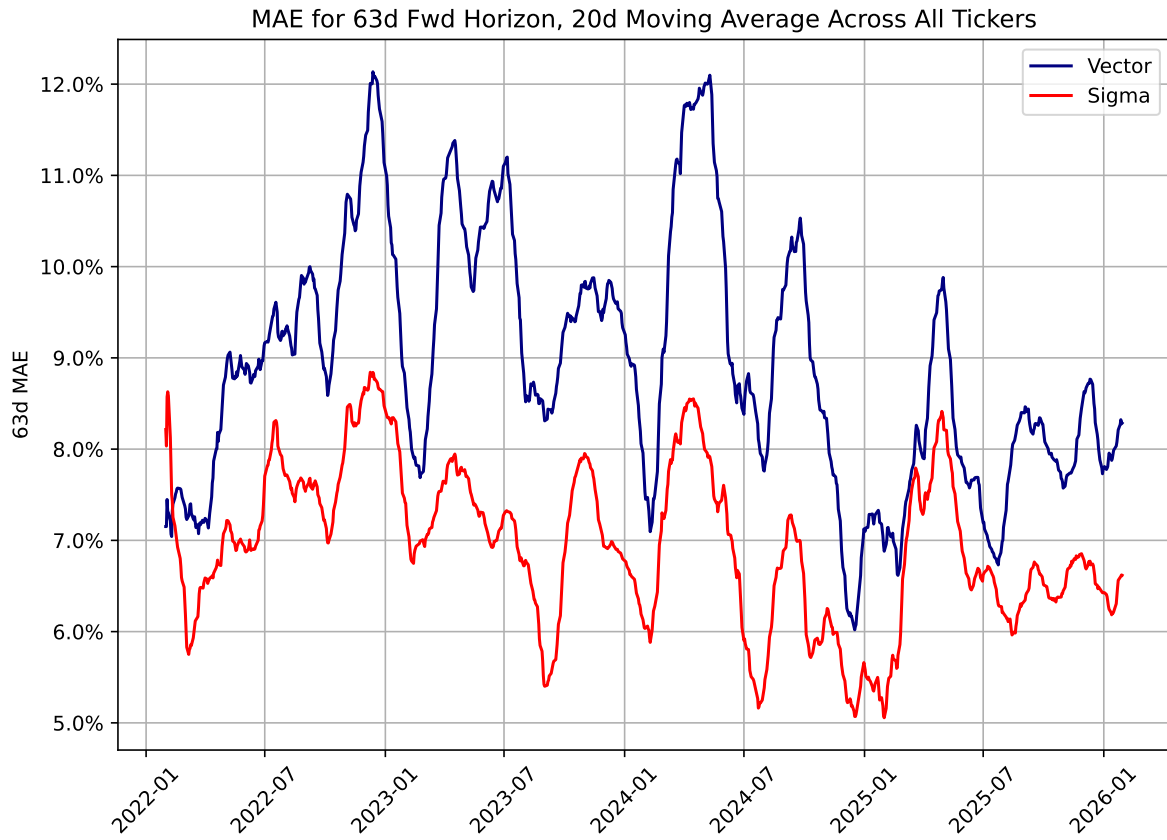
## 10d Horizon



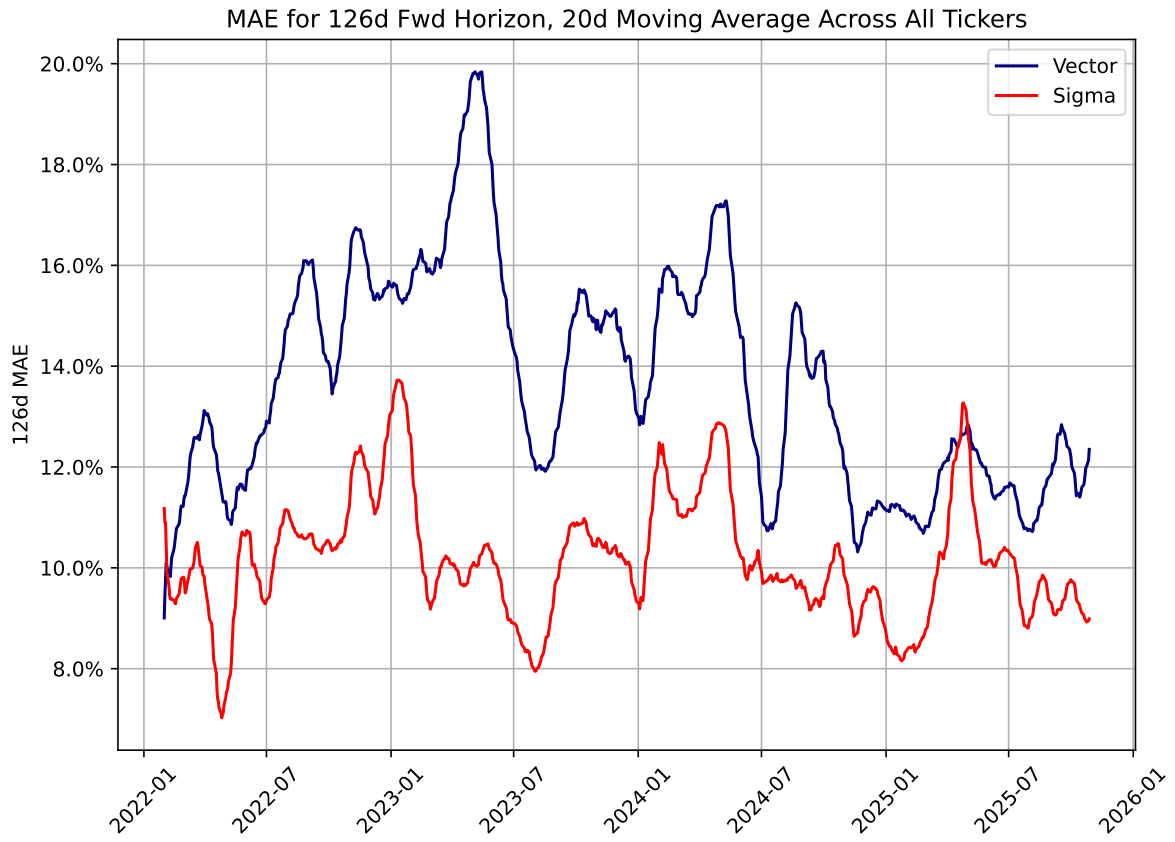
## 21d Horizon



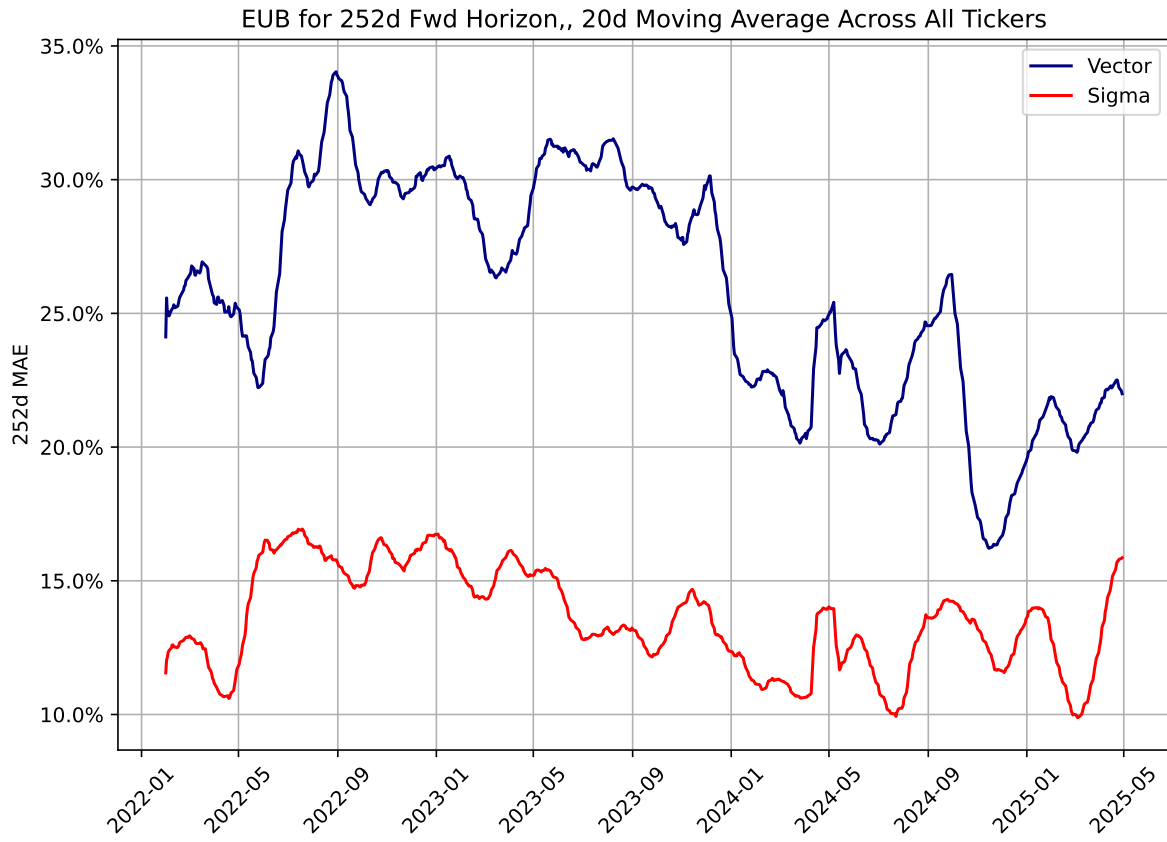
## 63d Horizon



## 126d Horizon



## 252d Horizon



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## Top 30 Tickers By EUB MAE

### All TMD: 1d

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

Period examined: All model dates from 2022-01-31 through 2026-04-29

Horizon	Ticker_V	EUB-MAE_V	Ticker_S	EUB-MAE_S
1.0	AMC	10.71%	AMC	9.58%
1.0	LUMN	6.95%	GME	3.17%
1.0	IEP	6.53%	CYH	2.67%
1.0	TSLA	3.98%	LUMN	2.35%
1.0	ELAN	3.94%	MSTR	2.15%
1.0	CYH	3.84%	GBTC	1.93%
1.0	BHC	2.96%	BHC	1.74%
1.0	NWL	2.81%	IEP	1.52%
1.0	CCL	2.5%	CTLT	1.49%
1.0	GBTC	2.46%	UAA	1.48%
1.0	VNO	2.24%	NWL	1.46%
1.0	CZR	2.2%	TSLA	1.44%
1.0	GNRC	2.1%	VFC	1.43%
1.0	GT	2.04%	CLF	1.4%
1.0	MSTR	1.98%	SIVBQ	1.36%
1.0	T	1.87%	GT	1.36%
1.0	UAA	1.86%	AA	1.35%
1.0	BXP	1.85%	CZR	1.32%
1.0	NVDA	1.83%	CCL	1.32%
1.0	LNC	1.72%	AAP	1.28%
1.0	AVGO	1.71%	GNRC	1.22%
1.0	MOS	1.67%	SBNY	1.22%
1.0	X	1.57%	AMD	1.2%
1.0	AMD	1.56%	ON	1.17%
1.0	ON	1.47%	MU	1.14%
1.0	MSFT	1.45%	LNC	1.11%
1.0	AMAT	1.44%	NVDA	1.1%
1.0	ETRN	1.43%	ELAN	1.09%
1.0	INTC	1.43%	X	1.09%
1.0	AA	1.41%	WDC	1.07%



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## All TMD: 10d

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

Period examined: All model dates from 2022-01-31 through 2026-04-29

Horizon	Ticker_V	EUB-MAE_V	Ticker_S	EUB-MAE_S
10.0	AMC	41.03%	AMC	30.25%
10.0	LUMN	18.71%	GME	9.77%
10.0	IEP	14.0%	LUMN	8.11%
10.0	TSLA	9.88%	CYH	7.34%
10.0	ELAN	9.44%	MSTR	7.09%
10.0	BHC	8.23%	BHC	5.89%
10.0	NWL	8.04%	GBTC	5.5%
10.0	CYH	8.0%	UAA	4.79%
10.0	GBTC	7.41%	SIVBQ	4.75%
10.0	CZR	6.47%	NWL	4.66%
10.0	GT	6.34%	IEP	4.59%
10.0	CCL	6.09%	AA	4.39%
10.0	GNRC	6.01%	TSLA	4.36%
10.0	NVDA	5.86%	CZR	4.33%
10.0	MSTR	5.61%	GT	4.32%
10.0	AMD	5.28%	CLF	4.29%
10.0	LNC	5.16%	VFC	4.24%
10.0	UAA	4.98%	CCL	4.15%
10.0	X	4.81%	SBNY	4.11%
10.0	VNO	4.72%	GNRC	4.08%
10.0	MOS	4.57%	AMD	4.03%
10.0	BXP	4.56%	CTLT	3.94%
10.0	MSFT	4.46%	INTC	3.83%
10.0	INTC	4.39%	AAP	3.81%
10.0	AMAT	4.26%	ON	3.76%
10.0	MU	4.24%	LNC	3.75%
10.0	AVGO	4.19%	MU	3.72%
10.0	CLF	4.17%	NVDA	3.58%
10.0	T	3.98%	X	3.56%
10.0	ON	3.92%	ELAN	3.52%



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## All TMD: 21d

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

Period examined: All model dates from 2022-01-31 through 2026-04-29

Horizon	Ticker_V	EUB-MAE_V	Ticker_S	EUB-MAE_S
21.0	AMC	61.41%	AMC	46.77%
21.0	LUMN	22.18%	GME	14.33%
21.0	IEP	19.36%	CYH	11.26%
21.0	ELAN	14.92%	LUMN	10.98%
21.0	TSLA	13.82%	MSTR	9.9%
21.0	BHC	11.55%	GBTC	7.6%
21.0	CCL	10.72%	BHC	7.51%
21.0	NWL	10.67%	UAA	7.5%
21.0	CYH	10.57%	TSLA	7.3%
21.0	CZR	10.33%	IEP	7.09%
21.0	MSTR	10.12%	SIVBQ	7.04%
21.0	GT	10.01%	CCL	6.91%
21.0	GBTC	9.4%	NWL	6.89%
21.0	NVDA	8.55%	VFC	6.74%
21.0	GNRC	8.55%	CZR	6.41%
21.0	AMD	8.15%	AMD	6.36%
21.0	MOS	7.69%	GT	6.12%
21.0	UAA	7.49%	CLF	6.05%
21.0	VNO	7.15%	GNRC	5.92%
21.0	LNC	7.14%	AA	5.84%
21.0	AMAT	7.09%	ON	5.76%
21.0	X	6.83%	AAP	5.74%
21.0	BXP	6.81%	CTLT	5.63%
21.0	MSFT	6.67%	NVDA	5.45%
21.0	ON	6.57%	SBNY	5.33%
21.0	CLF	6.47%	MU	5.26%
21.0	INTC	6.33%	ELAN	5.25%
21.0	SIVBQ	6.2%	X	5.22%
21.0	MU	6.11%	VNO	5.07%
21.0	AVGO	5.93%	WDC	4.97%



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## All TMD: 63d

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

Period examined: All model dates from 2022-01-31 through 2026-04-29

Horizon	Ticker_V	EUB-MAE_V	Ticker_S	EUB-MAE_S
63.0	AMC	133.0%	AMC	104.76%
63.0	LUMN	50.34%	GME	29.03%
63.0	IEP	37.97%	LUMN	24.37%
63.0	BHC	29.94%	CYH	22.65%
63.0	TSLA	28.86%	BHC	16.51%
63.0	CZR	28.71%	MSTR	15.72%
63.0	ELAN	26.27%	IEP	14.86%
63.0	NWL	23.12%	GBTC	14.3%
63.0	SIVBQ	22.95%	SBNY	14.24%
63.0	CCL	22.8%	UAA	12.74%
63.0	GBTC	22.44%	CCL	12.49%
63.0	GT	21.42%	CTLT	12.36%
63.0	MSTR	20.86%	X	11.87%
63.0	CYH	20.84%	TSLA	11.8%
63.0	VNO	16.45%	CLF	11.77%
63.0	AMD	15.55%	NWL	11.64%
63.0	NVDA	15.46%	GT	11.11%
63.0	MOS	15.19%	AMD	10.93%
63.0	LNC	14.96%	VFC	10.89%
63.0	UAA	14.85%	SIVBQ	10.74%
63.0	X	13.0%	CZR	10.63%
63.0	MSFT	12.85%	GNRC	10.15%
63.0	INTC	12.07%	ELAN	10.14%
63.0	MU	11.95%	NVDA	10.02%
63.0	GNRC	11.81%	AA	10.02%
63.0	AMAT	11.77%	MOS	9.75%
63.0	CLF	11.67%	AAP	9.7%
63.0	VFC	11.66%	META	9.18%
63.0	GME	11.5%	VNO	9.06%
63.0	ON	11.27%	CMA	8.92%



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## All TMD: 126d

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

Period examined: All model dates from 2022-01-31 through 2026-04-29

Horizon	Ticker_V	EUB-MAE_V	Ticker_S	EUB-MAE_S
126.0	AMC	287.53%	AMC	207.33%
126.0	CZR	63.32%	LUMN	46.94%
126.0	LUMN	57.64%	GME	45.37%
126.0	ELAN	46.51%	CYH	36.89%
126.0	BHC	45.22%	MSTR	25.76%
126.0	NWL	43.08%	BHC	24.84%
126.0	TSLA	41.01%	NWL	24.14%
126.0	GT	39.99%	CZR	20.67%
126.0	IEP	38.6%	VFC	19.33%
126.0	CCL	35.82%	CLF	18.57%
126.0	MSTR	32.68%	IEP	18.35%
126.0	CYH	31.36%	GBTC	17.8%
126.0	GBTC	29.55%	UAA	17.79%
126.0	VNO	28.08%	CCL	17.56%
126.0	LNC	25.3%	AAP	17.53%
126.0	NVDA	25.14%	AA	17.15%
126.0	GME	23.16%	CTLT	16.25%
126.0	UAA	22.41%	AMD	15.87%
126.0	INTC	21.82%	GT	15.71%
126.0	BXP	21.01%	ETRN	15.56%
126.0	MOS	20.46%	TSLA	15.51%
126.0	NFLX	20.42%	INTC	14.88%
126.0	VFC	20.04%	BIIB	14.69%
126.0	AMAT	19.8%	ELAN	14.28%
126.0	CLF	19.62%	MOS	14.24%
126.0	X	19.46%	WRK	14.14%
126.0	ADBE	19.0%	KALU	13.96%
126.0	MU	18.93%	LNC	13.79%
126.0	ETRN	18.77%	VNO	13.64%
126.0	AMD	18.54%	EXPE	13.57%



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## All TMD: 252d

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

Period examined: All model dates from 2022-01-31 through 2026-04-29

Horizon	Ticker_V	EUB-MAE_V	Ticker_S	EUB-MAE_S
252.0	AMC	848.37%	AMC	549.03%
252.0	LUMN	99.77%	CYH	74.15%
252.0	CZR	95.84%	GME	51.27%
252.0	BHC	89.37%	BHC	51.19%
252.0	ELAN	79.1%	GBTC	43.01%
252.0	GBTC	77.11%	MSTR	42.72%
252.0	CYH	76.92%	CZR	35.45%
252.0	CDNS	64.61%	LUMN	33.54%
252.0	INTU	64.49%	GT	29.52%
252.0	NWL	61.52%	UAA	29.51%
252.0	GT	60.19%	CLF	28.54%
252.0	CCL	58.6%	AA	27.04%
252.0	AMZN	58.57%	NFLX	25.93%
252.0	NVDA	58.02%	TSLA	24.76%
252.0	TSLA	49.56%	VFC	24.44%
252.0	COST	48.07%	GNRC	23.08%
252.0	MSFT	47.38%	NWL	22.99%
252.0	AMD	46.14%	INTC	22.95%
252.0	UAA	46.02%	AMD	21.66%
252.0	CMG	45.47%	OXY	20.68%
252.0	ON	45.02%	ELAN	20.62%
252.0	VNO	44.48%	PRGO	20.52%
252.0	MOS	44.12%	X	20.5%
252.0	GME	42.28%	CTLT	20.02%
252.0	DHI	41.37%	META	19.91%
252.0	BBY	40.74%	WRK	19.59%
252.0	MU	39.99%	AVGO	19.38%
252.0	AZO	37.09%	LEN	19.11%
252.0	CLF	36.68%	VNO	18.88%
252.0	LNC	36.65%	CCL	18.17%



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## Bottom 30 Tickers By EUB MAE

### All TMD: 1d

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

Period examined: All model dates from 2022-01-31 through 2026-04-29

Horizon	Ticker_V	EUB-MAE_V	Ticker_S	EUB-MAE_S
1.0	VCSH	0.14%	VCSH	0.07%
1.0	MUB	0.15%	MUB	0.09%
1.0	LQD	0.27%	HYG	0.16%
1.0	HYG	0.31%	LQD	0.2%
1.0	FRA	0.38%	EMB	0.22%
1.0	GLD	0.46%	FRA	0.29%
1.0	NVS	0.48%	GLD	0.36%
1.0	PEP	0.51%	TLT	0.37%
1.0	HON	0.53%	SPY	0.38%
1.0	TMUS	0.54%	NVS	0.41%
1.0	MSI	0.54%	PEP	0.43%
1.0	MRK	0.54%	HON	0.47%
1.0	SNY	0.55%	VICI	0.49%
1.0	TLT	0.55%	POST	0.49%
1.0	HD	0.56%	VZ	0.49%
1.0	GILD	0.56%	TMUS	0.49%
1.0	POST	0.56%	MRK	0.5%
1.0	BUD	0.57%	ABBV	0.5%
1.0	MNST	0.58%	MSI	0.5%
1.0	ABBV	0.6%	HSBC	0.5%
1.0	AMGN	0.61%	KHC	0.51%
1.0	GWG	0.61%	COST	0.51%
1.0	ORLY	0.61%	MNST	0.51%
1.0	XOM	0.62%	ORLY	0.52%
1.0	HCA	0.63%	GWG	0.52%
1.0	VICI	0.63%	AZN	0.52%
1.0	AZN	0.63%	CSCO	0.52%
1.0	SBUX	0.64%	AZO	0.53%
1.0	BALL	0.65%	AMGN	0.53%
1.0	COST	0.67%	QQQ	0.53%



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## All TMD: 10d

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

Period examined: All model dates from 2022-01-31 through 2026-04-29

Horizon	Ticker_V	EUB-MAE_V	Ticker_S	EUB-MAE_S
10.0	VCSH	0.39%	VCSH	0.21%
10.0	MUB	0.52%	MUB	0.32%
10.0	LQD	0.71%	HYG	0.56%
10.0	HYG	0.93%	LQD	0.67%
10.0	FRA	0.99%	EMB	0.71%
10.0	GLD	1.31%	FRA	0.92%
10.0	PEP	1.42%	SPY	1.17%
10.0	POST	1.45%	GLD	1.22%
10.0	NVS	1.46%	TLT	1.28%
10.0	TLT	1.48%	PEP	1.33%
10.0	GILD	1.49%	POST	1.47%
10.0	HD	1.57%	NVS	1.49%
10.0	SNY	1.61%	VZ	1.53%
10.0	MSI	1.63%	ORLY	1.55%
10.0	HON	1.64%	VICI	1.56%
10.0	VICI	1.67%	QQQ	1.57%
10.0	XOM	1.69%	HON	1.57%
10.0	SPY	1.69%	CSCO	1.61%
10.0	ABBV	1.7%	ACGL	1.62%
10.0	BUD	1.73%	ABBV	1.63%
10.0	VZ	1.74%	MSI	1.65%
10.0	ORLY	1.75%	COST	1.66%
10.0	TMUS	1.75%	MRK	1.66%
10.0	HCA	1.77%	TMUS	1.67%
10.0	GWG	1.77%	CAH	1.68%
10.0	AMGN	1.78%	GILD	1.68%
10.0	BALL	1.8%	T	1.68%
10.0	EMB	1.85%	BMJ	1.73%
10.0	MNST	1.87%	HD	1.74%
10.0	SBUX	1.88%	AMGN	1.74%



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## All TMD: 21d

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

Period examined: All model dates from 2022-01-31 through 2026-04-29

Horizon	Ticker_V	EUB-MAE_V	Ticker_S	EUB-MAE_S
21.0	VCSH	0.59%	VCSH	0.31%
21.0	MUB	0.75%	MUB	0.41%
21.0	LQD	1.01%	HYG	0.79%
21.0	FRA	1.38%	LQD	0.88%
21.0	HYG	1.61%	EMB	0.96%
21.0	PEP	2.0%	FRA	1.32%
21.0	NVS	2.11%	SPY	1.61%
21.0	GLD	2.2%	GLD	1.65%
21.0	GILD	2.27%	TLT	1.72%
21.0	TLT	2.3%	PEP	1.79%
21.0	BUD	2.31%	NVS	2.14%
21.0	POST	2.35%	QQQ	2.22%
21.0	SNY	2.4%	HSBC	2.22%
21.0	HD	2.43%	HON	2.24%
21.0	MSI	2.45%	VZ	2.33%
21.0	VZ	2.49%	POST	2.34%
21.0	HON	2.53%	ACGL	2.34%
21.0	VICI	2.55%	CAH	2.34%
21.0	HSBC	2.56%	MSI	2.38%
21.0	SPY	2.63%	TMUS	2.39%
21.0	ACGL	2.67%	VICI	2.4%
21.0	XOM	2.68%	GILD	2.42%
21.0	ORLY	2.7%	CSCO	2.43%
21.0	TMUS	2.72%	T	2.47%
21.0	MNST	2.73%	ORLY	2.47%
21.0	BAC	2.74%	KHC	2.52%
21.0	FRCB	2.77%	MRK	2.53%
21.0	ABBV	2.78%	COST	2.53%
21.0	GWV	2.8%	ABBV	2.54%
21.0	EMB	2.83%	MNST	2.57%



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## All TMD: 63d

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

Period examined: All model dates from 2022-01-31 through 2026-04-29

Horizon	Ticker_V	EUB-MAE_V	Ticker_S	EUB-MAE_S
63.0	VCSH	0.99%	VCSH	0.58%
63.0	MUB	1.18%	MUB	0.85%
63.0	LQD	1.75%	HYG	1.48%
63.0	FRA	2.46%	LQD	1.67%
63.0	GLD	3.38%	EMB	1.94%
63.0	PEP	3.39%	FRA	2.11%
63.0	HYG	3.75%	SPY	2.71%
63.0	BUD	3.85%	GLD	2.76%
63.0	NVS	4.03%	PEP	3.03%
63.0	VZ	4.1%	TLT	3.19%
63.0	ZTS	4.26%	COST	3.44%
63.0	TLT	4.27%	NVS	3.54%
63.0	HD	4.34%	VICI	3.78%
63.0	GILD	4.36%	HON	3.81%
63.0	POST	4.38%	QQQ	4.06%
63.0	TMUS	4.45%	VZ	4.09%
63.0	MSI	4.46%	AZO	4.13%
63.0	SNY	4.47%	MRK	4.15%
63.0	ORLY	4.58%	POST	4.19%
63.0	HON	4.61%	HD	4.34%
63.0	AMGN	4.78%	ORLY	4.35%
63.0	CMCSA	4.8%	HSBC	4.36%
63.0	VICI	4.88%	TMUS	4.36%
63.0	JAZZ	4.94%	ACGL	4.43%
63.0	XOM	4.95%	AMGN	4.48%
63.0	HLT	4.98%	MSI	4.48%
63.0	EMB	5.02%	CAH	4.51%
63.0	BAC	5.07%	JPM	4.53%
63.0	SBNY	5.11%	GILD	4.56%
63.0	HCA	5.14%	ZTS	4.62%



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## All TMD: 126d

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

Period examined: All model dates from 2022-01-31 through 2026-04-29

Horizon	Ticker_V	EUB-MAE_V	Ticker_S	EUB-MAE_S
126.0	VCSH	0.99%	VCSH	0.7%
126.0	MUB	1.4%	MUB	1.25%
126.0	LQD	1.72%	HYG	1.75%
126.0	FRA	3.52%	LQD	1.87%
126.0	PEP	4.47%	EMB	2.27%
126.0	ABBV	5.27%	FRA	3.16%
126.0	TMUS	5.31%	PEP	3.77%
126.0	ZTS	5.33%	SPY	4.26%
126.0	NVS	5.73%	GLD	4.54%
126.0	NAVI	5.79%	TLT	4.69%
126.0	GLD	5.85%	HON	4.7%
126.0	SPY	5.91%	MNST	4.81%
126.0	AMGN	6.07%	ABBV	5.05%
126.0	HLT	6.18%	QQQ	5.37%
126.0	EMB	6.25%	KHC	5.37%
126.0	ORLY	6.28%	AMGN	5.38%
126.0	VZ	6.33%	VICI	5.5%
126.0	MNST	6.33%	TMUS	5.5%
126.0	VICI	6.43%	AZO	5.53%
126.0	POST	6.63%	ORLY	5.55%
126.0	BALL	6.67%	NVS	5.6%
126.0	SNY	6.87%	VZ	5.62%
126.0	BUD	6.97%	CSCO	5.92%
126.0	HYG	7.08%	XOM	5.92%
126.0	XOM	7.09%	BUD	6.01%
126.0	HON	7.09%	ZTS	6.02%
126.0	MSI	7.24%	JPM	6.08%
126.0	JPM	7.33%	HD	6.16%
126.0	BMY	7.37%	PCG	6.2%
126.0	TFC	7.56%	CVS	6.31%



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## All TMD: 252d

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

Period examined: All model dates from 2022-01-31 through 2026-04-29

Horizon	Ticker_V	EUB-MAE_V	Ticker_S	EUB-MAE_S
252.0	VCSH	1.63%	VCSH	0.88%
252.0	MUB	2.86%	MUB	1.56%
252.0	LQD	4.28%	HYG	2.93%
252.0	FRA	5.79%	EMB	3.9%
252.0	NVS	6.22%	LQD	4.01%
252.0	BUD	6.99%	FRA	4.31%
252.0	PEP	7.3%	PEP	5.19%
252.0	VICI	7.98%	GLD	5.2%
252.0	ZTS	8.22%	BMY	5.78%
252.0	POST	8.46%	NVS	5.79%
252.0	CMCSA	8.92%	VICI	6.12%
252.0	MRK	9.11%	HON	6.76%
252.0	GLD	9.19%	AMGN	7.03%
252.0	VZ	9.63%	ABBV	7.25%
252.0	AMGN	9.65%	SPY	7.39%
252.0	BALL	9.69%	TLT	7.79%
252.0	IRM	9.74%	MSI	7.81%
252.0	EMB	9.76%	VZ	7.83%
252.0	SLV	10.35%	AZN	7.84%
252.0	HYG	10.67%	HD	8.14%
252.0	MSI	10.98%	TMUS	8.21%
252.0	NAVI	11.14%	AZO	8.39%
252.0	SNY	11.14%	HSBC	8.51%
252.0	XOM	11.49%	AAPL	8.52%
252.0	LW	11.53%	MRK	8.6%
252.0	CNC	11.82%	POST	8.6%
252.0	GILD	11.86%	IRM	8.8%
252.0	HLT	11.94%	BUD	8.85%
252.0	CVS	12.22%	GSK	8.88%
252.0	KHC	12.28%	UNH	8.91%



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## 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.

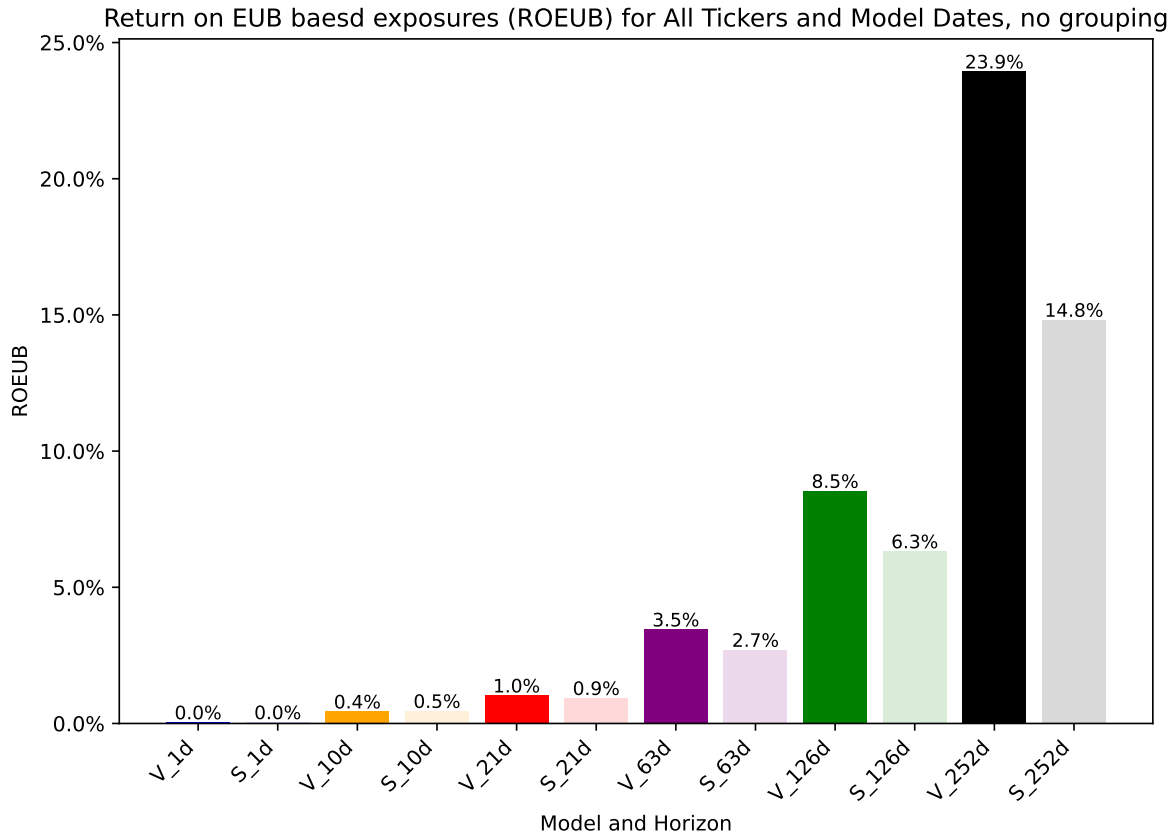
Following each bar chart comparison of ROEUB is a table detailing the alpha (intercept) and slope (beta) of Vector Model EUB based exposure performance to Sigma EUB exposure based performance. The beta arguably provides some indication of the leverage of the Vector Model based exposures and the alpha 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 2026-04-29



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

	1d	10d	21d	63d	126d	252d
intercept	-0.00%	0.00%	0.09%	0.31%	0.83%	3.72%
intercept_p_value	34.24%	80.66%	0.00%	0.00%	0.00%	0.00%
slope	98.32%	95.05%	100.55%	116.35%	121.92%	136.40%
slope_p_value	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

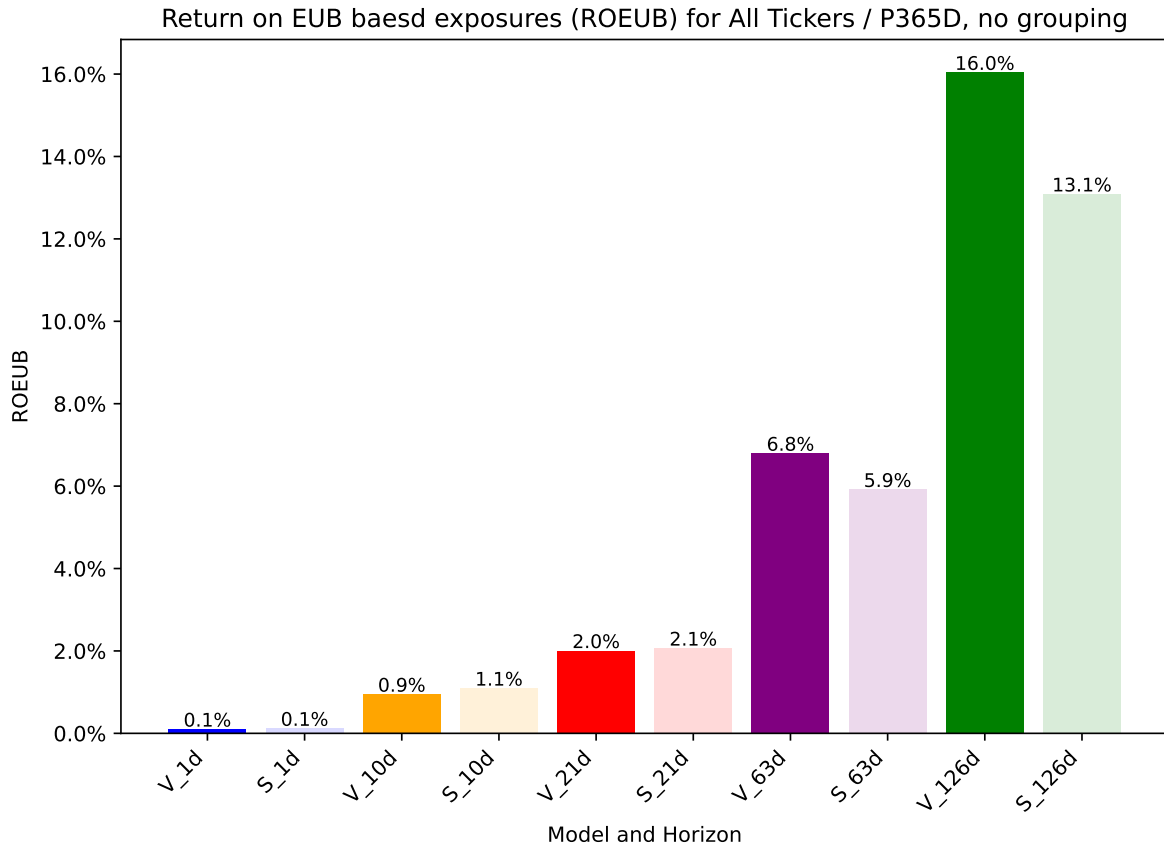
Same as above, but averaged by Ticker across Model Dates:

	1d	10d	21d	63d	126d	252d
intercept	-0.00%	-0.02%	-0.00%	-0.16%	-0.82%	-2.82%
intercept_p_value	50.83%	19.82%	14.01%	11.09%	7.29%	10.35%
slope	99.81%	98.59%	105.05%	119.16%	127.95%	150.05%
slope_p_value	0.00%	0.00%	0.00%	0.00%	0.00%	0.36%



## Prior 365 Calendar Days (P365D)

Period examined: All model dates from 2025-05-01 through 2026-04-29



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

	1d	10d	21d	63d	126d
intercept	-0.01%	0.01%	0.09%	0.37%	0.80%
intercept_p_value	18.80%	56.85%	0.09%	0.00%	0.00%
slope	91.67%	85.67%	92.81%	108.57%	116.42%
slope_p_value	0.00%	0.00%	0.00%	0.00%	0.00%

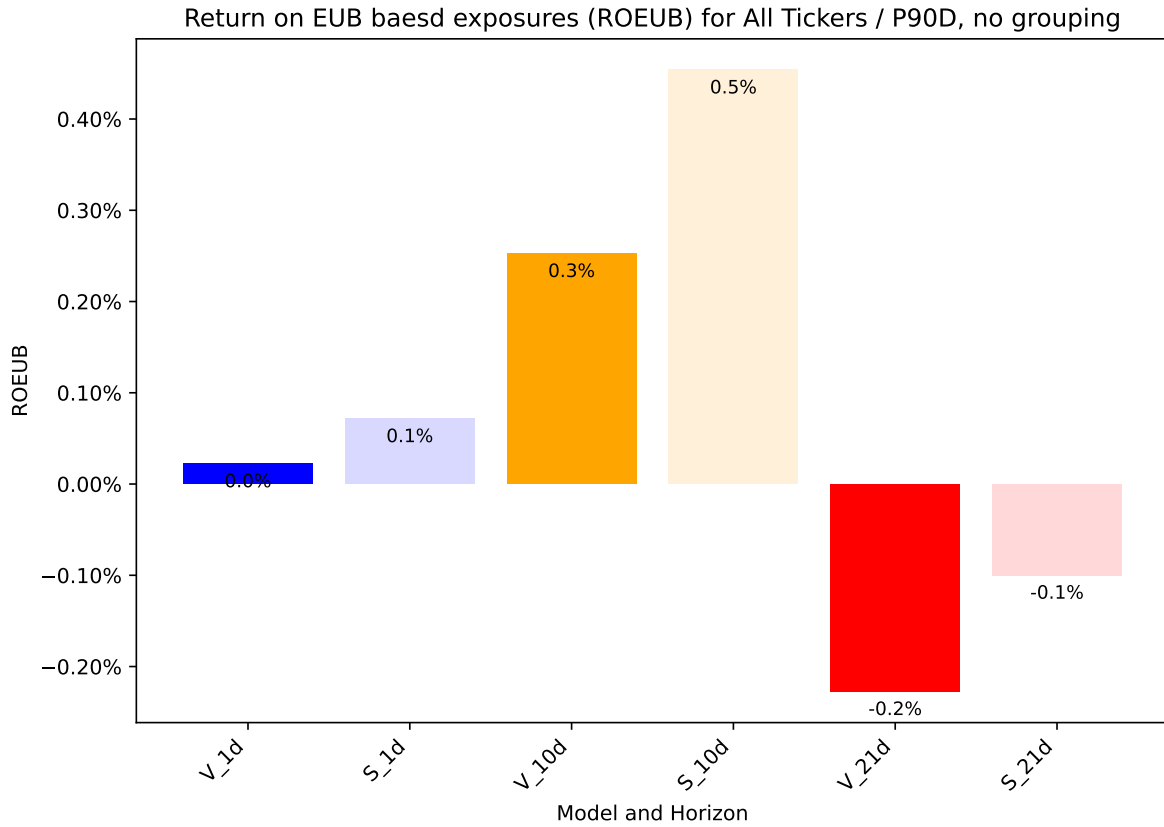
Same as above, but averaged by Ticker across Model Dates:

	1d	10d	21d	63d	126d
intercept	-0.00%	-0.01%	0.03%	-0.20%	-0.77%
intercept_p_value	45.29%	25.59%	15.98%	17.41%	15.66%
slope	94.98%	93.46%	99.92%	113.67%	127.24%
slope_p_value	0.00%	0.00%	0.00%	0.00%	0.00%



## Prior 90 Calendar Days (P90D)

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



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

	1d	10d	21d
intercept	-0.04%	-0.12%	-0.14%
intercept_p_value	0.89%	0.60%	3.65%
slope	87.22%	81.86%	88.05%
slope_p_value	0.00%	0.00%	0.00%

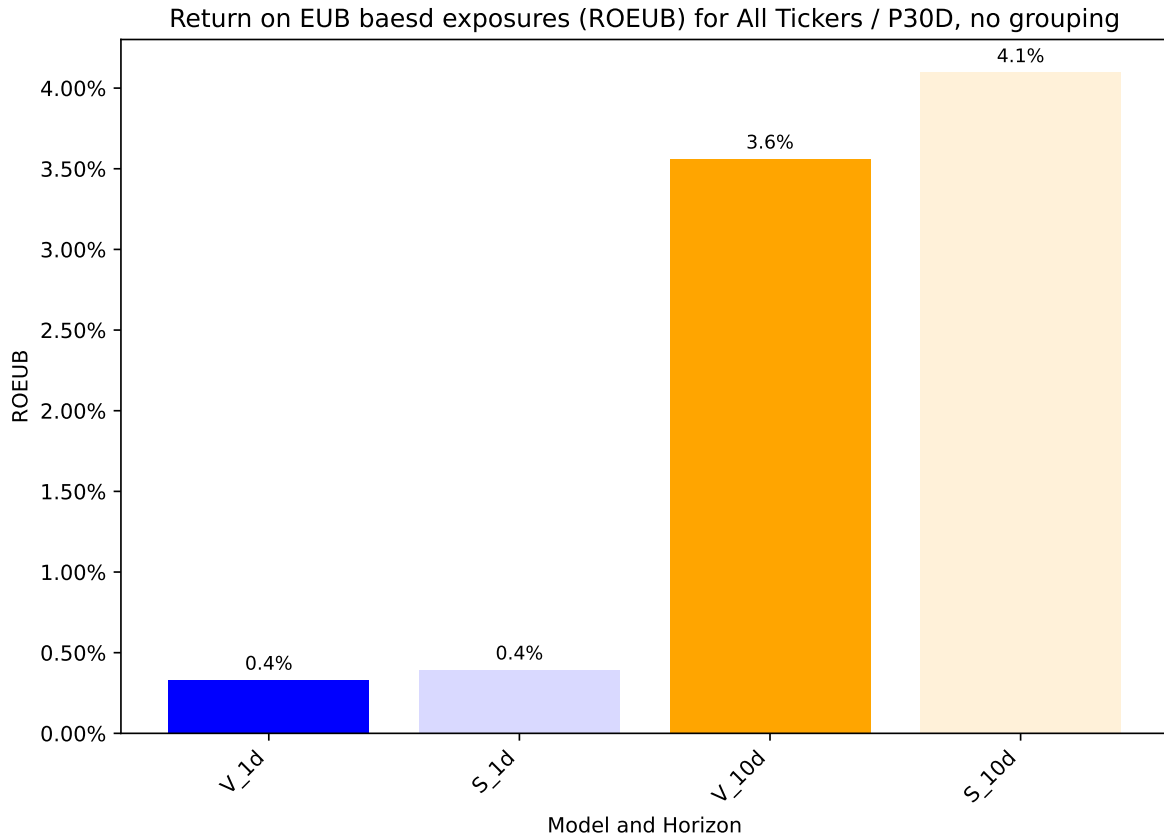
Same as above, but averaged by Ticker across Model Dates:

	1d	10d	21d
intercept	-0.02%	-0.03%	0.04%
intercept_p_value	45.45%	27.26%	22.67%
slope	93.94%	93.32%	99.18%
slope_p_value	0.00%	0.00%	0.00%



## Prior 30 Calendar Days (P30D)

Period examined: All model dates from 2026-04-01 through 2026-04-29



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

	1d	10d
intercept	-0.01%	0.38%
intercept_p_value	68.65%	0.20%
slope	86.62%	77.75%
slope_p_value	0.00%	0.00%

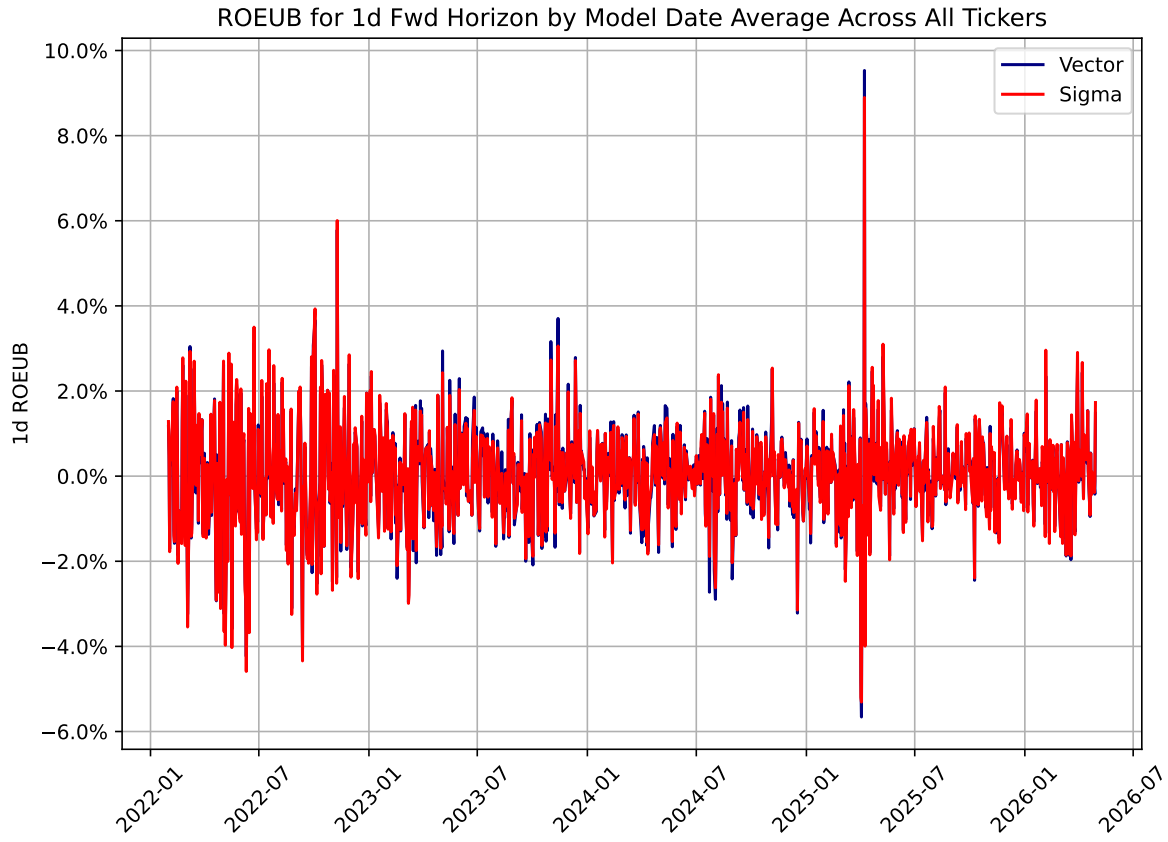
Same as above, but averaged by Ticker across Model Dates:

	1d	10d
intercept	0.03%	-0.15%
intercept_p_value	47.95%	47.14%
slope	93.17%	95.73%
slope_p_value	0.00%	0.33%

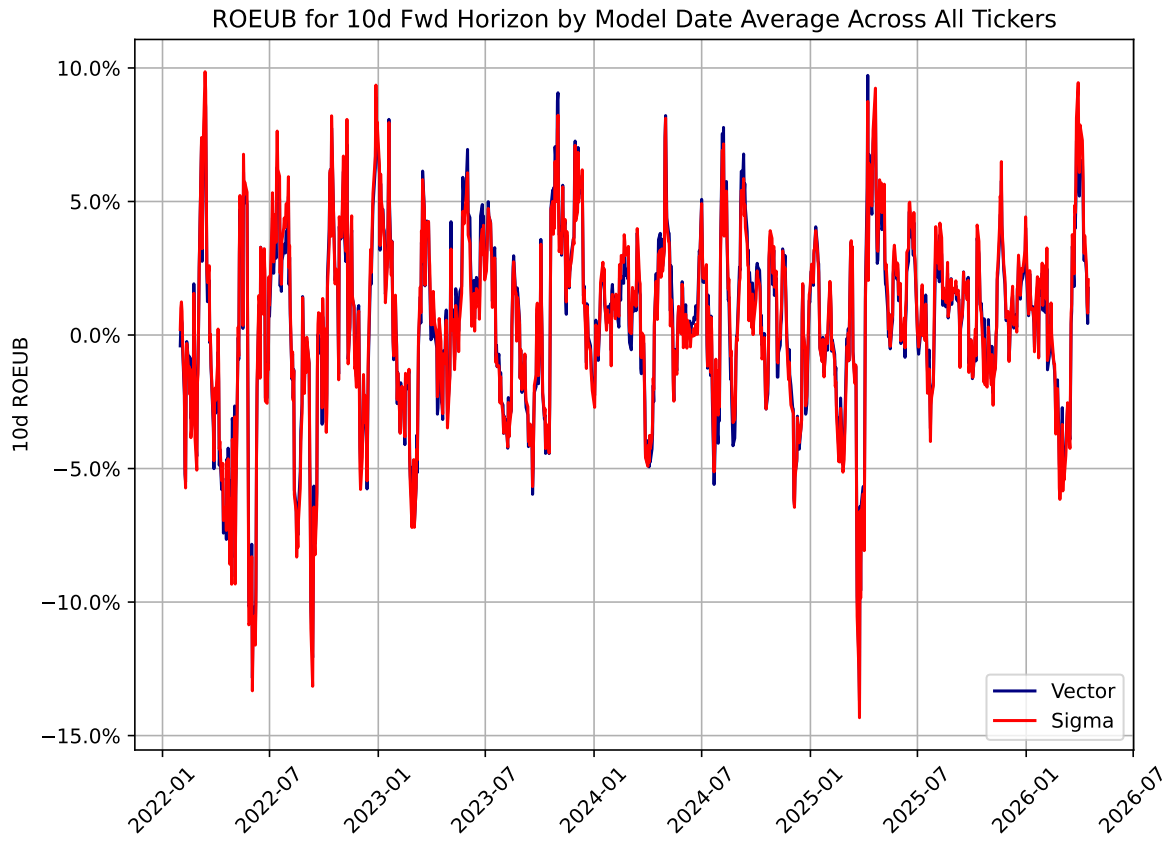


## ROEUB by Model Date Detail

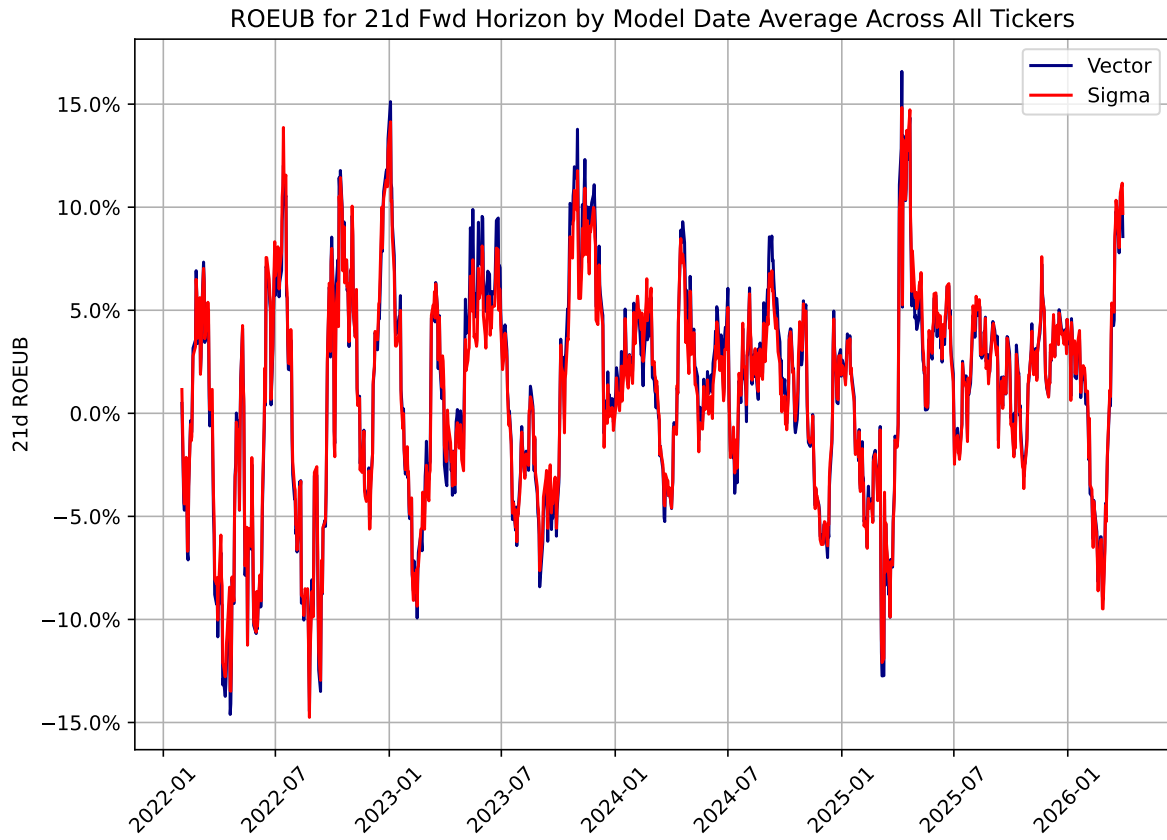
### 1d Horizon



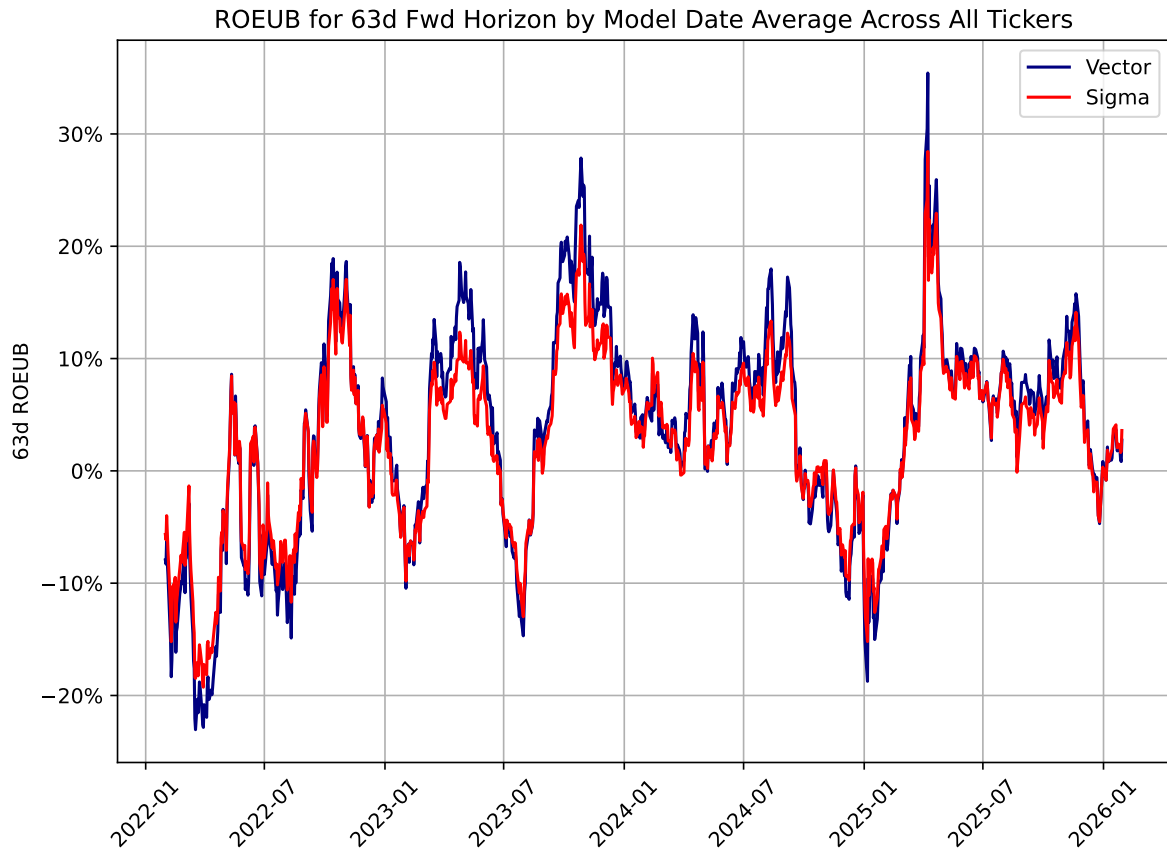
## 10d Horizon



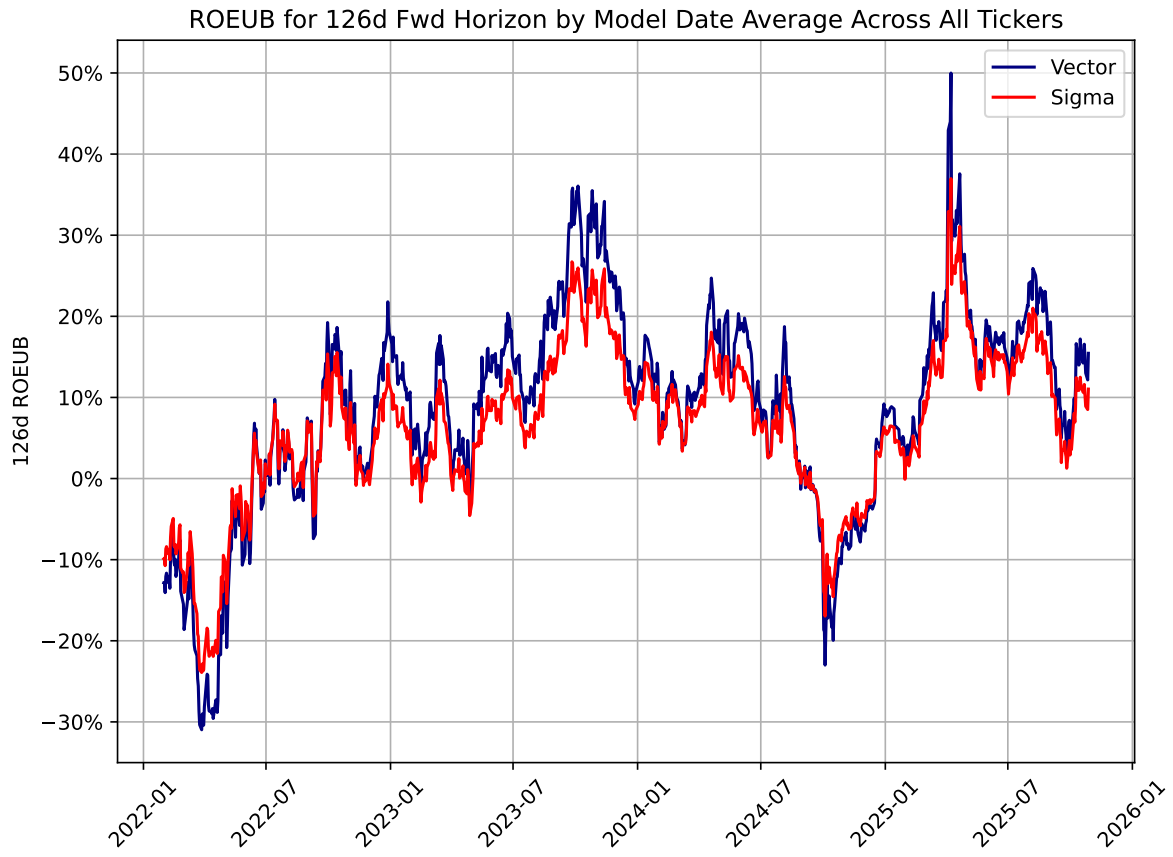
## 21d Horizon



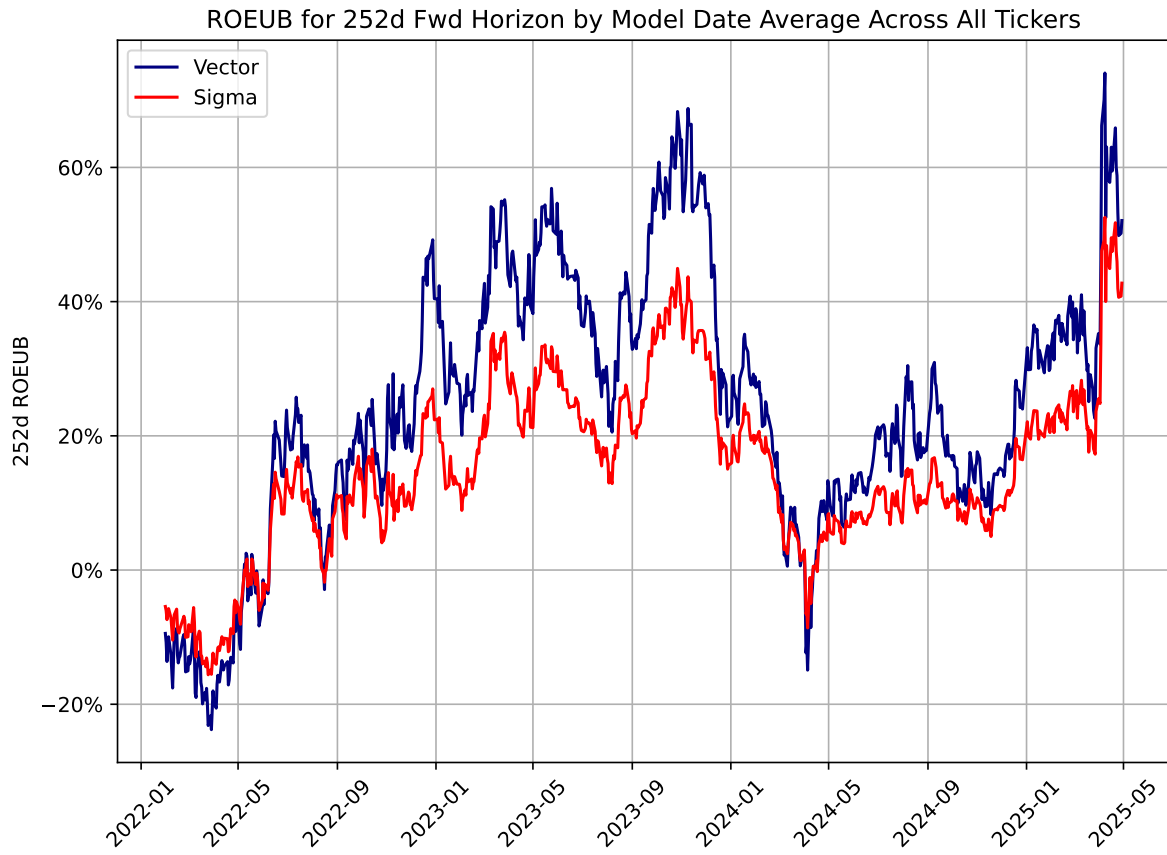
## 63d Horizon



## 126d Horizon



## 252d Horizon



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## Top 30 Tickers By ROEUB

### All TMD: 1d

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

Period examined: All model dates from 2022-01-31 through 2026-04-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
1.0	AVGO	0.32%	MSTR	0.31%
1.0	TSLA	0.3%	WDC	0.25%
1.0	NVDA	0.28%	NVDA	0.25%
1.0	CCL	0.25%	VST	0.24%
1.0	VST	0.25%	MU	0.23%
1.0	AMD	0.25%	AVGO	0.22%
1.0	X	0.22%	PWR	0.21%
1.0	GE	0.21%	TEVA	0.17%
1.0	PWR	0.21%	GME	0.17%
1.0	MU	0.2%	X	0.17%
1.0	LLY	0.2%	AMD	0.17%
1.0	AMAT	0.18%	TRGP	0.16%
1.0	GBTC	0.18%	GBTC	0.15%
1.0	B	0.15%	GE	0.15%
1.0	TRGP	0.15%	LLY	0.15%
1.0	WDC	0.14%	SLV	0.14%
1.0	PHM	0.13%	AMAT	0.14%
1.0	CAH	0.13%	CAH	0.14%
1.0	LVS	0.13%	THC	0.12%
1.0	MSFT	0.12%	GOOGL	0.12%
1.0	TDG	0.12%	INTC	0.12%
1.0	THC	0.12%	ETRN	0.12%
1.0	ON	0.11%	IRM	0.11%
1.0	DHI	0.11%	NFLX	0.11%
1.0	SLV	0.1%	ON	0.11%
1.0	CDNS	0.1%	META	0.11%
1.0	FCX	0.1%	GS	0.11%
1.0	COST	0.1%	PHM	0.1%
1.0	IRM	0.1%	HSBC	0.1%
1.0	JAZZ	0.09%	CSTM	0.1%



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## All TMD: 10d

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

Period examined: All model dates from 2022-01-31 through 2026-04-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
10.0	NVDA	3.73%	MSTR	3.17%
10.0	AVGO	3.29%	NVDA	2.51%
10.0	TSLA	3.03%	WDC	2.51%
10.0	VST	2.41%	VST	2.32%
10.0	CCL	2.15%	MU	2.23%
10.0	MU	2.0%	AVGO	2.21%
10.0	LLY	1.98%	PWR	1.93%
10.0	AMD	1.92%	TEVA	1.7%
10.0	AMAT	1.86%	X	1.58%
10.0	PWR	1.8%	TRGP	1.5%
10.0	GBTC	1.71%	AMD	1.49%
10.0	GE	1.64%	GE	1.47%
10.0	X	1.5%	LLY	1.47%
10.0	MSTR	1.47%	GME	1.45%
10.0	CAH	1.39%	CAH	1.42%
10.0	ETRN	1.32%	GBTC	1.41%
10.0	MSFT	1.31%	ETRN	1.41%
10.0	WDC	1.31%	SLV	1.38%
10.0	SLV	1.25%	AMAT	1.34%
10.0	GS	1.24%	META	1.3%
10.0	QQQ	1.11%	THC	1.21%
10.0	CDNS	1.11%	NFLX	1.21%
10.0	TRGP	1.1%	IRM	1.1%
10.0	HLT	1.1%	PHM	1.07%
10.0	GME	1.08%	GS	1.05%
10.0	PHM	1.07%	ORCL	1.04%
10.0	TEVA	1.05%	GOOGL	1.04%
10.0	B	1.03%	INTC	1.04%
10.0	THC	1.02%	TSLA	0.98%
10.0	DHI	1.02%	HSBC	0.98%



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## All TMD: 21d

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

Period examined: All model dates from 2022-01-31 through 2026-04-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
21.0	NVDA	8.79%	MSTR	6.88%
21.0	TSLA	7.16%	NVDA	5.35%
21.0	AVGO	5.95%	WDC	5.21%
21.0	VST	5.41%	VST	5.0%
21.0	AMAT	5.32%	AVGO	4.46%
21.0	CCL	5.16%	MU	4.45%
21.0	MU	4.71%	PWR	4.02%
21.0	GBTC	4.27%	TEVA	3.63%
21.0	PWR	4.18%	ETRN	3.5%
21.0	AMD	4.13%	GE	3.24%
21.0	ETRN	3.92%	X	3.17%
21.0	LLY	3.9%	TRGP	3.15%
21.0	MSTR	3.8%	LLY	3.1%
21.0	GE	3.67%	CAH	3.08%
21.0	CAH	3.65%	GBTC	3.04%
21.0	X	3.17%	AMD	3.0%
21.0	WDC	2.93%	SLV	2.84%
21.0	PHM	2.87%	AMAT	2.81%
21.0	DHI	2.68%	META	2.8%
21.0	AZO	2.68%	NFLX	2.74%
21.0	GS	2.66%	THC	2.59%
21.0	SLV	2.66%	PHM	2.25%
21.0	TRGP	2.63%	GME	2.25%
21.0	HLT	2.48%	IRM	2.25%
21.0	CDNS	2.44%	TSLA	2.25%
21.0	MSFT	2.43%	GS	2.24%
21.0	TEVA	2.33%	GOOGL	2.16%
21.0	CSTM	2.33%	ORCL	2.15%
21.0	QQQ	2.31%	HSBC	2.06%
21.0	JPM	2.22%	GWV	2.05%



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## All TMD: 63d

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

Period examined: All model dates from 2022-01-31 through 2026-04-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
63.0	NVDA	29.7%	MSTR	19.86%
63.0	AMAT	20.3%	NVDA	17.71%
63.0	VST	18.65%	WDC	17.29%
63.0	MSTR	18.6%	VST	16.5%
63.0	MU	17.87%	MU	14.87%
63.0	CCL	16.28%	AVGO	13.34%
63.0	TSLA	14.72%	PWR	11.32%
63.0	GBTC	13.98%	GE	10.68%
63.0	GE	13.84%	TEVA	10.63%
63.0	AVGO	13.77%	ETRN	10.28%
63.0	CAH	13.62%	GBTC	10.23%
63.0	PWR	13.3%	META	9.83%
63.0	AMD	12.77%	CAH	9.49%
63.0	LLY	12.7%	LLY	9.46%
63.0	DHI	12.02%	SLV	9.1%
63.0	WDC	11.94%	NFLX	9.03%
63.0	PHM	11.13%	TRGP	8.98%
63.0	TRGP	9.74%	AMAT	8.61%
63.0	SLV	9.61%	THC	8.51%
63.0	ETRN	9.47%	AMD	8.02%
63.0	THC	9.19%	PHM	7.91%
63.0	GOOGL	8.68%	GS	6.92%
63.0	GS	8.31%	GOOGL	6.87%
63.0	AZO	8.22%	CCL	6.68%
63.0	TEVA	8.17%	ORCL	6.65%
63.0	QQQ	8.06%	HSBC	6.63%
63.0	GLD	7.94%	GLD	6.26%
63.0	X	7.66%	GILD	6.11%
63.0	B	7.6%	B	6.1%
63.0	HLT	7.57%	TSLA	5.94%



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## All TMD: 126d

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

Period examined: All model dates from 2022-01-31 through 2026-04-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
126.0	NVDA	71.08%	MSTR	51.15%
126.0	MU	51.13%	NVDA	44.77%
126.0	AMAT	45.01%	WDC	40.81%
126.0	VST	44.77%	VST	36.89%
126.0	GBTC	42.68%	MU	35.79%
126.0	MSTR	36.07%	AVGO	30.34%
126.0	GE	34.72%	GBTC	30.11%
126.0	AMD	34.52%	GE	25.9%
126.0	CCL	31.58%	META	23.74%
126.0	WDC	30.52%	NFLX	23.04%
126.0	TSLA	30.42%	TEVA	22.66%
126.0	NFLX	30.35%	PWR	22.17%
126.0	AVGO	30.28%	THC	20.82%
126.0	PHM	27.93%	CAH	20.24%
126.0	CAH	27.9%	SLV	20.14%
126.0	PWR	26.7%	LLY	19.99%
126.0	THC	26.39%	AMD	19.15%
126.0	DHI	25.92%	AMAT	18.75%
126.0	LLY	24.07%	ETRN	18.49%
126.0	ORCL	23.02%	TRGP	18.09%
126.0	QQQ	22.66%	PHM	17.62%
126.0	SLV	21.23%	ORCL	16.64%
126.0	GOOGL	21.06%	GOOGL	16.28%
126.0	B	20.88%	GS	15.44%
126.0	AMZN	20.58%	B	15.24%
126.0	GS	20.14%	CCL	14.38%
126.0	TRGP	19.61%	HSBC	13.79%
126.0	JPM	19.57%	GLD	13.46%
126.0	AZO	18.59%	JPM	13.18%
126.0	COST	18.41%	HCA	12.84%



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## All TMD: 252d

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

Period examined: All model dates from 2022-01-31 through 2026-04-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
252.0	NVDA	244.13%	MSTR	175.05%
252.0	MSTR	191.89%	NVDA	121.14%
252.0	GBTC	152.88%	VST	109.27%
252.0	VST	115.88%	GBTC	95.86%
252.0	NFLX	115.41%	WDC	79.54%
252.0	MU	112.09%	AVGO	76.63%
252.0	AVGO	107.53%	MU	68.25%
252.0	GE	100.63%	META	65.44%
252.0	PWR	90.13%	GE	61.82%
252.0	AMAT	88.14%	NFLX	59.69%
252.0	CCL	86.24%	THC	48.84%
252.0	AMD	79.12%	PWR	47.27%
252.0	WDC	77.02%	PHM	43.32%
252.0	AMZN	74.47%	LLY	42.63%
252.0	LLY	74.27%	TEVA	41.15%
252.0	PHM	72.67%	TRGP	40.22%
252.0	CDNS	72.16%	CAH	39.5%
252.0	THC	68.55%	AMD	38.44%
252.0	QQQ	67.41%	CCL	37.88%
252.0	DHI	64.53%	ORCL	37.55%
252.0	META	64.51%	SLV	37.12%
252.0	COST	61.93%	ETRN	35.78%
252.0	ORLY	61.21%	AMAT	35.49%
252.0	GOOGL	60.88%	GS	32.85%
252.0	ORCL	58.3%	GOOGL	32.47%
252.0	JPM	57.69%	JPM	31.38%
252.0	MSFT	55.33%	TDG	30.62%
252.0	ISRG	54.63%	HSBC	30.31%
252.0	CAH	51.75%	ISRG	29.18%
252.0	AZO	50.13%	GLD	29.07%



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## P365D: 1d

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

Period examined: All model dates from 2025-05-01 through 2026-04-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
1.0	AMD	0.78%	WDC	1.0%
1.0	LUMN	0.72%	MU	0.83%
1.0	AMAT	0.71%	X	0.81%
1.0	MU	0.67%	INTC	0.71%
1.0	WDC	0.53%	AMD	0.59%
1.0	AVGO	0.49%	LUMN	0.49%
1.0	X	0.47%	CSTM	0.47%
1.0	INTC	0.41%	AA	0.44%
1.0	CSTM	0.4%	AMAT	0.43%
1.0	PWR	0.4%	ON	0.43%
1.0	LVS	0.39%	KALU	0.41%
1.0	CLF	0.38%	SLV	0.4%
1.0	AA	0.36%	ELAN	0.38%
1.0	ELAN	0.35%	GNRC	0.38%
1.0	KALU	0.34%	GOOGL	0.37%
1.0	TEVA	0.34%	TEVA	0.36%
1.0	BIIB	0.34%	PWR	0.35%
1.0	SLV	0.33%	NEM	0.35%
1.0	B	0.31%	B	0.34%
1.0	NVDA	0.31%	AAP	0.34%
1.0	GNRC	0.29%	AVGO	0.34%
1.0	BHP	0.27%	CMA	0.28%
1.0	AAP	0.26%	TXN	0.26%
1.0	GOOGL	0.26%	NVDA	0.26%
1.0	VST	0.25%	JAZZ	0.25%
1.0	RIO	0.24%	VFC	0.23%
1.0	OXY	0.23%	RIO	0.23%
1.0	FSUGY	0.23%	FCX	0.23%
1.0	CMA	0.22%	EXPE	0.22%
1.0	ON	0.22%	BHP	0.22%



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## P365D: 10d

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

Period examined: All model dates from 2025-05-01 through 2026-04-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
10.0	X	12.89%	X	11.83%
10.0	MU	6.84%	WDC	9.89%
10.0	AMD	6.39%	MU	8.19%
10.0	AMAT	6.12%	INTC	6.44%
10.0	WDC	5.55%	AMD	5.46%
10.0	LUMN	5.54%	CSTM	4.46%
10.0	AVGO	5.08%	LUMN	4.3%
10.0	INTC	4.38%	AA	4.26%
10.0	CSTM	4.25%	AMAT	4.23%
10.0	SLV	4.09%	SLV	4.1%
10.0	NVDA	3.43%	KALU	4.08%
10.0	B	3.26%	ON	4.03%
10.0	AA	3.22%	B	3.61%
10.0	AAP	3.14%	NEM	3.56%
10.0	BHP	2.99%	GOOGL	3.45%
10.0	GNRC	2.83%	AAP	3.37%
10.0	TEVA	2.72%	GNRC	3.29%
10.0	KALU	2.71%	ELAN	3.22%
10.0	ELAN	2.61%	AVGO	3.16%
10.0	NEM	2.6%	TEVA	2.98%
10.0	PWR	2.57%	CMA	2.95%
10.0	LVS	2.53%	PWR	2.87%
10.0	ON	2.45%	JAZZ	2.87%
10.0	RIO	2.42%	FCX	2.53%
10.0	BIIB	2.36%	NVDA	2.46%
10.0	GOOGL	2.33%	RIO	2.2%
10.0	JAZZ	2.16%	EXPE	2.2%
10.0	MRK	2.16%	BHP	2.17%
10.0	CLF	2.08%	VFC	2.15%
10.0	GS	2.07%	GS	2.15%



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## P365D: 21d

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

Period examined: All model dates from 2025-05-01 through 2026-04-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
21.0	X	28.28%	X	27.75%
21.0	AMAT	17.92%	WDC	21.01%
21.0	MU	16.15%	MU	17.02%
21.0	AMD	13.81%	INTC	13.03%
21.0	WDC	13.06%	AMD	10.59%
21.0	LUMN	12.15%	AA	9.49%
21.0	INTC	10.27%	CSTM	9.28%
21.0	CSTM	10.17%	SLV	9.08%
21.0	SLV	9.08%	AMAT	8.98%
21.0	B	7.96%	LUMN	8.46%
21.0	AA	7.55%	B	8.35%
21.0	AVGO	7.01%	KALU	8.02%
21.0	GNRC	6.99%	NEM	7.95%
21.0	BHP	6.77%	ON	7.0%
21.0	NVDA	6.73%	GOOGL	6.94%
21.0	NEM	6.45%	GNRC	6.4%
21.0	MRK	5.81%	ELAN	6.39%
21.0	KALU	5.79%	TEVA	6.39%
21.0	RIO	5.62%	CMA	6.32%
21.0	TEVA	5.58%	JAZZ	5.97%
21.0	GOOGL	5.35%	PWR	5.76%
21.0	ELAN	5.27%	AAP	5.6%
21.0	LVS	5.25%	FCX	5.54%
21.0	BIIB	5.19%	AVGO	5.52%
21.0	ON	5.17%	RIO	4.73%
21.0	CAH	5.03%	BHP	4.51%
21.0	JAZZ	4.71%	EXPE	4.43%
21.0	PWR	4.69%	NVDA	4.32%
21.0	AAP	4.62%	GS	4.28%
21.0	CLF	4.57%	HSBC	4.21%



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## P365D: 63d

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

Period examined: All model dates from 2025-05-01 through 2026-04-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
63.0	AMAT	72.51%	WDC	75.39%
63.0	MU	63.96%	MU	60.23%
63.0	WDC	58.88%	INTC	36.86%
63.0	LUMN	44.93%	SLV	33.73%
63.0	B	38.37%	AA	32.24%
63.0	SLV	36.97%	B	32.13%
63.0	CSTM	35.98%	AMAT	28.76%
63.0	AMD	32.6%	LUMN	28.2%
63.0	INTC	30.1%	NEM	28.04%
63.0	BHP	28.81%	CSTM	27.68%
63.0	CAH	28.62%	TEVA	26.16%
63.0	AA	28.17%	GOOGL	23.3%
63.0	BIIB	27.58%	AMD	23.07%
63.0	RIO	26.59%	ELAN	22.43%
63.0	TEVA	25.78%	KALU	21.9%
63.0	NEM	24.7%	CMA	19.64%
63.0	GOOGL	23.43%	JAZZ	19.19%
63.0	GNRC	22.98%	GNRC	19.07%
63.0	MRK	21.62%	RIO	17.07%
63.0	ELAN	20.18%	FCX	16.48%
63.0	TRGP	19.96%	PWR	16.12%
63.0	XOM	18.88%	VFC	15.24%
63.0	JAZZ	17.27%	BHP	14.84%
63.0	FSUGY	16.91%	MRK	14.41%
63.0	PHM	16.59%	GLD	13.81%
63.0	CLF	16.31%	GSK	13.66%
63.0	AZN	16.26%	BIIB	13.6%
63.0	KALU	15.67%	TRGP	13.26%
63.0	LLY	15.06%	HSBC	13.25%
63.0	GS	14.92%	XOM	12.88%



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## P365D: 126d

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

Period examined: All model dates from 2025-05-01 through 2026-04-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
126.0	MU	215.81%	WDC	214.91%
126.0	WDC	191.98%	MU	172.53%
126.0	AMAT	177.15%	SLV	87.59%
126.0	LUMN	122.77%	INTC	86.99%
126.0	B	110.12%	B	82.25%
126.0	SLV	98.09%	AA	81.06%
126.0	AA	81.21%	AMAT	71.98%
126.0	INTC	80.99%	TEVA	71.34%
126.0	BIIB	77.38%	LUMN	70.87%
126.0	AMD	74.76%	NEM	61.88%
126.0	CSTM	74.61%	CSTM	60.23%
126.0	TEVA	72.73%	GOOGL	58.2%
126.0	CAH	72.4%	KALU	56.18%
126.0	RIO	72.12%	AMD	51.86%
126.0	GOOGL	69.35%	ELAN	49.42%
126.0	BHP	59.85%	JAZZ	46.51%
126.0	MRK	53.11%	CMA	42.99%
126.0	NEM	52.95%	RIO	38.81%
126.0	TRGP	50.81%	VFC	37.18%
126.0	KALU	48.49%	CAH	35.4%
126.0	LLY	46.53%	MRK	33.53%
126.0	JAZZ	45.84%	BIIB	33.16%
126.0	AZN	45.53%	EXPE	33.11%
126.0	ELAN	42.04%	FCX	32.48%
126.0	FSUGY	38.87%	PWR	32.06%
126.0	GLD	36.29%	GLD	31.75%
126.0	XOM	36.03%	GSK	31.66%
126.0	GS	33.8%	LLY	31.47%
126.0	GSK	32.79%	HSBC	28.38%
126.0	ON	32.08%	BHP	28.25%



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## P90D: 1d

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

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

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
1.0	PWR	0.82%	INTC	1.21%
1.0	OXY	0.78%	WDC	0.89%
1.0	AMD	0.69%	ON	0.87%
1.0	MU	0.69%	GNRC	0.76%
1.0	AMAT	0.58%	PWR	0.73%
1.0	VST	0.48%	AMD	0.7%
1.0	ON	0.47%	IRM	0.59%
1.0	INTC	0.46%	OXY	0.57%
1.0	IRM	0.44%	CZR	0.57%
1.0	NVDA	0.44%	CSTM	0.52%
1.0	AVGO	0.41%	KALU	0.48%
1.0	GNRC	0.38%	TRGP	0.45%
1.0	QCOM	0.37%	UNH	0.45%
1.0	CNC	0.32%	CNC	0.45%
1.0	COST	0.31%	MSTR	0.44%
1.0	TRGP	0.3%	AVGO	0.42%
1.0	CSTM	0.3%	TXN	0.41%
1.0	KALU	0.28%	MU	0.37%
1.0	AMZN	0.27%	AAP	0.37%
1.0	BHP	0.27%	AMAT	0.36%
1.0	CZR	0.25%	JAZZ	0.34%
1.0	TXN	0.24%	QCOM	0.31%
1.0	AA	0.23%	CDNS	0.26%
1.0	CSCO	0.2%	SBUX	0.25%
1.0	JAZZ	0.19%	BHP	0.25%
1.0	SBUX	0.19%	NFLX	0.24%
1.0	UNH	0.18%	CSCO	0.24%
1.0	BMJ	0.17%	AMC	0.22%
1.0	GWJ	0.17%	AA	0.22%
1.0	RIO	0.16%	GOOGL	0.21%



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## P90D: 10d

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

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

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
10.0	AVGO	9.87%	INTC	10.7%
10.0	AMD	9.76%	AMD	8.51%
10.0	INTC	7.1%	ON	8.22%
10.0	OXY	6.69%	WDC	8.04%
10.0	MU	6.2%	CZR	6.81%
10.0	ON	5.52%	AMC	6.59%
10.0	CZR	4.93%	MSTR	6.11%
10.0	WDC	4.72%	CSTM	5.14%
10.0	PWR	4.52%	AVGO	4.98%
10.0	QQQ	4.03%	MU	4.95%
10.0	AMAT	3.96%	UNH	4.85%
10.0	CSTM	3.88%	OXY	4.8%
10.0	IRM	3.75%	PWR	4.71%
10.0	GNRC	3.71%	AMAT	4.36%
10.0	MSFT	3.28%	IRM	4.21%
10.0	NVDA	3.1%	KALU	4.18%
10.0	CDNS	2.87%	GNRC	4.08%
10.0	MSTR	2.69%	JAZZ	3.92%
10.0	BHP	2.6%	AMZN	3.77%
10.0	AMZN	2.54%	NFLX	3.65%
10.0	KALU	2.46%	TXN	3.34%
10.0	VST	2.43%	LUMN	3.3%
10.0	CNC	2.28%	ORCL	2.99%
10.0	JAZZ	2.04%	CDNS	2.79%
10.0	INTU	1.85%	TRGP	2.64%
10.0	TXN	1.85%	CNC	2.6%
10.0	GBTC	1.82%	NVDA	2.41%
10.0	SPY	1.8%	AA	2.28%
10.0	UNH	1.75%	BHP	2.27%
10.0	GOOGL	1.56%	EXPE	2.26%



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## P90D: 21d

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

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

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
21.0	INTC	22.63%	INTC	24.35%
21.0	AVGO	20.01%	AMD	17.1%
21.0	AMD	19.39%	WDC	15.96%
21.0	CZR	12.44%	CZR	14.76%
21.0	OXY	12.34%	AMC	14.65%
21.0	ON	10.93%	ON	11.95%
21.0	WDC	10.42%	OXY	10.66%
21.0	CSTM	9.22%	CSTM	10.62%
21.0	KALU	6.67%	NFLX	9.84%
21.0	NFLX	6.27%	AVGO	8.94%
21.0	AMZN	5.79%	UNH	7.97%
21.0	QQQ	5.76%	KALU	7.94%
21.0	AMAT	5.59%	AMZN	7.8%
21.0	IRM	5.14%	MSTR	7.61%
21.0	MU	4.99%	PWR	7.18%
21.0	AA	4.99%	JAZZ	7.13%
21.0	PWR	4.93%	AA	6.9%
21.0	NVDA	4.55%	EXPE	6.32%
21.0	MSTR	4.52%	MU	6.14%
21.0	JAZZ	4.13%	AMAT	5.86%
21.0	GBTC	3.87%	IRM	5.16%
21.0	GNRC	3.84%	LUMN	5.03%
21.0	CSCO	3.67%	TRGP	4.7%
21.0	GOOGL	3.65%	TXN	4.41%
21.0	CDNS	3.41%	GBTC	4.15%
21.0	SPY	3.31%	ORCL	3.84%
21.0	MSFT	3.29%	CSCO	3.22%
21.0	EXPE	3.2%	NVDA	3.1%
21.0	LUMN	3.08%	MS	3.05%
21.0	HLT	3.03%	GOOGL	3.0%



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### P30D: 1d

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

Period examined: All model dates from 2026-04-01 through 2026-04-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
1.0	MU	2.62%	INTC	3.61%
1.0	AMD	2.46%	AMD	2.72%
1.0	PWR	2.11%	ON	2.51%
1.0	INTC	1.88%	CNC	2.38%
1.0	NVDA	1.72%	AMC	2.14%
1.0	CNC	1.6%	WDC	1.94%
1.0	WDC	1.5%	TXN	1.91%
1.0	QCOM	1.49%	QCOM	1.82%
1.0	AVGO	1.48%	MU	1.78%
1.0	ON	1.41%	MSTR	1.6%
1.0	AMC	1.29%	UNH	1.55%
1.0	MSFT	1.16%	AVGO	1.48%
1.0	MSTR	1.09%	GNRC	1.41%
1.0	QQQ	1.08%	PWR	1.38%
1.0	TXN	1.05%	KALU	1.36%
1.0	AMZN	1.01%	GOOGL	1.33%
1.0	SPY	1.0%	LUMN	1.18%
1.0	NAVI	0.99%	AMZN	1.17%
1.0	KALU	0.99%	IRM	1.15%
1.0	LUMN	0.97%	CLF	1.12%
1.0	GOOGL	0.94%	CDNS	0.87%
1.0	SBUX	0.9%	CSCO	0.82%
1.0	PRGO	0.9%	VNO	0.8%
1.0	DHI	0.8%	SBUX	0.79%
1.0	CSCO	0.8%	TEVA	0.79%
1.0	TEVA	0.77%	NWL	0.77%
1.0	VNO	0.75%	CVS	0.72%
1.0	GNRC	0.72%	CSTM	0.71%
1.0	LW	0.72%	MS	0.7%
1.0	AMAT	0.72%	BXP	0.69%



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## P30D: 10d

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

Period examined: All model dates from 2026-04-01 through 2026-04-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
10.0	AMD	34.61%	ON	34.5%
10.0	AVGO	30.8%	AMD	30.54%
10.0	MU	26.16%	INTC	30.11%
10.0	ON	24.73%	MSTR	27.53%
10.0	MSFT	21.29%	AMC	25.36%
10.0	QQQ	17.42%	TXN	21.36%
10.0	WDC	16.82%	LUMN	18.49%
10.0	MSTR	15.31%	KALU	18.29%
10.0	INTC	15.15%	WDC	18.19%
10.0	CDNS	14.5%	MU	17.88%
10.0	LUMN	14.25%	CNC	17.81%
10.0	NVDA	14.01%	AVGO	16.24%
10.0	DHI	12.28%	ORCL	15.89%
10.0	PWR	12.23%	UNH	15.71%
10.0	CNC	11.31%	CDNS	13.4%
10.0	AMC	11.02%	QCOM	12.53%
10.0	TXN	11.01%	AMZN	12.01%
10.0	KALU	10.79%	VFC	11.44%
10.0	NAVI	10.66%	MSFT	10.42%
10.0	PHM	10.48%	NWL	10.28%
10.0	SPY	10.25%	GNRC	10.22%
10.0	VNO	10.01%	NVDA	10.13%
10.0	QCOM	9.49%	DHI	9.76%
10.0	PRGO	9.17%	GOOGL	9.48%
10.0	CSCO	8.92%	VNO	9.3%
10.0	GNRC	8.8%	BXP	9.11%
10.0	GOOGL	8.25%	CLF	9.01%
10.0	ORCL	8.11%	EXPE	8.75%
10.0	AMZN	8.04%	PWR	8.7%
10.0	GBTC	6.9%	META	8.25%



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## Bottom 30 Tickers By ROEUB

### All TMD: 1d

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

Period examined: All model dates from 2022-01-31 through 2026-04-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
1.0	SIVBQ	-0.53%	SIVBQ	-0.78%
1.0	IEP	-0.3%	SBNY	-0.45%
1.0	LUMN	-0.25%	FRCB	-0.23%
1.0	SBNY	-0.24%	AMC	-0.17%
1.0	CZR	-0.21%	IEP	-0.14%
1.0	NWL	-0.18%	NWL	-0.1%
1.0	UAA	-0.13%	CHTR	-0.09%
1.0	CHTR	-0.12%	PRGO	-0.08%
1.0	FRCB	-0.1%	AAP	-0.07%
1.0	UNH	-0.07%	FIS	-0.07%
1.0	FIS	-0.07%	VFC	-0.05%
1.0	BXP	-0.06%	BHC	-0.05%
1.0	CMCSA	-0.05%	GT	-0.05%
1.0	GNRC	-0.05%	ADBE	-0.05%
1.0	TLT	-0.05%	UAA	-0.05%
1.0	ADBE	-0.05%	CMCSA	-0.04%
1.0	ZTS	-0.04%	TLT	-0.04%
1.0	NAVI	-0.04%	BXP	-0.04%
1.0	LNC	-0.04%	CZR	-0.04%
1.0	AAP	-0.04%	ZTS	-0.04%
1.0	PRGO	-0.03%	NAVI	-0.03%
1.0	CTLT	-0.03%	KHC	-0.03%
1.0	BIIB	-0.03%	BALL	-0.02%
1.0	INTU	-0.03%	BBY	-0.02%
1.0	VFC	-0.02%	LNC	-0.02%
1.0	BALL	-0.02%	CTLT	-0.01%
1.0	BA	-0.02%	MOS	-0.01%
1.0	CYH	-0.02%	FRA	-0.01%
1.0	EMB	-0.02%	LQD	-0.01%
1.0	BBY	-0.02%	EMB	-0.01%



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## All TMD: 10d

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

Period examined: All model dates from 2022-01-31 through 2026-04-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
10.0	SIVBQ	-3.66%	SBNY	-4.05%
10.0	IEP	-2.55%	SIVBQ	-3.9%
10.0	CZR	-2.23%	FRCB	-2.19%
10.0	SBNY	-1.64%	AMC	-1.6%
10.0	NWL	-1.26%	IEP	-1.34%
10.0	FRCB	-1.18%	NWL	-1.01%
10.0	LUMN	-1.09%	PRGO	-0.78%
10.0	AMC	-1.03%	CHTR	-0.68%
10.0	UAA	-0.83%	AAP	-0.68%
10.0	BXP	-0.62%	FIS	-0.63%
10.0	FIS	-0.57%	UAA	-0.55%
10.0	VFC	-0.55%	VFC	-0.54%
10.0	GNRC	-0.55%	CZR	-0.54%
10.0	PRGO	-0.47%	GT	-0.51%
10.0	UNH	-0.46%	NAVI	-0.44%
10.0	KHC	-0.44%	BXP	-0.44%
10.0	CHTR	-0.44%	ADBE	-0.43%
10.0	ADBE	-0.43%	TLT	-0.41%
10.0	BALL	-0.41%	BHC	-0.41%
10.0	NAVI	-0.38%	CMCSA	-0.4%
10.0	TLT	-0.38%	ZTS	-0.37%
10.0	CMCSA	-0.35%	KHC	-0.35%
10.0	CNC	-0.33%	MOS	-0.26%
10.0	LNC	-0.33%	CNC	-0.25%
10.0	AAP	-0.32%	LNC	-0.25%
10.0	ZTS	-0.31%	CYH	-0.24%
10.0	BIIB	-0.27%	BBY	-0.23%
10.0	CTLT	-0.23%	BALL	-0.21%
10.0	INTU	-0.17%	FRA	-0.17%
10.0	GT	-0.17%	LQD	-0.12%



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## All TMD: 21d

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

Period examined: All model dates from 2022-01-31 through 2026-04-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
21.0	SIVBQ	-8.0%	SBNY	-11.16%
21.0	IEP	-6.05%	SIVBQ	-9.37%
21.0	SBNY	-4.88%	FRCB	-6.02%
21.0	CZR	-4.85%	AMC	-4.01%
21.0	FRCB	-3.24%	IEP	-2.95%
21.0	NWL	-2.38%	NWL	-2.36%
21.0	AMC	-1.78%	PRGO	-1.71%
21.0	UAA	-1.5%	AAP	-1.41%
21.0	VFC	-1.48%	CHTR	-1.36%
21.0	LUMN	-1.27%	VFC	-1.26%
21.0	BXP	-1.21%	CZR	-1.22%
21.0	PRGO	-1.05%	FIS	-1.2%
21.0	KHC	-1.04%	BHC	-1.16%
21.0	ADBE	-1.03%	BXP	-1.06%
21.0	GNRC	-1.03%	UAA	-1.04%
21.0	FIS	-1.03%	NAVI	-1.03%
21.0	CHTR	-0.92%	GT	-0.98%
21.0	TLT	-0.9%	TLT	-0.85%
21.0	UNH	-0.82%	CMCSA	-0.82%
21.0	AAP	-0.81%	ADBE	-0.8%
21.0	NAVI	-0.73%	KHC	-0.8%
21.0	CNC	-0.72%	ZTS	-0.78%
21.0	BALL	-0.71%	CNC	-0.69%
21.0	CLF	-0.55%	LNC	-0.65%
21.0	LNC	-0.53%	MOS	-0.53%
21.0	ZTS	-0.52%	BBY	-0.47%
21.0	INTU	-0.51%	BALL	-0.42%
21.0	CMCSA	-0.5%	CYH	-0.36%
21.0	BHC	-0.47%	FRA	-0.34%
21.0	VZ	-0.44%	UNH	-0.24%



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## All TMD: 63d

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

Period examined: All model dates from 2022-01-31 through 2026-04-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
63.0	SIVBQ	-30.27%	SBNY	-37.59%
63.0	IEP	-19.99%	SIVBQ	-33.73%
63.0	SBNY	-19.01%	FRCB	-24.04%
63.0	FRCB	-15.74%	AMC	-16.29%
63.0	NWL	-11.21%	IEP	-9.93%
63.0	CZR	-8.34%	NWL	-7.65%
63.0	AMC	-7.97%	PRGO	-5.85%
63.0	VFC	-7.25%	CZR	-5.14%
63.0	GNRC	-5.26%	AAP	-4.83%
63.0	PRGO	-4.76%	CHTR	-3.97%
63.0	UAA	-4.59%	BHC	-3.86%
63.0	AAP	-4.28%	VFC	-3.85%
63.0	ADBE	-3.79%	MOS	-3.47%
63.0	KHC	-3.74%	BXP	-3.32%
63.0	BXP	-3.48%	FIS	-3.31%
63.0	CHTR	-3.46%	NAVI	-3.28%
63.0	BHC	-2.98%	KHC	-2.85%
63.0	CLF	-2.85%	CNC	-2.81%
63.0	TLT	-2.56%	UAA	-2.62%
63.0	NAVI	-2.53%	CLF	-2.52%
63.0	BALL	-2.52%	TLT	-2.29%
63.0	FIS	-2.3%	ZTS	-2.29%
63.0	UNH	-2.28%	CMCSA	-2.18%
63.0	CTLT	-1.99%	GT	-2.17%
63.0	CYH	-1.98%	ADBE	-2.13%
63.0	CNC	-1.92%	UNH	-2.09%
63.0	VZ	-1.87%	LNC	-1.93%
63.0	ZTS	-1.7%	BBY	-1.58%
63.0	CVS	-1.67%	BALL	-1.08%
63.0	MOS	-1.61%	CVS	-1.0%



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## All TMD: 126d

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

Period examined: All model dates from 2022-01-31 through 2026-04-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
126.0	SIVBQ	-64.31%	SIVBQ	-65.15%
126.0	IEP	-40.96%	SBNY	-64.8%
126.0	FRCB	-39.92%	FRCB	-51.17%
126.0	SBNY	-33.47%	AMC	-29.57%
126.0	NWL	-32.85%	IEP	-19.48%
126.0	AMC	-15.94%	NWL	-17.87%
126.0	VFC	-15.0%	AAP	-11.54%
126.0	GNRC	-13.42%	PRGO	-11.38%
126.0	CZR	-12.42%	CZR	-9.58%
126.0	AAP	-11.65%	CHTR	-8.03%
126.0	PRGO	-10.51%	MOS	-7.97%
126.0	UAA	-8.63%	VFC	-7.15%
126.0	FIS	-7.62%	CNC	-6.74%
126.0	KHC	-7.62%	UAA	-6.72%
126.0	CHTR	-7.18%	KHC	-5.94%
126.0	GT	-7.14%	CTLT	-5.69%
126.0	MOS	-6.83%	FIS	-5.19%
126.0	CNC	-6.28%	BHC	-5.11%
126.0	CTLT	-6.16%	BXP	-5.06%
126.0	ADBE	-5.92%	NAVI	-4.81%
126.0	BXP	-5.02%	GT	-4.62%
126.0	CMCSA	-5.0%	CMCSA	-4.41%
126.0	BHC	-4.94%	ZTS	-4.19%
126.0	BALL	-4.87%	UNH	-4.18%
126.0	TLT	-4.85%	TLT	-4.12%
126.0	CLF	-4.63%	CLF	-3.36%
126.0	UNH	-4.51%	BALL	-2.61%
126.0	VZ	-4.48%	BMY	-2.19%
126.0	CVS	-4.24%	ADBE	-2.02%
126.0	NAVI	-3.55%	LNC	-1.86%



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## All TMD: 252d

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

Period examined: All model dates from 2022-01-31 through 2026-04-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
252.0	SIVBQ	-165.64%	SBNY	-95.75%
252.0	FRCB	-122.39%	SIVBQ	-95.29%
252.0	IEP	-82.85%	FRCB	-91.61%
252.0	SBNY	-81.71%	AMC	-54.76%
252.0	NWL	-66.29%	IEP	-40.49%
252.0	AMC	-36.24%	NWL	-30.95%
252.0	VFC	-29.01%	AAP	-25.02%
252.0	CZR	-28.98%	VFC	-20.16%
252.0	AAP	-28.02%	PRGO	-18.39%
252.0	CLF	-22.48%	CNC	-18.27%
252.0	PRGO	-21.32%	CZR	-17.6%
252.0	CVS	-21.16%	UAA	-15.02%
252.0	CNC	-20.58%	MOS	-14.1%
252.0	UAA	-20.56%	CLF	-12.2%
252.0	GT	-20.03%	KHC	-11.63%
252.0	MOS	-19.31%	CHTR	-11.27%
252.0	KHC	-17.4%	UNH	-10.96%
252.0	UNH	-16.56%	BMY	-9.17%
252.0	GNRC	-16.09%	BHC	-8.98%
252.0	FIS	-13.38%	GT	-8.09%
252.0	BHC	-11.87%	NAVI	-7.7%
252.0	CHTR	-11.01%	TLT	-7.39%
252.0	BMY	-10.13%	BIIB	-6.89%
252.0	CYH	-9.86%	OXY	-6.81%
252.0	ADBE	-9.82%	CTLT	-6.24%
252.0	TLT	-9.64%	CVS	-5.79%
252.0	BALL	-7.34%	CYH	-5.49%
252.0	LW	-7.24%	BXP	-5.34%
252.0	NAVI	-6.35%	CMCSA	-5.24%
252.0	CTLT	-6.32%	LW	-4.94%



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## P365D: 1d

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

Period examined: All model dates from 2025-05-01 through 2026-04-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
1.0	MSTR	-0.48%	CHTR	-0.29%
1.0	CHTR	-0.34%	PRGO	-0.26%
1.0	UAA	-0.24%	MSTR	-0.24%
1.0	CPRT	-0.24%	CPRT	-0.23%
1.0	FIS	-0.21%	FIS	-0.19%
1.0	ADBE	-0.2%	INTU	-0.16%
1.0	CMG	-0.18%	AMC	-0.15%
1.0	UNH	-0.16%	ADBE	-0.15%
1.0	GBTC	-0.16%	CMG	-0.13%
1.0	AMC	-0.14%	GT	-0.12%
1.0	CMCSA	-0.14%	ZTS	-0.11%
1.0	CNC	-0.14%	NAVI	-0.09%
1.0	CZR	-0.12%	TMUS	-0.08%
1.0	INTU	-0.11%	KHC	-0.08%
1.0	ZTS	-0.11%	CMCSA	-0.07%
1.0	PRGO	-0.09%	MOS	-0.07%
1.0	PCG	-0.09%	TDG	-0.07%
1.0	IEP	-0.09%	GBTC	-0.06%
1.0	MOS	-0.08%	NFLX	-0.05%
1.0	TMUS	-0.08%	VNO	-0.05%
1.0	GT	-0.08%	SNY	-0.05%
1.0	NFLX	-0.07%	LEN	-0.05%
1.0	LEN	-0.06%	FRA	-0.04%
1.0	VNO	-0.05%	ISRG	-0.03%
1.0	VICI	-0.05%	LW	-0.03%
1.0	FRA	-0.04%	NWL	-0.03%
1.0	ISRG	-0.04%	VICI	-0.03%
1.0	SNY	-0.04%	HD	-0.02%
1.0	GME	-0.03%	BXP	-0.02%
1.0	MSI	-0.03%	BBY	-0.02%



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## P365D: 10d

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

Period examined: All model dates from 2025-05-01 through 2026-04-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
10.0	MSTR	-3.45%	MSTR	-2.84%
10.0	CPRT	-2.68%	PRGO	-2.6%
10.0	GT	-2.28%	CPRT	-2.35%
10.0	ADBE	-1.64%	CHTR	-2.26%
10.0	CHTR	-1.54%	FIS	-1.93%
10.0	FIS	-1.51%	ADBE	-1.7%
10.0	PRGO	-1.5%	INTU	-1.59%
10.0	AMC	-1.49%	GT	-1.43%
10.0	CNC	-1.38%	NAVI	-1.28%
10.0	CMG	-1.34%	CMG	-1.24%
10.0	KHC	-1.17%	ZTS	-1.07%
10.0	MOS	-1.13%	MOS	-0.93%
10.0	NAVI	-1.11%	VNO	-0.92%
10.0	UNH	-0.9%	AMC	-0.91%
10.0	VNO	-0.88%	KHC	-0.91%
10.0	IEP	-0.87%	TMUS	-0.88%
10.0	GBTC	-0.87%	GBTC	-0.8%
10.0	NFLX	-0.82%	CMCSA	-0.66%
10.0	TMUS	-0.72%	TDG	-0.57%
10.0	VICI	-0.69%	NFLX	-0.56%
10.0	ZTS	-0.55%	FRA	-0.51%
10.0	INTU	-0.52%	ISRG	-0.42%
10.0	PCG	-0.51%	LEN	-0.39%
10.0	FRA	-0.49%	CNC	-0.38%
10.0	ISRG	-0.47%	SNY	-0.36%
10.0	CZR	-0.39%	VICI	-0.36%
10.0	CMCSA	-0.38%	BBY	-0.34%
10.0	LEN	-0.33%	BXP	-0.29%
10.0	TDG	-0.29%	NWL	-0.28%
10.0	SNY	-0.29%	IEP	-0.25%



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## P365D: 21d

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

Period examined: All model dates from 2025-05-01 through 2026-04-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
21.0	MSTR	-9.46%	MSTR	-7.45%
21.0	CPRT	-6.8%	PRGO	-6.07%
21.0	ADBE	-4.64%	CPRT	-4.94%
21.0	PRGO	-3.94%	CHTR	-4.76%
21.0	GT	-3.77%	FIS	-4.34%
21.0	FIS	-3.39%	ADBE	-4.21%
21.0	CHTR	-3.29%	AMC	-4.08%
21.0	GBTC	-2.89%	INTU	-3.9%
21.0	AMC	-2.79%	NAVI	-3.27%
21.0	CMG	-2.78%	GT	-3.15%
21.0	INTU	-2.63%	CMG	-2.76%
21.0	VNO	-2.57%	ZTS	-2.56%
21.0	MOS	-2.51%	VNO	-2.48%
21.0	CNC	-2.32%	GBTC	-2.48%
21.0	NAVI	-2.22%	MOS	-2.28%
21.0	KHC	-2.08%	TMUS	-1.77%
21.0	IEP	-1.98%	KHC	-1.74%
21.0	ISRG	-1.48%	CMCSA	-1.61%
21.0	NFLX	-1.47%	NWL	-1.47%
21.0	VICI	-1.44%	TDG	-1.29%
21.0	TMUS	-1.36%	BXP	-1.22%
21.0	UNH	-1.31%	CNC	-1.21%
21.0	CZR	-1.3%	NFLX	-1.2%
21.0	ZTS	-1.28%	FRA	-1.14%
21.0	LEN	-1.13%	LEN	-1.13%
21.0	FRA	-1.07%	ISRG	-1.1%
21.0	CMCSA	-1.0%	VICI	-0.92%
21.0	MSFT	-0.84%	LW	-0.91%
21.0	TDG	-0.71%	GME	-0.89%
21.0	GME	-0.66%	BBY	-0.79%



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## P365D: 63d

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

Period examined: All model dates from 2025-05-01 through 2026-04-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
63.0	MSTR	-45.63%	MSTR	-27.78%
63.0	CPRT	-22.77%	AMC	-23.23%
63.0	PRGO	-18.62%	PRGO	-23.05%
63.0	ADBE	-16.09%	INTU	-15.91%
63.0	INTU	-15.56%	CHTR	-15.39%
63.0	GBTC	-13.43%	FIS	-14.82%
63.0	CMG	-13.2%	NAVI	-13.05%
63.0	GT	-12.58%	ADBE	-12.82%
63.0	FIS	-12.52%	GBTC	-12.34%
63.0	MOS	-11.61%	CPRT	-11.75%
63.0	VNO	-11.43%	CMG	-11.08%
63.0	ORCL	-11.01%	VNO	-9.81%
63.0	NFLX	-10.32%	GT	-8.97%
63.0	CHTR	-9.74%	ZTS	-8.31%
63.0	NAVI	-9.61%	NFLX	-8.3%
63.0	AMC	-8.34%	MOS	-7.96%
63.0	MSFT	-7.5%	NWL	-7.04%
63.0	KHC	-6.58%	BXP	-5.59%
63.0	VICI	-5.83%	TDG	-5.36%
63.0	ZTS	-5.25%	MSFT	-5.2%
63.0	CZR	-5.18%	KHC	-5.05%
63.0	TMUS	-4.65%	FRA	-4.66%
63.0	ISRG	-4.6%	CMCSA	-4.53%
63.0	CMCSA	-4.49%	LW	-4.24%
63.0	FRA	-4.38%	TMUS	-4.17%
63.0	NWL	-4.0%	VICI	-3.74%
63.0	IEP	-3.84%	CZR	-3.53%
63.0	UNH	-3.84%	IEP	-3.43%
63.0	BXP	-3.65%	QCOM	-2.57%
63.0	TDG	-3.63%	ORCL	-2.18%



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## P365D: 126d

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

Period examined: All model dates from 2025-05-01 through 2026-04-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
126.0	MSTR	-117.3%	MSTR	-56.02%
126.0	CPRT	-41.37%	PRGO	-46.96%
126.0	MOS	-40.63%	AMC	-45.4%
126.0	PRGO	-39.39%	CHTR	-31.66%
126.0	NWL	-33.87%	NWL	-27.7%
126.0	CMG	-32.76%	GBTC	-26.64%
126.0	FIS	-31.93%	INTU	-26.2%
126.0	NFLX	-28.78%	FIS	-24.07%
126.0	GT	-28.27%	MOS	-23.14%
126.0	INTU	-27.94%	CPRT	-22.98%
126.0	GBTC	-25.87%	CMG	-22.97%
126.0	ORCL	-24.7%	NAVI	-21.44%
126.0	VNO	-23.82%	ADBE	-21.35%
126.0	ADBE	-23.06%	NFLX	-21.29%
126.0	CHTR	-20.26%	ZTS	-19.98%
126.0	VICI	-18.18%	VNO	-19.82%
126.0	AMC	-16.17%	ORCL	-16.44%
126.0	LEN	-16.1%	TMUS	-14.59%
126.0	TMUS	-15.64%	GT	-13.53%
126.0	KHC	-15.59%	CMCSA	-12.85%
126.0	NAVI	-14.78%	LW	-12.5%
126.0	MSFT	-13.96%	KHC	-11.46%
126.0	CMCSA	-13.91%	VICI	-11.39%
126.0	ZTS	-12.05%	FRA	-10.93%
126.0	CZR	-11.9%	MSFT	-10.5%
126.0	LW	-11.08%	VST	-10.2%
126.0	IEP	-10.1%	CZR	-9.89%
126.0	AZO	-9.65%	META	-9.85%
126.0	MSI	-8.59%	BXP	-9.8%
126.0	VST	-8.12%	TDG	-8.17%



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## P90D: 1d

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

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

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
1.0	CHTR	-0.78%	CLF	-0.4%
1.0	LUMN	-0.64%	GT	-0.4%
1.0	ADBE	-0.54%	TDG	-0.32%
1.0	UAA	-0.52%	CHTR	-0.32%
1.0	GT	-0.42%	INTU	-0.31%
1.0	NWL	-0.38%	CPRT	-0.28%
1.0	CCL	-0.37%	LEN	-0.28%
1.0	CMG	-0.32%	FIS	-0.28%
1.0	CPRT	-0.32%	CCL	-0.26%
1.0	LEN	-0.3%	PRGO	-0.26%
1.0	CAH	-0.29%	ADBE	-0.25%
1.0	CLF	-0.29%	B	-0.23%
1.0	B	-0.27%	HD	-0.21%
1.0	ELAN	-0.25%	META	-0.2%
1.0	ZTS	-0.25%	MOS	-0.2%
1.0	VNO	-0.24%	HCA	-0.2%
1.0	FIS	-0.21%	CAH	-0.19%
1.0	TSLA	-0.2%	CMG	-0.18%
1.0	LNC	-0.2%	WFC	-0.17%
1.0	LLY	-0.2%	LNC	-0.15%
1.0	WFC	-0.19%	LLY	-0.14%
1.0	BXP	-0.19%	TSLA	-0.13%
1.0	VFC	-0.18%	ELAN	-0.13%
1.0	GBTC	-0.18%	CYH	-0.13%
1.0	ORCL	-0.17%	GILD	-0.13%
1.0	TDG	-0.16%	ZTS	-0.12%
1.0	PRGO	-0.16%	CMCSA	-0.12%
1.0	GS	-0.15%	ISRG	-0.12%
1.0	BA	-0.15%	BBY	-0.12%
1.0	META	-0.14%	NAVI	-0.11%



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## P90D: 10d

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

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

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
10.0	GT	-9.2%	GT	-5.51%
10.0	MOS	-5.52%	CLF	-3.98%
10.0	CPRT	-3.94%	LEN	-3.93%
10.0	LLY	-3.26%	MOS	-3.48%
10.0	LEN	-2.81%	CPRT	-2.89%
10.0	CAH	-2.69%	CCL	-2.89%
10.0	CMG	-2.53%	PRGO	-2.79%
10.0	TDG	-2.26%	LLY	-2.64%
10.0	NAVI	-2.18%	HD	-2.43%
10.0	HCA	-2.17%	GILD	-2.29%
10.0	B	-2.14%	B	-2.09%
10.0	TSLA	-2.11%	WFC	-2.05%
10.0	PHM	-2.11%	CHTR	-2.01%
10.0	WFC	-2.07%	HCA	-1.98%
10.0	ELAN	-2.05%	CMG	-1.82%
10.0	KHC	-1.99%	ABBV	-1.77%
10.0	CCL	-1.83%	CYH	-1.74%
10.0	ZTS	-1.82%	KHC	-1.71%
10.0	FITB	-1.79%	ELAN	-1.7%
10.0	PCG	-1.7%	TDG	-1.67%
10.0	HD	-1.64%	LW	-1.62%
10.0	LNC	-1.62%	ADBE	-1.6%
10.0	GILD	-1.53%	CMCSA	-1.57%
10.0	META	-1.53%	HON	-1.5%
10.0	CHTR	-1.52%	TSLA	-1.45%
10.0	CMCSA	-1.39%	NAVI	-1.43%
10.0	ABBV	-1.29%	CAH	-1.41%
10.0	BA	-1.28%	BBY	-1.39%
10.0	UAA	-1.27%	ZTS	-1.29%
10.0	BUD	-1.26%	LNC	-1.29%



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## P90D: 21d

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

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

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
21.0	GT	-18.15%	GT	-11.58%
21.0	CPRT	-11.04%	LEN	-11.35%
21.0	MOS	-10.7%	CLF	-8.55%
21.0	LEN	-10.02%	PRGO	-7.83%
21.0	PHM	-8.94%	MOS	-7.29%
21.0	B	-7.99%	UAA	-6.85%
21.0	LLY	-7.27%	CCL	-6.56%
21.0	HCA	-5.66%	CPRT	-6.52%
21.0	CMG	-5.59%	THC	-6.24%
21.0	UAA	-5.38%	B	-6.23%
21.0	MNST	-5.1%	HD	-6.17%
21.0	FITB	-5.04%	LLY	-5.86%
21.0	KHC	-5.03%	NWL	-5.55%
21.0	ELAN	-4.98%	CYH	-5.53%
21.0	TSLA	-4.9%	LW	-5.44%
21.0	ADBE	-4.89%	TSLA	-4.98%
21.0	CCL	-4.88%	PHM	-4.79%
21.0	ZTS	-4.8%	HCA	-4.71%
21.0	TDG	-4.76%	CMCSA	-4.67%
21.0	CAH	-4.3%	GILD	-4.67%
21.0	NWL	-4.24%	ELAN	-4.66%
21.0	CMCSA	-3.89%	CMG	-4.62%
21.0	AZO	-3.88%	GE	-4.61%
21.0	HD	-3.69%	ABBV	-4.59%
21.0	ABBV	-3.62%	BXP	-4.27%
21.0	LW	-3.6%	ADBE	-4.2%
21.0	PCG	-3.58%	TDG	-4.12%
21.0	META	-3.57%	MNST	-4.11%
21.0	BUD	-3.46%	KHC	-3.97%
21.0	LNC	-3.44%	TEVA	-3.81%



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## P30D: 1d

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

Period examined: All model dates from 2026-04-01 through 2026-04-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
1.0	CHTR	-2.36%	CHTR	-1.1%
1.0	CAH	-1.17%	MOS	-0.64%
1.0	MOS	-0.8%	AA	-0.57%
1.0	BBY	-0.46%	MRK	-0.49%
1.0	THC	-0.45%	CAH	-0.46%
1.0	MRK	-0.42%	HCA	-0.41%
1.0	B	-0.38%	INTU	-0.4%
1.0	PCG	-0.37%	T	-0.38%
1.0	AZN	-0.36%	GILD	-0.34%
1.0	GILD	-0.36%	AZN	-0.34%
1.0	SLV	-0.23%	THC	-0.33%
1.0	AA	-0.21%	B	-0.33%
1.0	GSK	-0.2%	GSK	-0.32%
1.0	HON	-0.19%	PCG	-0.32%
1.0	INTU	-0.19%	HON	-0.3%
1.0	ELAN	-0.14%	BBY	-0.28%
1.0	FCX	-0.13%	NVS	-0.23%
1.0	SNY	-0.13%	FCX	-0.21%
1.0	HCA	-0.11%	TMUS	-0.19%
1.0	TMUS	-0.11%	XOM	-0.19%
1.0	T	-0.1%	GLD	-0.16%
1.0	OXY	-0.1%	ELAN	-0.14%
1.0	ZTS	-0.09%	CYH	-0.13%
1.0	AMGN	-0.09%	VZ	-0.12%
1.0	GLD	-0.08%	SNY	-0.12%
1.0	CCL	-0.07%	CMCSA	-0.12%
1.0	TLT	-0.06%	OXY	-0.1%
1.0	KHC	-0.06%	AMGN	-0.09%
1.0	BMY	-0.06%	ZTS	-0.09%
1.0	LVS	-0.05%	SLV	-0.08%



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## P30D: 10d

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

Period examined: All model dates from 2026-04-01 through 2026-04-29

Horizon	Ticker_V	ROEUB_V	Ticker_S	ROEUB_S
10.0	CAH	-9.05%	AA	-8.23%
10.0	MOS	-8.9%	NFLX	-6.98%
10.0	PCG	-7.98%	HCA	-6.42%
10.0	HCA	-5.89%	MRK	-5.94%
10.0	AA	-5.73%	CHTR	-5.85%
10.0	MRK	-5.57%	PCG	-5.81%
10.0	CHTR	-4.34%	MOS	-5.68%
10.0	AZN	-4.21%	CYH	-5.38%
10.0	GILD	-3.77%	GILD	-5.22%
10.0	THC	-3.72%	HON	-5.05%
10.0	NFLX	-3.47%	AZN	-4.66%
10.0	NVS	-3.34%	CAH	-4.24%
10.0	HON	-3.26%	THC	-4.11%
10.0	LLY	-3.07%	GE	-3.96%
10.0	ELAN	-2.76%	GSK	-3.85%
10.0	XOM	-2.7%	B	-3.85%
10.0	CYH	-2.61%	NVS	-3.84%
10.0	OXY	-2.59%	XOM	-3.61%
10.0	B	-2.5%	LLY	-3.42%
10.0	KHC	-2.33%	OXY	-3.14%
10.0	ABBV	-2.24%	T	-3.07%
10.0	NEM	-2.2%	ABBV	-2.87%
10.0	T	-2.12%	ELAN	-2.77%
10.0	GSK	-1.97%	NEM	-2.58%
10.0	ZTS	-1.64%	KHC	-2.22%
10.0	WFC	-1.48%	TDG	-2.0%
10.0	BBY	-1.29%	WFC	-1.91%
10.0	GE	-1.25%	TMUS	-1.87%
10.0	VZ	-1.18%	BBY	-1.79%
10.0	BUD	-1.1%	FCX	-1.4%



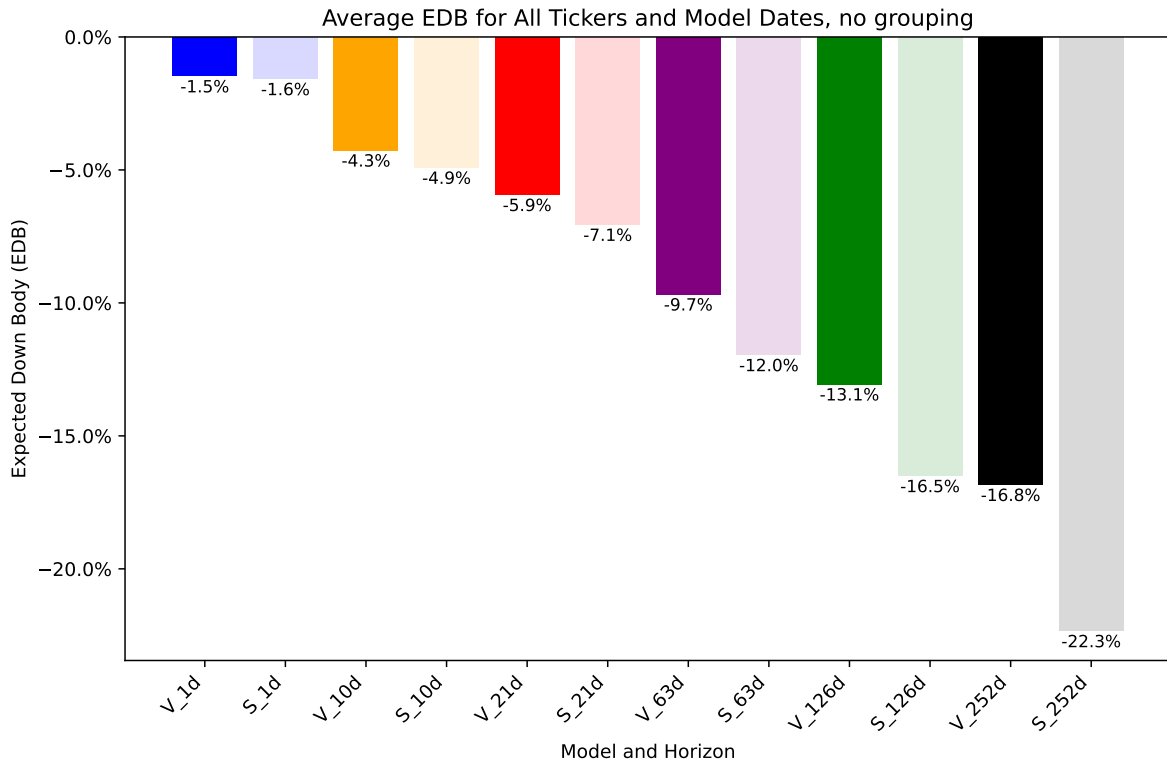
# Expected Down Body (EDB)

## Historic Average Levels

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

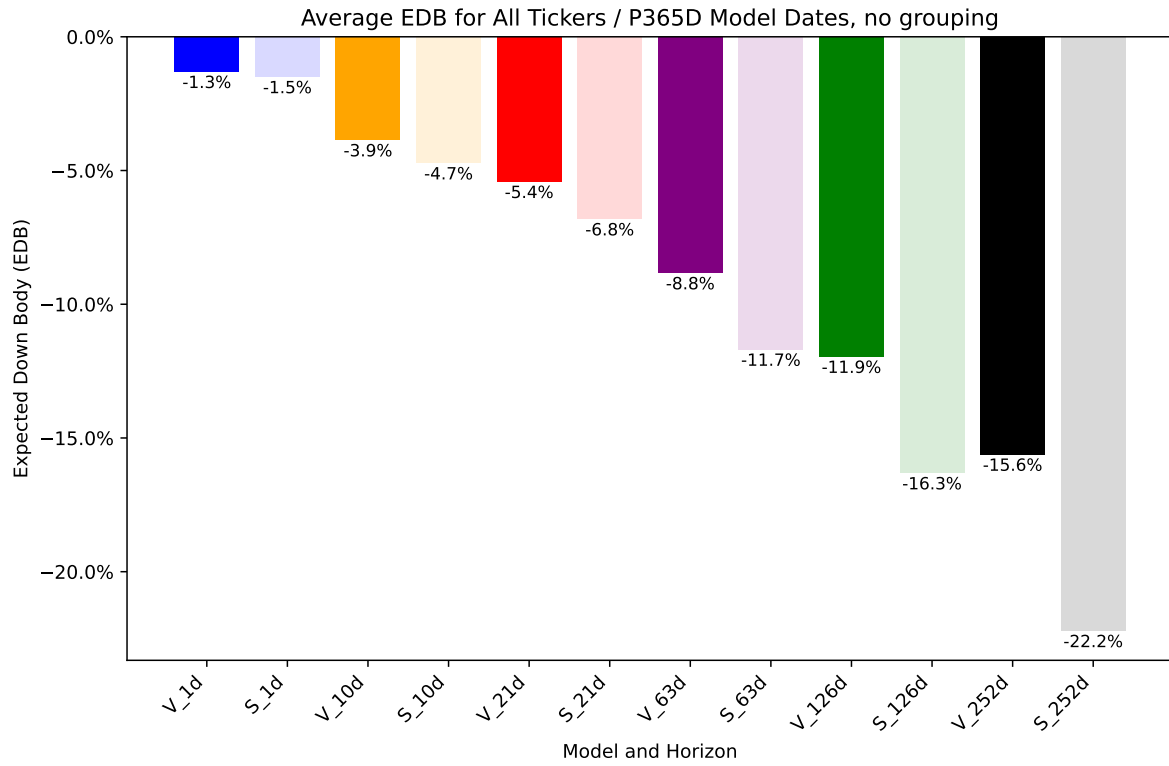
## All Out of Sample Model Dates

Period examined: All model dates from 2022-01-31 through 2026-04-29



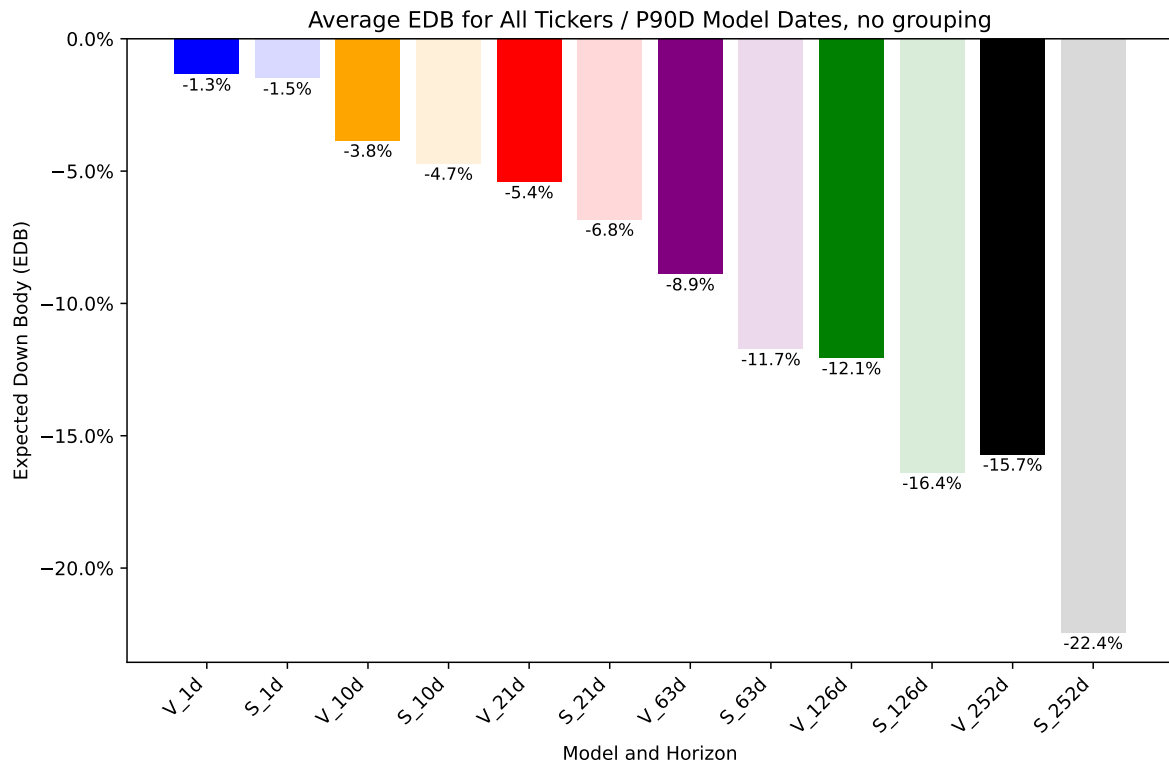
## Prior 365 Calendar Days (P365D)

Period examined: All model dates from 2025-05-01 through 2026-04-29



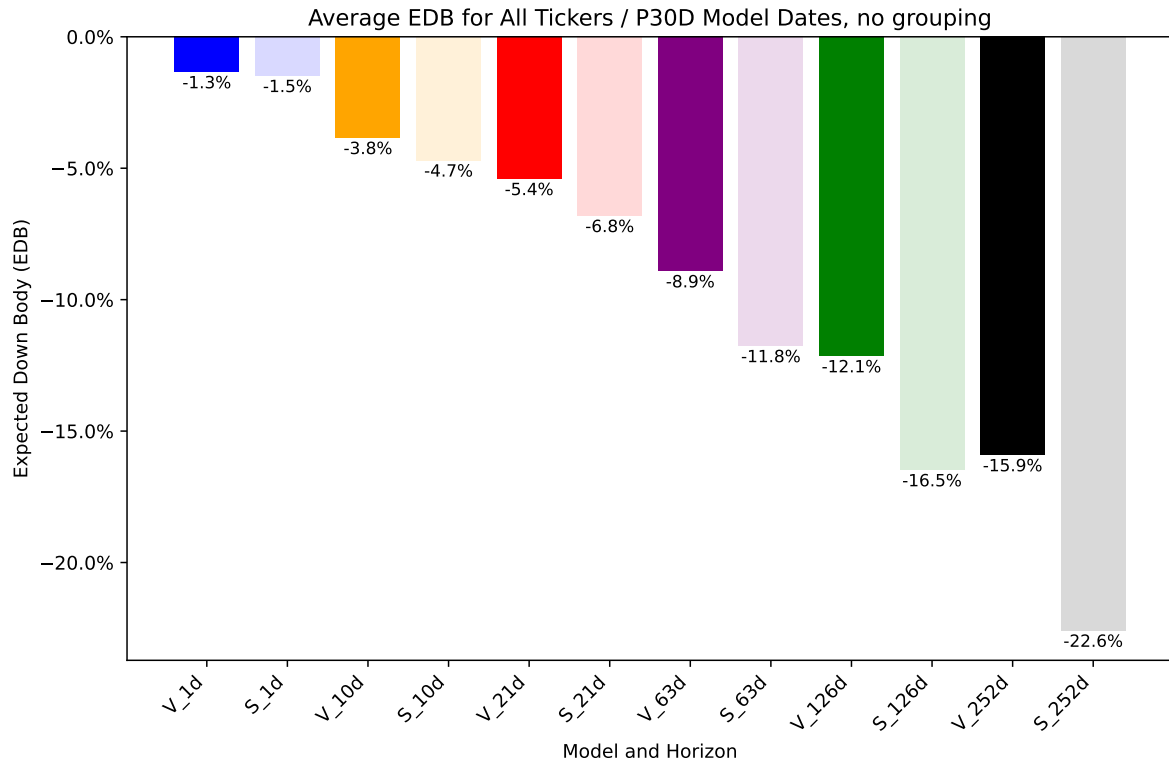
## Prior 90 Calendar Days (P90D)

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



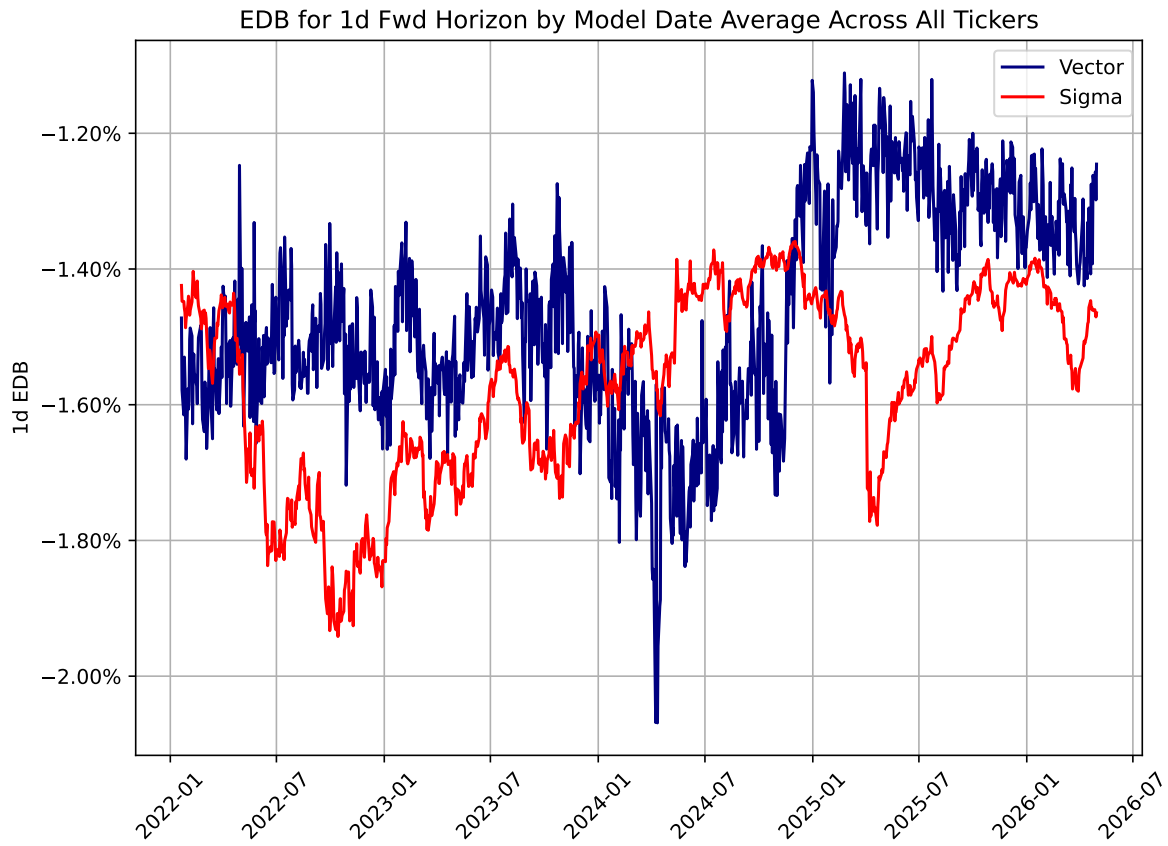
## Prior 30 Calendar Days (P30D)

Period examined: All model dates from 2026-04-01 through 2026-04-29

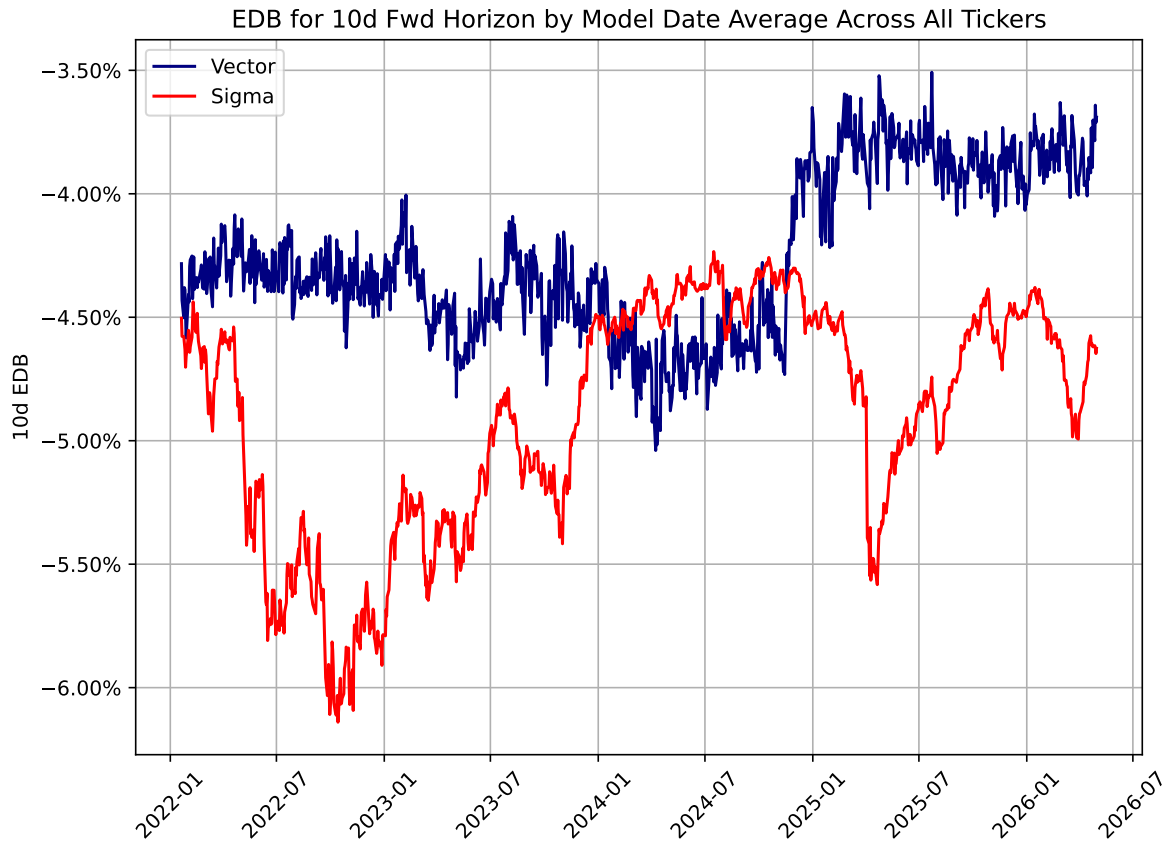


## EDB by Model Date Detail

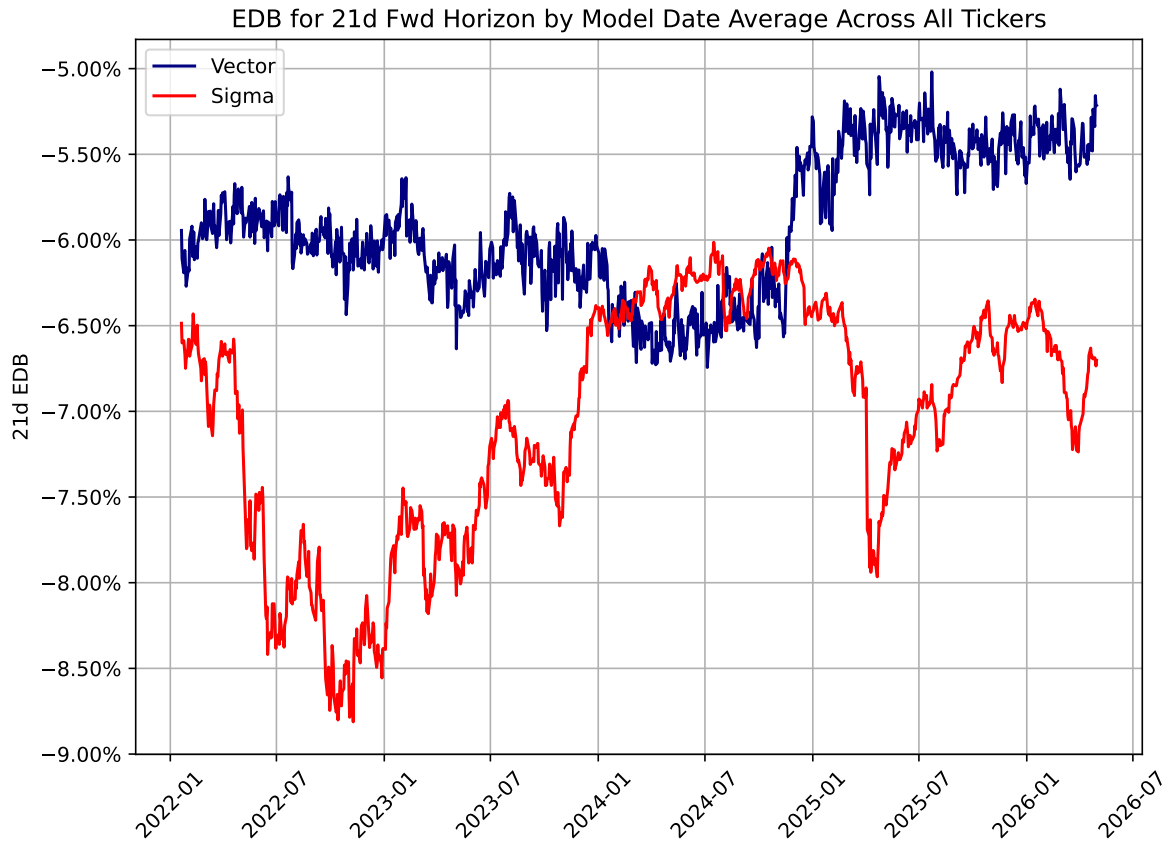
### 1d Horizon



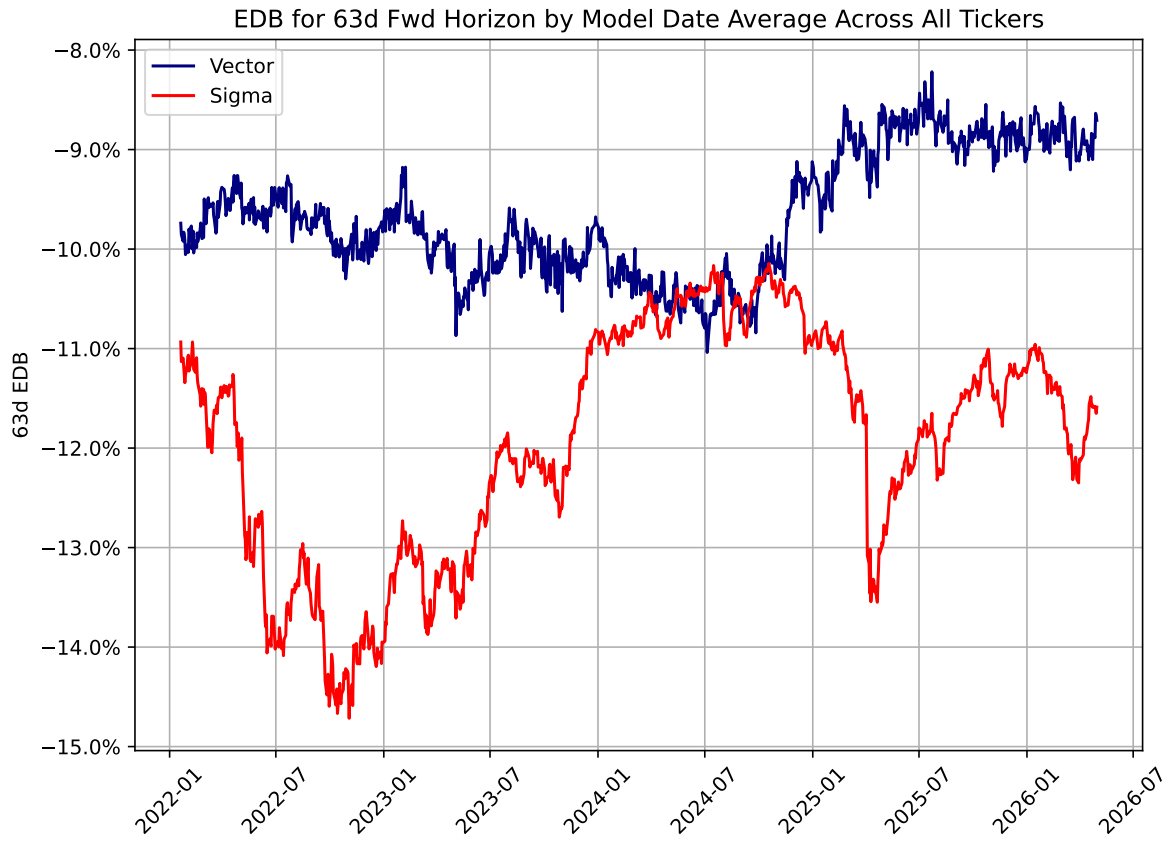
## 10d Horizon



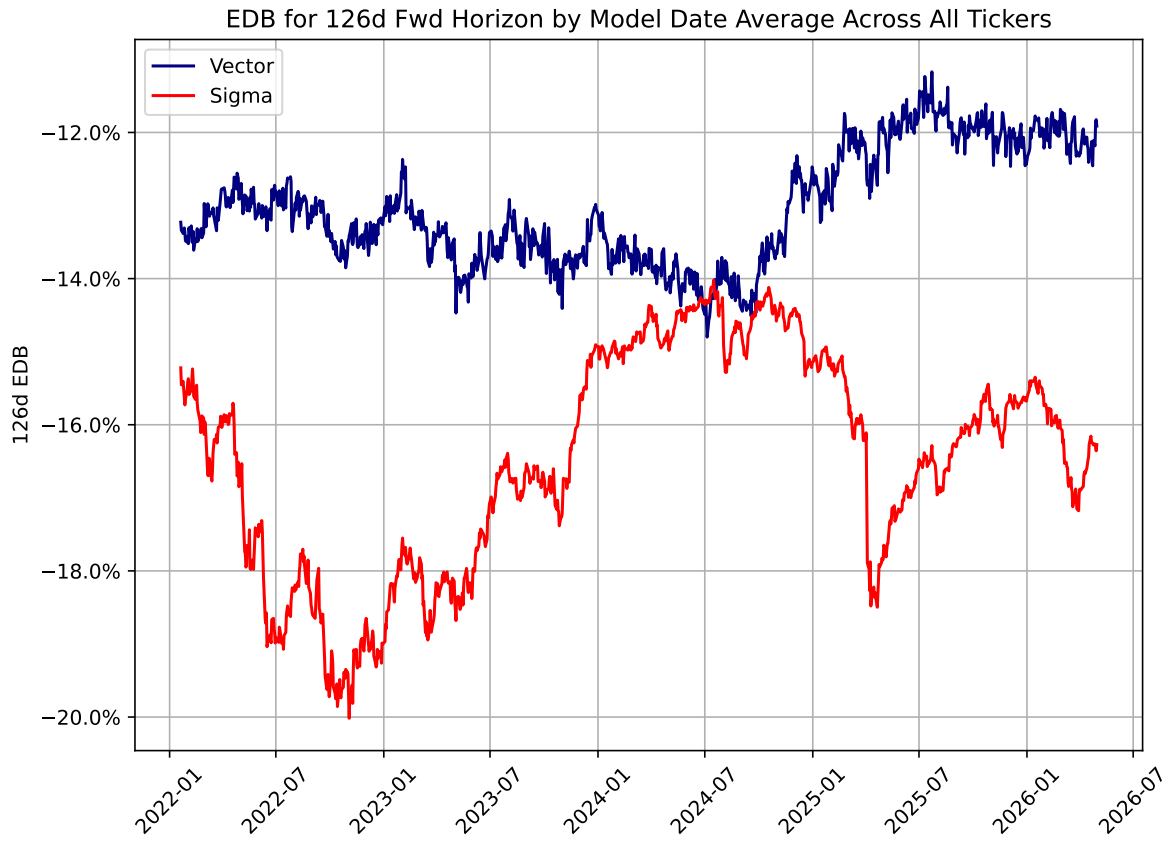
## 21d Horizon



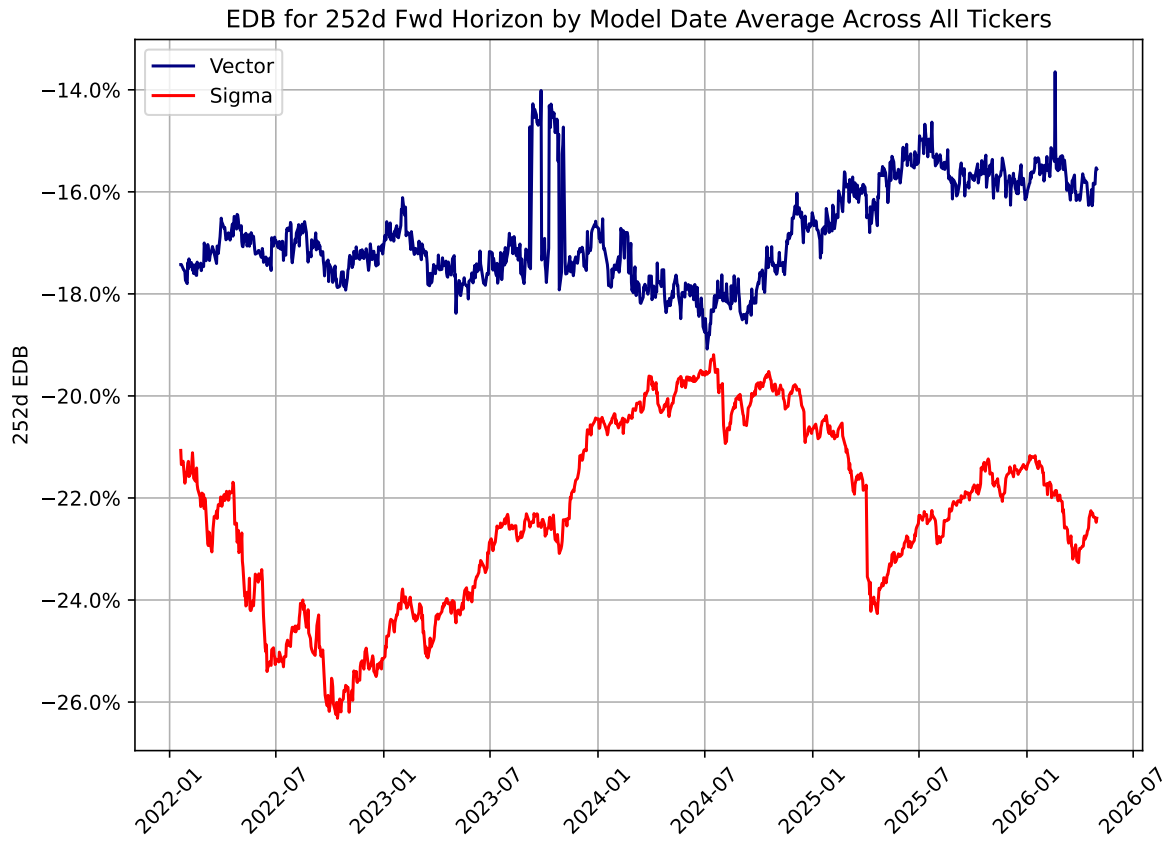
## 63d Horizon



## 126d Horizon



## 252d Horizon



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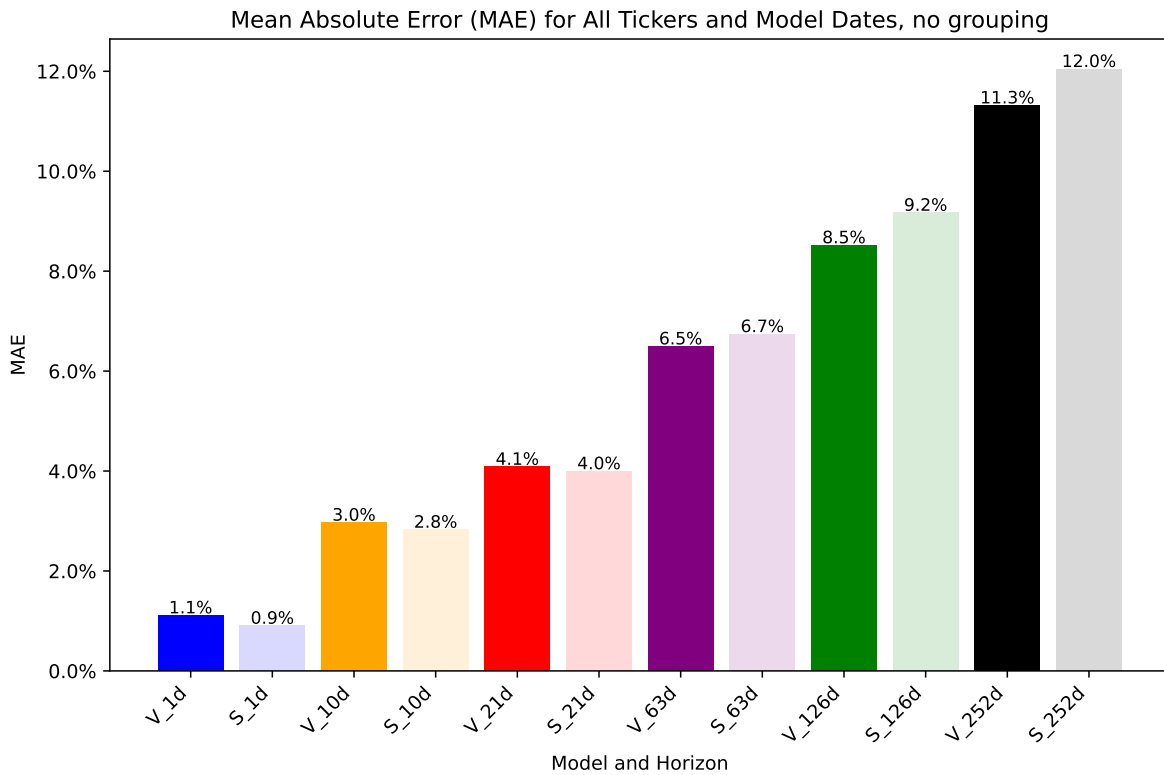
## Performance Summary - MAE of EDB vs. Actual Fwd Returns

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).

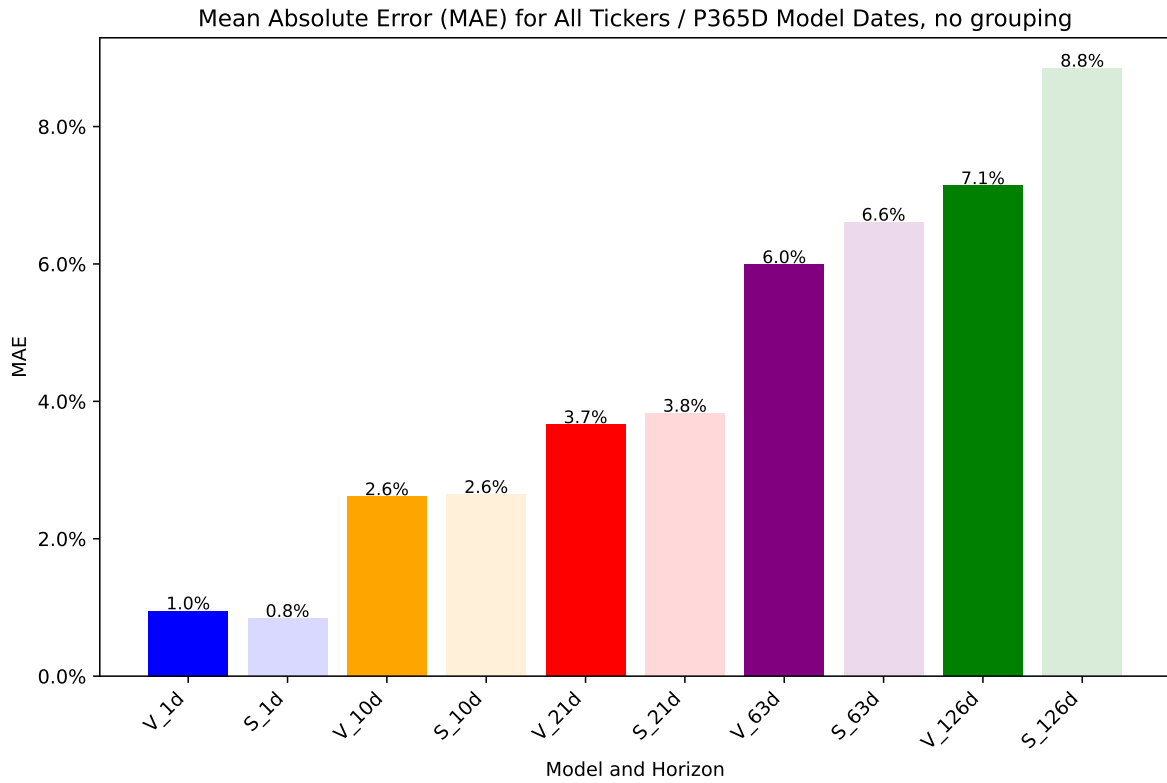
### All Out of Sample Model Dates

Period examined: All model dates from 2022-01-31 through 2026-04-29



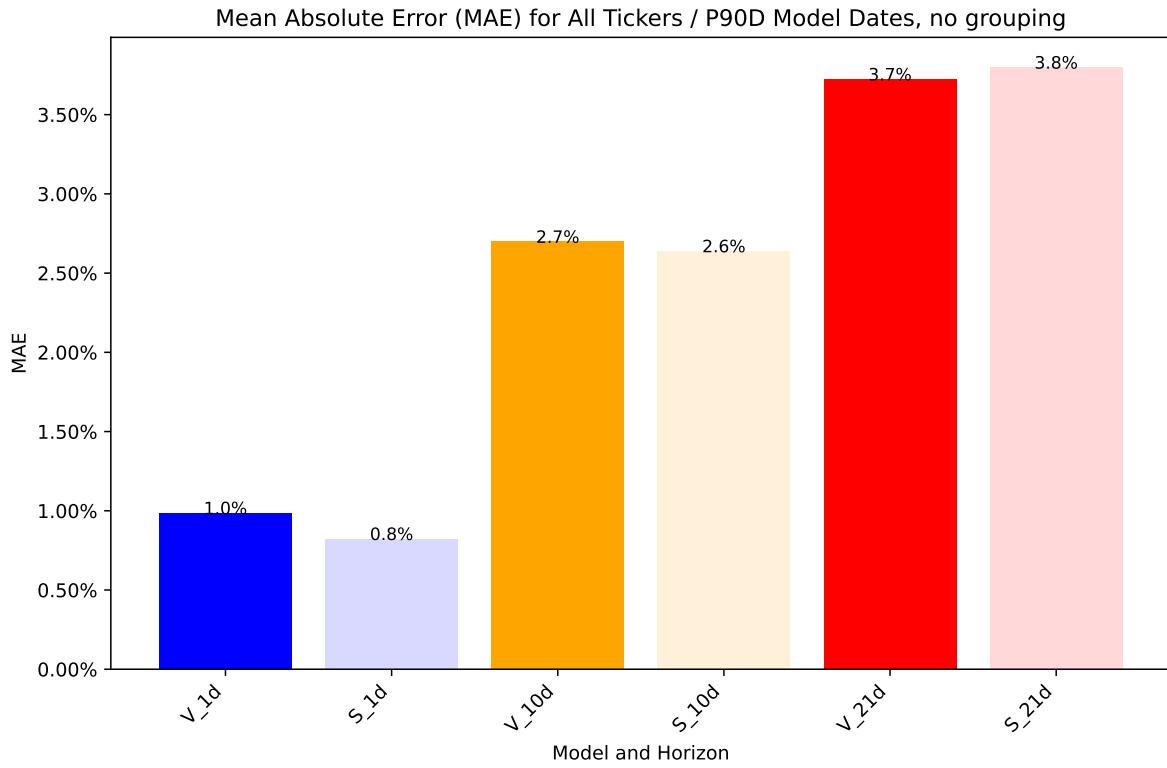
## Prior 365 Calendar Days (P365D)

Period examined: All model dates from 2025-05-01 through 2026-04-29



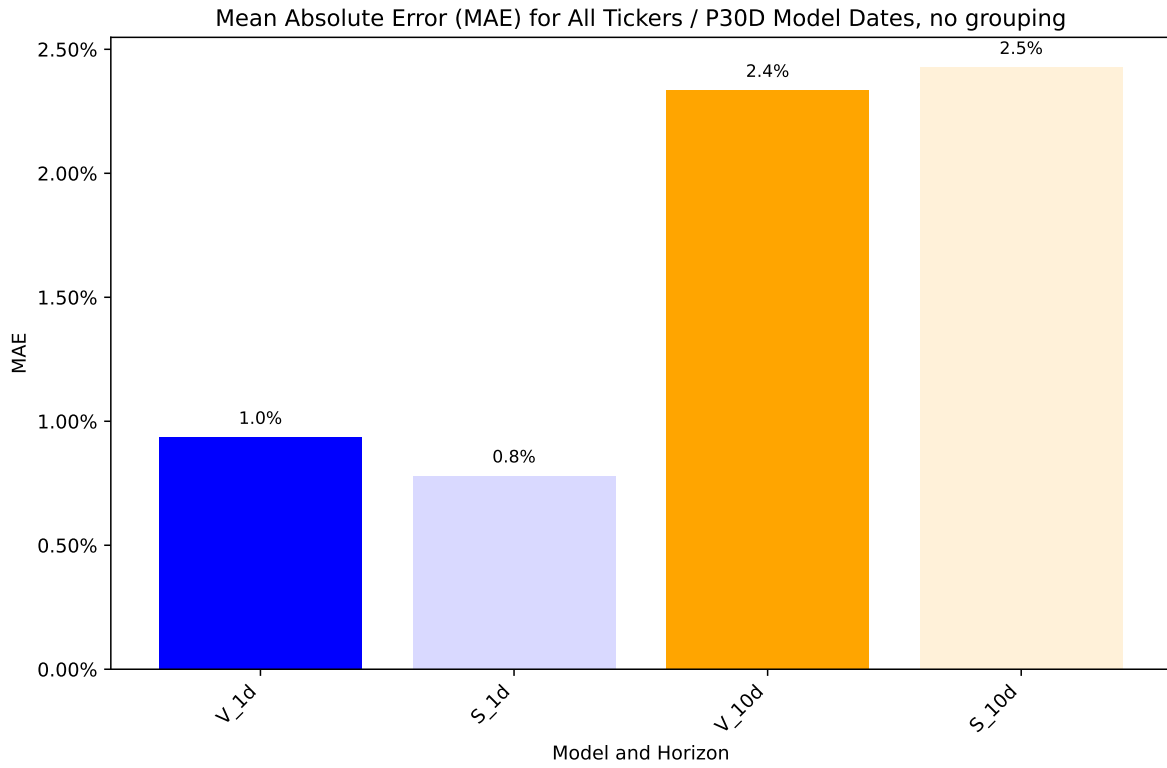
## Prior 90 Calendar Days (P90D)

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



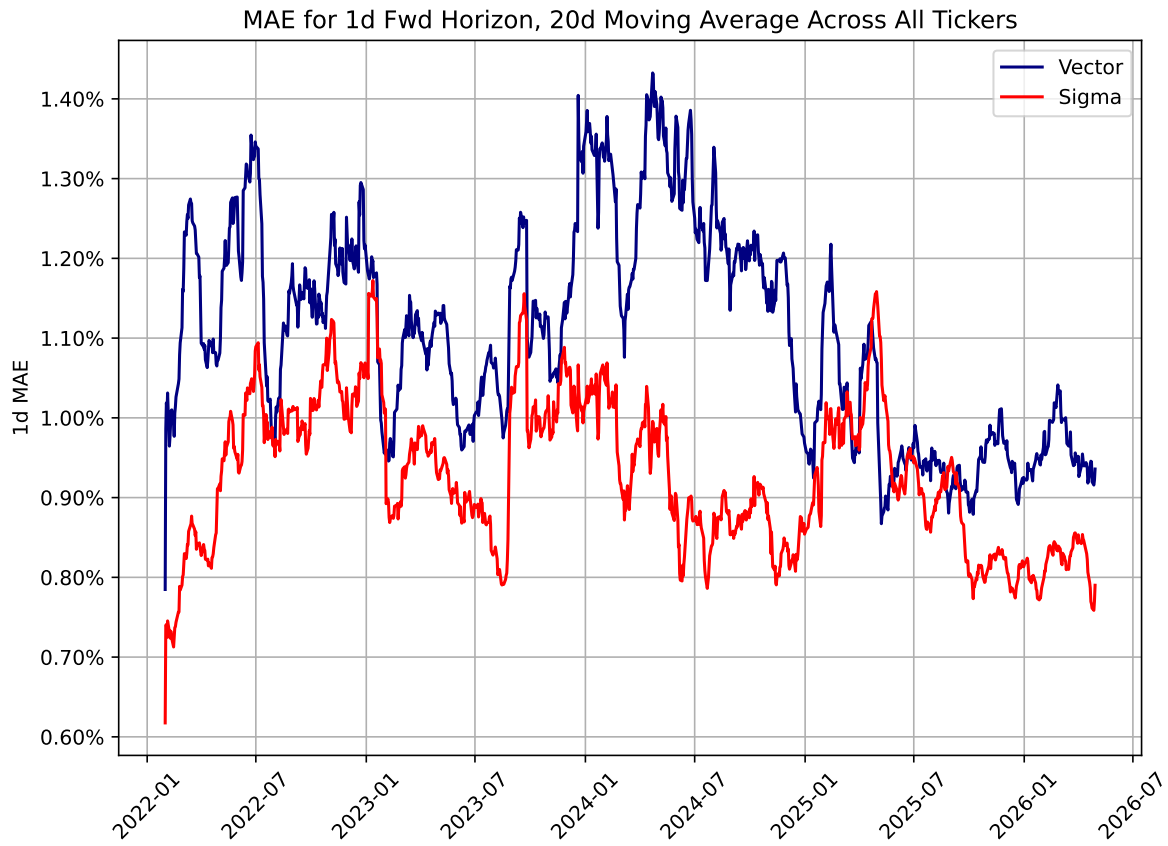
## Prior 30 Calendar Days (P30D)

Period examined: All model dates from 2026-04-01 through 2026-04-29

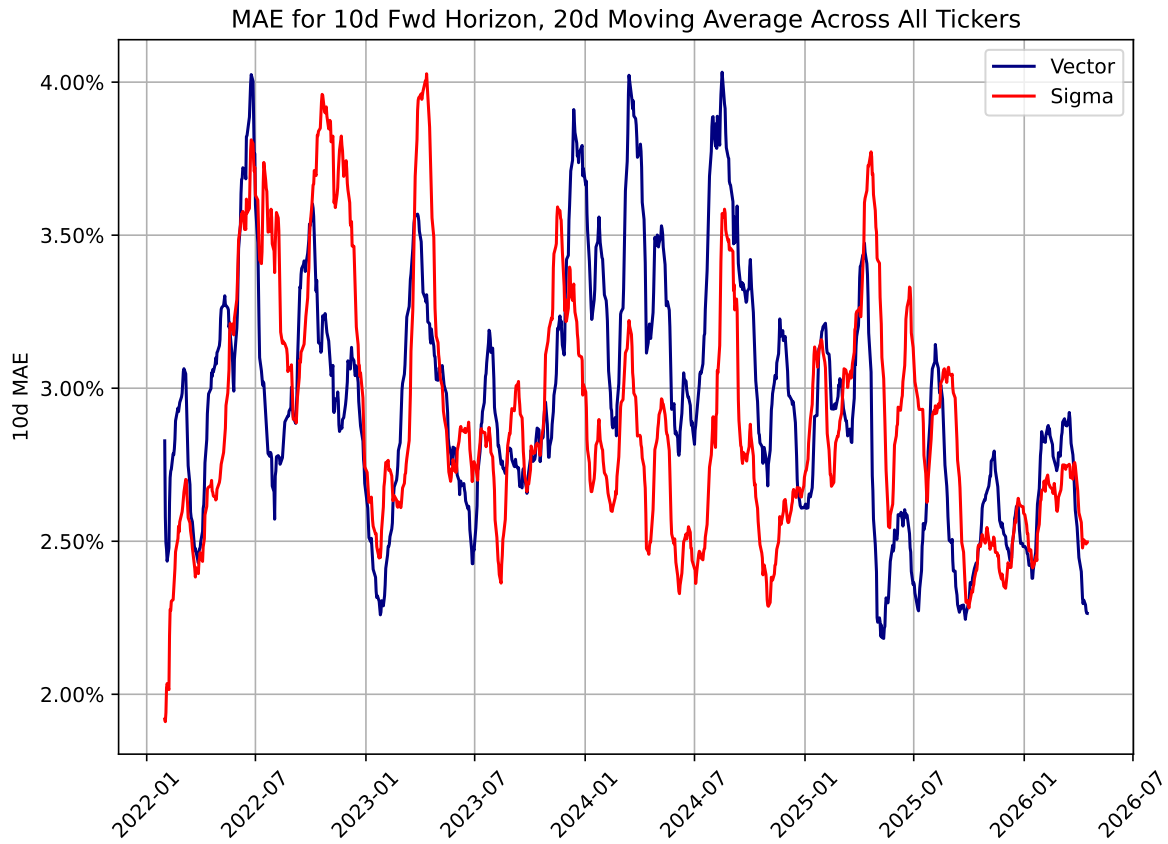


## MAE by Model Date Detail

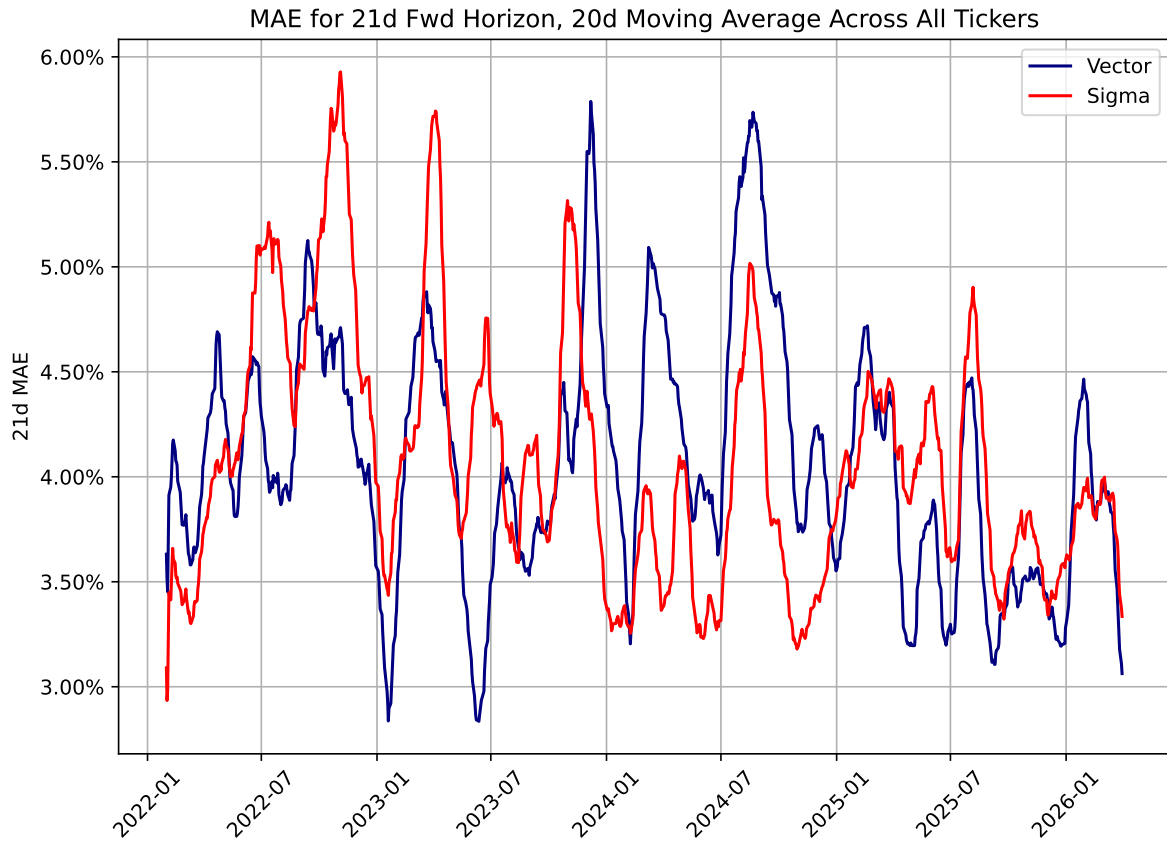
### 1d Horizon



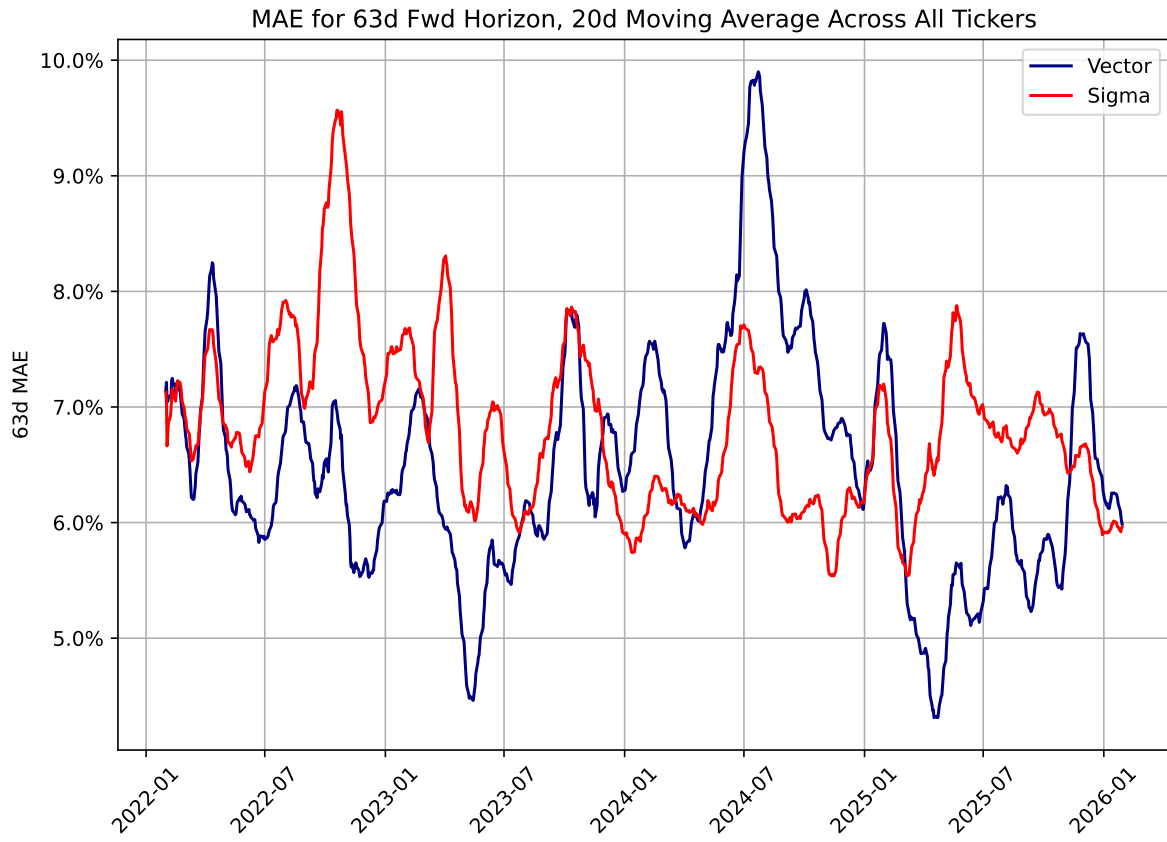
## 10d Horizon



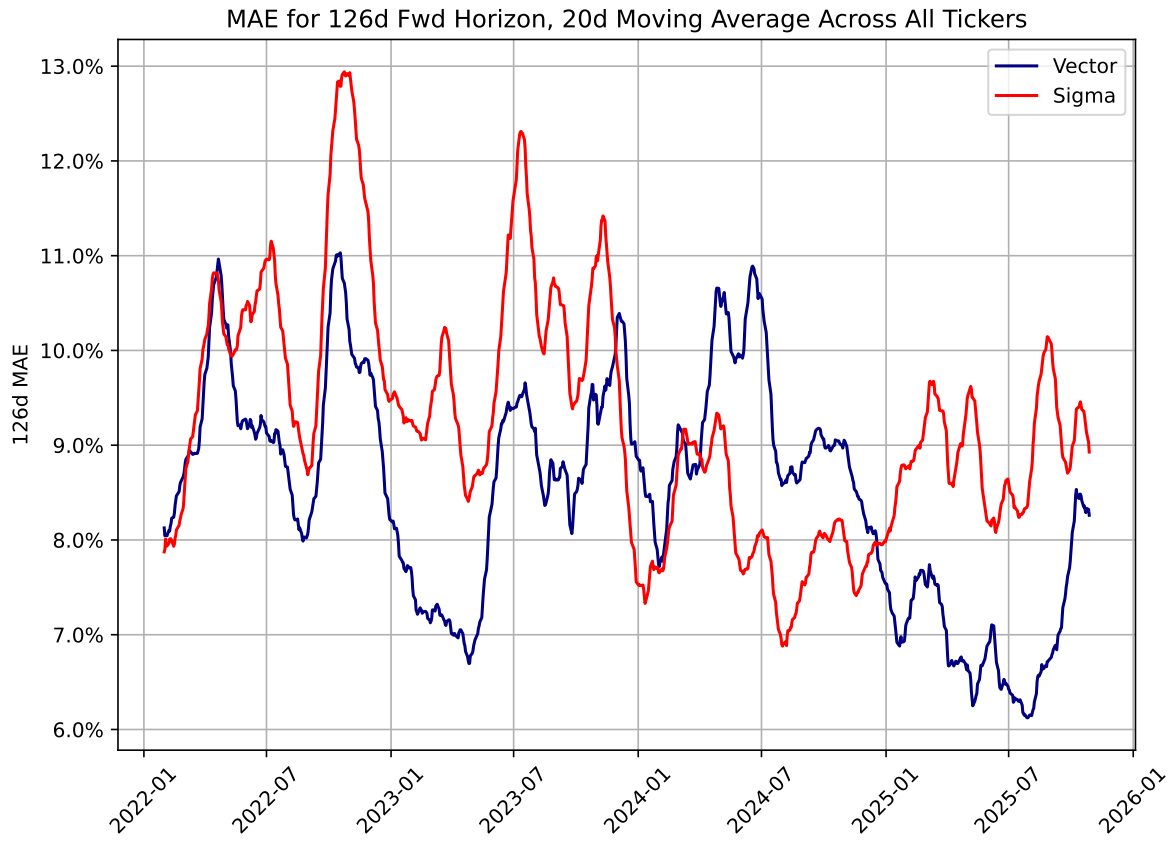
## 21d Horizon



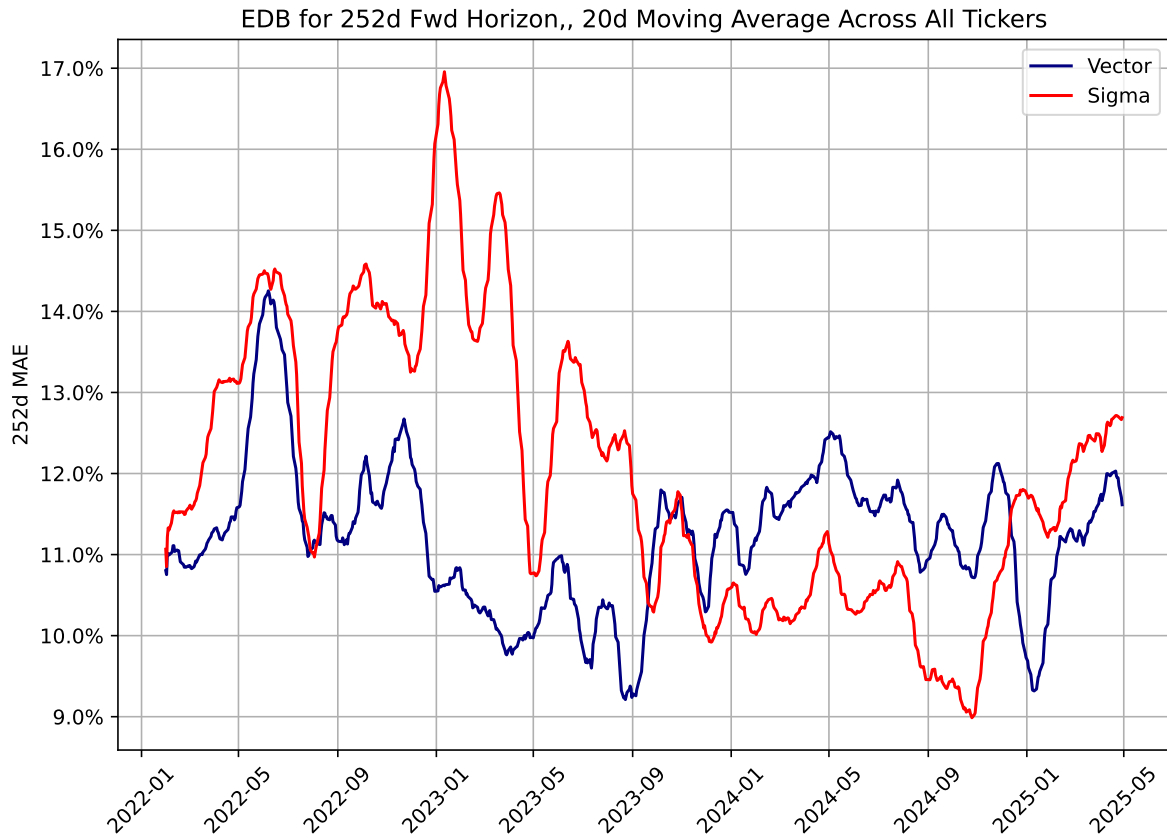
## 63d Horizon



## 126d Horizon



## 252d Horizon



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## Top 30 Tickers By EDB MAE

### All TMD: 1d

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

Period examined: All model dates from 2022-01-31 through 2026-04-29

Horizon	Ticker_V	EDB-MAE_V	Ticker_S	EDB-MAE_S
1.0	AMC	9.79%	AMC	9.16%
1.0	CZR	3.22%	GME	2.86%
1.0	CYH	3.19%	CYH	2.66%
1.0	LUMN	3.09%	LUMN	2.27%
1.0	GBTC	2.94%	MSTR	1.95%
1.0	AMAT	2.66%	GBTC	1.75%
1.0	TSLA	2.32%	BHC	1.68%
1.0	NVDA	2.11%	IEP	1.6%
1.0	PHM	2.06%	CTLT	1.4%
1.0	CCL	2.0%	TSLA	1.38%
1.0	ELAN	1.78%	UAA	1.38%
1.0	GT	1.75%	VFC	1.37%
1.0	IEP	1.75%	NWL	1.36%
1.0	THC	1.73%	SIVBQ	1.34%
1.0	VNO	1.73%	CLF	1.31%
1.0	AVGO	1.7%	AA	1.29%
1.0	MSTR	1.68%	CZR	1.27%
1.0	BHC	1.68%	SBNY	1.27%
1.0	GNRC	1.63%	CCL	1.27%
1.0	MS	1.61%	GNRC	1.26%
1.0	MSFT	1.6%	GT	1.22%
1.0	NWL	1.58%	AAP	1.21%
1.0	CLF	1.55%	AMD	1.18%
1.0	VST	1.53%	ON	1.13%
1.0	MOS	1.52%	NVDA	1.12%
1.0	X	1.52%	INTC	1.1%
1.0	AMD	1.5%	LNC	1.1%
1.0	PWR	1.45%	X	1.09%
1.0	UAA	1.39%	MU	1.08%
1.0	ETRN	1.39%	KALU	1.05%



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## All TMD: 10d

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

Period examined: All model dates from 2022-01-31 through 2026-04-29

Horizon	Ticker_V	EDB-MAE_V	Ticker_S	EDB-MAE_S
10.0	AMC	21.27%	AMC	18.85%
10.0	GBTC	8.97%	GME	8.93%
10.0	CYH	8.41%	CYH	8.6%
10.0	LUMN	7.44%	LUMN	7.6%
10.0	GT	5.75%	MSTR	6.32%
10.0	CZR	5.72%	GBTC	6.19%
10.0	IEP	5.45%	BHC	5.25%
10.0	CCL	5.09%	UAA	4.78%
10.0	NVDA	4.93%	IEP	4.77%
10.0	AMAT	4.86%	NWL	4.61%
10.0	NWL	4.68%	CLF	4.44%
10.0	PHM	4.63%	GT	4.4%
10.0	X	4.54%	VFC	4.39%
10.0	BHC	4.53%	CTLT	4.36%
10.0	MSTR	4.42%	GNRC	4.33%
10.0	VNO	4.34%	TSLA	4.3%
10.0	LNC	4.27%	AA	4.27%
10.0	MU	4.21%	SBNY	4.13%
10.0	CLF	4.17%	CCL	4.13%
10.0	TSLA	4.11%	CZR	4.05%
10.0	GME	4.05%	LNC	3.93%
10.0	SIVBQ	4.01%	AAP	3.92%
10.0	ELAN	3.86%	SIVBQ	3.83%
10.0	THC	3.84%	INTC	3.65%
10.0	TEVA	3.84%	NVDA	3.53%
10.0	UAA	3.82%	AMD	3.53%
10.0	AA	3.73%	ON	3.5%
10.0	VST	3.72%	ELAN	3.39%
10.0	MOS	3.7%	EXPE	3.38%
10.0	AVGO	3.67%	X	3.37%



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## All TMD: 21d

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

Period examined: All model dates from 2022-01-31 through 2026-04-29

Horizon	Ticker_V	EDB-MAE_V	Ticker_S	EDB-MAE_S
21.0	AMC	26.03%	AMC	19.58%
21.0	GBTC	10.98%	GME	11.93%
21.0	CYH	9.49%	LUMN	11.45%
21.0	LUMN	9.37%	CYH	9.83%
21.0	GT	7.4%	GBTC	8.79%
21.0	NVDA	7.25%	MSTR	8.49%
21.0	IEP	7.06%	BHC	7.83%
21.0	NWL	6.93%	NWL	6.97%
21.0	CZR	6.86%	CTLT	6.81%
21.0	AMAT	6.71%	UAA	6.81%
21.0	CCL	6.61%	CLF	6.6%
21.0	BHC	6.52%	IEP	6.45%
21.0	UAA	6.4%	VFC	6.42%
21.0	CLF	6.21%	GT	6.09%
21.0	PHM	6.09%	CCL	6.08%
21.0	MSTR	6.08%	AA	6.03%
21.0	GME	6.07%	LNC	5.96%
21.0	ELAN	6.02%	SIVBQ	5.75%
21.0	LNC	5.98%	TSLA	5.75%
21.0	TEVA	5.79%	GNRC	5.68%
21.0	VNO	5.77%	X	5.59%
21.0	TSLA	5.6%	CZR	5.57%
21.0	X	5.58%	ELAN	5.51%
21.0	ON	5.33%	NVDA	5.16%
21.0	VFC	5.32%	AMD	5.15%
21.0	MOS	5.29%	ON	5.13%
21.0	ETRN	5.26%	INTC	5.1%
21.0	AVGO	5.23%	AAP	5.1%
21.0	MU	5.18%	KALU	4.91%
21.0	THC	5.15%	ETRN	4.89%



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## All TMD: 63d

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

Period examined: All model dates from 2022-01-31 through 2026-04-29

Horizon	Ticker_V	EDB-MAE_V	Ticker_S	EDB-MAE_S
63.0	AMC	33.37%	AMC	20.13%
63.0	LUMN	14.51%	GME	18.59%
63.0	IEP	14.4%	MSTR	16.52%
63.0	CYH	14.29%	CYH	15.11%
63.0	GBTC	12.78%	LUMN	14.61%
63.0	AMAT	10.91%	IEP	13.52%
63.0	UAA	10.33%	BHC	13.08%
63.0	NVDA	10.32%	CTLT	12.64%
63.0	X	10.15%	CCL	11.84%
63.0	PHM	10.01%	UAA	11.66%
63.0	CTLT	9.82%	GNRC	11.16%
63.0	MU	9.81%	GBTC	11.01%
63.0	GME	9.77%	TSLA	10.83%
63.0	ELAN	9.62%	NWL	10.72%
63.0	THC	9.51%	INTC	10.6%
63.0	TSLA	9.5%	GT	10.42%
63.0	GT	9.47%	SIVBQ	9.95%
63.0	VNO	9.44%	CZR	9.73%
63.0	CCL	9.4%	CLF	9.57%
63.0	SIVBQ	9.14%	LNC	9.38%
63.0	NWL	9.08%	AA	9.33%
63.0	MOS	8.83%	LW	9.24%
63.0	INTC	8.82%	ON	9.21%
63.0	BHC	8.79%	VFC	8.87%
63.0	LNC	8.56%	X	8.7%
63.0	CZR	8.56%	MU	8.5%
63.0	CLF	8.5%	SBNY	8.42%
63.0	PWR	8.25%	NFLX	8.31%
63.0	WDC	8.23%	WDC	8.29%
63.0	MSFT	8.2%	THC	8.23%



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## All TMD: 126d

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

Period examined: All model dates from 2022-01-31 through 2026-04-29

Horizon	Ticker_V	EDB-MAE_V	Ticker_S	EDB-MAE_S
126.0	AMC	36.08%	CYH	21.22%
126.0	CYH	25.03%	MSTR	20.43%
126.0	LUMN	23.47%	AMC	20.37%
126.0	IEP	20.83%	LUMN	19.35%
126.0	SIVBQ	18.52%	GNRC	19.15%
126.0	GBTC	15.8%	IEP	18.76%
126.0	ETRN	15.25%	BHC	18.1%
126.0	AMAT	15.02%	GME	17.57%
126.0	CSTM	14.33%	SBNY	15.33%
126.0	ELAN	14.3%	ETRN	15.13%
126.0	NVDA	13.71%	SIVBQ	14.87%
126.0	NWL	12.97%	NVDA	14.4%
126.0	NFLX	12.94%	EXPE	14.29%
126.0	LNC	12.91%	UAA	14.21%
126.0	PWR	12.85%	CCL	14.15%
126.0	CLF	12.61%	CTLT	14.12%
126.0	INTC	12.49%	GT	14.08%
126.0	MU	12.43%	VFC	14.0%
126.0	GME	12.11%	GBTC	13.81%
126.0	MSTR	11.89%	AAP	13.78%
126.0	TSLA	11.78%	CZR	13.59%
126.0	GT	11.77%	AA	13.26%
126.0	UAA	11.65%	CLF	13.24%
126.0	AA	11.61%	NWL	13.18%
126.0	BHC	11.55%	LNC	13.12%
126.0	VNO	11.36%	INTC	12.99%
126.0	X	11.35%	KEY	12.47%
126.0	CTLT	11.22%	CSTM	12.01%
126.0	PHM	11.14%	NFLX	11.71%
126.0	THC	11.07%	THC	11.58%



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## All TMD: 252d

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

Period examined: All model dates from 2022-01-31 through 2026-04-29

Horizon	Ticker_V	EDB-MAE_V	Ticker_S	EDB-MAE_S
252.0	AMC	45.91%	SBNY	53.5%
252.0	NVDA	36.82%	LUMN	25.31%
252.0	CYH	33.45%	SIVBQ	23.37%
252.0	LUMN	31.51%	AMC	23.35%
252.0	LNC	25.06%	CTLT	22.33%
252.0	AMAT	25.05%	TSLA	21.69%
252.0	SIVBQ	24.89%	BHC	21.69%
252.0	PHM	24.82%	CLF	21.43%
252.0	IEP	21.74%	NVDA	21.3%
252.0	CCL	20.19%	LNC	21.09%
252.0	AVGO	19.63%	EXPE	20.66%
252.0	GBTC	19.4%	UAA	20.24%
252.0	TRGP	19.3%	AAP	20.1%
252.0	GT	18.92%	AVGO	19.62%
252.0	MSTR	18.76%	CYH	19.25%
252.0	EXPE	17.74%	META	18.94%
252.0	ELAN	17.42%	TEVA	18.76%
252.0	PWR	16.74%	VFC	18.7%
252.0	NWL	16.46%	GNRC	18.68%
252.0	ETRN	16.26%	FSUGY	16.83%
252.0	CPRT	16.23%	NWL	16.8%
252.0	INTC	16.14%	VST	16.76%
252.0	HCA	15.71%	ELAN	16.73%
252.0	TXN	15.5%	GME	16.62%
252.0	CMA	15.3%	CMA	16.1%
252.0	KEY	14.86%	GT	15.92%
252.0	CSTM	14.79%	CSTM	15.77%
252.0	CZR	14.74%	ETRN	15.18%
252.0	AA	14.62%	AMZN	15.12%
252.0	UNH	14.41%	INTC	14.97%



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## Bottom 30 Tickers By EDB MAE

### All TMD: 1d

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

Period examined: All model dates from 2022-01-31 through 2026-04-29

Horizon	Ticker_V	EDB-MAE_V	Ticker_S	EDB-MAE_S
1.0	VCSH	0.09%	VCSH	0.07%
1.0	MUB	0.11%	MUB	0.1%
1.0	LQD	0.17%	HYG	0.19%
1.0	HYG	0.27%	LQD	0.21%
1.0	EMB	0.29%	EMB	0.24%
1.0	FRA	0.36%	FRA	0.3%
1.0	TLT	0.41%	GLD	0.35%
1.0	PEP	0.47%	TLT	0.36%
1.0	VZ	0.5%	PEP	0.4%
1.0	AMGN	0.5%	SPY	0.42%
1.0	SNY	0.52%	NVS	0.43%
1.0	HD	0.52%	POST	0.45%
1.0	POST	0.53%	ORLY	0.49%
1.0	BUD	0.55%	HON	0.49%
1.0	HON	0.55%	ABBV	0.49%
1.0	GSK	0.55%	VICI	0.5%
1.0	SBUX	0.55%	COST	0.5%
1.0	VICI	0.57%	CSCO	0.5%
1.0	NVS	0.57%	VZ	0.5%
1.0	GILD	0.58%	MNST	0.51%
1.0	BMY	0.58%	KHC	0.51%
1.0	ABBV	0.58%	AZN	0.51%
1.0	XOM	0.58%	MRK	0.51%
1.0	CMCSA	0.6%	MSI	0.51%
1.0	BALL	0.6%	BMY	0.51%
1.0	ORLY	0.61%	AMGN	0.52%
1.0	MSI	0.61%	CAH	0.53%
1.0	CVS	0.62%	AZO	0.54%
1.0	ZTS	0.62%	TMUS	0.54%
1.0	JAZZ	0.62%	GILD	0.54%



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## All TMD: 10d

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

Period examined: All model dates from 2022-01-31 through 2026-04-29

Horizon	Ticker_V	EDB-MAE_V	Ticker_S	EDB-MAE_S
10.0	VCSH	0.23%	VCSH	0.23%
10.0	MUB	0.4%	MUB	0.32%
10.0	HYG	0.62%	HYG	0.6%
10.0	LQD	0.64%	LQD	0.67%
10.0	EMB	0.88%	EMB	0.74%
10.0	FRA	1.0%	FRA	0.98%
10.0	TLT	1.11%	GLD	1.03%
10.0	VZ	1.47%	TLT	1.19%
10.0	SNY	1.48%	SPY	1.31%
10.0	BUD	1.49%	POST	1.44%
10.0	GILD	1.51%	ORLY	1.46%
10.0	NVS	1.52%	PEP	1.47%
10.0	POST	1.54%	NVS	1.47%
10.0	BMY	1.54%	ABBV	1.53%
10.0	ZTS	1.57%	VICI	1.55%
10.0	GLD	1.61%	HON	1.55%
10.0	PEP	1.62%	COST	1.57%
10.0	TMUS	1.64%	KHC	1.58%
10.0	AMGN	1.66%	VZ	1.59%
10.0	GSK	1.66%	MRK	1.6%
10.0	MSI	1.71%	TMUS	1.62%
10.0	GWV	1.73%	GILD	1.62%
10.0	XOM	1.73%	CSCO	1.64%
10.0	JAZZ	1.76%	CAH	1.64%
10.0	VICI	1.77%	AZO	1.65%
10.0	ABBV	1.8%	BMY	1.65%
10.0	KHC	1.8%	MSI	1.66%
10.0	TDG	1.82%	QQQ	1.69%
10.0	HON	1.84%	PCG	1.69%
10.0	OXY	1.87%	AMGN	1.72%



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## All TMD: 21d

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

Period examined: All model dates from 2022-01-31 through 2026-04-29

Horizon	Ticker_V	EDB-MAE_V	Ticker_S	EDB-MAE_S
21.0	VCSH	0.32%	VCSH	0.34%
21.0	MUB	0.66%	MUB	0.47%
21.0	HYG	0.89%	HYG	0.84%
21.0	LQD	0.89%	LQD	1.0%
21.0	EMB	1.45%	EMB	1.21%
21.0	TLT	1.58%	FRA	1.55%
21.0	FRA	1.62%	GLD	1.63%
21.0	BUD	1.93%	TLT	1.83%
21.0	SNY	1.97%	PEP	1.88%
21.0	GILD	1.99%	SPY	1.88%
21.0	NVS	2.04%	NVS	2.0%
21.0	BMY	2.05%	MRK	2.11%
21.0	POST	2.15%	POST	2.15%
21.0	MSI	2.17%	ACGL	2.16%
21.0	PEP	2.19%	BMY	2.16%
21.0	VICI	2.24%	ORLY	2.18%
21.0	GSK	2.26%	VICI	2.19%
21.0	GLD	2.27%	MSI	2.2%
21.0	CVS	2.3%	HON	2.25%
21.0	AMGN	2.34%	MNST	2.32%
21.0	HON	2.36%	CAH	2.33%
21.0	CHTR	2.36%	GWG	2.33%
21.0	MRK	2.39%	AMGN	2.34%
21.0	ZTS	2.41%	GILD	2.34%
21.0	XOM	2.41%	QQQ	2.35%
21.0	TMUS	2.41%	TMUS	2.35%
21.0	KHC	2.42%	BUD	2.36%
21.0	BIIB	2.42%	KHC	2.36%
21.0	JAZZ	2.44%	ABBV	2.39%
21.0	GWG	2.47%	COST	2.4%



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## All TMD: 63d

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

Period examined: All model dates from 2022-01-31 through 2026-04-29

Horizon	Ticker_V	EDB-MAE_V	Ticker_S	EDB-MAE_S
63.0	VCSH	0.48%	VCSH	0.59%
63.0	MUB	0.94%	MUB	0.76%
63.0	LQD	1.1%	LQD	1.65%
63.0	HYG	1.53%	HYG	1.68%
63.0	EMB	2.17%	EMB	2.08%
63.0	TLT	2.25%	GLD	2.46%
63.0	FRA	2.45%	FRA	2.54%
63.0	POST	2.8%	TLT	3.03%
63.0	GLD	2.87%	SPY	3.14%
63.0	GSK	3.04%	POST	3.19%
63.0	ABBV	3.13%	ABBV	3.31%
63.0	GILD	3.37%	PEP	3.31%
63.0	BUD	3.41%	HON	3.4%
63.0	VICI	3.54%	GWW	3.41%
63.0	HON	3.6%	NVS	3.49%
63.0	NVS	3.6%	VZ	3.53%
63.0	PEP	3.61%	VICI	3.58%
63.0	GWW	3.63%	ORLY	3.62%
63.0	BMY	3.64%	GILD	3.8%
63.0	AMGN	3.77%	BUD	3.87%
63.0	COST	3.79%	CAH	3.91%
63.0	SNY	3.79%	MNST	3.94%
63.0	XOM	3.89%	COST	3.95%
63.0	KHC	3.89%	AZN	3.97%
63.0	SBNY	3.89%	BMY	4.0%
63.0	VZ	3.9%	KHC	4.04%
63.0	TDG	3.91%	AMGN	4.1%
63.0	OXY	3.95%	HD	4.1%
63.0	CAH	3.97%	MRK	4.13%
63.0	TMUS	3.97%	CPRT	4.23%



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## All TMD: 126d

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

Period examined: All model dates from 2022-01-31 through 2026-04-29

Horizon	Ticker_V	EDB-MAE_V	Ticker_S	EDB-MAE_S
126.0	VCSH	0.7%	VCSH	0.84%
126.0	MUB	1.5%	MUB	1.23%
126.0	LQD	1.9%	LQD	2.36%
126.0	HYG	1.93%	HYG	2.59%
126.0	NVS	2.93%	EMB	3.42%
126.0	TLT	3.04%	CAH	3.99%
126.0	SNY	3.71%	NVS	4.03%
126.0	FRA	3.99%	FRA	4.22%
126.0	BUD	4.01%	KHC	4.32%
126.0	EMB	4.03%	GLD	4.4%
126.0	MSI	4.1%	POST	4.42%
126.0	HON	4.22%	TLT	4.44%
126.0	GSK	4.27%	PEP	4.6%
126.0	POST	4.31%	MSI	4.7%
126.0	HD	4.35%	TMUS	4.71%
126.0	GWG	4.41%	MNST	4.79%
126.0	TMUS	4.46%	GILD	4.99%
126.0	GLD	4.46%	ABBV	5.04%
126.0	GILD	4.56%	HON	5.08%
126.0	KHC	4.65%	GWG	5.12%
126.0	AZN	4.78%	VICI	5.12%
126.0	JAZZ	4.85%	JAZZ	5.22%
126.0	CMCSA	4.87%	SPY	5.25%
126.0	ZTS	4.94%	ORLY	5.26%
126.0	COST	4.94%	AMGN	5.36%
126.0	BHP	4.97%	FRCB	5.39%
126.0	AMZN	5.05%	CSCO	5.45%
126.0	PEP	5.09%	COST	5.57%
126.0	VICI	5.1%	VZ	5.62%
126.0	GS	5.11%	BUD	5.66%



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## All TMD: 252d

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

Period examined: All model dates from 2022-01-31 through 2026-04-29

Horizon	Ticker_V	EDB-MAE_V	Ticker_S	EDB-MAE_S
252.0	VCSH	1.04%	VCSH	1.12%
252.0	LQD	2.69%	MUB	1.46%
252.0	MUB	2.9%	HYG	3.62%
252.0	HYG	3.48%	SPY	4.18%
252.0	QQQ	3.88%	LQD	4.39%
252.0	FRA	3.97%	FRA	4.44%
252.0	GLD	4.02%	QQQ	4.72%
252.0	GILD	4.47%	EMB	4.98%
252.0	TLT	4.5%	TLT	4.99%
252.0	BHP	5.14%	GLD	5.17%
252.0	SPY	5.14%	PEP	5.31%
252.0	OXY	5.3%	GILD	5.64%
252.0	SNY	5.35%	MNST	5.71%
252.0	NVS	5.41%	CMCSA	6.27%
252.0	AMGN	5.51%	FRCB	6.47%
252.0	VICI	5.59%	VICI	6.66%
252.0	BUD	5.67%	JAZZ	6.72%
252.0	META	5.89%	COST	6.73%
252.0	HD	6.13%	AMGN	6.84%
252.0	GSK	6.17%	POST	6.89%
252.0	T	6.29%	IRM	6.89%
252.0	RIO	6.37%	ACGL	7.1%
252.0	IRM	6.41%	MSI	7.39%
252.0	SBUX	6.47%	GSK	7.47%
252.0	AZO	6.49%	DHI	7.56%
252.0	HON	6.53%	LLY	7.67%
252.0	PEP	6.55%	TMUS	7.7%
252.0	KHC	6.55%	ABBV	7.81%
252.0	CMCSA	6.73%	CVS	7.88%
252.0	MSI	6.74%	GWG	7.92%



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## 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.

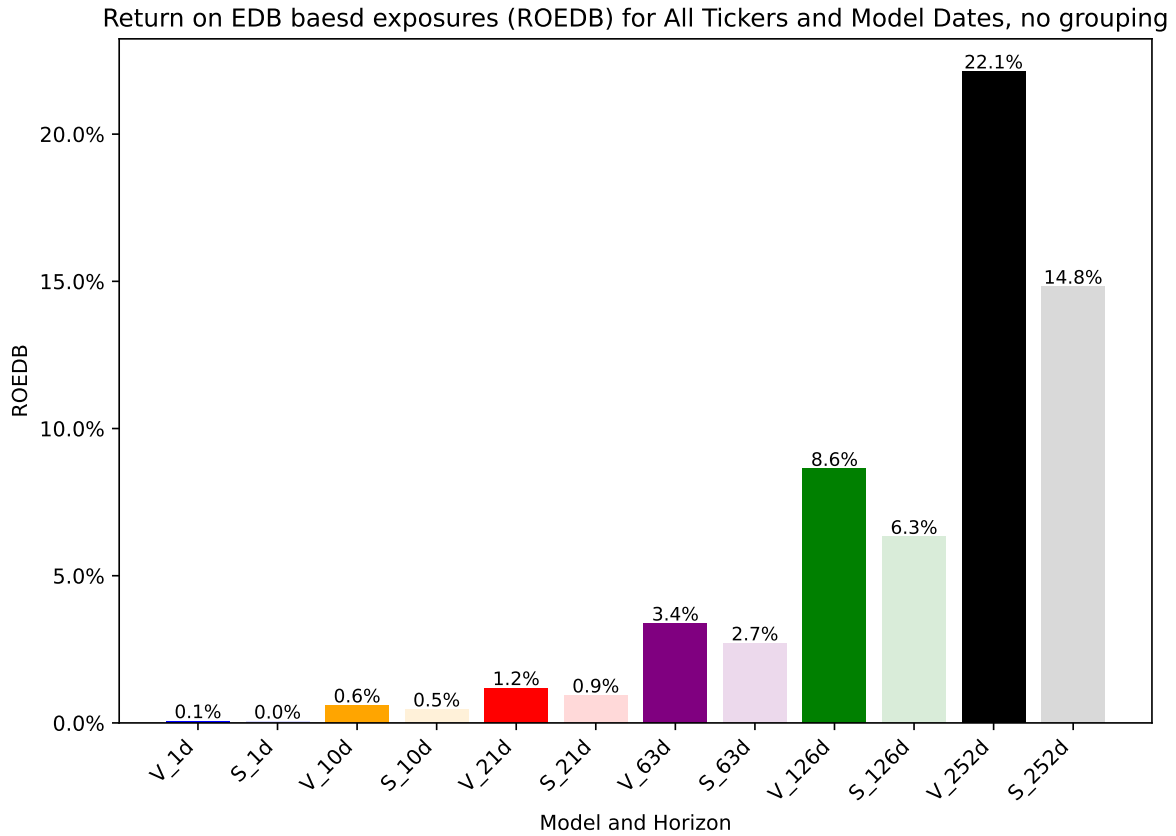
Following each bar chart comparison of ROEDB is a table detailing the alpha (intercept) and slope (beta) of Vector Model EDB based exposure performance to Sigma EDB exposure based performance. The beta arguably provides some indication of the leverage of the Vector Model based exposures and the alpha 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 2026-04-29



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

	1d	10d	21d	63d	126d	252d
intercept	-0.02%	-0.13%	-0.29%	-0.81%	-1.50%	-3.54%
intercept_p_value	0.78%	0.00%	0.00%	0.00%	0.00%	0.00%
slope	163.15%	157.78%	158.22%	155.02%	160.20%	173.21%
slope_p_value	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

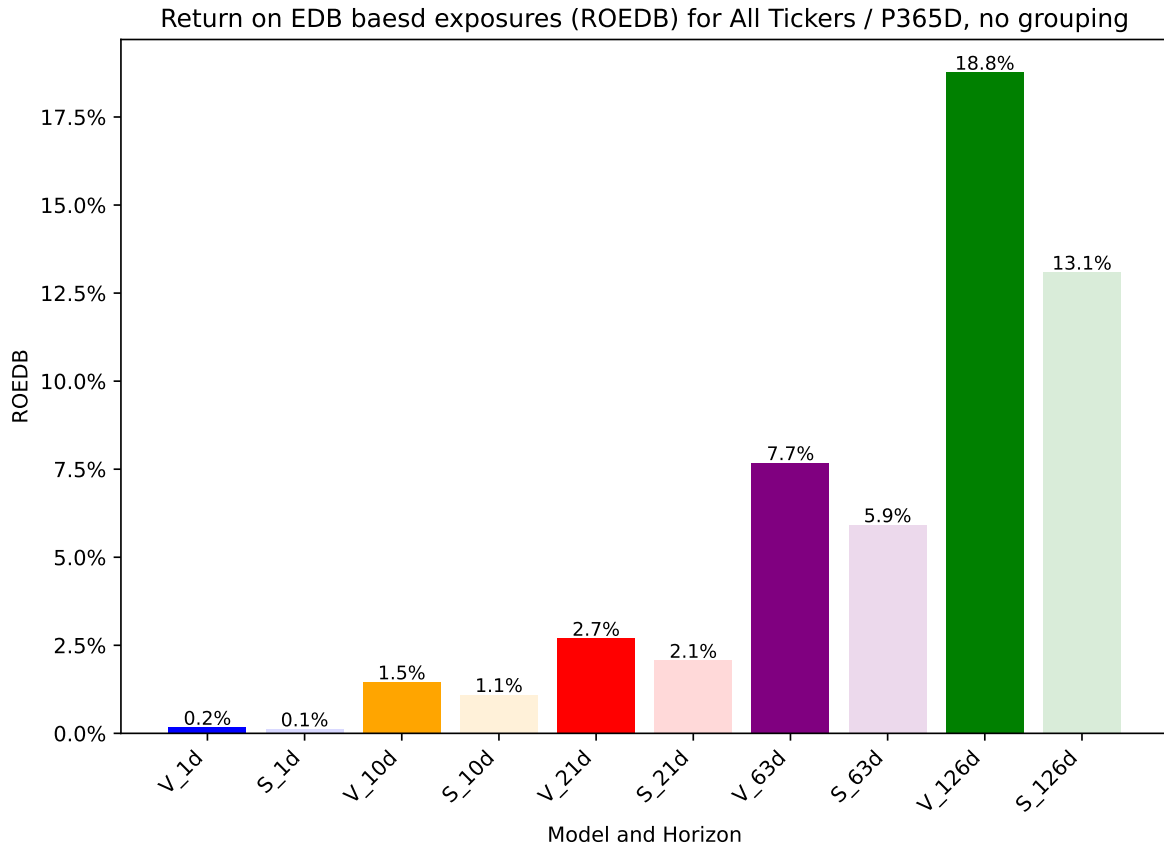
Same as above, but averaged by Ticker across Model Dates:

	1d	10d	21d	63d	126d	252d
intercept	0.00%	0.07%	0.15%	0.56%	1.47%	2.39%
intercept_p_value	46.19%	21.02%	14.48%	13.15%	8.92%	12.44%
slope	153.53%	145.45%	146.74%	147.11%	151.12%	163.24%
slope_p_value	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%



## Prior 365 Calendar Days (P365D)

Period examined: All model dates from 2025-05-01 through 2026-04-29



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

	1d	10d	21d	63d	126d
intercept	-0.02%	-0.20%	-0.45%	-1.18%	-3.00%
intercept_p_value	2.80%	0.00%	0.00%	0.00%	0.00%
slope	158.87%	151.62%	151.91%	149.74%	166.29%
slope_p_value	0.00%	0.00%	0.00%	0.00%	0.00%

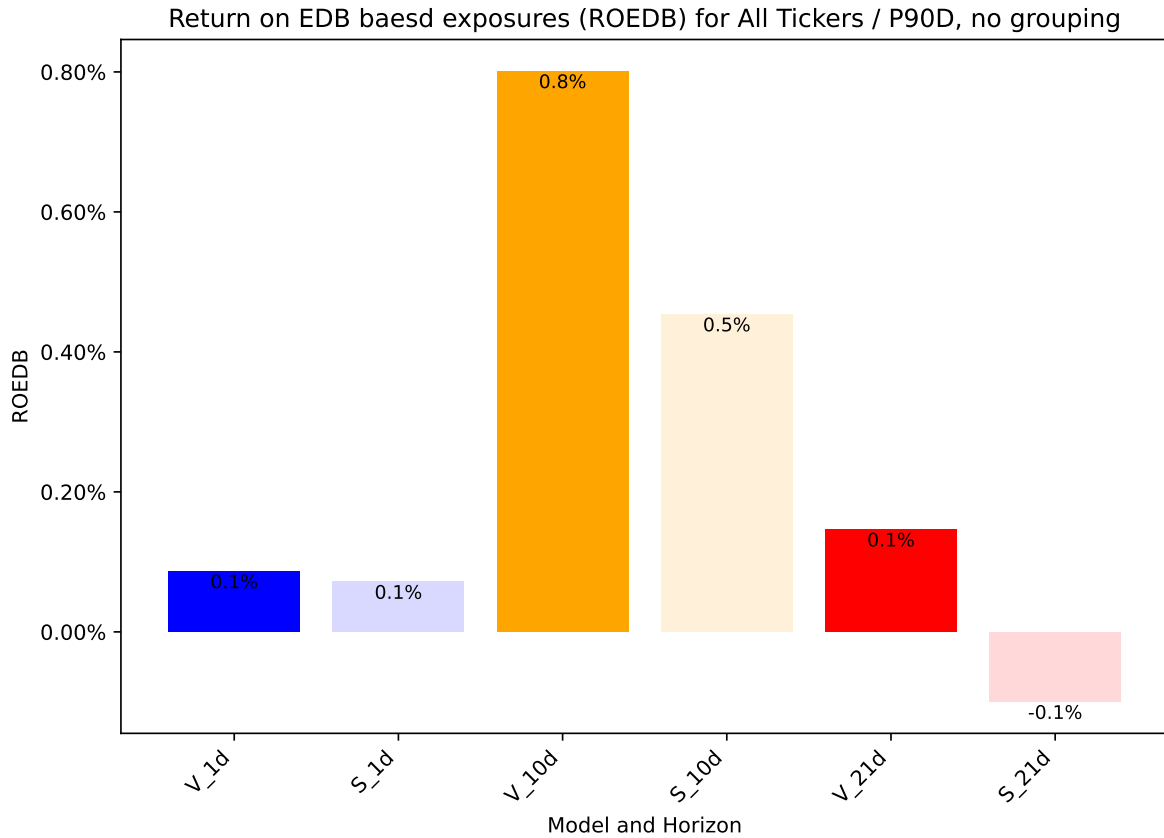
Same as above, but averaged by Ticker across Model Dates:

	1d	10d	21d	63d	126d
intercept	0.01%	0.12%	0.27%	0.94%	0.32%
intercept_p_value	45.05%	19.75%	14.39%	18.03%	18.95%
slope	150.34%	142.73%	143.57%	148.83%	159.36%
slope_p_value	0.00%	0.00%	0.00%	0.00%	0.02%



## Prior 90 Calendar Days (P90D)

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



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

	1d	10d	21d
intercept	-0.02%	0.10%	0.30%
intercept_p_value	34.26%	16.11%	0.82%
slope	153.35%	154.04%	157.00%
slope_p_value	0.00%	0.00%	0.00%

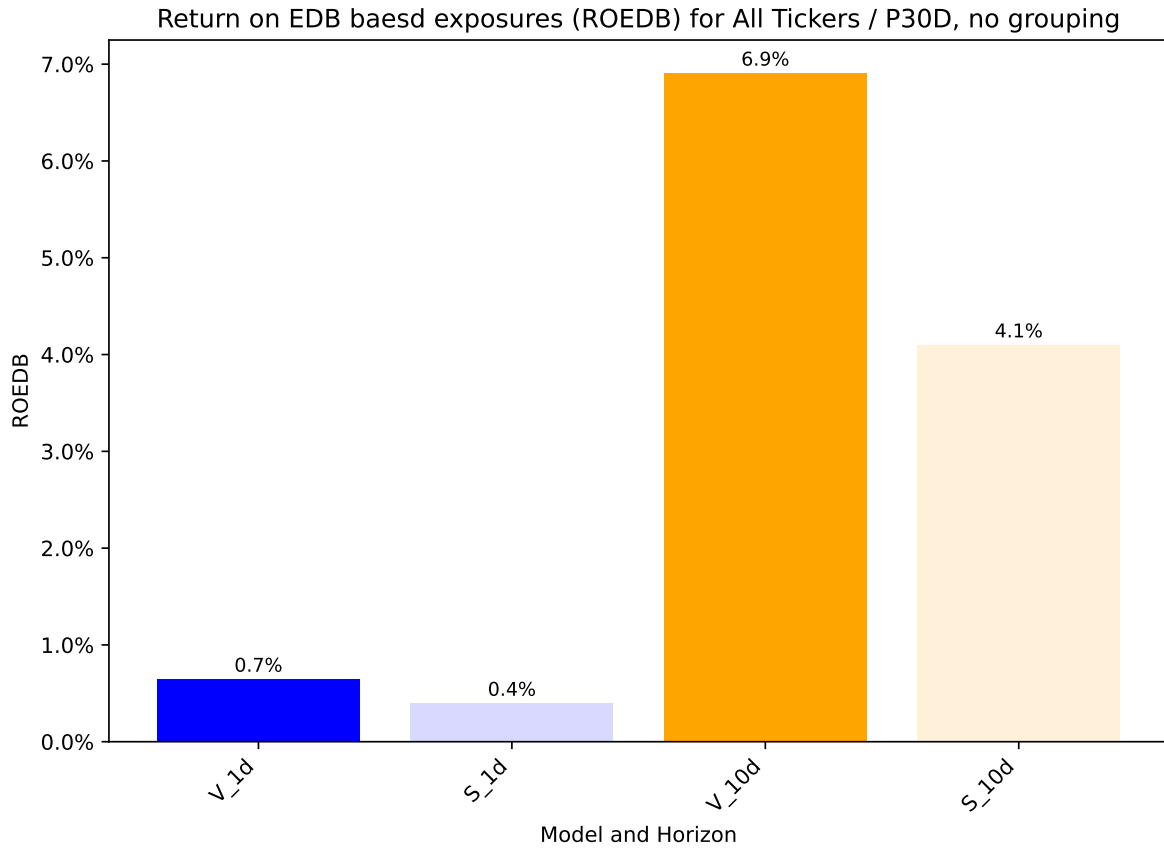
Same as above, but averaged by Ticker across Model Dates:

	1d	10d	21d
intercept	-0.01%	0.03%	0.09%
intercept_p_value	46.73%	23.40%	23.10%
slope	147.42%	143.13%	143.64%
slope_p_value	0.00%	0.00%	0.00%



## Prior 30 Calendar Days (P30D)

Period examined: All model dates from 2026-04-01 through 2026-04-29



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

	1d	10d
intercept	0.01%	-0.04%
intercept_p_value	73.29%	83.06%
slope	159.59%	169.61%
slope_p_value	0.00%	0.00%

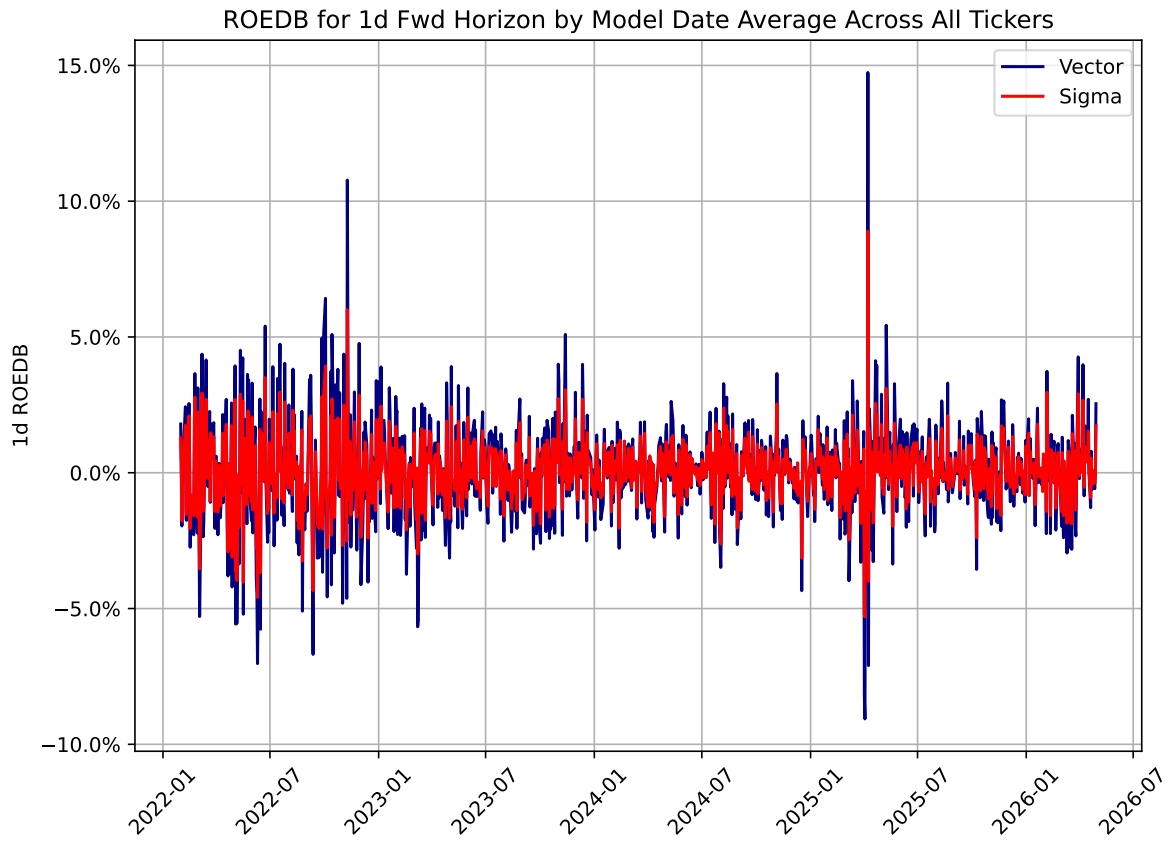
Same as above, but averaged by Ticker across Model Dates:

	1d	10d
intercept	0.01%	0.32%
intercept_p_value	48.42%	52.39%
slope	149.78%	144.27%
slope_p_value	0.00%	0.55%

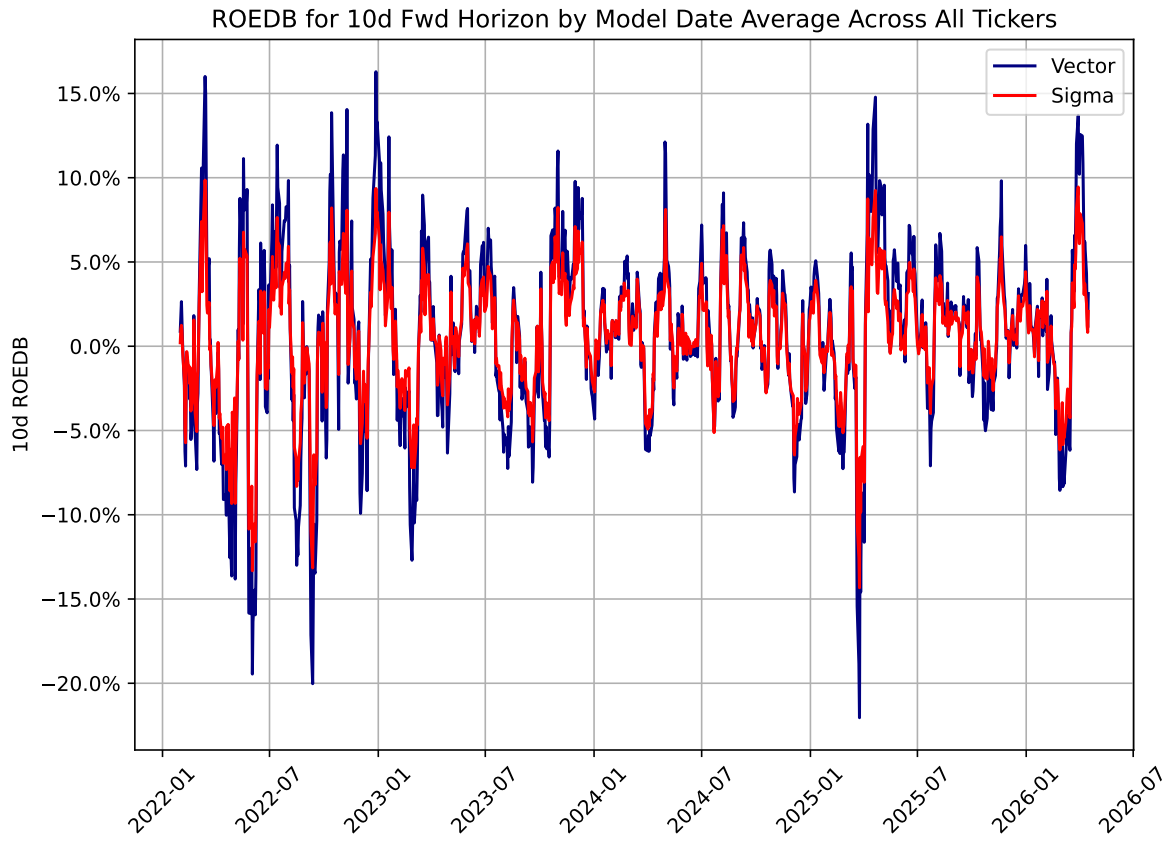


# ROEDB by Model Date Detail

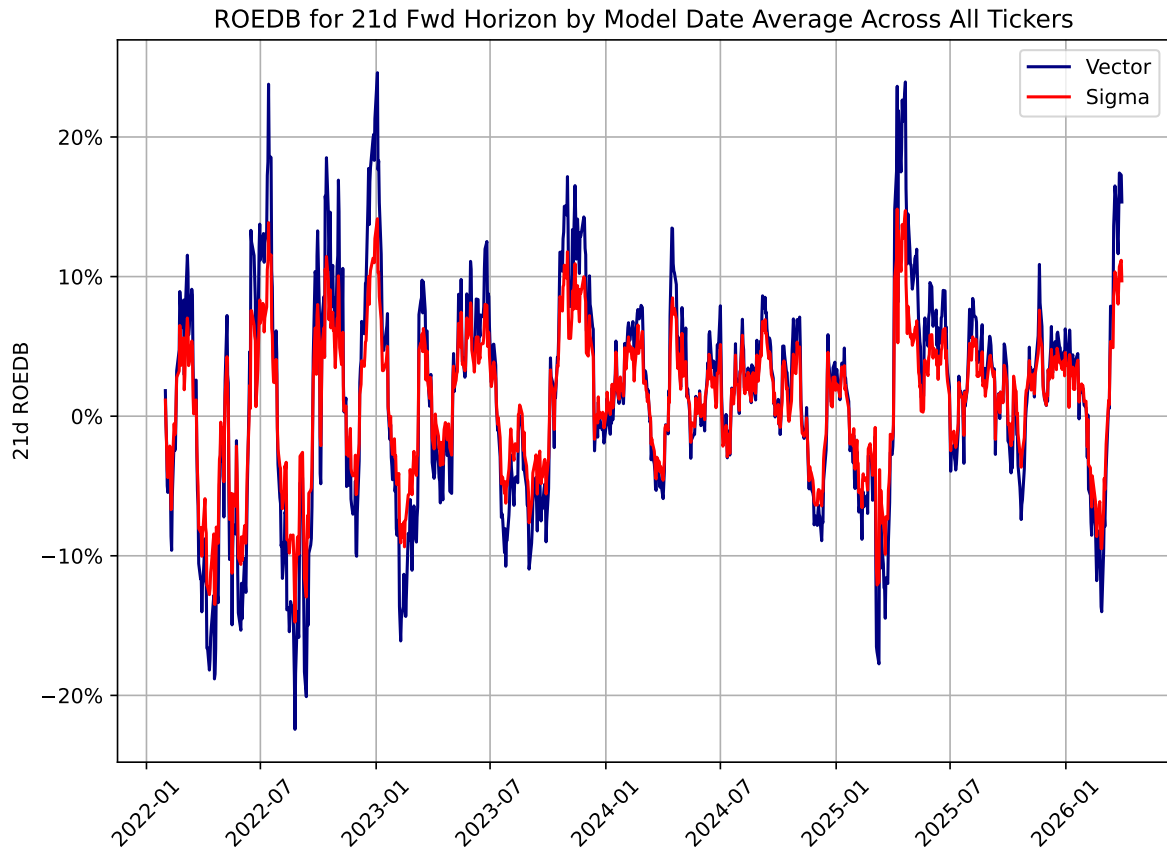
## 1d Horizon



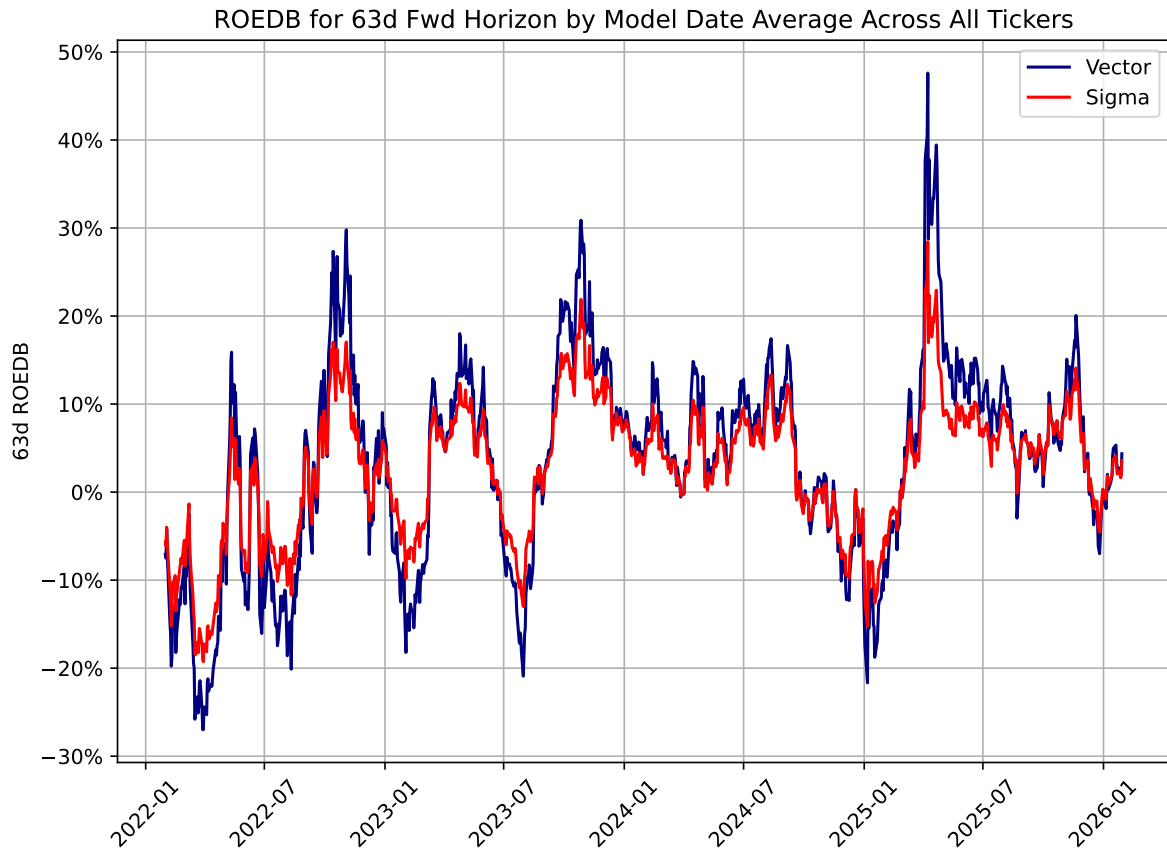
## 10d Horizon



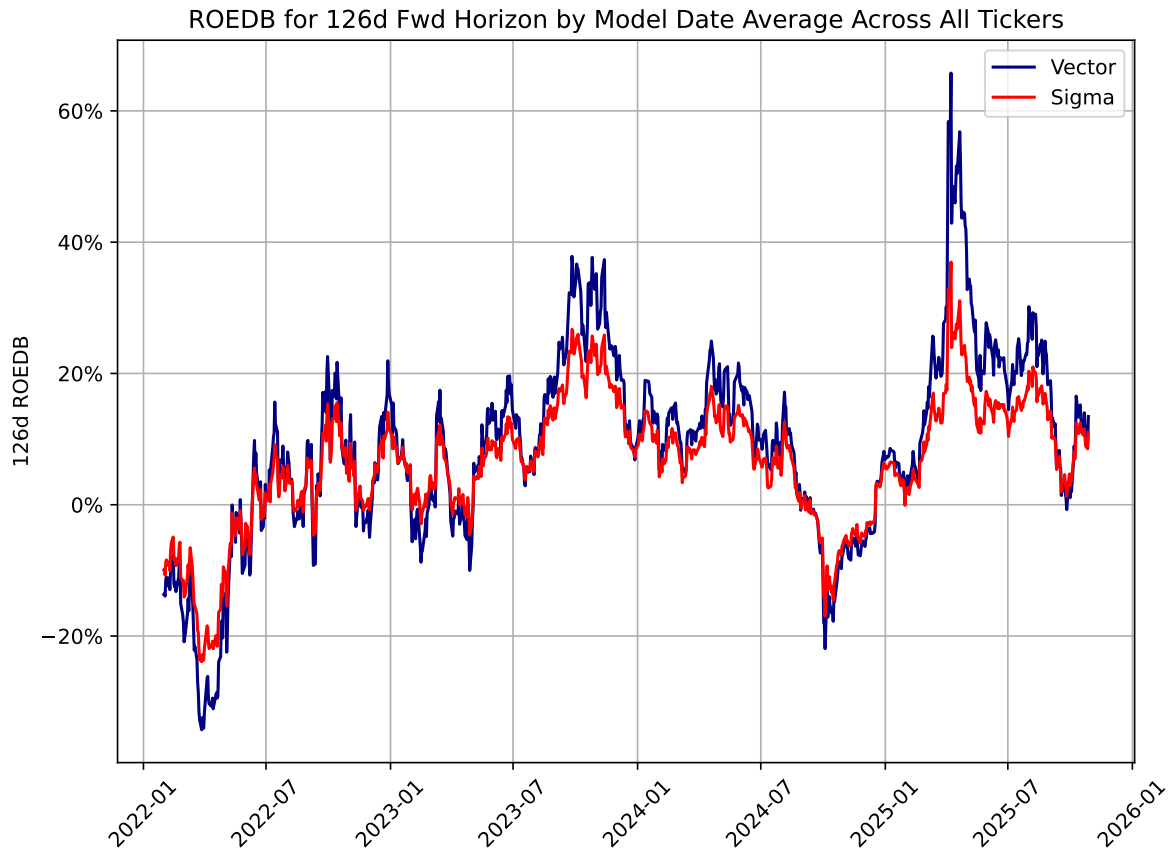
## 21d Horizon



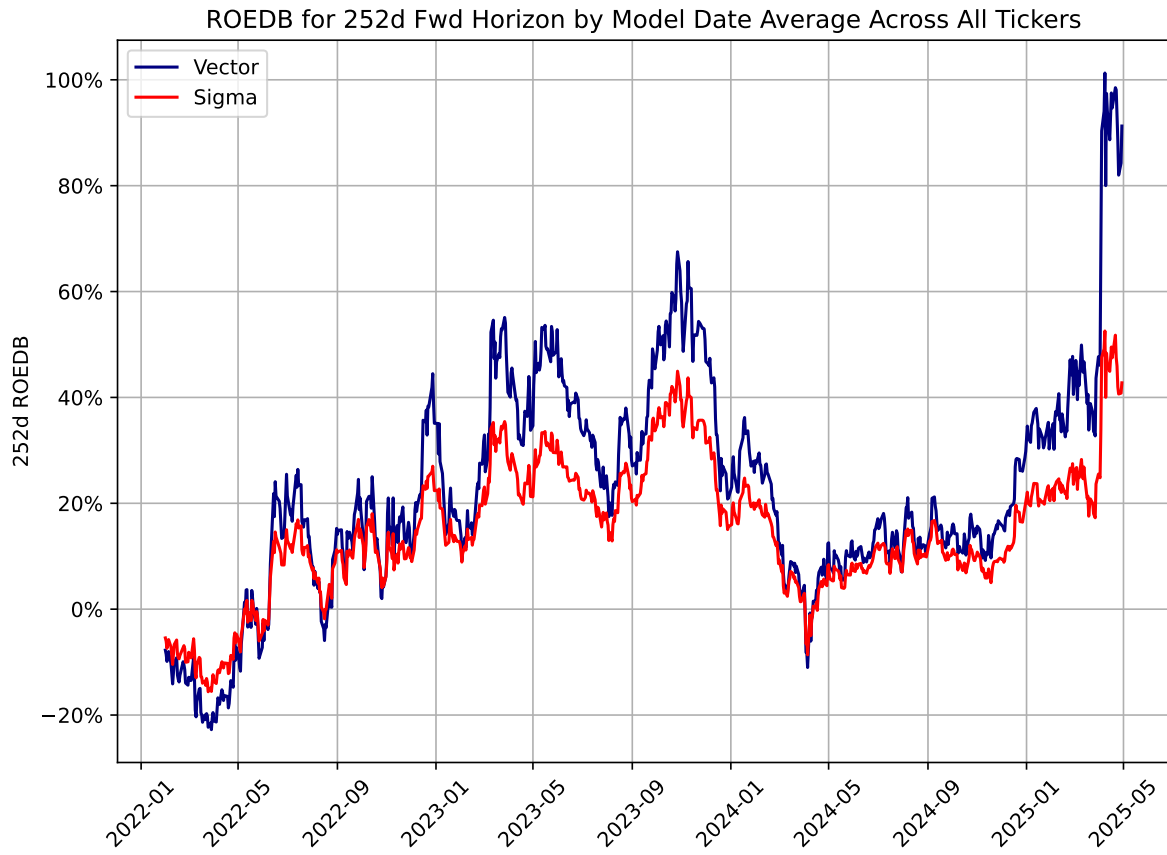
## 63d Horizon



## 126d Horizon



## 252d Horizon



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## Top 30 Tickers By ROEDB

### All TMD: 1d

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

Period examined: All model dates from 2022-01-31 through 2026-04-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
1.0	MSTR	0.62%	MSTR	0.31%
1.0	GME	0.51%	WDC	0.25%
1.0	WDC	0.39%	NVDA	0.25%
1.0	MU	0.37%	VST	0.24%
1.0	NFLX	0.36%	MU	0.23%
1.0	AVGO	0.32%	AVGO	0.22%
1.0	META	0.31%	PWR	0.21%
1.0	AMD	0.31%	TEVA	0.17%
1.0	INTC	0.27%	GME	0.17%
1.0	NVDA	0.25%	X	0.17%
1.0	PWR	0.24%	AMD	0.17%
1.0	CDNS	0.23%	TRGP	0.16%
1.0	GOOGL	0.22%	GBTC	0.15%
1.0	LLY	0.22%	GE	0.15%
1.0	XOM	0.22%	LLY	0.15%
1.0	GWV	0.19%	SLV	0.14%
1.0	CLF	0.18%	AMAT	0.14%
1.0	ORCL	0.18%	CAH	0.14%
1.0	AAPL	0.18%	THC	0.12%
1.0	AA	0.17%	GOOGL	0.12%
1.0	AMZN	0.17%	INTC	0.12%
1.0	KALU	0.16%	ETRN	0.12%
1.0	NEM	0.16%	IRM	0.11%
1.0	ORLY	0.16%	NFLX	0.11%
1.0	IRM	0.16%	ON	0.11%
1.0	FCX	0.16%	META	0.11%
1.0	X	0.16%	GS	0.11%
1.0	TRGP	0.15%	PHM	0.1%
1.0	B	0.15%	HSBC	0.1%
1.0	SLV	0.15%	CSTM	0.1%



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## All TMD: 10d

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

Period examined: All model dates from 2022-01-31 through 2026-04-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
10.0	MSTR	7.41%	MSTR	3.17%
10.0	GME	4.77%	NVDA	2.51%
10.0	MU	3.92%	WDC	2.51%
10.0	WDC	3.79%	VST	2.32%
10.0	META	3.21%	MU	2.23%
10.0	NFLX	2.9%	AVGO	2.21%
10.0	TEVA	2.57%	PWR	1.93%
10.0	INTC	2.49%	TEVA	1.7%
10.0	AVGO	2.46%	X	1.58%
10.0	AMD	2.39%	TRGP	1.5%
10.0	NVDA	2.34%	AMD	1.49%
10.0	ORCL	2.31%	GE	1.47%
10.0	VST	2.14%	LLY	1.47%
10.0	PWR	2.09%	GME	1.45%
10.0	GOOGL	1.8%	CAH	1.42%
10.0	SLV	1.8%	GBTC	1.41%
10.0	CDNS	1.7%	ETRN	1.41%
10.0	GWV	1.69%	SLV	1.38%
10.0	KALU	1.6%	AMAT	1.34%
10.0	AMZN	1.59%	META	1.3%
10.0	LLY	1.57%	THC	1.21%
10.0	XOM	1.56%	NFLX	1.21%
10.0	AAPL	1.55%	IRM	1.1%
10.0	CAH	1.52%	PHM	1.07%
10.0	X	1.49%	GS	1.05%
10.0	GILD	1.45%	ORCL	1.04%
10.0	FCX	1.45%	GOOGL	1.04%
10.0	GE	1.42%	INTC	1.04%
10.0	ETRN	1.4%	TSLA	0.98%
10.0	MSI	1.4%	HSBC	0.98%



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## All TMD: 21d

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

Period examined: All model dates from 2022-01-31 through 2026-04-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
21.0	MSTR	15.1%	MSTR	6.88%
21.0	WDC	8.47%	NVDA	5.35%
21.0	GME	7.64%	WDC	5.21%
21.0	MU	7.29%	VST	5.0%
21.0	META	6.92%	AVGO	4.46%
21.0	TEVA	6.08%	MU	4.45%
21.0	NFLX	5.99%	PWR	4.02%
21.0	AVGO	5.04%	TEVA	3.63%
21.0	NVDA	4.61%	ETRN	3.5%
21.0	INTC	4.45%	GE	3.24%
21.0	ORCL	4.44%	X	3.17%
21.0	PWR	4.42%	TRGP	3.15%
21.0	VST	4.26%	LLY	3.1%
21.0	ETRN	4.25%	CAH	3.08%
21.0	AMD	4.15%	GBTC	3.04%
21.0	GOOGL	3.75%	AMD	3.0%
21.0	SLV	3.75%	SLV	2.84%
21.0	GILD	3.45%	AMAT	2.81%
21.0	GE	3.41%	META	2.8%
21.0	XOM	3.37%	NFLX	2.74%
21.0	GWV	3.36%	THC	2.59%
21.0	CAH	3.34%	PHM	2.25%
21.0	LLY	3.29%	GME	2.25%
21.0	AA	3.27%	IRM	2.25%
21.0	AMZN	3.07%	TSLA	2.25%
21.0	MSI	2.94%	GS	2.24%
21.0	X	2.92%	GOOGL	2.16%
21.0	AMAT	2.92%	ORCL	2.15%
21.0	KALU	2.89%	HSBC	2.06%
21.0	THC	2.87%	GWV	2.05%



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## All TMD: 63d

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

Period examined: All model dates from 2022-01-31 through 2026-04-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
63.0	MSTR	34.64%	MSTR	19.86%
63.0	WDC	33.02%	NVDA	17.71%
63.0	META	24.6%	WDC	17.29%
63.0	MU	20.89%	VST	16.5%
63.0	NFLX	18.81%	MU	14.87%
63.0	NVDA	16.45%	AVGO	13.34%
63.0	AVGO	15.78%	PWR	11.32%
63.0	VST	15.11%	GE	10.68%
63.0	TEVA	14.71%	TEVA	10.63%
63.0	ORCL	13.19%	ETRN	10.28%
63.0	GE	12.84%	GBTC	10.23%
63.0	PWR	12.24%	META	9.83%
63.0	SLV	11.7%	CAH	9.49%
63.0	AMAT	11.41%	LLY	9.46%
63.0	AMD	11.21%	SLV	9.1%
63.0	GILD	11.17%	NFLX	9.03%
63.0	GWV	10.86%	TRGP	8.98%
63.0	CAH	10.77%	AMAT	8.61%
63.0	ETRN	10.51%	THC	8.51%
63.0	CTLT	10.48%	AMD	8.02%
63.0	GOOGL	10.45%	PHM	7.91%
63.0	LLY	10.14%	GS	6.92%
63.0	B	9.69%	GOOGL	6.87%
63.0	GNRC	9.66%	CCL	6.68%
63.0	NEM	9.47%	ORCL	6.65%
63.0	THC	9.35%	HSBC	6.63%
63.0	GS	9.34%	GLD	6.26%
63.0	KALU	9.03%	GILD	6.11%
63.0	XOM	8.63%	B	6.1%
63.0	MSI	8.42%	TSLA	5.94%



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## All TMD: 126d

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

Period examined: All model dates from 2022-01-31 through 2026-04-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
126.0	MSTR	105.83%	MSTR	51.15%
126.0	WDC	90.49%	NVDA	44.77%
126.0	META	61.47%	WDC	40.81%
126.0	MU	57.58%	VST	36.89%
126.0	NFLX	48.36%	MU	35.79%
126.0	NVDA	45.85%	AVGO	30.34%
126.0	AVGO	41.57%	GBTC	30.11%
126.0	VST	37.7%	GE	25.9%
126.0	TEVA	32.97%	META	23.74%
126.0	GE	32.04%	NFLX	23.04%
126.0	ORCL	31.76%	TEVA	22.66%
126.0	SLV	31.08%	PWR	22.17%
126.0	AMD	29.24%	THC	20.82%
126.0	AMAT	28.41%	CAH	20.24%
126.0	B	28.02%	SLV	20.14%
126.0	GOOGL	27.37%	LLY	19.99%
126.0	LLY	25.28%	AMD	19.15%
126.0	CAH	25.19%	AMAT	18.75%
126.0	GILD	24.57%	ETRN	18.49%
126.0	NEM	23.62%	TRGP	18.09%
126.0	GBTC	23.62%	PHM	17.62%
126.0	THC	22.94%	ORCL	16.64%
126.0	PWR	22.75%	GOOGL	16.28%
126.0	INTC	22.52%	GS	15.44%
126.0	ISRG	21.38%	B	15.24%
126.0	GS	20.23%	CCL	14.38%
126.0	EXPE	19.58%	HSBC	13.79%
126.0	GWV	19.5%	GLD	13.46%
126.0	CSTM	19.32%	JPM	13.18%
126.0	ETRN	19.22%	HCA	12.84%



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## All TMD: 252d

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

Period examined: All model dates from 2022-01-31 through 2026-04-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
252.0	MSTR	358.47%	MSTR	175.05%
252.0	WDC	174.81%	NVDA	121.14%
252.0	META	164.29%	VST	109.27%
252.0	VST	148.17%	GBTC	95.86%
252.0	NFLX	128.83%	WDC	79.54%
252.0	NVDA	110.2%	AVGO	76.63%
252.0	AVGO	110.19%	MU	68.25%
252.0	MU	106.13%	META	65.44%
252.0	GE	81.49%	GE	61.82%
252.0	GBTC	78.78%	NFLX	59.69%
252.0	SLV	73.04%	THC	48.84%
252.0	TEVA	69.74%	PWR	47.27%
252.0	ORCL	66.67%	PHM	43.32%
252.0	THC	61.55%	LLY	42.63%
252.0	AMD	59.91%	TEVA	41.15%
252.0	B	59.22%	TRGP	40.22%
252.0	GOOGL	58.39%	CAH	39.5%
252.0	CAH	56.84%	AMD	38.44%
252.0	NEM	55.38%	CCL	37.88%
252.0	AMZN	54.89%	ORCL	37.55%
252.0	ISRG	54.46%	SLV	37.12%
252.0	AMAT	52.83%	ETRN	35.78%
252.0	LLY	51.4%	AMAT	35.49%
252.0	EXPE	51.23%	GS	32.85%
252.0	GILD	49.67%	GOOGL	32.47%
252.0	TDG	48.62%	JPM	31.38%
252.0	ELAN	46.66%	TDG	30.62%
252.0	PWR	44.88%	HSBC	30.31%
252.0	MSI	44.12%	ISRG	29.18%
252.0	TSLA	44.03%	GLD	29.07%



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## P365D: 1d

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

Period examined: All model dates from 2025-05-01 through 2026-04-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
1.0	MU	1.46%	WDC	1.0%
1.0	WDC	1.41%	MU	0.83%
1.0	AAP	1.22%	X	0.81%
1.0	INTC	1.19%	INTC	0.71%
1.0	AMD	1.13%	AMD	0.59%
1.0	ON	0.73%	LUMN	0.49%
1.0	AA	0.65%	CSTM	0.47%
1.0	CLF	0.63%	AA	0.44%
1.0	CMA	0.57%	AMAT	0.43%
1.0	GOOGL	0.56%	ON	0.43%
1.0	TXN	0.56%	KALU	0.41%
1.0	KALU	0.56%	SLV	0.4%
1.0	X	0.56%	ELAN	0.38%
1.0	FCX	0.54%	GNRC	0.38%
1.0	QCOM	0.5%	GOOGL	0.37%
1.0	NEM	0.49%	TEVA	0.36%
1.0	EXPE	0.48%	PWR	0.35%
1.0	CSTM	0.45%	NEM	0.35%
1.0	GNRC	0.42%	B	0.34%
1.0	B	0.41%	AAP	0.34%
1.0	NVDA	0.41%	AVGO	0.34%
1.0	JAZZ	0.4%	CMA	0.28%
1.0	AVGO	0.4%	TXN	0.26%
1.0	PWR	0.39%	NVDA	0.26%
1.0	LLY	0.37%	JAZZ	0.25%
1.0	LUMN	0.37%	VFC	0.23%
1.0	AMAT	0.36%	RIO	0.23%
1.0	OXY	0.36%	FCX	0.23%
1.0	TSLA	0.35%	EXPE	0.22%
1.0	VFC	0.35%	BHP	0.22%



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## P365D: 10d

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

Period examined: All model dates from 2025-05-01 through 2026-04-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
10.0	MU	15.12%	X	11.83%
10.0	WDC	13.86%	WDC	9.89%
10.0	X	13.57%	MU	8.19%
10.0	AAP	9.45%	INTC	6.44%
10.0	INTC	9.39%	AMD	5.46%
10.0	AMD	7.63%	CSTM	4.46%
10.0	ON	7.06%	LUMN	4.3%
10.0	AA	5.95%	AA	4.26%
10.0	KALU	5.86%	AMAT	4.23%
10.0	GOOGL	5.55%	SLV	4.1%
10.0	CSTM	4.89%	KALU	4.08%
10.0	B	4.85%	ON	4.03%
10.0	TXN	4.48%	B	3.61%
10.0	NEM	4.32%	NEM	3.56%
10.0	JAZZ	4.17%	GOOGL	3.45%
10.0	GNRC	4.16%	AAP	3.37%
10.0	TSLA	4.01%	GNRC	3.29%
10.0	EXPE	3.96%	ELAN	3.22%
10.0	PWR	3.94%	AVGO	3.16%
10.0	FCX	3.84%	TEVA	2.98%
10.0	CMA	3.79%	CMA	2.95%
10.0	AMAT	3.7%	PWR	2.87%
10.0	VFC	3.54%	JAZZ	2.87%
10.0	NVDA	3.47%	FCX	2.53%
10.0	ORCL	3.34%	NVDA	2.46%
10.0	ELAN	3.11%	RIO	2.2%
10.0	AVGO	3.1%	EXPE	2.2%
10.0	MRK	3.05%	BHP	2.17%
10.0	TEVA	2.69%	VFC	2.15%
10.0	LUMN	2.68%	GS	2.15%



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## P365D: 21d

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

Period examined: All model dates from 2025-05-01 through 2026-04-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
21.0	X	31.7%	X	27.75%
21.0	WDC	31.31%	WDC	21.01%
21.0	MU	27.46%	MU	17.02%
21.0	INTC	19.59%	INTC	13.03%
21.0	AAP	14.3%	AMD	10.59%
21.0	ON	13.01%	AA	9.49%
21.0	AA	12.87%	CSTM	9.28%
21.0	AMD	12.68%	SLV	9.08%
21.0	KALU	12.18%	AMAT	8.98%
21.0	GOOGL	11.71%	LUMN	8.46%
21.0	B	11.33%	B	8.35%
21.0	CSTM	10.56%	KALU	8.02%
21.0	NEM	10.38%	NEM	7.95%
21.0	TXN	9.92%	ON	7.0%
21.0	GNRC	9.57%	GOOGL	6.94%
21.0	JAZZ	9.36%	GNRC	6.4%
21.0	AMAT	8.27%	ELAN	6.39%
21.0	FCX	8.19%	TEVA	6.39%
21.0	CMA	7.78%	CMA	6.32%
21.0	PWR	7.5%	JAZZ	5.97%
21.0	EXPE	6.98%	PWR	5.76%
21.0	TSLA	6.84%	AAP	5.6%
21.0	MRK	6.82%	FCX	5.54%
21.0	SLV	6.52%	AVGO	5.52%
21.0	LLY	6.21%	RIO	4.73%
21.0	VFC	6.21%	BHP	4.51%
21.0	AMGN	5.86%	EXPE	4.43%
21.0	LUMN	5.72%	NVDA	4.32%
21.0	GSK	5.7%	GS	4.28%
21.0	ELAN	5.69%	HSBC	4.21%



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## P365D: 63d

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

Period examined: All model dates from 2025-05-01 through 2026-04-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
63.0	WDC	122.8%	WDC	75.39%
63.0	MU	83.43%	MU	60.23%
63.0	INTC	57.2%	INTC	36.86%
63.0	AA	42.58%	SLV	33.73%
63.0	NEM	42.57%	AA	32.24%
63.0	B	42.22%	B	32.13%
63.0	CSTM	38.24%	AMAT	28.76%
63.0	KALU	38.05%	LUMN	28.2%
63.0	GNRC	37.83%	NEM	28.04%
63.0	GOOGL	34.78%	CSTM	27.68%
63.0	AMAT	34.11%	TEVA	26.16%
63.0	AMD	33.61%	GOOGL	23.3%
63.0	JAZZ	33.34%	AMD	23.07%
63.0	TSLA	30.79%	ELAN	22.43%
63.0	ON	29.2%	KALU	21.9%
63.0	CMA	29.06%	CMA	19.64%
63.0	SLV	28.35%	JAZZ	19.19%
63.0	VFC	26.65%	GNRC	19.07%
63.0	AAP	23.2%	RIO	17.07%
63.0	MRK	22.51%	FCX	16.48%
63.0	TEVA	22.2%	PWR	16.12%
63.0	LUMN	22.01%	VFC	15.24%
63.0	FCX	21.14%	BHP	14.84%
63.0	BHP	20.44%	MRK	14.41%
63.0	ELAN	20.19%	GLD	13.81%
63.0	BIIB	20.11%	GSK	13.66%
63.0	PWR	18.89%	BIIB	13.6%
63.0	EXPE	18.73%	TRGP	13.26%
63.0	OXY	18.68%	HSBC	13.25%
63.0	LLY	18.49%	XOM	12.88%



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## P365D: 126d

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

Period examined: All model dates from 2025-05-01 through 2026-04-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
126.0	WDC	419.93%	WDC	214.91%
126.0	MU	275.35%	MU	172.53%
126.0	INTC	163.66%	SLV	87.59%
126.0	AA	134.43%	INTC	86.99%
126.0	B	131.93%	B	82.25%
126.0	AMAT	115.3%	AA	81.06%
126.0	KALU	113.64%	AMAT	71.98%
126.0	SLV	105.39%	TEVA	71.34%
126.0	NEM	99.83%	LUMN	70.87%
126.0	JAZZ	97.46%	NEM	61.88%
126.0	CSTM	94.24%	CSTM	60.23%
126.0	GOOGL	90.16%	GOOGL	58.2%
126.0	VFC	79.77%	KALU	56.18%
126.0	CMA	78.19%	AMD	51.86%
126.0	AMD	74.09%	ELAN	49.42%
126.0	LLY	69.59%	JAZZ	46.51%
126.0	TEVA	65.44%	CMA	42.99%
126.0	TSLA	63.69%	RIO	38.81%
126.0	LUMN	61.69%	VFC	37.18%
126.0	BIIB	57.56%	CAH	35.4%
126.0	MRK	53.83%	MRK	33.53%
126.0	ELAN	52.18%	BIIB	33.16%
126.0	ON	50.88%	EXPE	33.11%
126.0	AMGN	48.82%	FCX	32.48%
126.0	PWR	48.52%	PWR	32.06%
126.0	EXPE	48.11%	GLD	31.75%
126.0	BHP	44.81%	GSK	31.66%
126.0	RIO	44.42%	LLY	31.47%
126.0	BMY	44.18%	HSBC	28.38%
126.0	AZN	43.54%	BHP	28.25%



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## P90D: 1d

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

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

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
1.0	WDC	2.1%	INTC	1.21%
1.0	INTC	1.77%	WDC	0.89%
1.0	ON	1.55%	ON	0.87%
1.0	UNH	1.29%	GNRC	0.76%
1.0	AMD	1.01%	PWR	0.73%
1.0	CZR	0.98%	AMD	0.7%
1.0	IRM	0.96%	IRM	0.59%
1.0	CNC	0.89%	OXY	0.57%
1.0	CDNS	0.87%	CZR	0.57%
1.0	OXY	0.79%	CSTM	0.52%
1.0	MSTR	0.77%	KALU	0.48%
1.0	PCG	0.68%	TRGP	0.45%
1.0	BALL	0.67%	UNH	0.45%
1.0	NFLX	0.67%	CNC	0.45%
1.0	QCOM	0.65%	MSTR	0.44%
1.0	MU	0.63%	AVGO	0.42%
1.0	AAP	0.63%	TXN	0.41%
1.0	AMC	0.62%	MU	0.37%
1.0	TRGP	0.6%	AAP	0.37%
1.0	SBUX	0.57%	AMAT	0.36%
1.0	GBTC	0.52%	JAZZ	0.34%
1.0	KALU	0.52%	QCOM	0.31%
1.0	GWV	0.51%	CDNS	0.26%
1.0	TXN	0.5%	SBUX	0.25%
1.0	NVDA	0.47%	BHP	0.25%
1.0	PWR	0.47%	NFLX	0.24%
1.0	AVGO	0.44%	CSCO	0.24%
1.0	CVS	0.41%	AMC	0.22%
1.0	BMV	0.41%	AA	0.22%
1.0	VZ	0.4%	GOOGL	0.21%



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## P90D: 10d

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

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

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
10.0	AMD	17.86%	INTC	10.7%
10.0	MSTR	15.72%	AMD	8.51%
10.0	INTC	15.25%	ON	8.22%
10.0	UNH	14.11%	WDC	8.04%
10.0	ON	13.48%	CZR	6.81%
10.0	MU	12.81%	AMC	6.59%
10.0	NFLX	10.47%	MSTR	6.11%
10.0	CZR	10.28%	CSTM	5.14%
10.0	WDC	9.75%	AVGO	4.98%
10.0	ORCL	9.65%	MU	4.95%
10.0	AMC	9.0%	UNH	4.85%
10.0	CDNS	7.17%	OXY	4.8%
10.0	KALU	7.06%	PWR	4.71%
10.0	GBTC	6.71%	AMAT	4.36%
10.0	CNC	5.91%	IRM	4.21%
10.0	OXY	5.87%	KALU	4.18%
10.0	EXPE	5.59%	GNRC	4.08%
10.0	AVGO	5.47%	JAZZ	3.92%
10.0	AMAT	5.39%	AMZN	3.77%
10.0	JAZZ	5.1%	NFLX	3.65%
10.0	AMZN	5.0%	TXN	3.34%
10.0	PWR	4.95%	LUMN	3.3%
10.0	IRM	4.62%	ORCL	2.99%
10.0	TXN	4.44%	CDNS	2.79%
10.0	NVDA	4.06%	TRGP	2.64%
10.0	CSTM	3.77%	CNC	2.6%
10.0	TRGP	3.38%	NVDA	2.41%
10.0	AAP	3.26%	AA	2.28%
10.0	AA	3.21%	BHP	2.27%
10.0	MSFT	2.92%	EXPE	2.26%



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## P90D: 21d

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

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

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
21.0	INTC	32.88%	INTC	24.35%
21.0	AMD	32.18%	AMD	17.1%
21.0	AMC	28.6%	WDC	15.96%
21.0	NFLX	27.86%	CZR	14.76%
21.0	CZR	25.73%	AMC	14.65%
21.0	UNH	23.87%	ON	11.95%
21.0	WDC	23.87%	OXY	10.66%
21.0	MSTR	19.21%	CSTM	10.62%
21.0	ON	18.23%	NFLX	9.84%
21.0	MU	14.76%	AVGO	8.94%
21.0	KALU	12.65%	UNH	7.97%
21.0	TXN	12.24%	KALU	7.94%
21.0	EXPE	11.87%	AMZN	7.8%
21.0	ORCL	11.67%	MSTR	7.61%
21.0	GBTC	11.61%	PWR	7.18%
21.0	AMZN	10.94%	JAZZ	7.13%
21.0	OXY	10.82%	AA	6.9%
21.0	JAZZ	9.94%	EXPE	6.32%
21.0	AVGO	9.13%	MU	6.14%
21.0	AMAT	7.42%	AMAT	5.86%
21.0	AA	7.2%	IRM	5.16%
21.0	CSTM	7.1%	LUMN	5.03%
21.0	PWR	6.61%	TRGP	4.7%
21.0	CNC	6.58%	TXN	4.41%
21.0	IRM	6.01%	GBTC	4.15%
21.0	CDNS	5.38%	ORCL	3.84%
21.0	AAP	5.19%	CSCO	3.22%
21.0	TRGP	5.11%	NVDA	3.1%
21.0	HLT	3.69%	MS	3.05%
21.0	NVDA	3.68%	GOOGL	3.0%



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### P30D: 1d

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

Period examined: All model dates from 2026-04-01 through 2026-04-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
1.0	INTC	6.21%	INTC	3.61%
1.0	AMD	5.09%	AMD	2.72%
1.0	ON	5.08%	ON	2.51%
1.0	AMC	4.39%	CNC	2.38%
1.0	UNH	4.36%	AMC	2.14%
1.0	QCOM	3.95%	WDC	1.94%
1.0	CNC	3.86%	TXN	1.91%
1.0	WDC	3.17%	QCOM	1.82%
1.0	TXN	3.07%	MU	1.78%
1.0	CDNS	2.61%	MSTR	1.6%
1.0	MSTR	2.42%	UNH	1.55%
1.0	SBUX	2.38%	AVGO	1.48%
1.0	AMZN	2.31%	GNRC	1.41%
1.0	MU	2.13%	PWR	1.38%
1.0	CVS	2.01%	KALU	1.36%
1.0	AVGO	1.84%	GOOGL	1.33%
1.0	IRM	1.78%	LUMN	1.18%
1.0	MSFT	1.74%	AMZN	1.17%
1.0	CLF	1.66%	IRM	1.15%
1.0	KALU	1.64%	CLF	1.12%
1.0	BXP	1.59%	CDNS	0.87%
1.0	ORCL	1.42%	CSCO	0.82%
1.0	GOOGL	1.42%	VNO	0.8%
1.0	META	1.42%	SBUX	0.79%
1.0	NAVI	1.42%	TEVA	0.79%
1.0	PRGO	1.31%	NWL	0.77%
1.0	AMAT	1.23%	CVS	0.72%
1.0	PWR	1.19%	CSTM	0.71%
1.0	EXPE	1.14%	MS	0.7%
1.0	GBTC	1.06%	BXP	0.69%



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## P30D: 10d

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

Period examined: All model dates from 2026-04-01 through 2026-04-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
10.0	AMD	68.26%	ON	34.5%
10.0	MSTR	62.02%	AMD	30.54%
10.0	AMC	55.98%	INTC	30.11%
10.0	ON	52.04%	MSTR	27.53%
10.0	INTC	50.36%	AMC	25.36%
10.0	ORCL	47.18%	TXN	21.36%
10.0	UNH	47.14%	LUMN	18.49%
10.0	CDNS	33.23%	KALU	18.29%
10.0	TXN	32.86%	WDC	18.19%
10.0	MU	27.96%	MU	17.88%
10.0	KALU	26.3%	CNC	17.81%
10.0	QCOM	26.21%	AVGO	16.24%
10.0	BXP	25.33%	ORCL	15.89%
10.0	META	24.66%	UNH	15.71%
10.0	CNC	24.55%	CDNS	13.4%
10.0	LUMN	24.31%	QCOM	12.53%
10.0	MSFT	23.62%	AMZN	12.01%
10.0	VFC	22.39%	VFC	11.44%
10.0	NWL	20.05%	MSFT	10.42%
10.0	AVGO	19.38%	NWL	10.28%
10.0	NVDA	18.19%	GNRC	10.22%
10.0	AMZN	16.6%	NVDA	10.13%
10.0	NAVI	16.5%	DHI	9.76%
10.0	GBTC	15.89%	GOOGL	9.48%
10.0	EXPE	15.67%	VNO	9.3%
10.0	CLF	15.29%	BXP	9.11%
10.0	PRGO	15.27%	CLF	9.01%
10.0	WDC	15.04%	EXPE	8.75%
10.0	TSLA	14.23%	PWR	8.7%
10.0	PWR	11.19%	META	8.25%



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## Bottom 30 Tickers By ROEDB

### All TMD: 1d

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

Period examined: All model dates from 2022-01-31 through 2026-04-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
1.0	SIVBQ	-2.09%	SIVBQ	-0.78%
1.0	SBNY	-1.16%	SBNY	-0.45%
1.0	FRCB	-0.4%	FRCB	-0.23%
1.0	IEP	-0.28%	AMC	-0.17%
1.0	CHTR	-0.26%	IEP	-0.14%
1.0	LUMN	-0.2%	NWL	-0.1%
1.0	NWL	-0.2%	CHTR	-0.09%
1.0	FIS	-0.18%	PRGO	-0.08%
1.0	AMC	-0.17%	AAP	-0.07%
1.0	PRGO	-0.14%	FIS	-0.07%
1.0	UAA	-0.13%	VFC	-0.05%
1.0	CYH	-0.12%	BHC	-0.05%
1.0	USB	-0.1%	GT	-0.05%
1.0	TLT	-0.09%	ADBE	-0.05%
1.0	NAVI	-0.08%	UAA	-0.05%
1.0	CMCSA	-0.08%	CMCSA	-0.04%
1.0	BBY	-0.08%	TLT	-0.04%
1.0	GT	-0.08%	BXP	-0.04%
1.0	ADBE	-0.08%	CZR	-0.04%
1.0	T	-0.07%	ZTS	-0.04%
1.0	VNO	-0.06%	NAVI	-0.03%
1.0	CNC	-0.06%	KHC	-0.03%
1.0	WRK	-0.05%	BALL	-0.02%
1.0	BXP	-0.05%	BBY	-0.02%
1.0	VFC	-0.05%	LNC	-0.02%
1.0	BHC	-0.04%	CTLT	-0.01%
1.0	EMB	-0.04%	MOS	-0.01%
1.0	ZION	-0.04%	FRA	-0.01%
1.0	PEP	-0.04%	LQD	-0.01%
1.0	LNC	-0.04%	EMB	-0.01%



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## All TMD: 10d

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

Period examined: All model dates from 2022-01-31 through 2026-04-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
10.0	SBNY	-11.81%	SBNY	-4.05%
10.0	SIVBQ	-8.56%	SIVBQ	-3.9%
10.0	AMC	-4.44%	FRCB	-2.19%
10.0	FRCB	-4.1%	AMC	-1.6%
10.0	PRGO	-2.5%	IEP	-1.34%
10.0	CHTR	-2.04%	NWL	-1.01%
10.0	IEP	-1.86%	PRGO	-0.78%
10.0	NWL	-1.54%	CHTR	-0.68%
10.0	FIS	-1.44%	AAP	-0.68%
10.0	GT	-1.05%	FIS	-0.63%
10.0	BHC	-0.85%	UAA	-0.55%
10.0	AAP	-0.77%	VFC	-0.54%
10.0	BXP	-0.76%	CZR	-0.54%
10.0	TLT	-0.75%	GT	-0.51%
10.0	UAA	-0.69%	NAVI	-0.44%
10.0	LUMN	-0.66%	BXP	-0.44%
10.0	ADBE	-0.65%	ADBE	-0.43%
10.0	CYH	-0.63%	TLT	-0.41%
10.0	VFC	-0.59%	BHC	-0.41%
10.0	VNO	-0.59%	CMCSA	-0.4%
10.0	KHC	-0.55%	ZTS	-0.37%
10.0	NAVI	-0.53%	KHC	-0.35%
10.0	LNC	-0.5%	MOS	-0.26%
10.0	CMCSA	-0.49%	CNC	-0.25%
10.0	ELAN	-0.49%	LNC	-0.25%
10.0	ZTS	-0.48%	CYH	-0.24%
10.0	CNC	-0.4%	BBY	-0.23%
10.0	VZ	-0.39%	BALL	-0.21%
10.0	T	-0.36%	FRA	-0.17%
10.0	MOS	-0.35%	LQD	-0.12%



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## All TMD: 21d

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

Period examined: All model dates from 2022-01-31 through 2026-04-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
21.0	SBNY	-32.56%	SBNY	-11.16%
21.0	SIVBQ	-21.2%	SIVBQ	-9.37%
21.0	FRCB	-13.47%	FRCB	-6.02%
21.0	AMC	-10.48%	AMC	-4.01%
21.0	PRGO	-4.84%	IEP	-2.95%
21.0	CHTR	-4.08%	NWL	-2.36%
21.0	NWL	-4.06%	PRGO	-1.71%
21.0	IEP	-3.36%	AAP	-1.41%
21.0	FIS	-2.63%	CHTR	-1.36%
21.0	BHC	-2.42%	VFC	-1.26%
21.0	AAP	-2.39%	CZR	-1.22%
21.0	TLT	-1.88%	FIS	-1.2%
21.0	BXP	-1.83%	BHC	-1.16%
21.0	VNO	-1.68%	BXP	-1.06%
21.0	VFC	-1.66%	UAA	-1.04%
21.0	GT	-1.44%	NAVI	-1.03%
21.0	NAVI	-1.41%	GT	-0.98%
21.0	LNC	-1.29%	TLT	-0.85%
21.0	CMCSA	-1.16%	CMCSA	-0.82%
21.0	CYH	-1.07%	ADBE	-0.8%
21.0	ZTS	-1.07%	KHC	-0.8%
21.0	LUMN	-0.97%	ZTS	-0.78%
21.0	KHC	-0.96%	CNC	-0.69%
21.0	ADBE	-0.91%	LNC	-0.65%
21.0	CNC	-0.81%	MOS	-0.53%
21.0	ELAN	-0.8%	BBY	-0.47%
21.0	VZ	-0.61%	BALL	-0.42%
21.0	BBY	-0.58%	CYH	-0.36%
21.0	LQD	-0.58%	FRA	-0.34%
21.0	MOS	-0.56%	UNH	-0.24%



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## All TMD: 63d

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

Period examined: All model dates from 2022-01-31 through 2026-04-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
63.0	SBNY	-111.62%	SBNY	-37.59%
63.0	SIVBQ	-84.01%	SIVBQ	-33.73%
63.0	FRCB	-59.55%	FRCB	-24.04%
63.0	AMC	-35.03%	AMC	-16.29%
63.0	PRGO	-13.03%	IEP	-9.93%
63.0	NWL	-12.74%	NWL	-7.65%
63.0	IEP	-12.13%	PRGO	-5.85%
63.0	AAP	-11.06%	CZR	-5.14%
63.0	CHTR	-10.1%	AAP	-4.83%
63.0	VFC	-7.14%	CHTR	-3.97%
63.0	FIS	-7.04%	BHC	-3.86%
63.0	BHC	-5.48%	VFC	-3.85%
63.0	TLT	-4.99%	MOS	-3.47%
63.0	CNC	-4.97%	BXP	-3.32%
63.0	VNO	-4.95%	FIS	-3.31%
63.0	UNH	-4.91%	NAVI	-3.28%
63.0	BXP	-4.64%	KHC	-2.85%
63.0	NAVI	-4.22%	CNC	-2.81%
63.0	MOS	-4.1%	UAA	-2.62%
63.0	ZTS	-4.02%	CLF	-2.52%
63.0	CZR	-4.01%	TLT	-2.29%
63.0	CMCSA	-3.64%	ZTS	-2.29%
63.0	LNC	-3.18%	CMCSA	-2.18%
63.0	CLF	-3.15%	GT	-2.17%
63.0	CYH	-3.08%	ADBE	-2.13%
63.0	KHC	-2.87%	UNH	-2.09%
63.0	BBY	-2.59%	LNC	-1.93%
63.0	LW	-2.33%	BBY	-1.58%
63.0	GT	-1.76%	BALL	-1.08%
63.0	ADBE	-1.37%	CVS	-1.0%



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## All TMD: 126d

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

Period examined: All model dates from 2022-01-31 through 2026-04-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
126.0	SBNY	-192.56%	SIVBQ	-65.15%
126.0	SIVBQ	-162.07%	SBNY	-64.8%
126.0	FRCB	-138.04%	FRCB	-51.17%
126.0	AMC	-58.1%	AMC	-29.57%
126.0	NWL	-28.61%	IEP	-19.48%
126.0	IEP	-26.15%	NWL	-17.87%
126.0	AAP	-25.41%	AAP	-11.54%
126.0	PRGO	-24.72%	PRGO	-11.38%
126.0	CHTR	-20.86%	CZR	-9.58%
126.0	VFC	-14.85%	CHTR	-8.03%
126.0	CZR	-11.55%	MOS	-7.97%
126.0	BHC	-11.5%	VFC	-7.15%
126.0	CNC	-11.4%	CNC	-6.74%
126.0	MOS	-10.32%	UAA	-6.72%
126.0	UNH	-9.2%	KHC	-5.94%
126.0	FIS	-9.04%	CTLT	-5.69%
126.0	CMCSA	-8.7%	FIS	-5.19%
126.0	ZTS	-8.29%	BHC	-5.11%
126.0	TLT	-7.89%	BXP	-5.06%
126.0	BXP	-7.03%	NAVI	-4.81%
126.0	KHC	-6.68%	GT	-4.62%
126.0	NAVI	-6.12%	CMCSA	-4.41%
126.0	LNC	-5.5%	ZTS	-4.19%
126.0	UAA	-5.45%	UNH	-4.18%
126.0	CYH	-5.43%	TLT	-4.12%
126.0	GT	-4.07%	CLF	-3.36%
126.0	CLF	-3.54%	BALL	-2.61%
126.0	VNO	-2.99%	BMV	-2.19%
126.0	LW	-2.82%	ADBE	-2.02%
126.0	BMV	-2.35%	LNC	-1.86%



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## All TMD: 252d

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

Period examined: All model dates from 2022-01-31 through 2026-04-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
252.0	SBNY	-283.27%	SBNY	-95.75%
252.0	SIVBQ	-231.16%	SIVBQ	-95.29%
252.0	FRCB	-206.23%	FRCB	-91.61%
252.0	AMC	-86.64%	AMC	-54.76%
252.0	AAP	-59.02%	IEP	-40.49%
252.0	NWL	-54.16%	NWL	-30.95%
252.0	IEP	-52.95%	AAP	-25.02%
252.0	VFC	-51.04%	VFC	-20.16%
252.0	PRGO	-37.75%	PRGO	-18.39%
252.0	CHTR	-31.66%	CNC	-18.27%
252.0	UAA	-31.05%	CZR	-17.6%
252.0	CZR	-27.85%	UAA	-15.02%
252.0	CNC	-26.9%	MOS	-14.1%
252.0	MOS	-23.9%	CLF	-12.2%
252.0	BHC	-21.87%	KHC	-11.63%
252.0	CLF	-18.57%	CHTR	-11.27%
252.0	UNH	-17.12%	UNH	-10.96%
252.0	BIIB	-16.31%	BMY	-9.17%
252.0	TLT	-15.46%	BHC	-8.98%
252.0	KHC	-15.08%	GT	-8.09%
252.0	OXY	-13.96%	NAVI	-7.7%
252.0	BMY	-11.02%	TLT	-7.39%
252.0	BXP	-10.53%	BIIB	-6.89%
252.0	NAVI	-10.41%	OXY	-6.81%
252.0	CYH	-10.18%	CTLT	-6.24%
252.0	GT	-9.62%	CVS	-5.79%
252.0	ZTS	-8.22%	CYH	-5.49%
252.0	CMCSA	-8.09%	BXP	-5.34%
252.0	CVS	-7.38%	CMCSA	-5.24%
252.0	LNC	-6.57%	LW	-4.94%



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## P365D: 1d

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

Period examined: All model dates from 2025-05-01 through 2026-04-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
1.0	MSTR	-0.71%	CHTR	-0.29%
1.0	CHTR	-0.66%	PRGO	-0.26%
1.0	PRGO	-0.45%	MSTR	-0.24%
1.0	FIS	-0.42%	CPRT	-0.23%
1.0	CMG	-0.39%	FIS	-0.19%
1.0	INTU	-0.38%	INTU	-0.16%
1.0	NWL	-0.34%	AMC	-0.15%
1.0	ZTS	-0.31%	ADBE	-0.15%
1.0	CMCSA	-0.29%	CMG	-0.13%
1.0	TDG	-0.26%	GT	-0.12%
1.0	CPRT	-0.24%	ZTS	-0.11%
1.0	NAVI	-0.23%	NAVI	-0.09%
1.0	CNC	-0.21%	TMUS	-0.08%
1.0	BBY	-0.21%	KHC	-0.08%
1.0	UAA	-0.18%	CMCSA	-0.07%
1.0	GT	-0.18%	MOS	-0.07%
1.0	ADBE	-0.17%	TDG	-0.07%
1.0	TMUS	-0.14%	GBTC	-0.06%
1.0	AMC	-0.14%	NFLX	-0.05%
1.0	VST	-0.13%	VNO	-0.05%
1.0	LEN	-0.13%	SNY	-0.05%
1.0	GME	-0.13%	LEN	-0.05%
1.0	ISRG	-0.1%	FRA	-0.04%
1.0	VNO	-0.09%	ISRG	-0.03%
1.0	POST	-0.07%	LW	-0.03%
1.0	MOS	-0.07%	NWL	-0.03%
1.0	ACGL	-0.06%	VICI	-0.03%
1.0	FRA	-0.06%	HD	-0.02%
1.0	KHC	-0.06%	BXP	-0.02%
1.0	BXP	-0.05%	BBY	-0.02%



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## P365D: 10d

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

Period examined: All model dates from 2025-05-01 through 2026-04-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
10.0	PRGO	-7.09%	MSTR	-2.84%
10.0	MSTR	-6.17%	PRGO	-2.6%
10.0	AMC	-3.87%	CPRT	-2.35%
10.0	CHTR	-3.86%	CHTR	-2.26%
10.0	INTU	-3.83%	FIS	-1.93%
10.0	ADBE	-2.99%	ADBE	-1.7%
10.0	NAVI	-2.99%	INTU	-1.59%
10.0	CMG	-2.95%	GT	-1.43%
10.0	ZTS	-2.86%	NAVI	-1.28%
10.0	FIS	-2.73%	CMG	-1.24%
10.0	CPRT	-2.02%	ZTS	-1.07%
10.0	NWL	-1.91%	MOS	-0.93%
10.0	KHC	-1.82%	VNO	-0.92%
10.0	GT	-1.79%	AMC	-0.91%
10.0	TDG	-1.78%	KHC	-0.91%
10.0	VNO	-1.7%	TMUS	-0.88%
10.0	CNC	-1.41%	GBTC	-0.8%
10.0	CMCSA	-1.2%	CMCSA	-0.66%
10.0	BBY	-1.0%	TDG	-0.57%
10.0	MOS	-0.99%	NFLX	-0.56%
10.0	TMUS	-0.98%	FRA	-0.51%
10.0	VICI	-0.6%	ISRG	-0.42%
10.0	ACGL	-0.56%	LEN	-0.39%
10.0	POST	-0.55%	CNC	-0.38%
10.0	LEN	-0.43%	SNY	-0.36%
10.0	FRA	-0.41%	VICI	-0.36%
10.0	ISRG	-0.4%	BBY	-0.34%
10.0	HD	-0.39%	BXP	-0.29%
10.0	IEP	-0.16%	NWL	-0.28%
10.0	BXP	-0.16%	IEP	-0.25%



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## P365D: 21d

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

Period examined: All model dates from 2025-05-01 through 2026-04-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
21.0	MSTR	-16.99%	MSTR	-7.45%
21.0	PRGO	-15.59%	PRGO	-6.07%
21.0	AMC	-12.69%	CPRT	-4.94%
21.0	CHTR	-9.65%	CHTR	-4.76%
21.0	INTU	-6.85%	FIS	-4.34%
21.0	ZTS	-6.83%	ADBE	-4.21%
21.0	NAVI	-6.76%	AMC	-4.08%
21.0	ADBE	-6.62%	INTU	-3.9%
21.0	CMG	-5.78%	NAVI	-3.27%
21.0	FIS	-5.34%	GT	-3.15%
21.0	CPRT	-4.49%	CMG	-2.76%
21.0	VNO	-4.18%	ZTS	-2.56%
21.0	NWL	-4.17%	VNO	-2.48%
21.0	TDG	-3.98%	GBTC	-2.48%
21.0	KHC	-3.4%	MOS	-2.28%
21.0	GT	-3.31%	TMUS	-1.77%
21.0	CMCSA	-3.01%	KHC	-1.74%
21.0	CNC	-2.7%	CMCSA	-1.61%
21.0	MOS	-2.1%	NWL	-1.47%
21.0	BXP	-1.9%	TDG	-1.29%
21.0	TMUS	-1.82%	BXP	-1.22%
21.0	BBY	-1.75%	CNC	-1.21%
21.0	GBTC	-1.4%	NFLX	-1.2%
21.0	LEN	-1.3%	FRA	-1.14%
21.0	VICI	-1.13%	LEN	-1.13%
21.0	POST	-1.09%	ISRG	-1.1%
21.0	FRA	-0.82%	VICI	-0.92%
21.0	IEP	-0.77%	LW	-0.91%
21.0	ACGL	-0.76%	GME	-0.89%
21.0	HD	-0.69%	BBY	-0.79%



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## P365D: 63d

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

Period examined: All model dates from 2025-05-01 through 2026-04-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
63.0	MSTR	-69.93%	MSTR	-27.78%
63.0	AMC	-62.5%	AMC	-23.23%
63.0	PRGO	-54.83%	PRGO	-23.05%
63.0	CHTR	-31.91%	INTU	-15.91%
63.0	INTU	-25.37%	CHTR	-15.39%
63.0	ZTS	-23.19%	FIS	-14.82%
63.0	NAVI	-22.04%	NAVI	-13.05%
63.0	FIS	-18.38%	ADBE	-12.82%
63.0	ADBE	-18.05%	GBTC	-12.34%
63.0	NWL	-16.29%	CPRT	-11.75%
63.0	TDG	-16.17%	CMG	-11.08%
63.0	VNO	-16.13%	VNO	-9.81%
63.0	NFLX	-15.74%	GT	-8.97%
63.0	CMG	-14.63%	ZTS	-8.31%
63.0	CPRT	-12.83%	NFLX	-8.3%
63.0	CMCSA	-11.95%	MOS	-7.96%
63.0	GBTC	-11.81%	NWL	-7.04%
63.0	BXP	-11.79%	BXP	-5.59%
63.0	KHC	-9.2%	TDG	-5.36%
63.0	MOS	-7.02%	MSFT	-5.2%
63.0	GT	-6.87%	KHC	-5.05%
63.0	VICI	-5.42%	FRA	-4.66%
63.0	BBY	-4.67%	CMCSA	-4.53%
63.0	CZR	-4.65%	LW	-4.24%
63.0	IEP	-4.56%	TMUS	-4.17%
63.0	META	-4.48%	VICI	-3.74%
63.0	QCOM	-3.81%	CZR	-3.53%
63.0	FRA	-3.58%	IEP	-3.43%
63.0	LW	-3.32%	QCOM	-2.57%
63.0	TMUS	-3.26%	ORCL	-2.18%



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## P365D: 126d

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

Period examined: All model dates from 2025-05-01 through 2026-04-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
126.0	MSTR	-153.77%	MSTR	-56.02%
126.0	AMC	-129.18%	PRGO	-46.96%
126.0	PRGO	-110.28%	AMC	-45.4%
126.0	CHTR	-66.0%	CHTR	-31.66%
126.0	ZTS	-55.62%	NWL	-27.7%
126.0	NWL	-53.53%	GBTC	-26.64%
126.0	ADBE	-37.28%	INTU	-26.2%
126.0	INTU	-37.2%	FIS	-24.07%
126.0	NFLX	-36.05%	MOS	-23.14%
126.0	CMCSA	-34.88%	CPRT	-22.98%
126.0	NAVI	-33.93%	CMG	-22.97%
126.0	FIS	-29.99%	NAVI	-21.44%
126.0	VNO	-29.73%	ADBE	-21.35%
126.0	META	-28.68%	NFLX	-21.29%
126.0	CPRT	-28.53%	ZTS	-19.98%
126.0	BXP	-26.43%	VNO	-19.82%
126.0	VST	-24.35%	ORCL	-16.44%
126.0	CMG	-22.9%	TMUS	-14.59%
126.0	TDG	-22.21%	GT	-13.53%
126.0	LW	-18.67%	CMCSA	-12.85%
126.0	GBTC	-17.67%	LW	-12.5%
126.0	MOS	-17.66%	KHC	-11.46%
126.0	KHC	-17.14%	VICI	-11.39%
126.0	CDNS	-16.45%	FRA	-10.93%
126.0	TMUS	-14.27%	MSFT	-10.5%
126.0	ORCL	-13.65%	VST	-10.2%
126.0	LEN	-13.61%	CZR	-9.89%
126.0	IEP	-13.51%	META	-9.85%
126.0	VICI	-13.37%	BXP	-9.8%
126.0	GME	-13.05%	TDG	-8.17%



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## P90D: 1d

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

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

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
1.0	CLF	-1.45%	CLF	-0.4%
1.0	INTU	-1.17%	GT	-0.4%
1.0	LUMN	-1.1%	TDG	-0.32%
1.0	TDG	-1.01%	CHTR	-0.32%
1.0	CHTR	-0.89%	INTU	-0.31%
1.0	FIS	-0.83%	CPRT	-0.28%
1.0	GT	-0.71%	LEN	-0.28%
1.0	LNC	-0.71%	FIS	-0.28%
1.0	BBY	-0.67%	CCL	-0.26%
1.0	CMG	-0.66%	PRGO	-0.26%
1.0	LEN	-0.64%	ADBE	-0.25%
1.0	CMCSA	-0.63%	B	-0.23%
1.0	NWL	-0.59%	HD	-0.21%
1.0	ADBE	-0.51%	META	-0.2%
1.0	CCL	-0.49%	MOS	-0.2%
1.0	VFC	-0.38%	HCA	-0.2%
1.0	HD	-0.37%	CAH	-0.19%
1.0	VST	-0.36%	CMG	-0.18%
1.0	GE	-0.31%	WFC	-0.17%
1.0	PRGO	-0.29%	LNC	-0.15%
1.0	ISRG	-0.28%	LLY	-0.14%
1.0	UAA	-0.24%	TSLA	-0.13%
1.0	CPRT	-0.21%	ELAN	-0.13%
1.0	B	-0.2%	CYH	-0.13%
1.0	BHC	-0.19%	GILD	-0.13%
1.0	VNO	-0.19%	ZTS	-0.12%
1.0	BXP	-0.18%	CMCSA	-0.12%
1.0	MOS	-0.15%	ISRG	-0.12%
1.0	FRA	-0.14%	BBY	-0.12%
1.0	GLD	-0.14%	NAVI	-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 2026-02-02 through 2026-04-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
10.0	CLF	-10.26%	GT	-5.51%
10.0	PRGO	-7.72%	CLF	-3.98%
10.0	INTU	-7.17%	LEN	-3.93%
10.0	LLY	-6.46%	MOS	-3.48%
10.0	GT	-5.61%	CPRT	-2.89%
10.0	CYH	-5.57%	CCL	-2.89%
10.0	HD	-5.01%	PRGO	-2.79%
10.0	NWL	-4.95%	LLY	-2.64%
10.0	CMG	-4.14%	HD	-2.43%
10.0	LEN	-4.13%	GILD	-2.29%
10.0	NAVI	-4.0%	B	-2.09%
10.0	KHC	-3.69%	WFC	-2.05%
10.0	CCL	-3.67%	CHTR	-2.01%
10.0	BBY	-3.12%	HCA	-1.98%
10.0	MOS	-3.12%	CMG	-1.82%
10.0	CMCSA	-3.12%	ABBV	-1.77%
10.0	BHC	-3.09%	CYH	-1.74%
10.0	ADBE	-2.98%	KHC	-1.71%
10.0	GLD	-2.88%	ELAN	-1.7%
10.0	HON	-2.83%	TDG	-1.67%
10.0	TFC	-2.63%	LW	-1.62%
10.0	LNC	-2.62%	ADBE	-1.6%
10.0	TSLA	-2.6%	CMCSA	-1.57%
10.0	TDG	-2.44%	HON	-1.5%
10.0	FIS	-2.34%	TSLA	-1.45%
10.0	BALL	-2.19%	NAVI	-1.43%
10.0	CHTR	-2.15%	CAH	-1.41%
10.0	CPRT	-2.02%	BBY	-1.39%
10.0	ABBV	-1.96%	ZTS	-1.29%
10.0	ISRG	-1.95%	LNC	-1.29%



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## P90D: 21d

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

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

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
21.0	PRGO	-21.55%	GT	-11.58%
21.0	CLF	-19.14%	LEN	-11.35%
21.0	NWL	-14.75%	CLF	-8.55%
21.0	LEN	-13.52%	PRGO	-7.83%
21.0	HD	-12.18%	MOS	-7.29%
21.0	LLY	-12.07%	UAA	-6.85%
21.0	GT	-12.01%	CCL	-6.56%
21.0	CYH	-11.93%	CPRT	-6.52%
21.0	CMG	-9.58%	THC	-6.24%
21.0	GLD	-9.47%	B	-6.23%
21.0	CMCSA	-9.32%	HD	-6.17%
21.0	LW	-9.0%	LLY	-5.86%
21.0	UAA	-8.86%	NWL	-5.55%
21.0	CCL	-8.79%	CYH	-5.53%
21.0	BHC	-8.76%	LW	-5.44%
21.0	KHC	-8.69%	TSLA	-4.98%
21.0	BALL	-8.65%	PHM	-4.79%
21.0	INTU	-8.17%	HCA	-4.71%
21.0	GE	-8.02%	CMCSA	-4.67%
21.0	NAVI	-7.92%	GILD	-4.67%
21.0	TMUS	-7.87%	ELAN	-4.66%
21.0	BXP	-7.59%	CMG	-4.62%
21.0	TDG	-7.08%	GE	-4.61%
21.0	TSLA	-6.95%	ABBV	-4.59%
21.0	MOS	-6.77%	BXP	-4.27%
21.0	FIS	-6.76%	ADBE	-4.2%
21.0	HON	-6.74%	TDG	-4.12%
21.0	ISRG	-5.78%	MNST	-4.11%
21.0	ZTS	-5.64%	KHC	-3.97%
21.0	GNRC	-5.48%	TEVA	-3.81%



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## P30D: 1d

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

Period examined: All model dates from 2026-04-01 through 2026-04-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
1.0	CHTR	-2.5%	CHTR	-1.1%
1.0	INTU	-1.75%	MOS	-0.64%
1.0	BBY	-1.33%	AA	-0.57%
1.0	MRK	-0.69%	MRK	-0.49%
1.0	CMCSA	-0.65%	CAH	-0.46%
1.0	B	-0.6%	HCA	-0.41%
1.0	T	-0.54%	INTU	-0.4%
1.0	TDG	-0.52%	T	-0.38%
1.0	TMUS	-0.46%	GILD	-0.34%
1.0	MOS	-0.42%	AZN	-0.34%
1.0	ISRG	-0.4%	THC	-0.33%
1.0	GLD	-0.39%	B	-0.33%
1.0	GSK	-0.38%	GSK	-0.32%
1.0	HON	-0.34%	PCG	-0.32%
1.0	PCG	-0.27%	HON	-0.3%
1.0	AA	-0.26%	BBY	-0.28%
1.0	SNY	-0.25%	NVS	-0.23%
1.0	AZN	-0.22%	FCX	-0.21%
1.0	GE	-0.22%	TMUS	-0.19%
1.0	THC	-0.2%	XOM	-0.19%
1.0	AMGN	-0.19%	GLD	-0.16%
1.0	FIS	-0.18%	ELAN	-0.14%
1.0	GILD	-0.17%	CYH	-0.13%
1.0	HCA	-0.15%	VZ	-0.12%
1.0	KHC	-0.14%	SNY	-0.12%
1.0	BMJ	-0.13%	CMCSA	-0.12%
1.0	CAH	-0.12%	OXY	-0.1%
1.0	TLT	-0.09%	AMGN	-0.09%
1.0	NVS	-0.07%	ZTS	-0.09%
1.0	FCX	-0.06%	SLV	-0.08%



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## P30D: 10d

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

Period examined: All model dates from 2026-04-01 through 2026-04-29

Horizon	Ticker_V	ROEDB_V	Ticker_S	ROEDB_S
10.0	NFLX	-19.37%	AA	-8.23%
10.0	CYH	-11.74%	NFLX	-6.98%
10.0	LLY	-9.47%	HCA	-6.42%
10.0	GE	-9.42%	MRK	-5.94%
10.0	PCG	-8.98%	CHTR	-5.85%
10.0	MRK	-7.74%	PCG	-5.81%
10.0	HON	-7.2%	MOS	-5.68%
10.0	HCA	-7.13%	CYH	-5.38%
10.0	CHTR	-6.5%	GILD	-5.22%
10.0	B	-6.43%	HON	-5.05%
10.0	AA	-6.27%	AZN	-4.66%
10.0	TDG	-5.42%	CAH	-4.24%
10.0	MOS	-5.21%	THC	-4.11%
10.0	T	-4.43%	GE	-3.96%
10.0	TMUS	-4.36%	GSK	-3.85%
10.0	KHC	-4.34%	B	-3.85%
10.0	GILD	-4.2%	NVS	-3.84%
10.0	ABBV	-4.0%	XOM	-3.61%
10.0	OXY	-3.99%	LLY	-3.42%
10.0	AZN	-3.72%	OXY	-3.14%
10.0	GSK	-3.67%	T	-3.07%
10.0	BBY	-3.59%	ABBV	-2.87%
10.0	THC	-3.3%	ELAN	-2.77%
10.0	NEM	-3.0%	NEM	-2.58%
10.0	XOM	-2.82%	KHC	-2.22%
10.0	CAH	-2.55%	TDG	-2.0%
10.0	GLD	-2.52%	WFC	-1.91%
10.0	NVS	-2.24%	TMUS	-1.87%
10.0	INTU	-2.16%	BBY	-1.79%
10.0	WFC	-1.98%	FCX	-1.4%



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## 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.



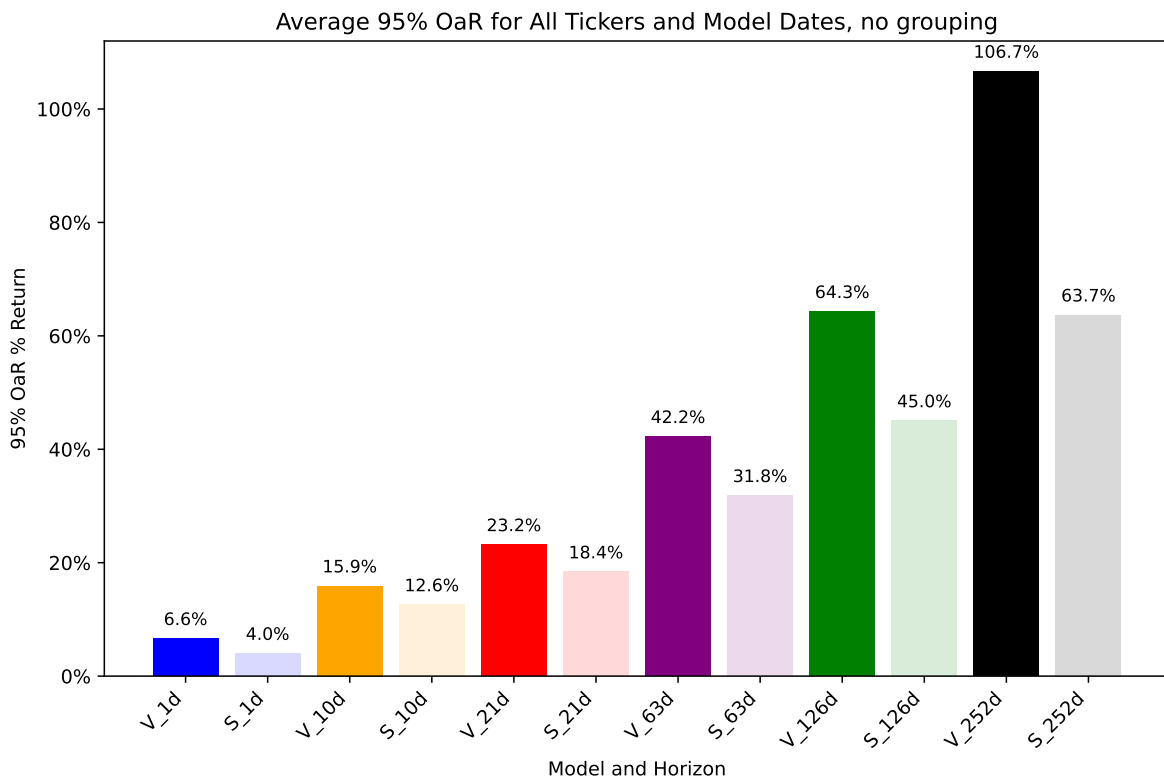
## Appendix 2: 95% Opportunity at Risk (OaR)

### 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.

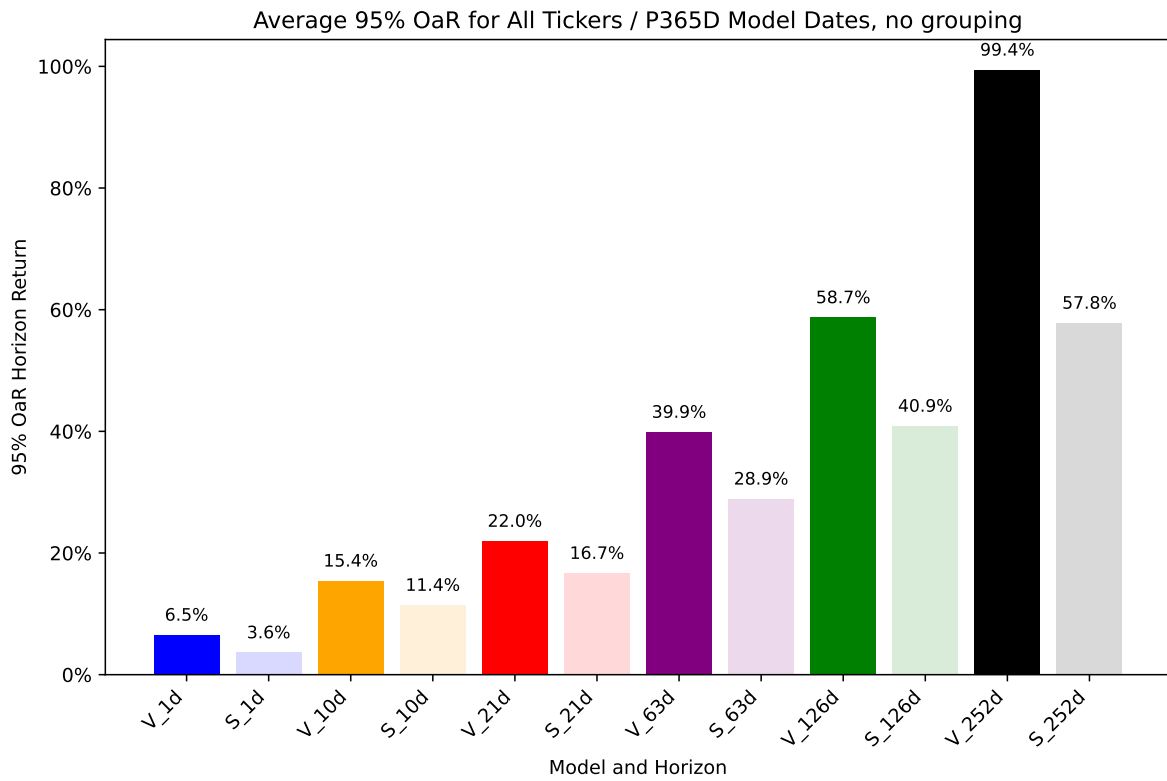
### All Out of Sample Model Dates

Period examined: All model dates from 2022-01-31 through 2026-04-29



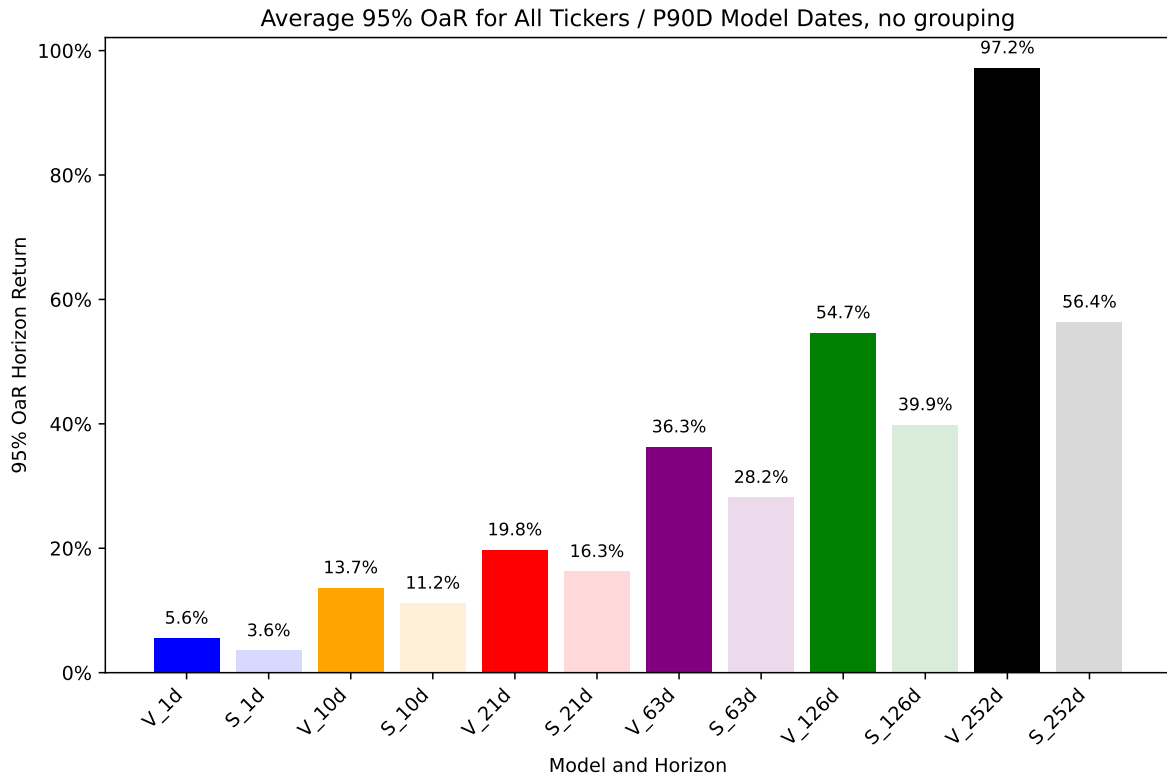
## Prior 365 Calendar Days (P365D)

Period examined: All model dates from 2025-05-01 through 2026-04-29



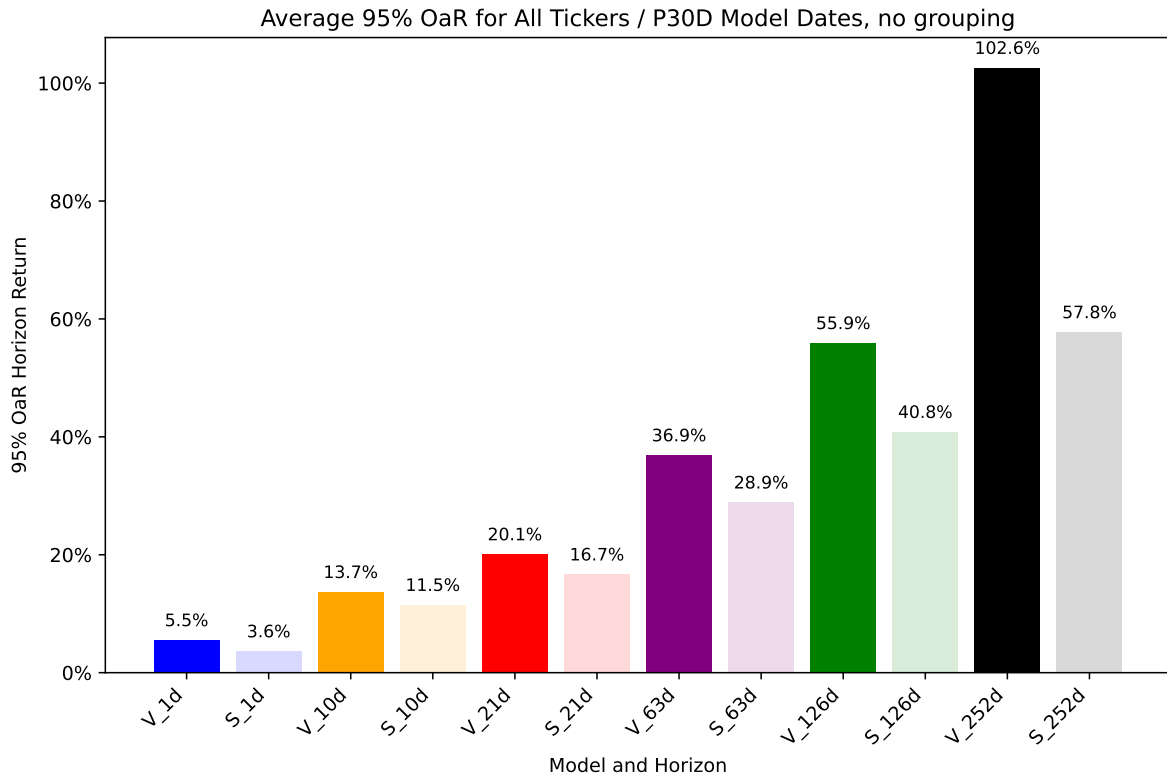
## Prior 90 Calendar Days (P90D)

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



## Prior 30 Calendar Days (P30D)

Period examined: All model dates from 2026-04-01 through 2026-04-29



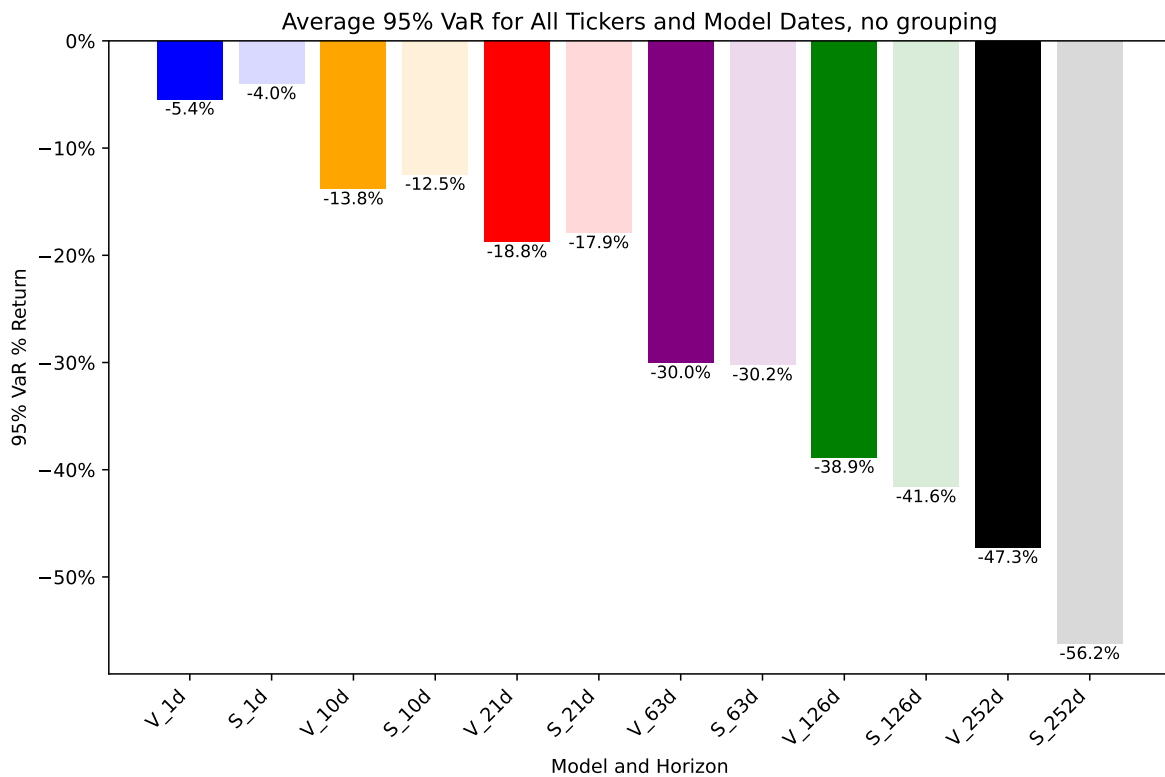
## Appendix 3: 95% Value at Risk (VaR)

### Historic Average Levels

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

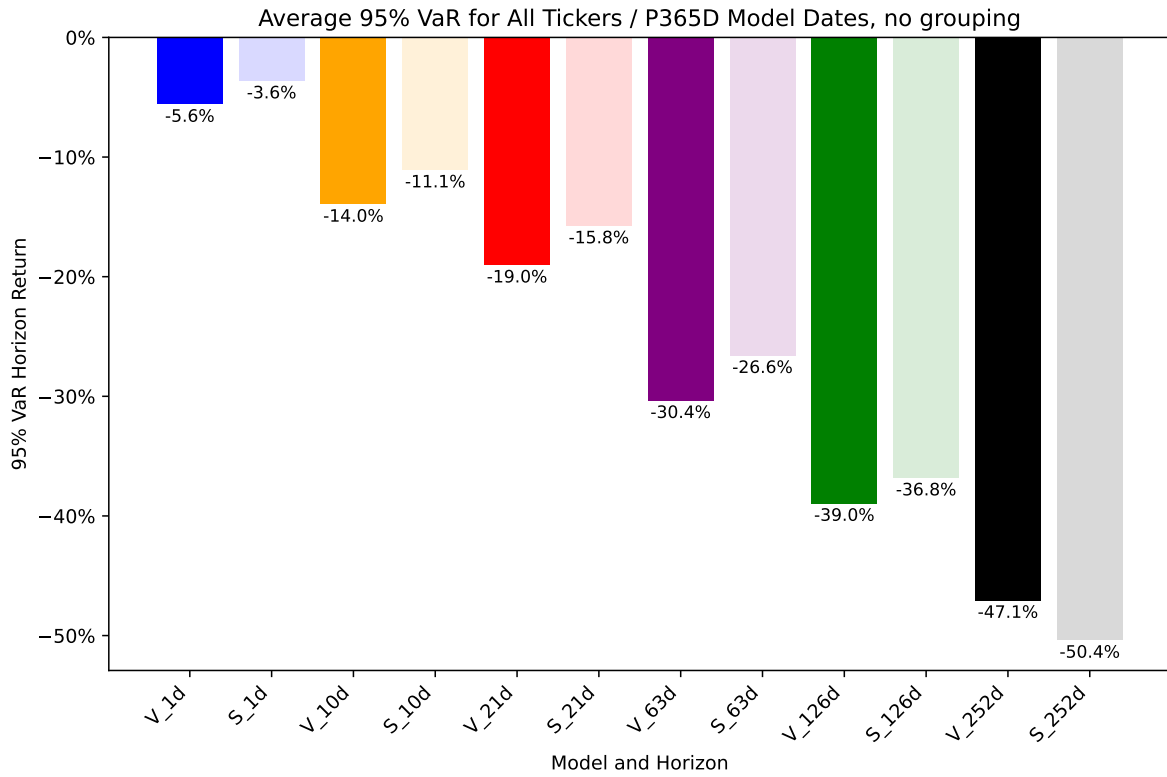
### All Out of Sample Model Dates

Period examined: All model dates from 2022-01-31 through 2026-04-29



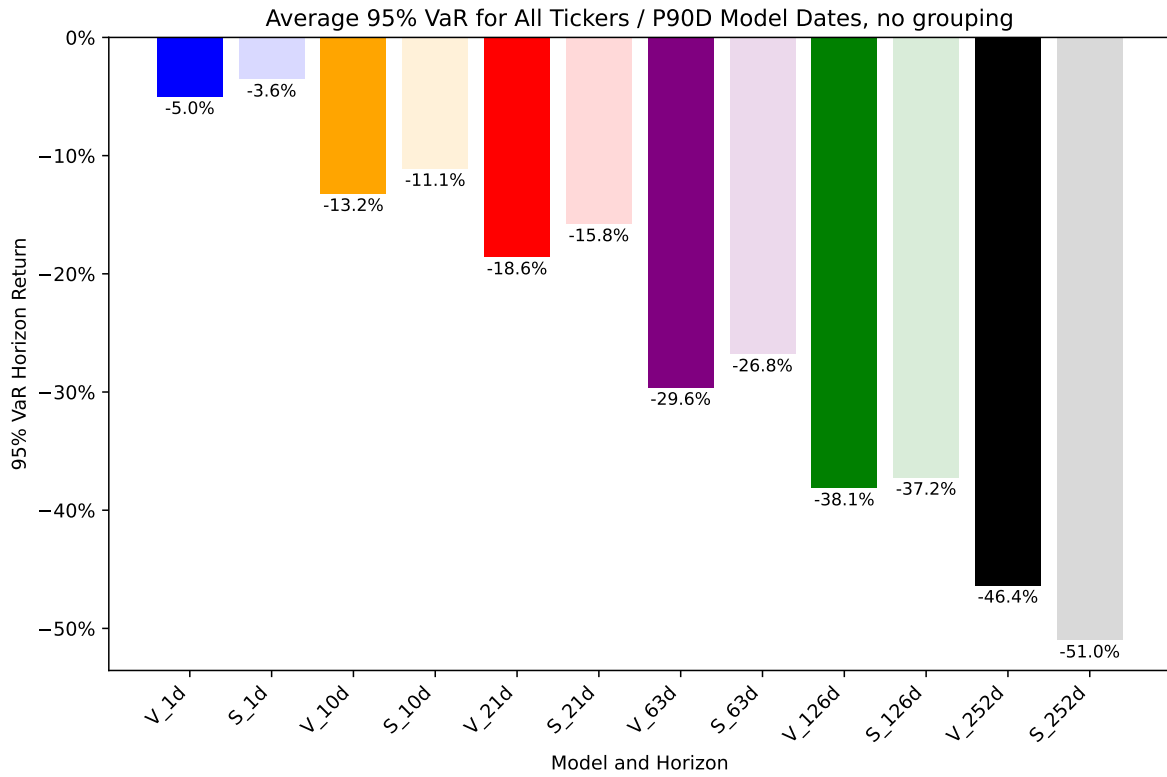
## Prior 365 Calendar Days (P365D)

Period examined: All model dates from 2025-05-01 through 2026-04-29



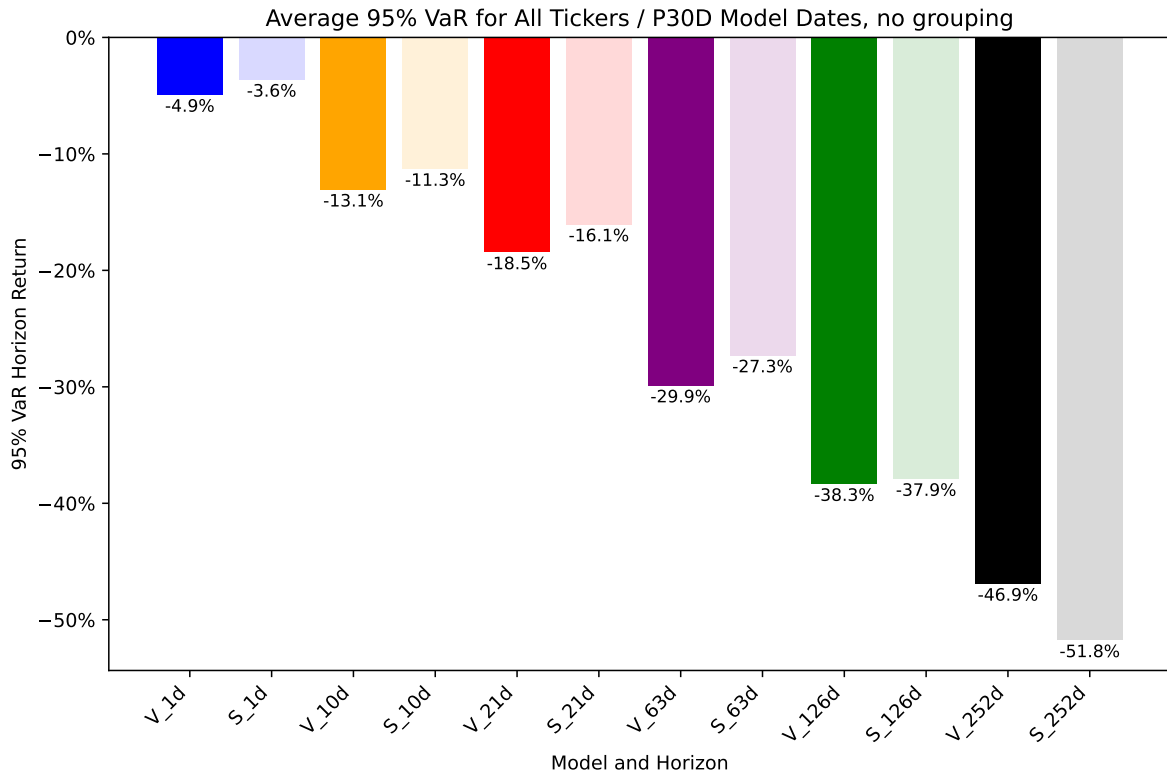
## Prior 90 Calendar Days (P90D)

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



## Prior 30 Calendar Days (P30D)

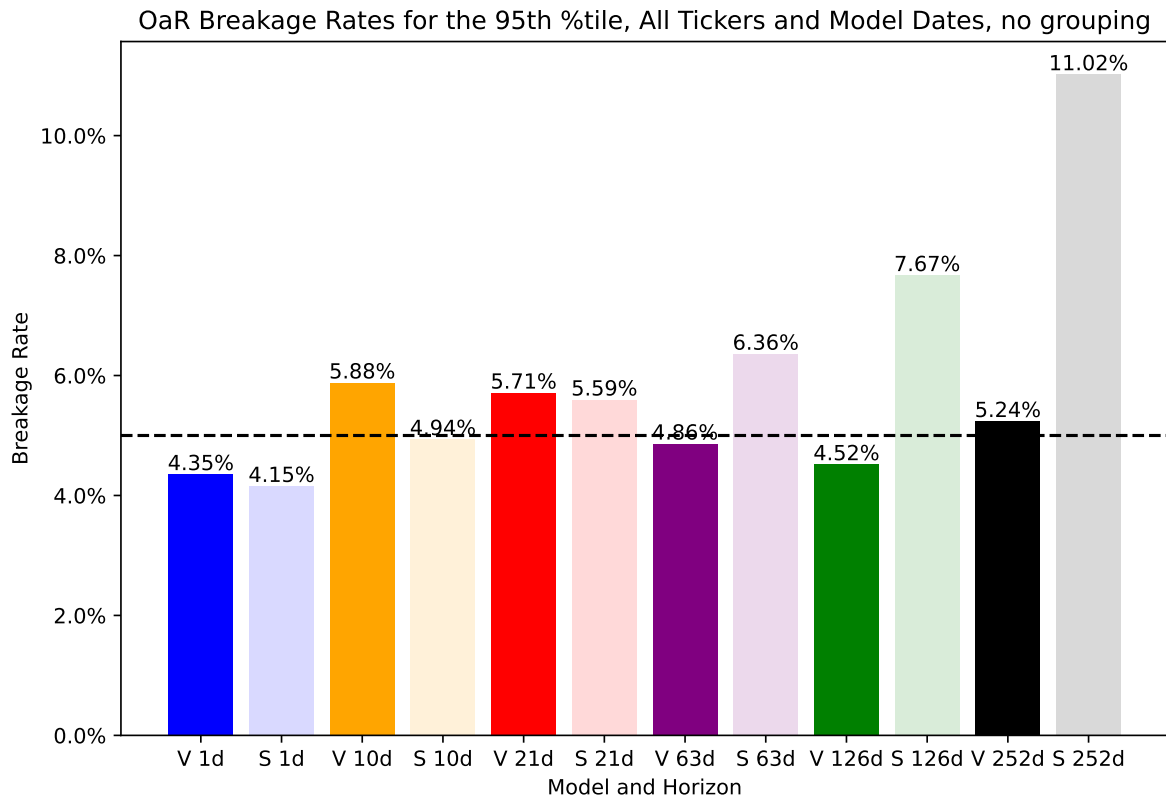
Period examined: All model dates from 2026-04-01 through 2026-04-29



## Appendix 4: 95% OaR Breakage Rates

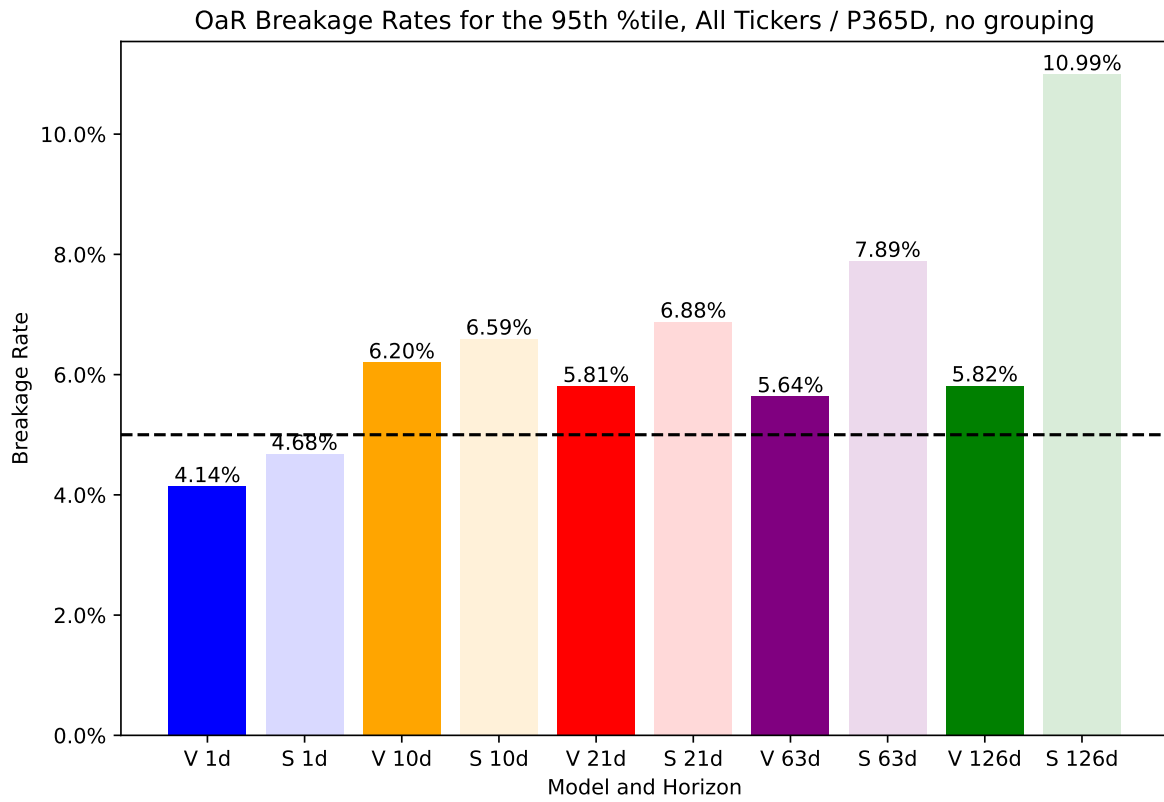
### All Out of Sample Model Dates

Period examined: All model dates from 2022-01-31 through 2026-04-29



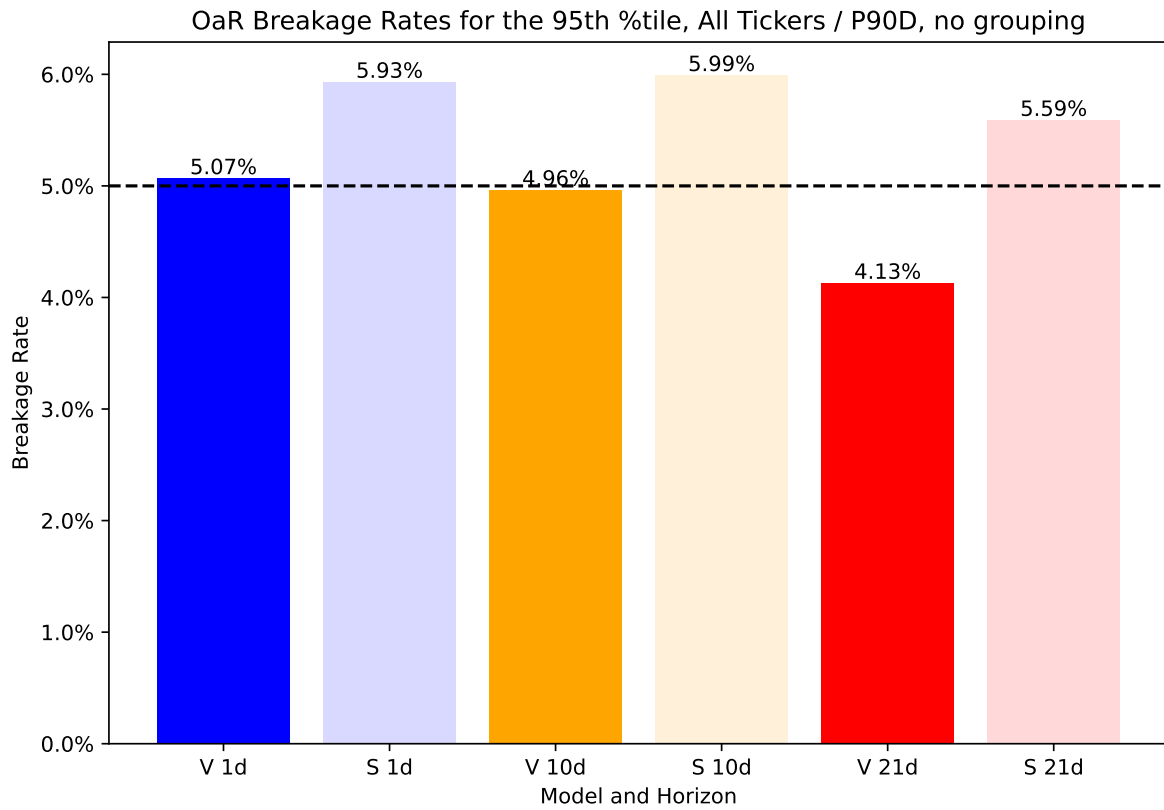
## Prior 365 Calendar Days (P365D)

Period examined: All model dates from 2025-05-01 through 2026-04-29



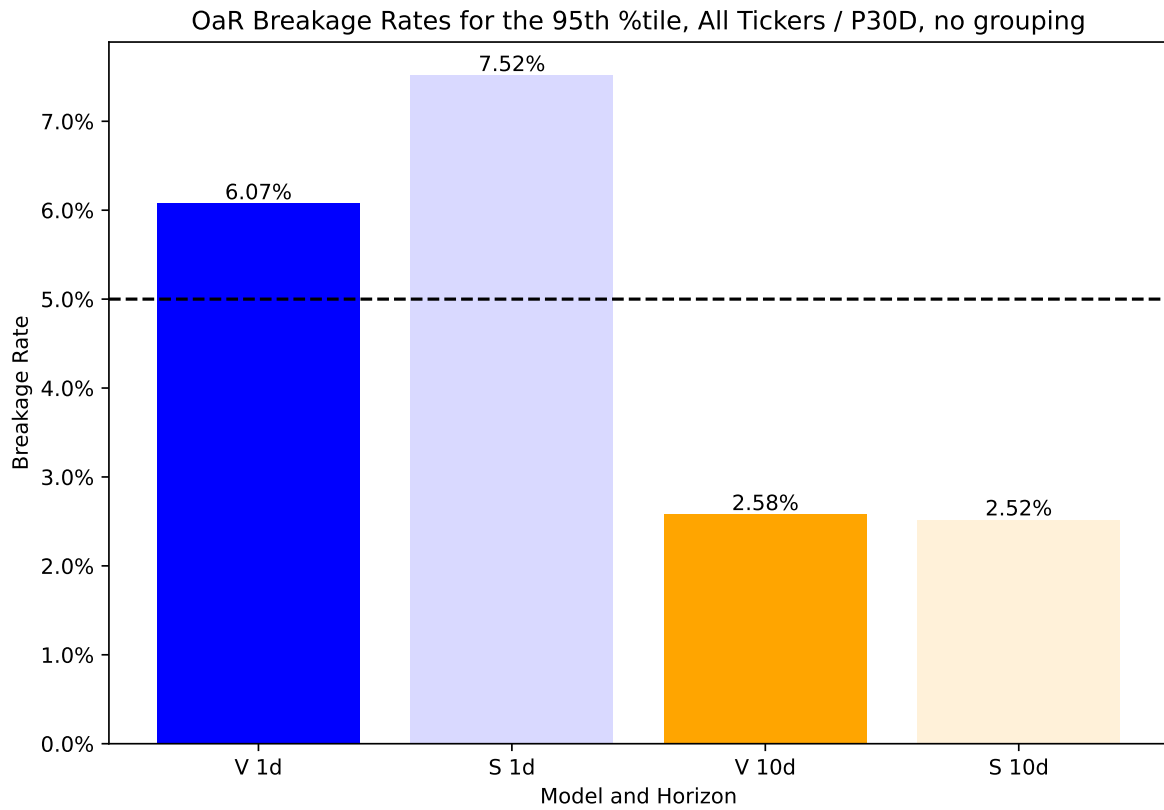
## Prior 90 Calendar Days (P90D)

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



## Prior 30 Calendar Days (P30D)

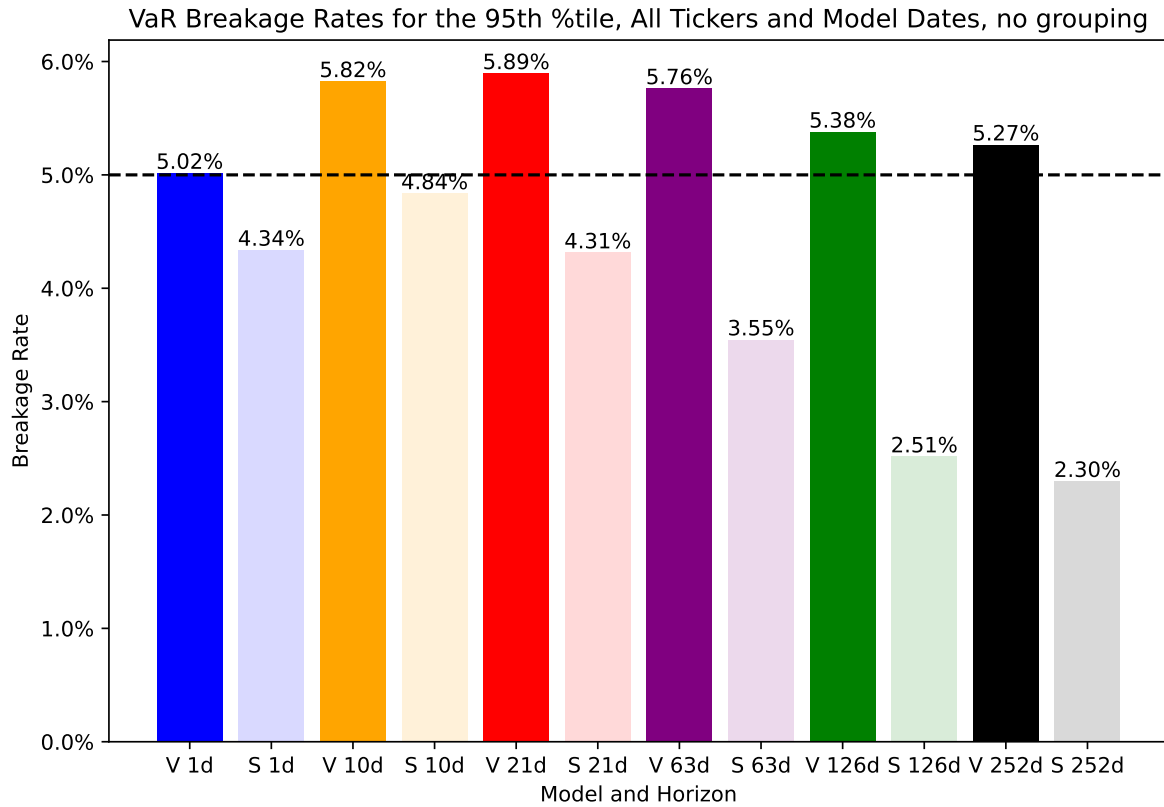
Period examined: All model dates from 2026-04-01 through 2026-04-29



## Appendix 5: 95% VaR Breakage Rates

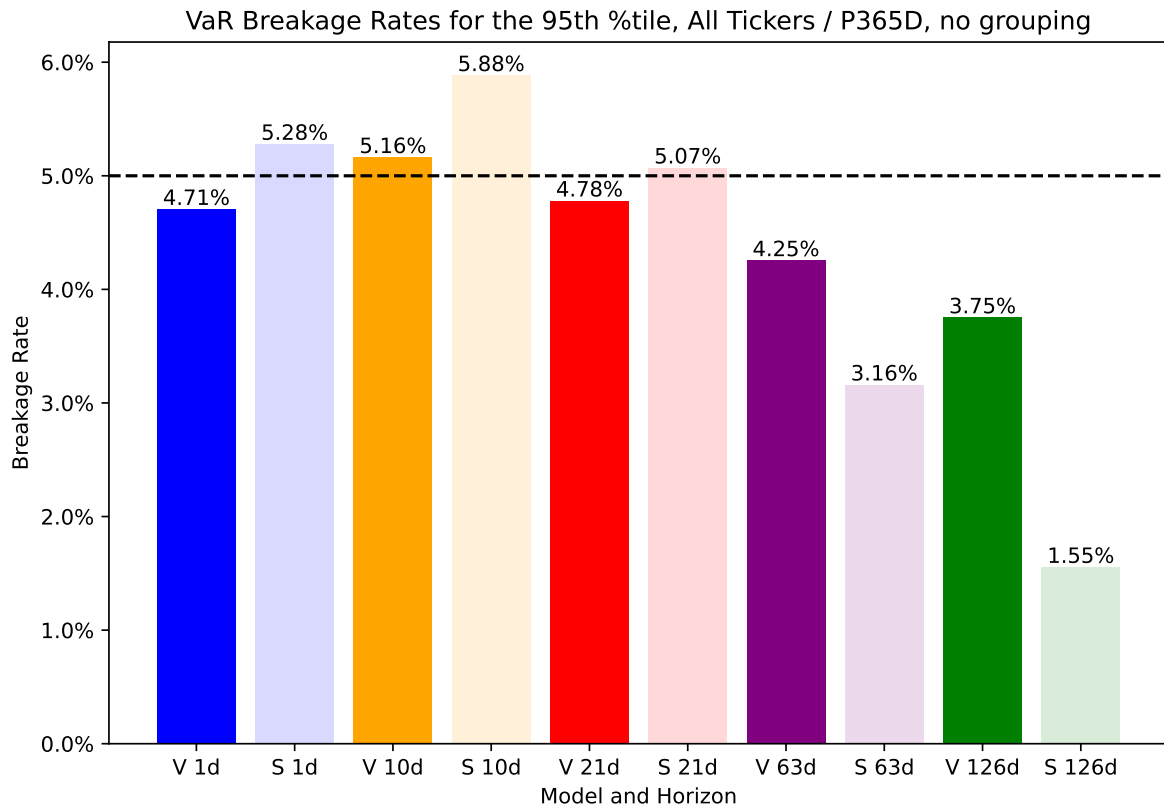
### All Out of Sample Model Dates

Period examined: All model dates from 2022-01-31 through 2026-04-29



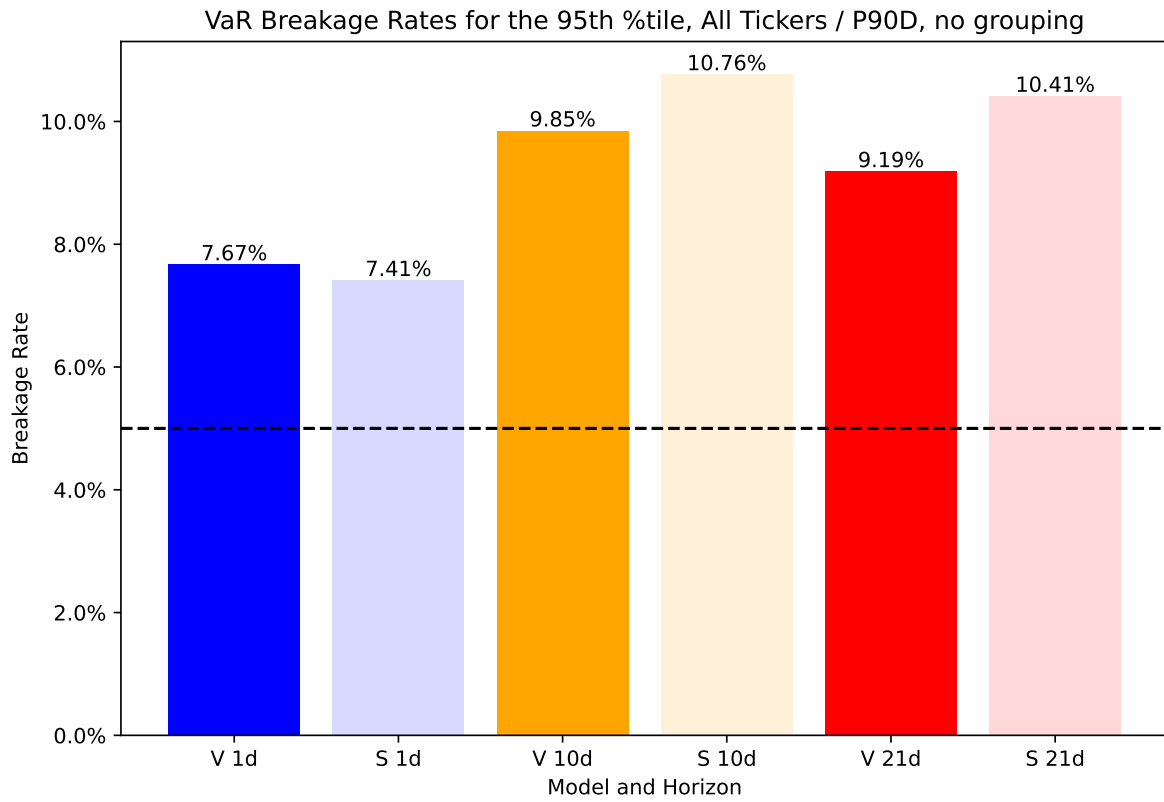
## Prior 365 Calendar Days (P365D)

Period examined: All model dates from 2025-05-01 through 2026-04-29



## Prior 90 Calendar Days (P90D)

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



## Prior 30 Calendar Days (P30D)

Period examined: All model dates from 2026-04-01 through 2026-04-29

