

# VecViz Value At Risk (VaR) Performance Report

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## Introduction

Value at Risk, or VaR, as discussed in this report, is an estimate of the maximum amount an investor could lose by being long a ticker at the end of a specified forward time horizon, at a specified level of probability. An accurate VaR measure forecasts losses that are exceeded by actual losses in one minus the specified probability percent of all observations.

The aim of this report is to inform a broad spectrum of readers of the behavior and accuracy of VecViz's VaR 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 and on well-established statistical tests from the academic literature.

Please see the "Important Considerations" section of this report for disclosure of at least some of the many ways this report likely falls short of its objective, and other important disclosures.

## Evaluation of VaR Estimates

The metrics used in this report to evaluate VaR performance via comparison to Sigma include the mean absolute error (MAE) of breakage rates to the specified probability, Return on VaR Based Capital (ROVBC), and the alpha of Vector Model ROVBC to underlying ticker returns. Substantial supporting detail in terms of influential tickers and model dates are provided for each metric and model. The results of this comparative analysis are summarized in the Vector Model VaR "Report Card" section of this report.

We supplement this comparative analysis with two additional tests of Vector Model VaR that are well established in the quantitative finance literature: the Kupiec Test of breakage consistency with the specified probability and the Christoferson test of breakage independence. Results of these tests are also summarized in the Report Card section.

## VaR Breakage Ratios

VaR Breakage refers to forward returns being below the VaR estimate for the corresponding horizon date. Because the Vector Model delivers ticker level probability analytics, breakage is measured at the individual ticker-model date level. and we aggregate it in various ways for evaluation purposes.

For example, 100 tickers tracked over 10 days represents 1,000 ticker-model dates. An ideal estimate of 95% ticker level VaR would generate 50 breaks. Therefore, we compare Vector Model VaR breakage to Sigma's on the basis of MAE to the ideal number of breaks. The model with the smaller MAE is deemed preferable with regard to VaR breakage proximity to target.



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However, an ideal VaR estimate wouldn't have all those breaks concentrated in just a couple days or just a few tickers. The breaks generated by an ideal VaR estimate would also be independent with respect to model dates and tickers. Therefore, we also compare the Vector Model's VaR breakage to Sigma's on the basis of variability over time (on average across tickers) and across tickers (on average across dates).

Sigma is known to have some significant shortcomings in measuring the volatility of security price returns. Thus, we supplement the comparison of Vector Model breakage rate MAE to Sigma's MAE with the aforementioned Kupiec test, which tells us whether Vector Model VaR breakage is consistent with targeted breakage with a high degree of confidence (95%). Further, we supplement the comparison of Vector Model breakage variability across model dates with the Christoferson test of date independence.

### **ROVBC and its drivers**

The metric "ROVBC" requires some explanation. Return on VaR Based Capital, or ROVBC, attempts to capture the impact on investor returns of using the Vector Model VaR instead of Sigma VaR to size positions, assuming the investor has a fixed risk budget per ticker.

ROVBC assumes that Sigma earns the return of the underlying ticker and the Vector Model earns a return proportionate to that, where the proportion is the ratio of Sigma VaR / Vector VaR, subject to a cap and floor (we use 300% and 33.33%). So, for example, if Sigma said VaR for ticker XYZ was -2.00% and the Vector Model said VaR for XYZ was -4.00%, the Vector Model ROVBC for XYZ would be half of Sigma's. Likewise, if the Vector Model said VaR for XYZ was -1.00% the Vector Model's ROVBC for XYZ would be double Sigma's. No cost of borrowing or crediting for uninvested funds is incorporated in ROVBC.

For the Vector Model ROVBC to be higher than Sigma's it signifies that either (1) Vector Model VaR was more deeply negative than Sigma's VaR and the ticker traded lower, or (2) Sigma VaR was more deeply negative than the Vector Model's VaR and the ticker traded higher.

### **Addressing The Tradeoff Between VaR Breakage and ROVBC**

All else equal, assuming a positive drift higher in average asset prices over time, the model with more deeply negative average VaR levels will have lower breakage rates but also lower ROVBC, and vice versa. Thus, relative ROVBC must be considered in the context of relative breakage rate MAE. In the Report Card we include a metric that directly addresses this concern: comparison of Vector Model ROVBC to Sigma ROVBC "Adj. for Avg. VM-Sigma VaR Diff." (adjusted for average Vector Model - Sigma VaR differentials). Specifically, we multiply average aggregate Sigma ROVBC by the ratio of average aggregate Sigma VaR to average aggregate Vector Model VaR. This multiplication almost entirely eliminates the influence of systematic VaR differentials on the relationship between Vector Model and Sigma ROVBC.



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The bias that remains reflects only the aforementioned capping and flooring when calculating Vector Model ROVBC.

We also provide a more elegant, though less transparent metric that addresses this concern - the alpha of Vector Model ROVBC to Sigma ROVBC (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 ROVBC on the underlying ticker forward returns for corresponding TMD’s. It represents the expected Vector Model ROVBC when Sigma ROVBC, i.e., the underlying ticker return, is 0.00%.

### **Determining the drivers of ROVBC alpha**

A ROVBC Alpha greater than 0.00 across TMD’s indicates that Vector Model VaR moved favorably from a market timing and / or ticker selection perspective. We present that statistic alongside an average ROVBC 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.

### **ROVBC Beta**

ROVBC Beta represents the expected sensitivity of Vector Model ROVBC to Sigma ROVBC, i.e., the underlying ticker return. It is the slope of the aforementioned ordinary least squares regression of Vector Model ROVBC on Sigma ROVBC. Like outright ROVBC, it must be considered in the context of Breakage MAE, and like alpha it can be bifurcated to reveal additional insight.

We encourage readers to consider the Vector Model ROVBC beta to Sigma ROVBC in the context of how well each model’s VaR breakage rates compare to targeted levels. For example, if the Sigma model VaR breakage is well below target and the Vector Model’s VaR breakage is close to target, then Vector Model VaR levels are likely less deeply negative than Sigma’s and the beta of Vector Model ROVBC to Sigma ROVBC should be expected to be  $> 1.00$ .

A ROVBC Beta greater than 1.00 across TMD’s indicates that Vector Model VaR was less negative than Sigma VaR 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 VaR was less deeply negative than Sigma VaR on more volatile days. If this second beta is less than the overall beta then it indicates that Vector Model VaR tended to be less deeply negative than Sigma VaR with respect to more volatile tickers than with respect to more volatile dates.



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## 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 VaR analytics are daily closing prices obtained from QuoteMedia.

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

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



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## Sigma Details

The core of Sigma, as presented alongside Vector Model output by VecViz, is the standard deviation of price-based returns that very likely gets discussed in any introductory book on risk or portfolio management. This is the same definition of volatility that is utilized in the Black Scholes option pricing formula.

Sigma's flaws as an estimate of forward volatility are well documented. Nevertheless, it remains perhaps the most popular metric for "risk" when it comes to investments, likely because of its simplicity and familiarity.

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

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

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

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

All Sigma estimates discussed in this report are for dates beyond January 31, 2022, the end of the training period for the Vector Model.

## 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



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

- 1) Past performance is no guarantee of future results. None of the content in this report is investment advice or an offer to buy or sell securities. VecViz is not a SEC investment advisor or broker-dealer. The staff of VecViz actively transacts in securities tied to many of the tickers discussed in this report.  
See VecViz's Terms and Conditions for more context and detail at <https://vecviz.com/terms-and-conditions/>
- 2) Read ““Let me warn you...” of the limitations of VecViz's Analytics.”, a blog entry on vecviz.com (<https://vecviz.com/let-me-warn-you-of-the-limitations-of-vecvizs-analytics/>)
- 3) There are many volatility models that the Vector Model could be compared to beyond Sigma. Thus, even if this report causes you to conclude that the Vector Model's VaR outperforms Sigma VaR, you should not necessarily conclude that Vector Model VaR is the best volatility model for your purposes. See the discussion of some of the other types of volatility models in this blog for more detail: <https://vecviz.com/an-llms-comparison-of-vecviz-to-established-vol-models/>
- 4) All breakage rate and ROVBC performance statistics are as of the end of the horizon only. All interim price movement is ignored. In other words, a stock with a 10d VaR of -15% may have declined 99% the day after the VaR estimate of -15% was calculated, but if it reverts to being only down 14.99% on the 10th day then no breakage occurred as calculated in this report, and its ROVBC performance will be based on a -14.99% price return.
- 5) Clearly, all horizons  $> 1d$  overlap when considered on a daily basis (except for those utilized in the Kupiec and Christoferson tests). 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 VaR breakage and ROVBC returns are calculated similarly.
- 6) We are not considering transaction costs. The turnover and therefore transaction costs experienced by Vector Model ROVBC based investors resulting in the change in the ratio between Vector Model and Sigma VaR is completely ignored.
- 7) We are not incorporating any financing charges or margin-related costs for implied “levered” ROVBC positions.
- 8) Note that VaR for both the Vector Model and Sigma as presented in this report assumes that prices are floored at \$0.01. Since the coverage universe for this report includes only



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listed equities, that assumption is likely appropriate. However, if the Vector Model were applied to commodities or perhaps other potentially illiquid securities we would likely have to remove that floor for such tickers, and the resulting impact on model performance for such tickers has not yet been researched.

9) All analytics presented in this report assumes that prices are floored at \$0.01/share.

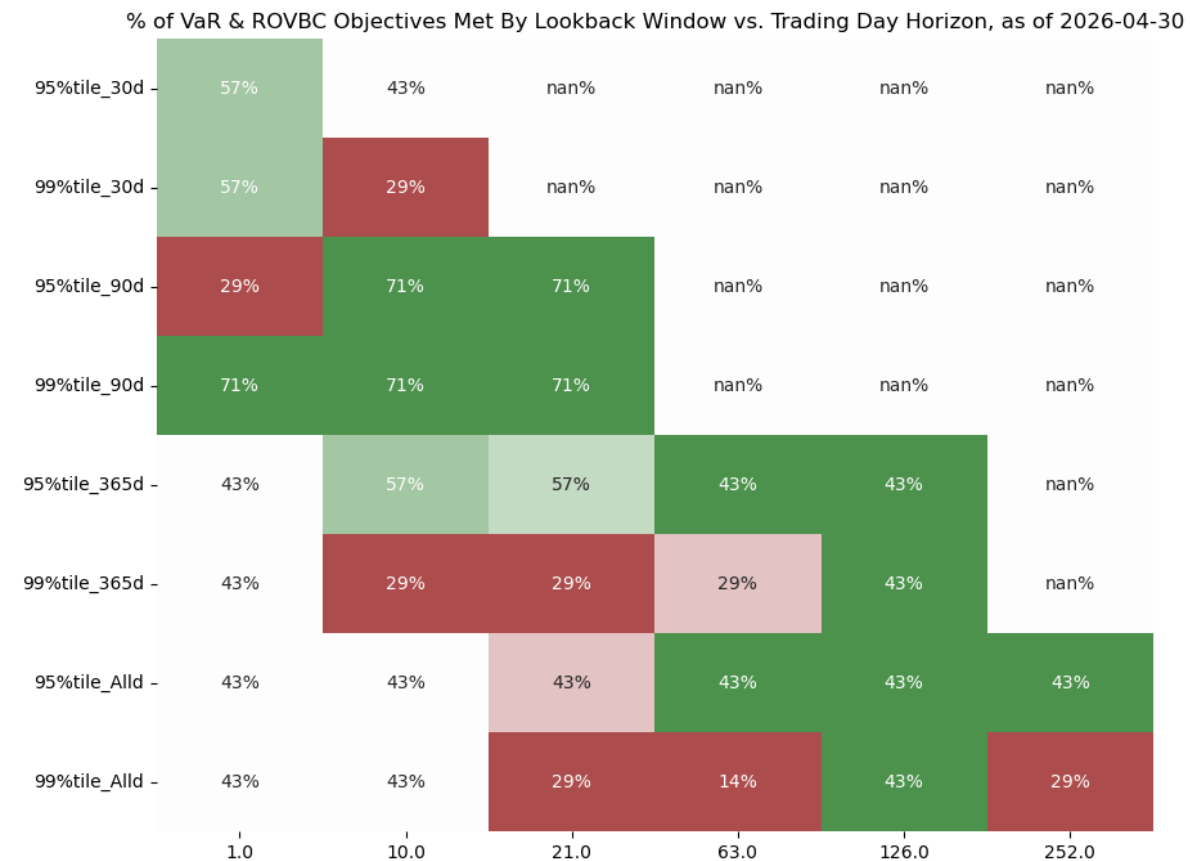
Thus, in summary, with the exception of the Kupiec and Christoferson tests, all metrics presented in this report are presented and are to be considered on a comparative basis. Are Vector Model VaR breakage rates closer to target than Sigma's? Does Vector Model ROVBC outperform Sigma ROVBC? Is the relative performance driven by alpha or beta? By timing or ticker selection? What tickers contributed or detracted the most from the relative performance? These are the questions this report is structured to answer.



## Value at Risk (VaR) Report Cards

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.

### Sigma Comparison Report Card:



### Vector Model Statistical Testing Report Card:

The Kupiec Proportion of Failures test statistic (listed as VaR\_kStat in the table below), and its probability (VaR\_pValK) are used to test the null hypothesis that the Vector Model's VaR breakage rate is consistent with expectations. The test statistic is calculated by comparing the number of VaR breaks experienced to the expected number of breaks given the total number of observations and the specified probability level. Breakage is measured at the individual ticker-model date level. The probability of the Kupiec statistic occurring is obtained from the



chi-squared distribution. The lower the Kupiec statistic, the higher the p-Value, and the more likely that the Vector Model's VaR breakage rate is consistent with expectations.

The Christoferson VaR Violation Independence test statistic (listed as VaR\_chrStat in the table below) and its probability (VaR\_pValChr) are used to test the null hypothesis that the VaR model violations are independent. The test statistic focuses on consecutive breakages over time. We measure breakage at the portfolio level, with portfolio breakage for a given period defined as equally weighted ticker level breakage for that period being beyond expectation given the specified probability level. The probability of the Christoferson statistic occurring is obtained from the chi-squared distribution. The lower the Christoferson statistic, the higher the p-Value, and the more likely that the Vector Model's VaR breakage is independent.

Kupiec and Christoferson test results for Sigma VaR can be found in the Appendix.

Period examined: 2022-01-31 through 2026-04-29. Note that for horizon periods greater than 1d we exclude enough model dates to assure no overlap between observation periods.

Model	Pctile	Horizon	VaR_kStat	VaR_pValK	VaR_chrStat	VaR_pValChr
Vector	95	1	0.73	0.39	10.45	0
Vector	95	10	17.74	0	0.02	0.89
Vector	95	21	4.93	0.03	0	0.96
Vector	95	63	1.3	0.25	0.8	0.37
Vector	95	126	0.32	0.57	0.17	0.68
Vector	95	252	0.16	0.69	-0	1
Vector	99	1	97.04	0	27.66	0
Vector	99	10	25.92	0	0.28	0.6
Vector	99	21	8.23	0	1.61	0.21
Vector	99	63	1.51	0.22	0.01	0.91
Vector	99	126	0.9	0.34	0.54	0.46
Vector	99	252	5.07	0.02	-0	1



## Combined Summary Report Card By Objective:

Here we summarize the results by objective, starting with the Sigma comparison-based objectives, for which a sub-total is provided. Each lookback period, horizon and specified percentile receives equal weighting in these calculations.

Then summary results for the statistical tests are provided, with success defined as a p-value for the corresponding test statistic  $> 0.05$ , and each horizon and specified percentile receiving equal weighting.”)

Period examined: 2022-01-31 through 2026-04-29.

VaR and ROVBC Criteria	Average Score(%)
1. Closer to Target VaR Breakage Than Sigma (i.e., smaller MAE)	62.5
2. Less Volatile VaR Breakage Across Model Dates Than Sigma	56.25
3. Less Volatile VaR Breakage Across Tickers Than Sigma	0
4. Higher ROVBC Than Sigma	59.38
5. Higher ROVBC Than Sigma, Adj. for Avg. VM-Sigma VaR Diff.	100
6. Alpha of ROVBC vs Sigma $>0$ , Across Tickers and Model Dates	21.88
7. Alpha of ROVBC vs Sigma $>0$ , By Ticker, Across Model Dates	15.62
Overall Comparison to Sigma Average	45.09
Kupiec Test of VaR Proximity to Target	50
Christoferson Test of VaR Date Independence	83.3333

VaR and ROVBC Criteria by Fwd Hzn	1D	10D	21D	63D	126D	252D
1. Closer to Target VaR Breakage Than Sigma	87.5	37.5	33.33	75	100	50
2. Less Volatile VaR Breakage Across Model Dates Than Sigma	87.5	75	83.33	0	0	0
3. Less Volatile VaR Breakage Across Tickers Than Sigma	0	0	0	0	0	0
4. Higher ROVBC Than Sigma	12.5	75	66.67	50	100	100
5. Higher ROVBC Than Sigma, Adj. for Avg. VM-Sigma VaR Diff.	100	100	100	100	100	100
6. Alpha of ROVBC vs Sigma $>0$ , Across Tickers and Model Dates	37.5	25	33.33	0	0	0
7. Alpha of ROVBC vs Sigma $>0$ , By Ticker, Across Model Dates	12.5	25	33.33	0	0	0
TotalScore	48.21	48.21	50	32.14	42.86	35.71



VaR and ROVBC Criteria Across Lookback Window	30D	90D	365D	AllD
1. Closer to Target VaR Breakage Than Sigma	75	16.67	80	66.67
2. Less Volatile VaR Breakage Across Model Dates Than Sigma	25	100	60	41.67
3. Less Volatile VaR Breakage Across Tickers Than Sigma	0	0	0	0
4. Higher ROVBC Than Sigma	75	66.67	50	58.33
5. Higher ROVBC Than Sigma, Adj. for Avg. VM-Sigma VaR Diff.	100	100	100	100
6. Alpha of ROVBC vs Sigma >0, Across Tickers and Model Dates	50	83.33	0	0
7. Alpha of ROVBC vs Sigma >0, By Ticker, Across Model Dates	0	83.33	0	0
TotalScore	46.43	64.29	41.43	38.1



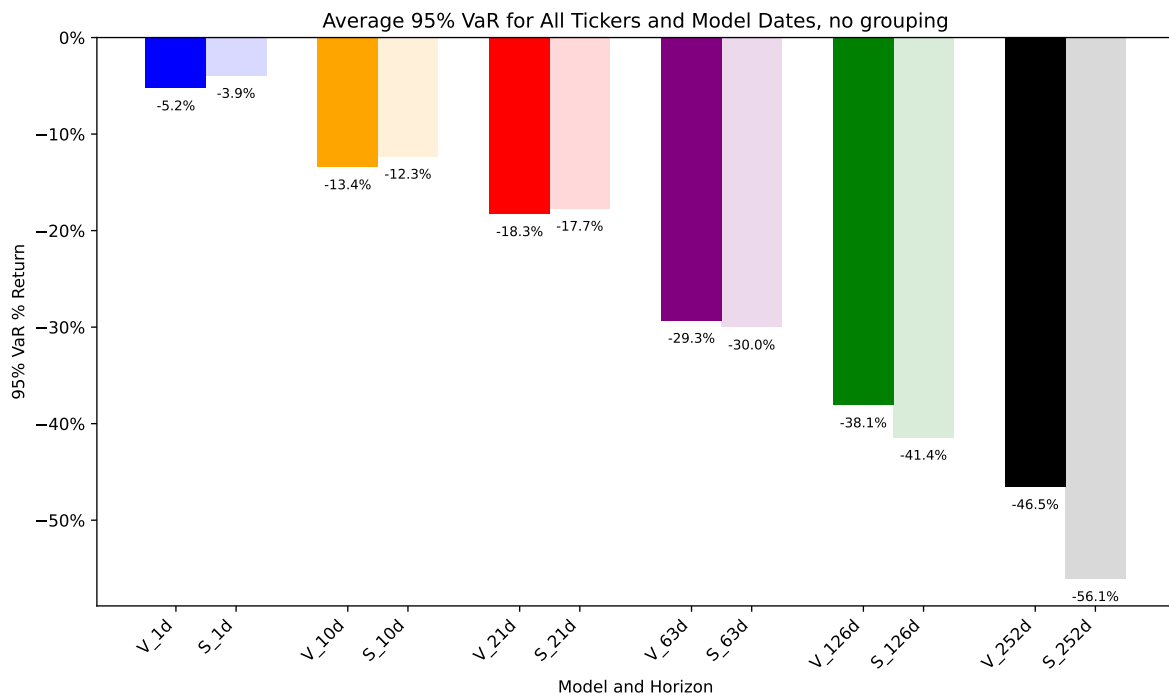
# 95% Value at Risk (VaR)

## 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.

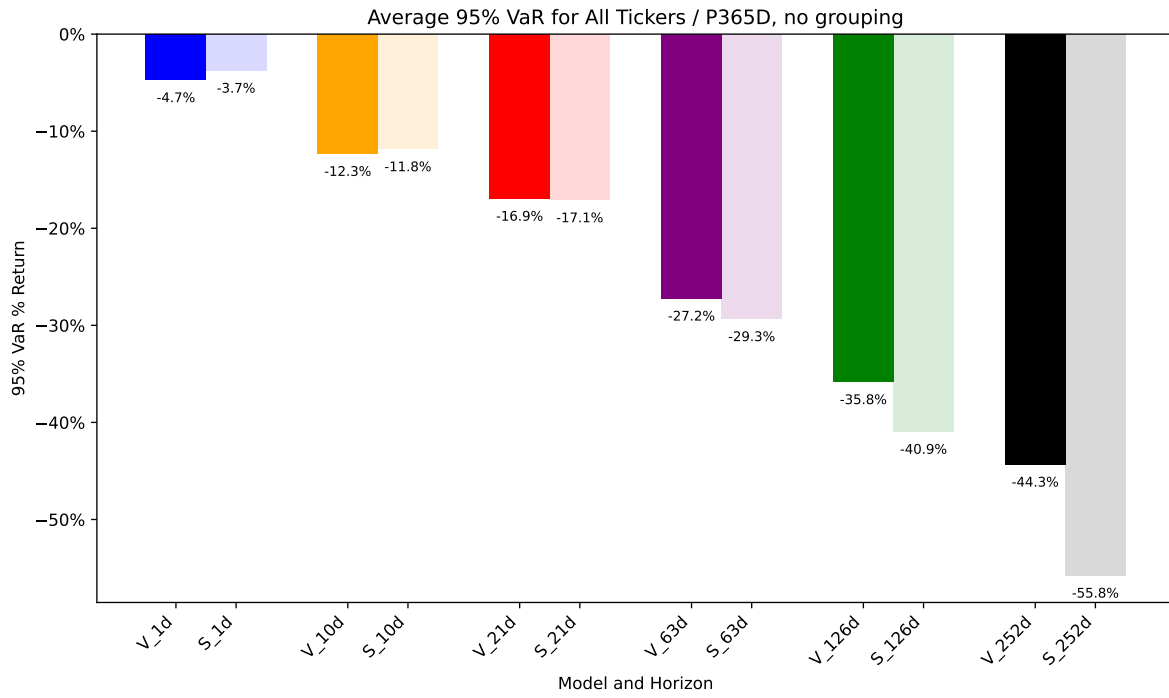
## All Out of Sample Model Dates

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



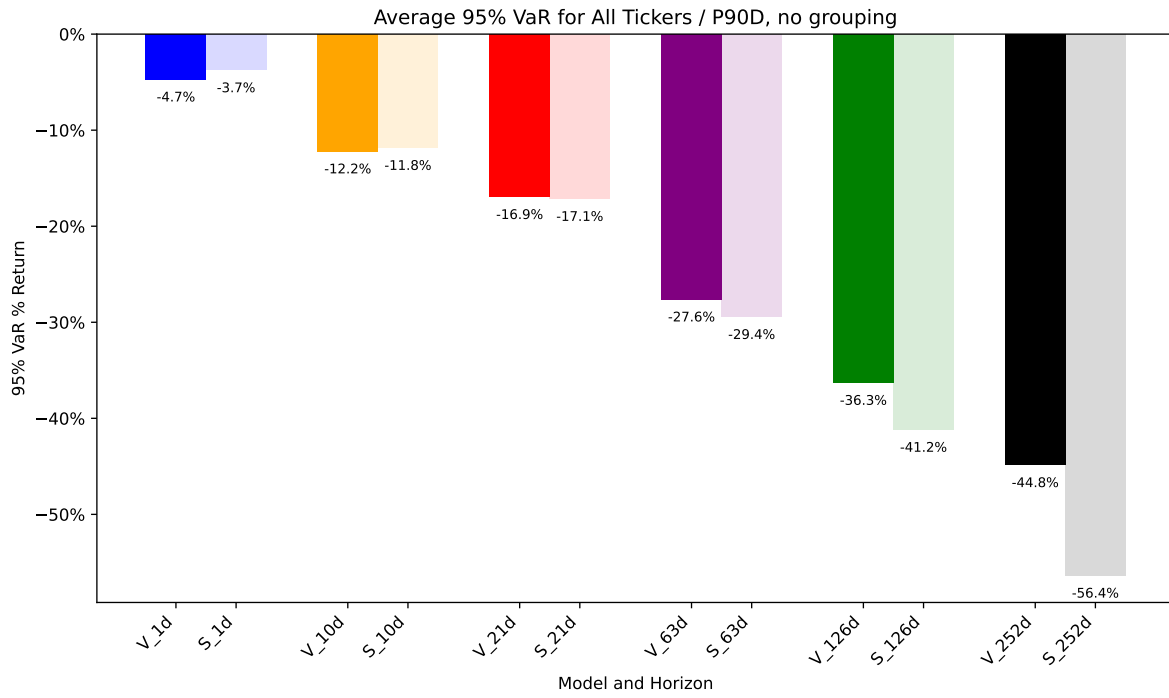
## Prior 365 Calendar Days (P365D)

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



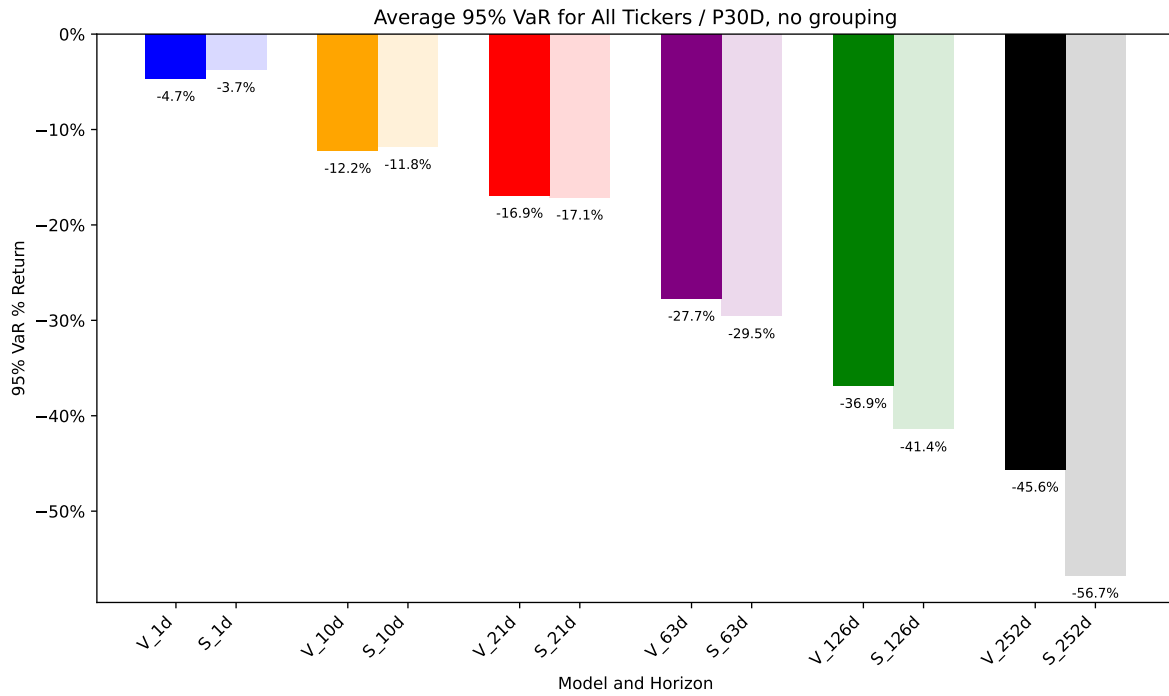
## Prior 90 Calendar Days (P90D)

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



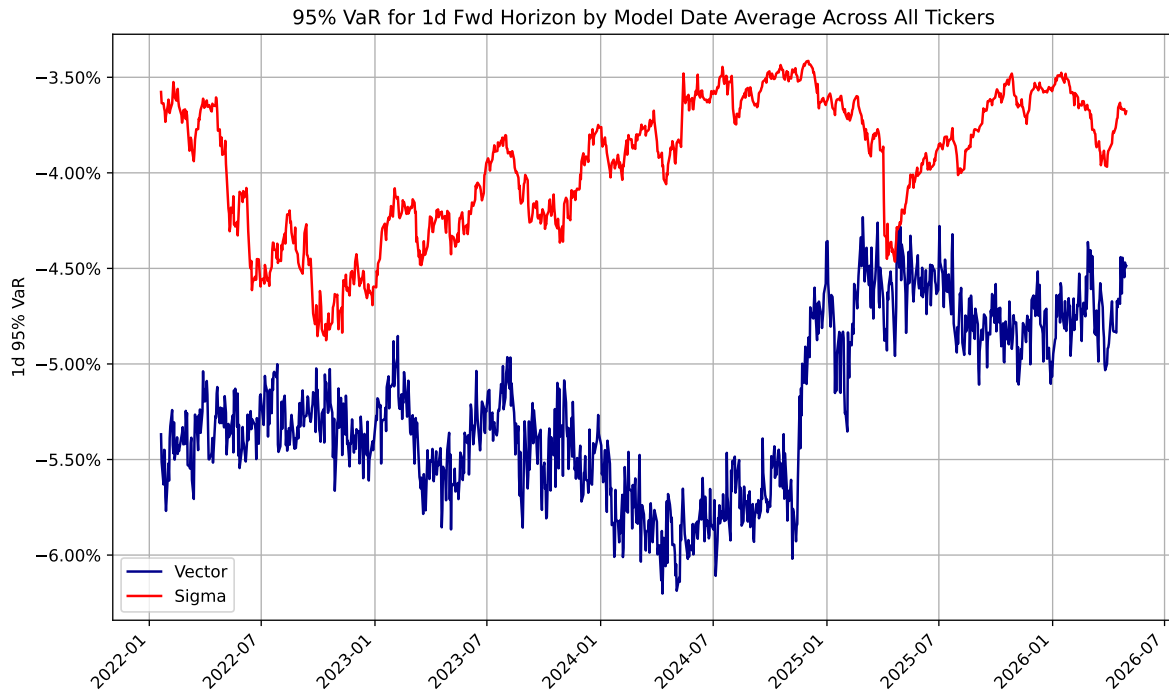
## Prior 30 Calendar Days (P30D)

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

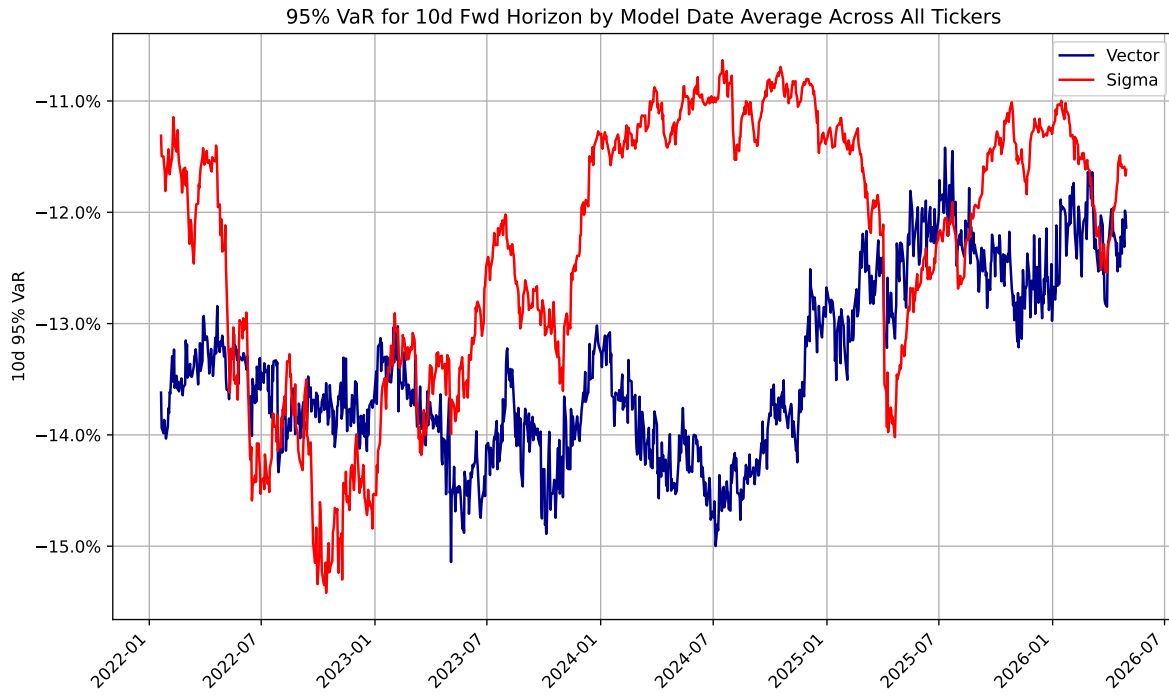


## Daily Levels

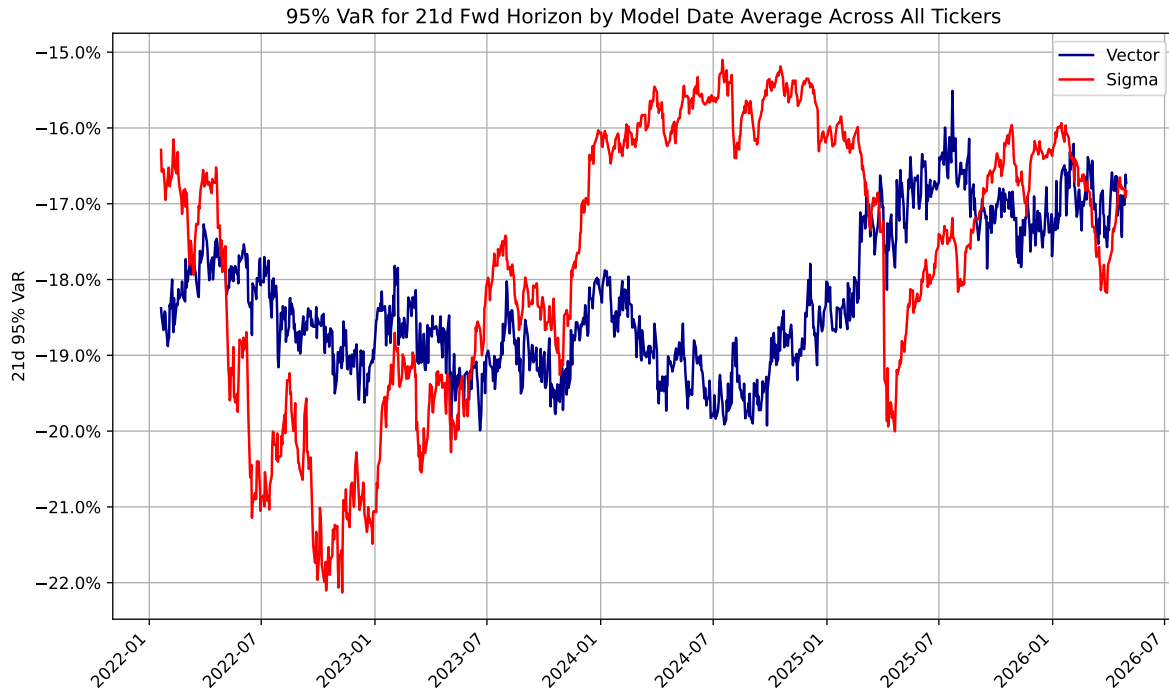
### 1d Horizon



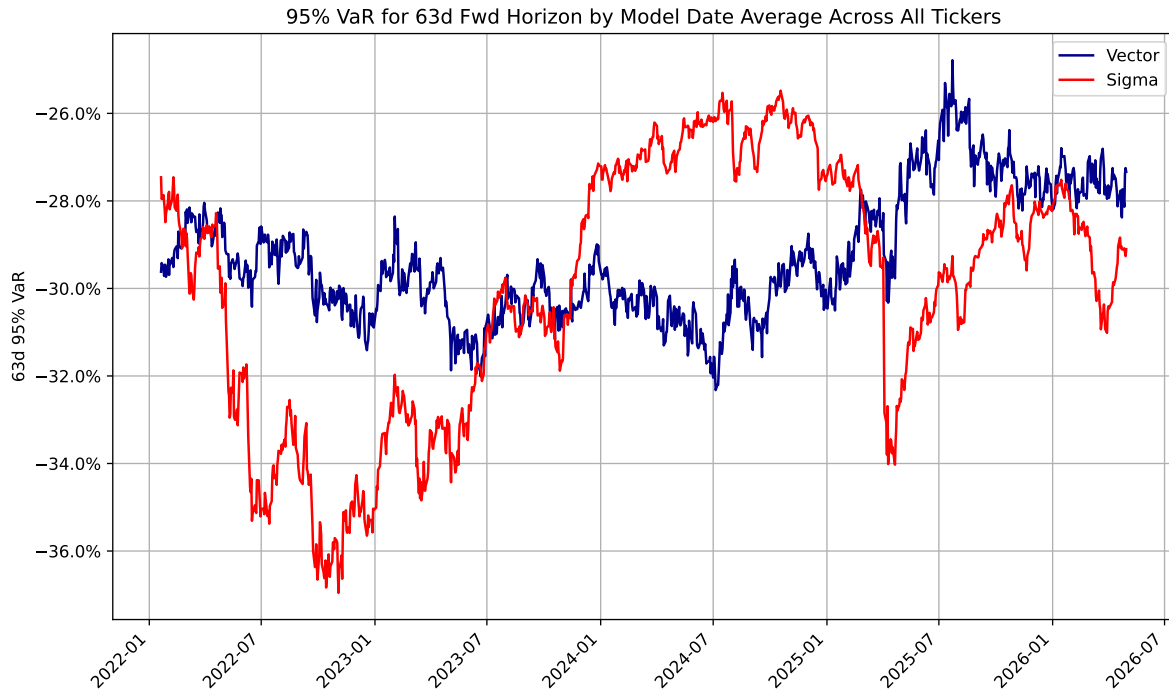
## 10d Horizon



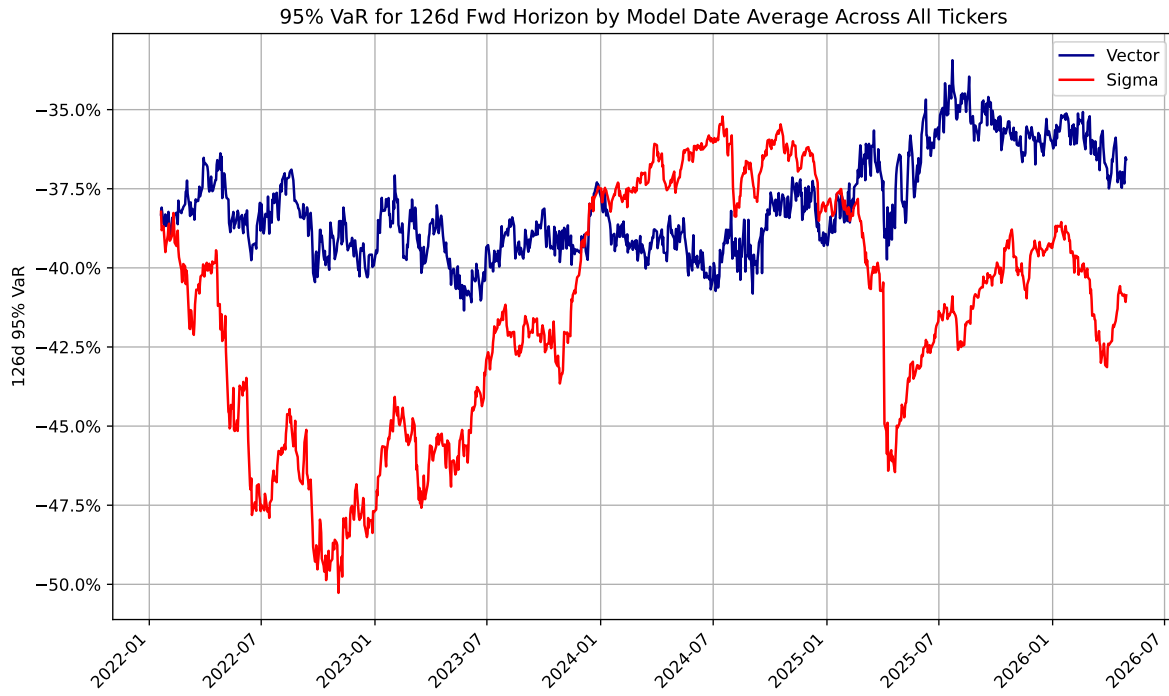
## 21d Horizon



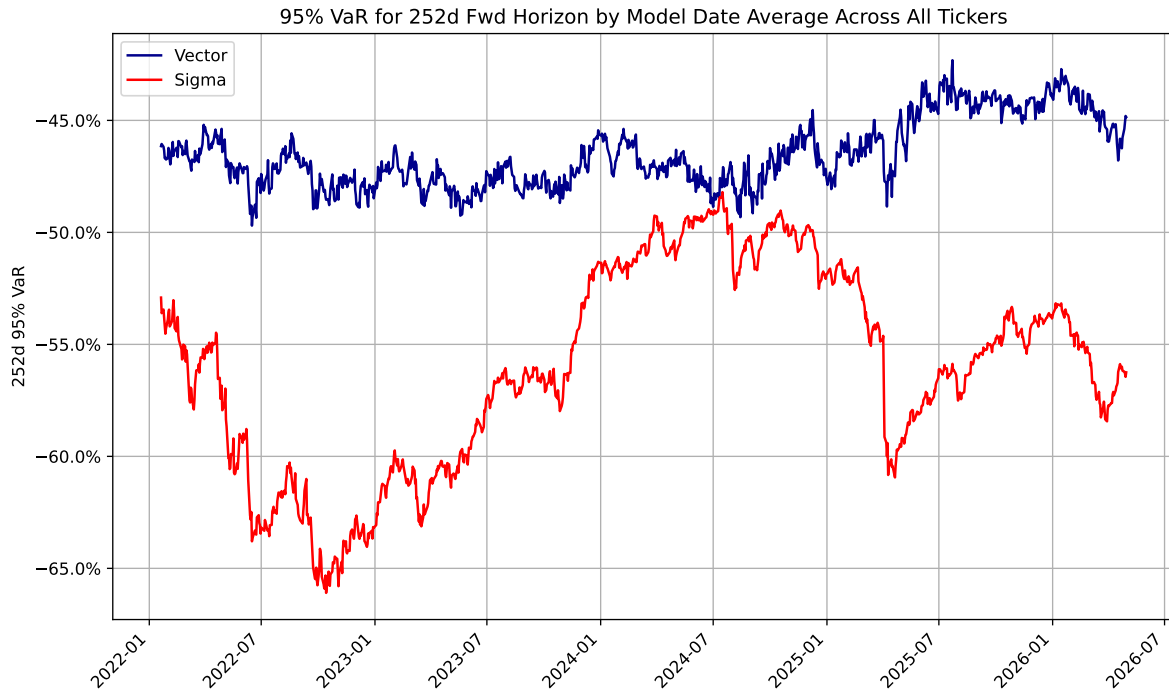
## 63d Horizon



## 126d Horizon



## 252d Horizon



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## Performance Summary

Here we compare the performance of 95% VaR estimates generated by the Vector Model (“V”, presented with dark shading) with those generated by Sigma (“S”, presented with light shading). This comparison is made on the basis of VaR breakage rates and Return on VaR based Capital (ROVBC), presenting the average results across tickers and model dates for model dates in the period indicated.

To facilitate evaluation of VaR breakage we provide dashed horizontal lines at the targetted breakage level. Proximity to that line is the key breakage related criteria.

Vector Model ROVBC can be evaluated on the basis of outright levels relative to Sigma and alpha relative to Sigma ROVBC (which, as discussed previously, is assigned the underlying ticker price returns). We advise keeping proximity of VaR breakage rates to targetted levels in mind when comparing outright ROVBC levels. For example, a model with much more benign VaR estimates will likely have higher ROVBC in the context of an upwardly trending market, but how did it do on VaR breakage rates compared to the other model. This tradeoff between ROVBC and VaR breakage rate proximity to target is the motivation for including ROVBC Adjusted for Average Vector Model-Sigma VaR Differentials in the Report Card presented earlier in this report, and for providing the alpha metrics.

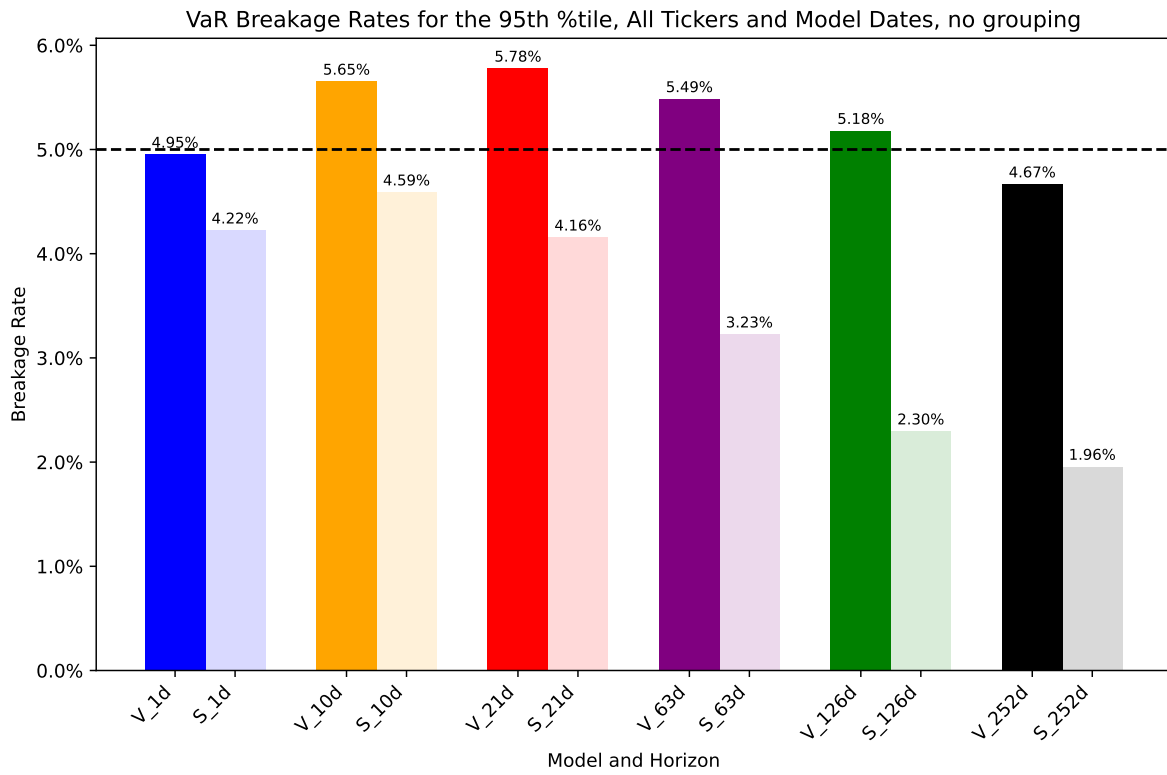
Alpha allows us to isolate ROVBC performance differences between the Vector Model and Sigma apart from any systematic difference between the ROVBC multiplier for the Vector Model and 1.00x. Alpha across TMD’s could be driven by VaR differentials between tickers and / or between dates. Thus we also present average alpha by ticker across model dates. If this cross-date based alpha is positive, at least some of the overall alpha is driven by variation in Vector Model VaR relative to Sigma across time as opposed to variation in Vector Model VaR relative to Sigma between tickers.

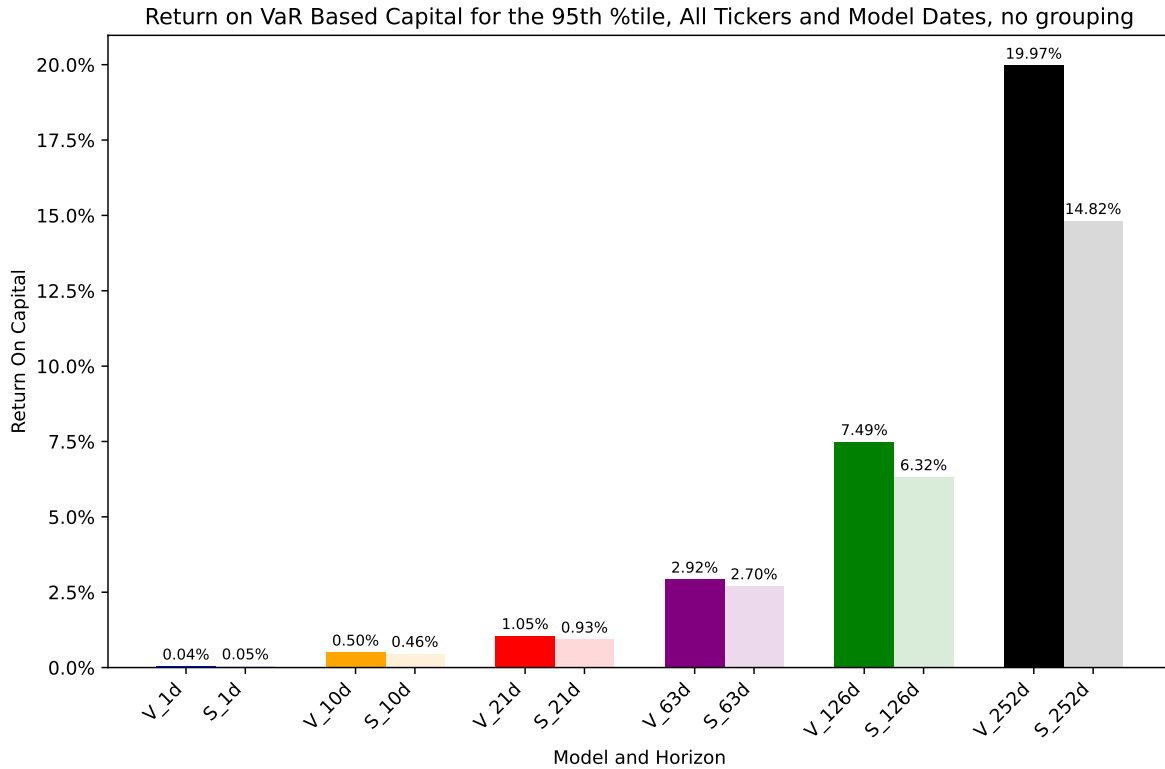
Results for each horizon reflect the average for all model estimates for that horizon from all model dates for which forward performance is known. Note that periods for all horizons > 1d overlap.



## 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 ROVBC regressed upon corresponding actual returns across TMD's:

	1d	10d	21d	63d	126d	252d
intercept	-0.01%	-0.09%	-0.18%	-0.67%	-1.48%	-3.38%
intercept_p_value	0.35%	0.00%	0.00%	0.00%	0.00%	0.00%
slope	117.35%	128.36%	131.59%	133.00%	141.86%	157.60%
slope_p_value	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

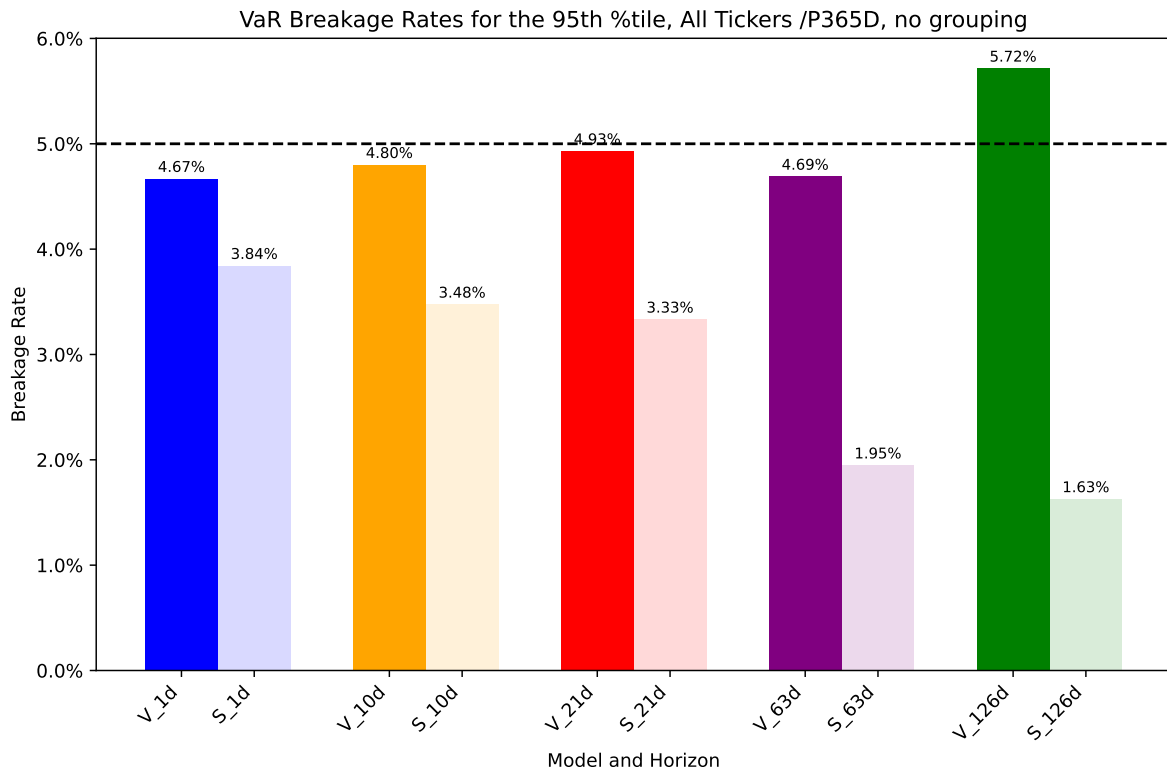
Average Alpha (intercept) and Beta (slope) of Vector Model ROVBC regressed upon corresponding actual returns, by ticker across Model Dates:

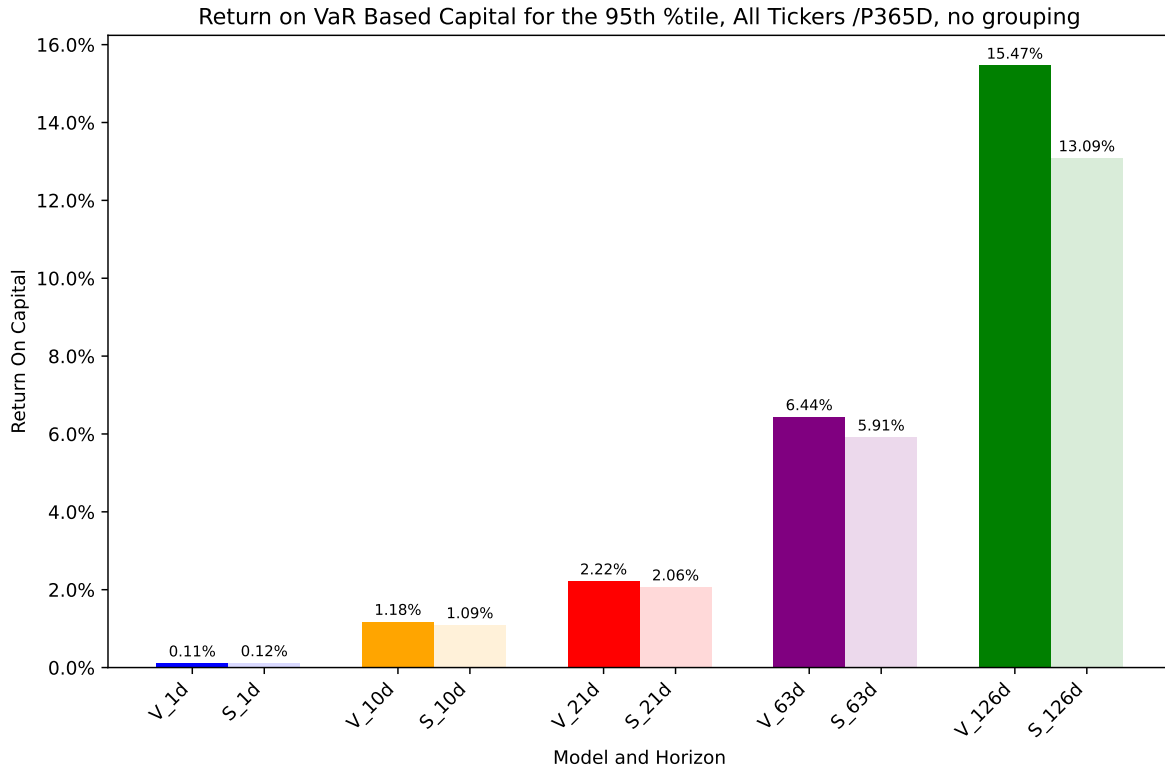
	1d	10d	21d	63d	126d	252d
intercept	-0.04%	-0.21%	-0.57%	-2.23%	-4.35%	-5.29%
intercept_p_value	0.00%	0.07%	0.00%	0.00%	0.00%	0.08%
slope	164.88%	150.08%	166.33%	181.32%	178.53%	164.79%
slope_p_value	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%



## Prior 365 Calendar Days (P365D)

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





Alpha (intercept) and Beta (slope) of Vector Model ROVBC regressed upon corresponding actual returns across P365D:

	1d	10d	21d	63d	126d
intercept	-0.02%	-0.13%	-0.27%	-0.94%	-3.24%
intercept_p_value	4.30%	0.00%	0.00%	0.00%	0.00%
slope	110.18%	119.75%	120.78%	124.69%	142.95%
slope_p_value	0.00%	0.00%	0.00%	0.00%	0.00%

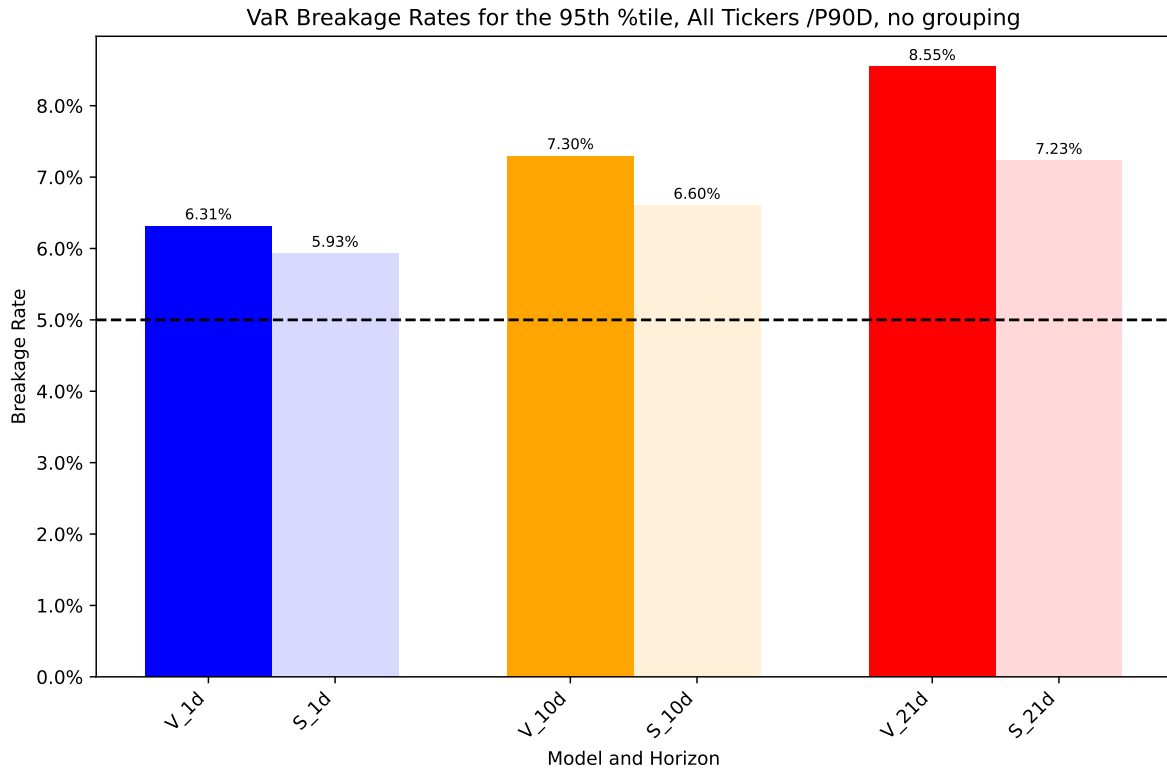
Average Alpha (intercept) and Beta (slope) of Vector Model ROVBC regressed upon corresponding actual returns, by ticker across P365D:

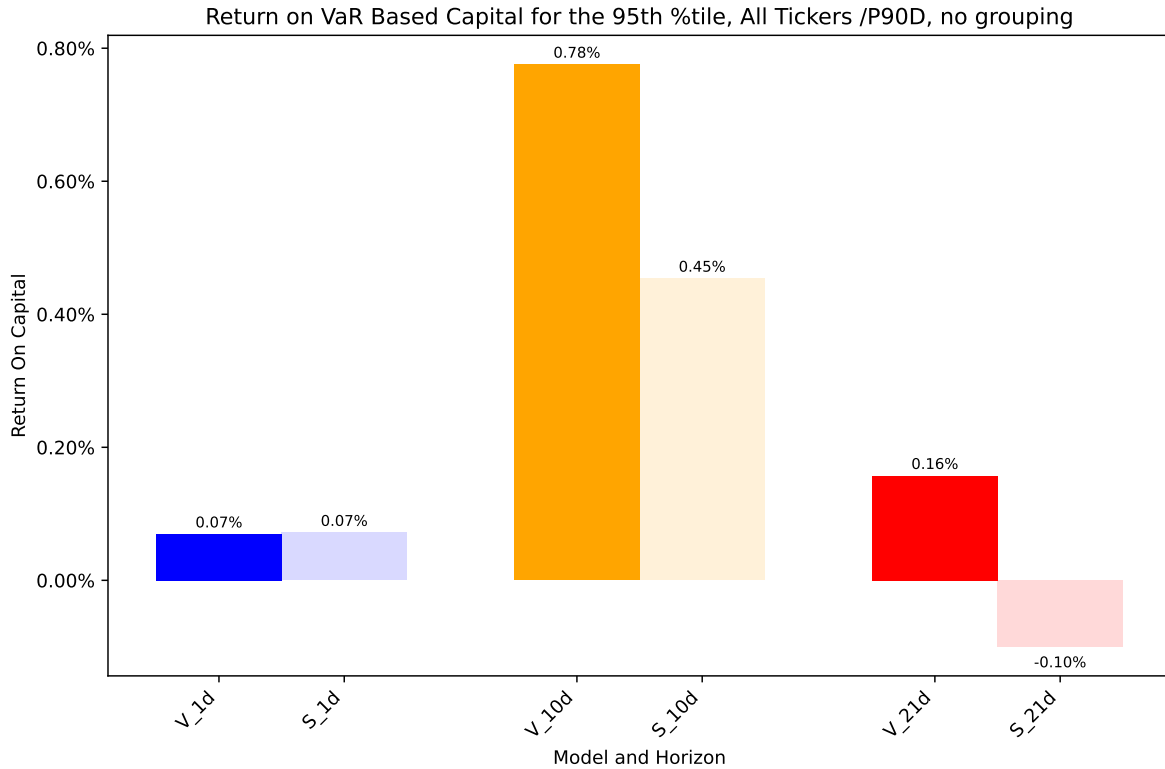
	1d	10d	21d	63d	126d
intercept	-0.00%	-0.03%	-0.14%	-1.13%	-3.51%
intercept_p_value	89.00%	76.12%	39.11%	3.01%	0.85%
slope	94.49%	109.62%	113.05%	127.87%	144.90%
slope_p_value	0.00%	0.00%	0.00%	0.00%	0.00%



## Prior 90 Calendar Days (P90D)

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





Alpha (intercept) and Beta (slope) of Vector Model ROVBC regressed upon corresponding actual returns across P90D:

	1d	10d	21d
intercept	-0.01%	0.21%	0.28%
intercept_p_value	66.42%	0.12%	0.24%
slope	108.43%	124.67%	123.28%
slope_p_value	0.00%	0.00%	0.00%

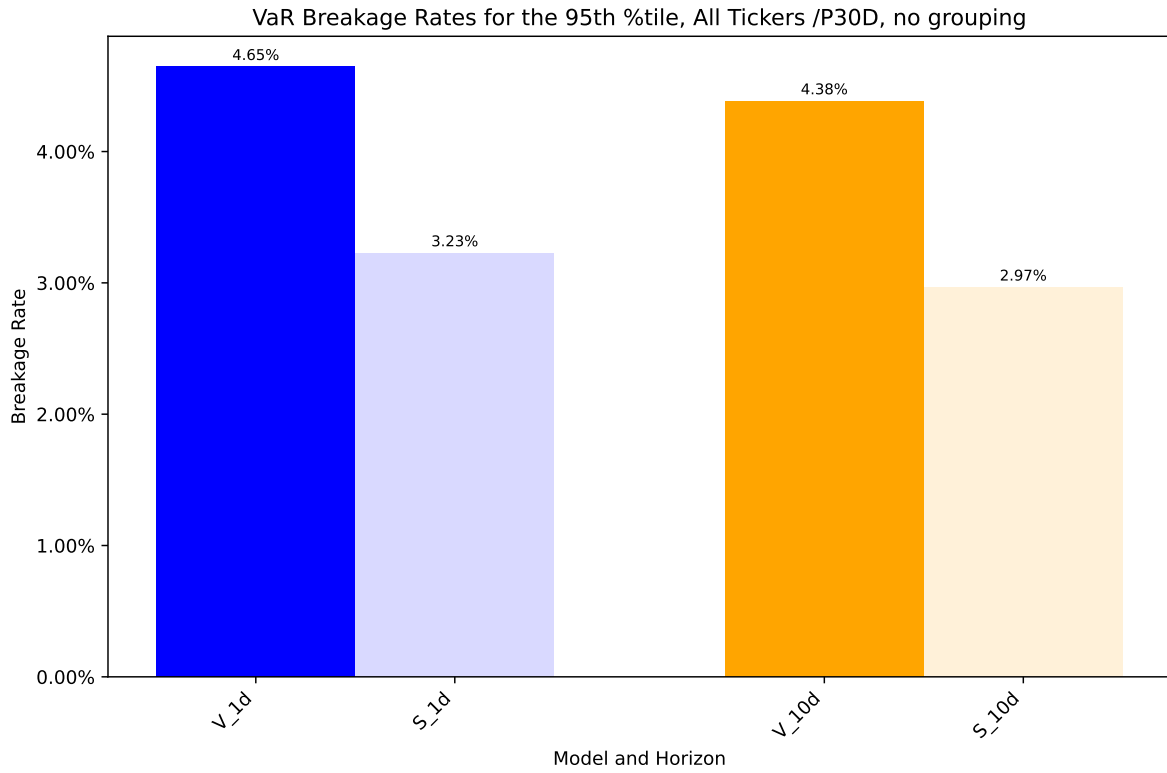
Average Alpha (intercept) and Beta (slope) of Vector Model ROVBC regressed upon corresponding actual returns, by ticker across P90D:

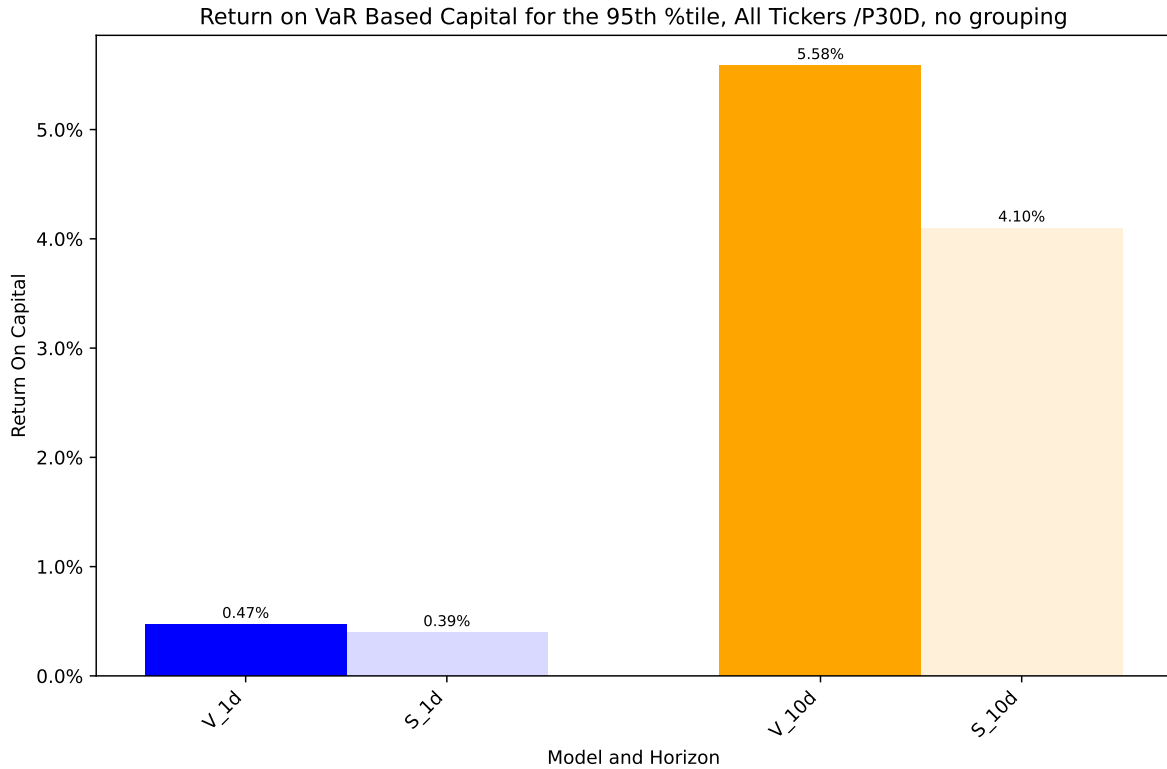
	1d	10d	21d
intercept	-0.01%	0.20%	0.28%
intercept_p_value	63.02%	20.76%	31.16%
slope	110.21%	127.52%	123.00%
slope_p_value	0.00%	0.00%	0.00%



## Prior 30 Calendar Days (P30D)

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





Alpha (intercept) and Beta (slope) of Vector Model ROVBC regressed upon corresponding actual returns across P30D:

	1d	10d
intercept	0.02%	-0.36%
intercept_p_value	51.29%	8.23%
slope	113.44%	145.12%
slope_p_value	0.00%	0.00%

Average Alpha (intercept) and Beta (slope) of Vector Model ROVBC regressed upon corresponding actual returns, by ticker across P30D:

	1d	10d
intercept	-0.00%	-0.54%
intercept_p_value	93.92%	32.10%
slope	119.79%	149.59%
slope_p_value	0.00%	0.00%

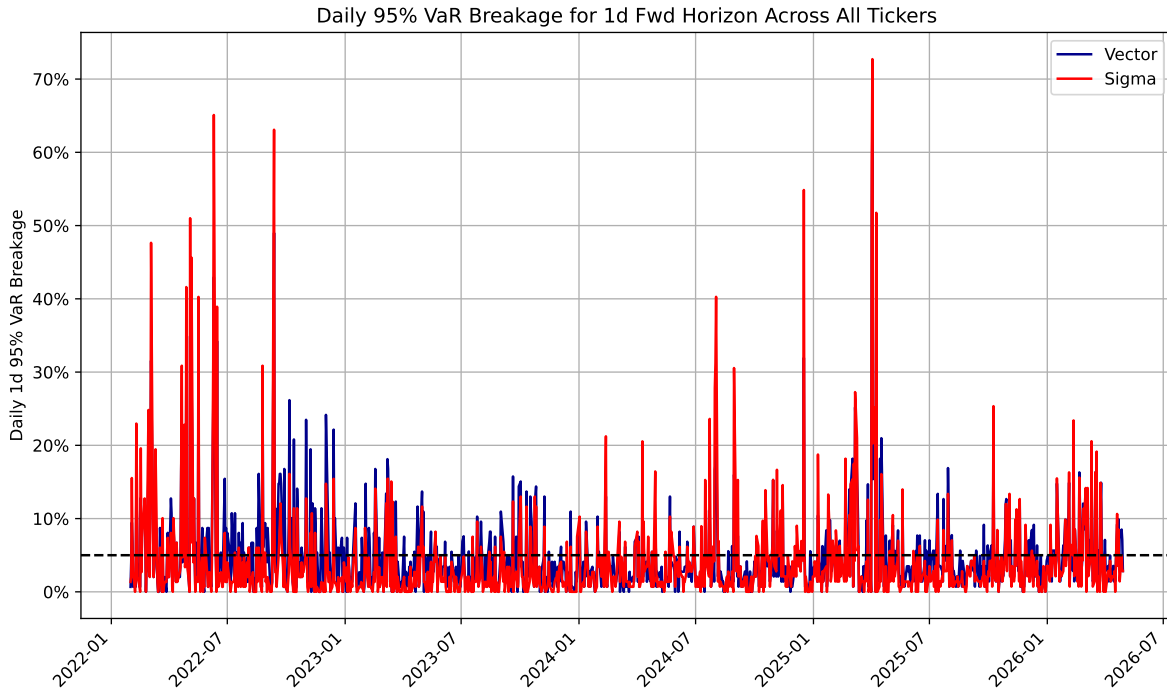


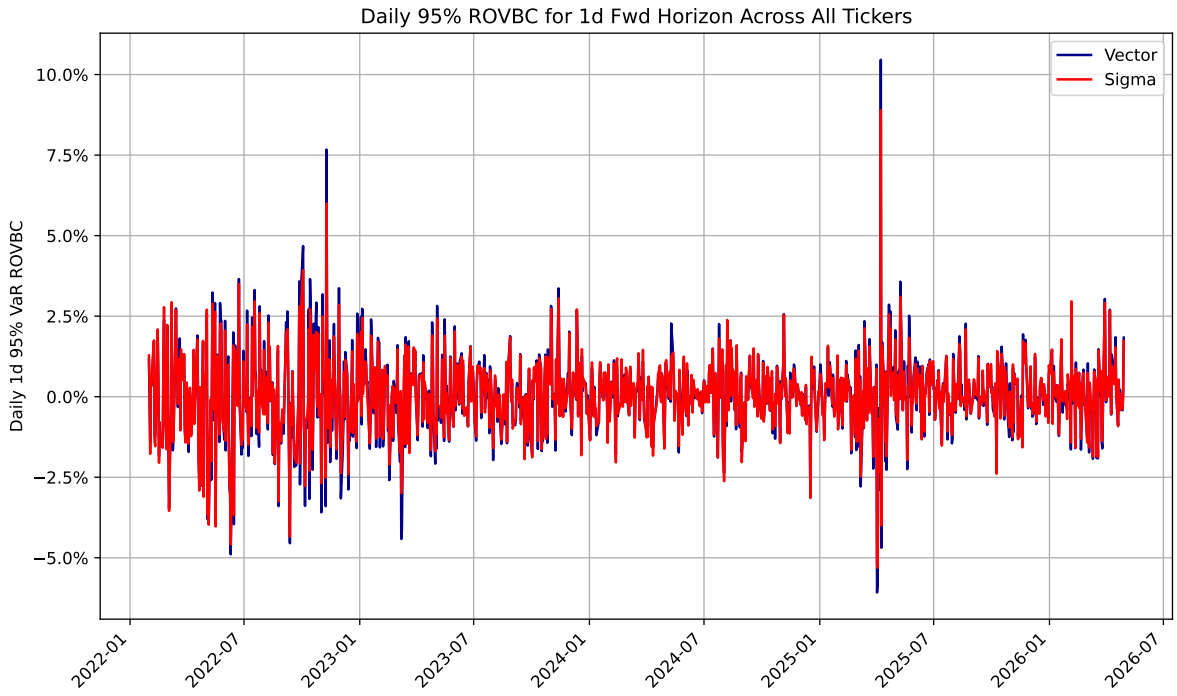
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## Daily Performance

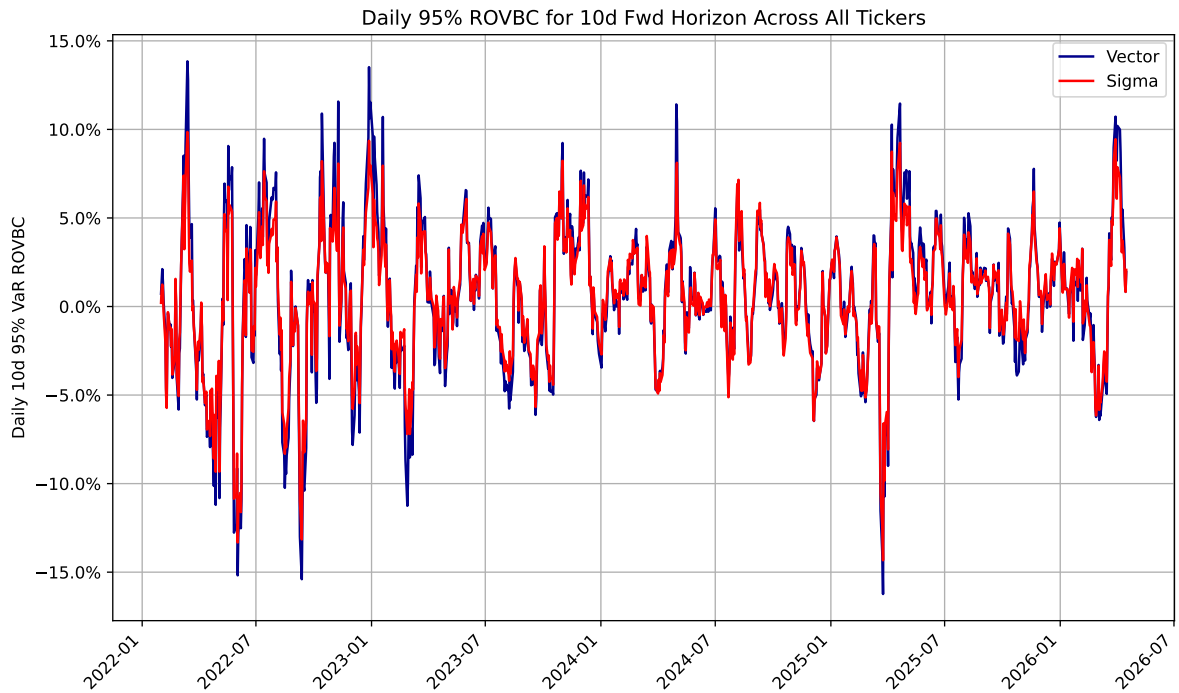
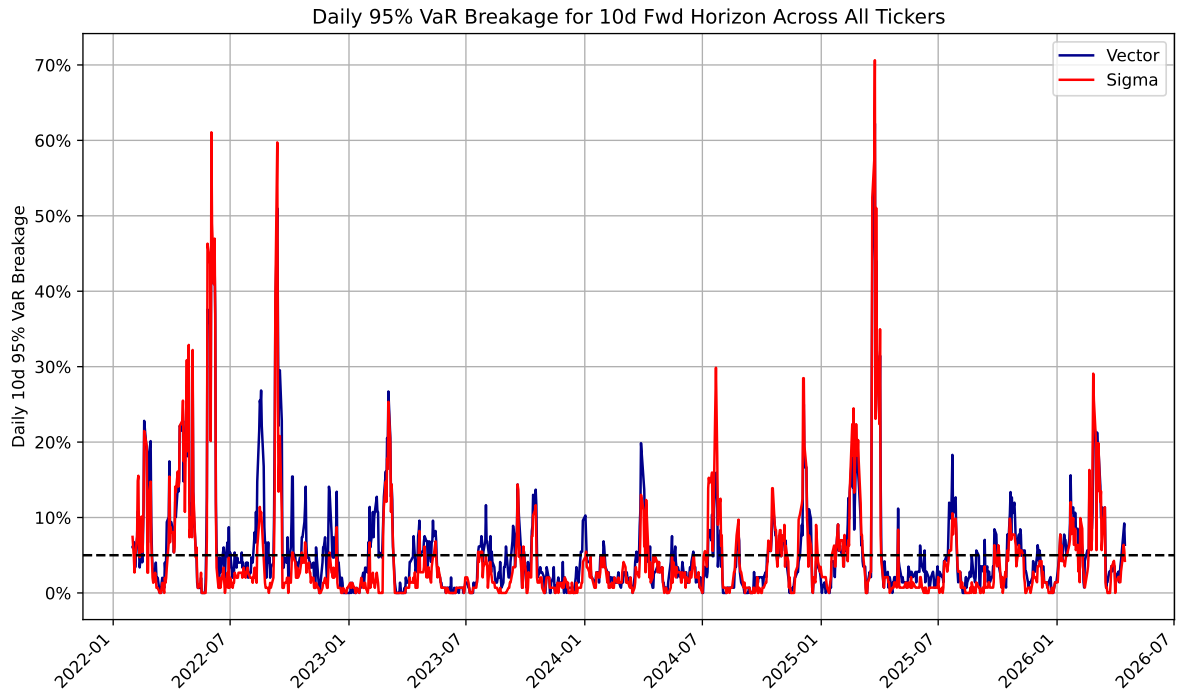
Here we look at the daily breakage and ROVBC statistics summarized in the preceding section. The daily basis of the presentation allows for observation of the magnitude, frequency and proximity of breakage and ROVBC outliers.

### 1d Horizon

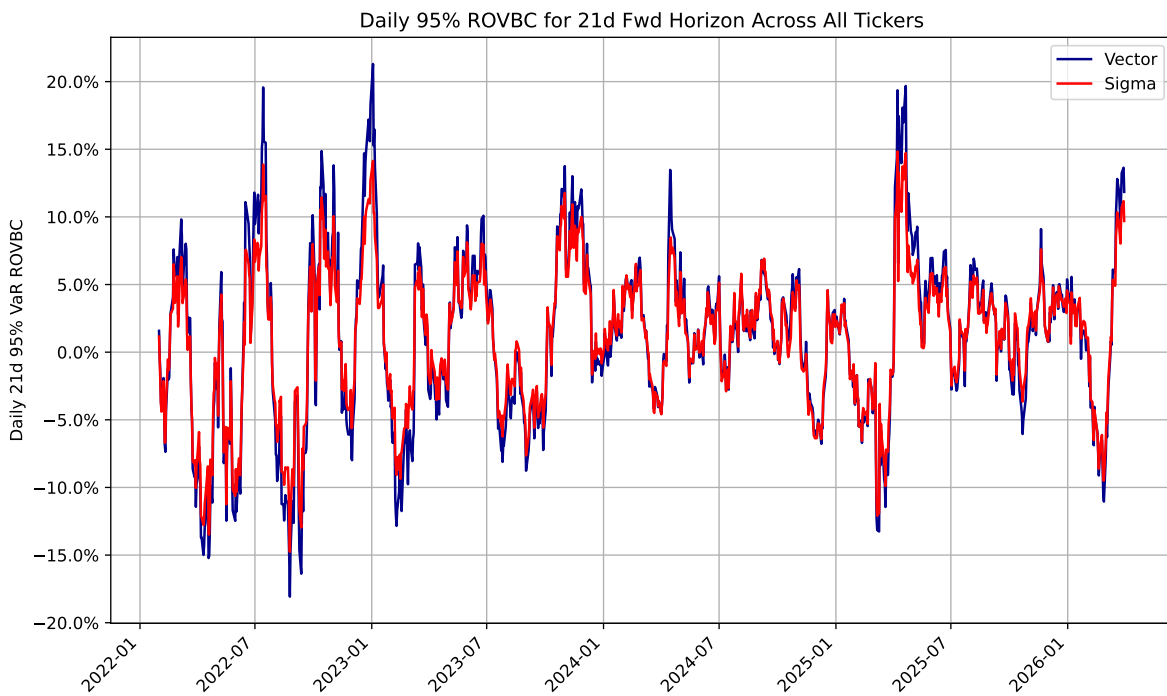
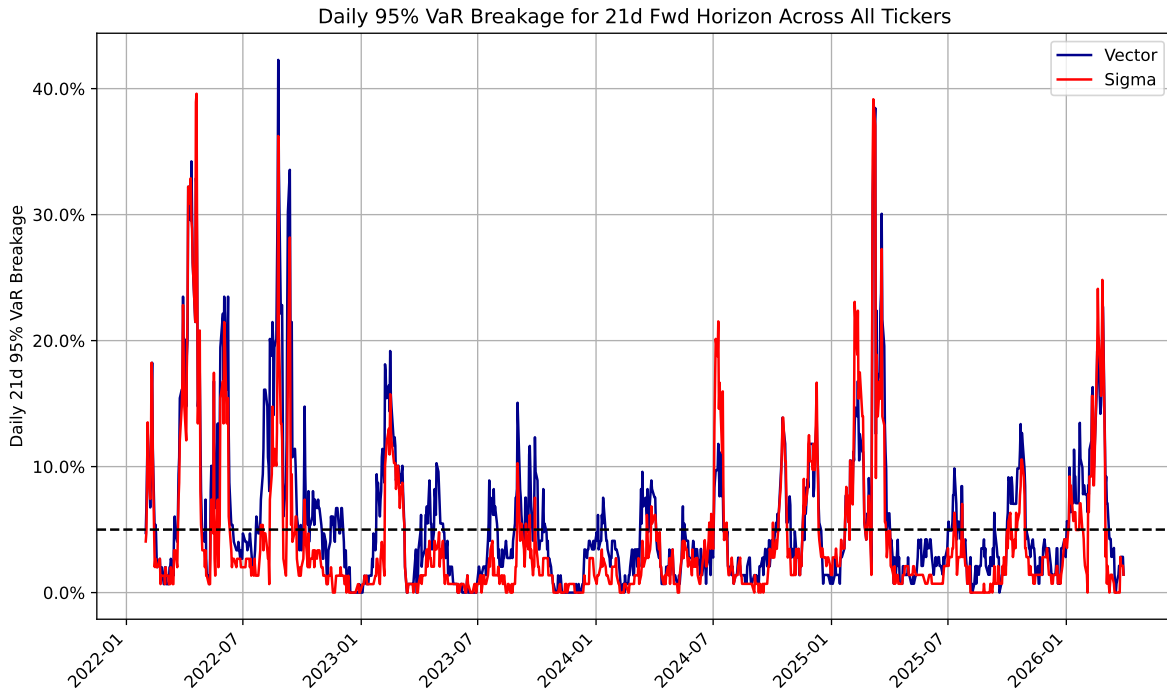




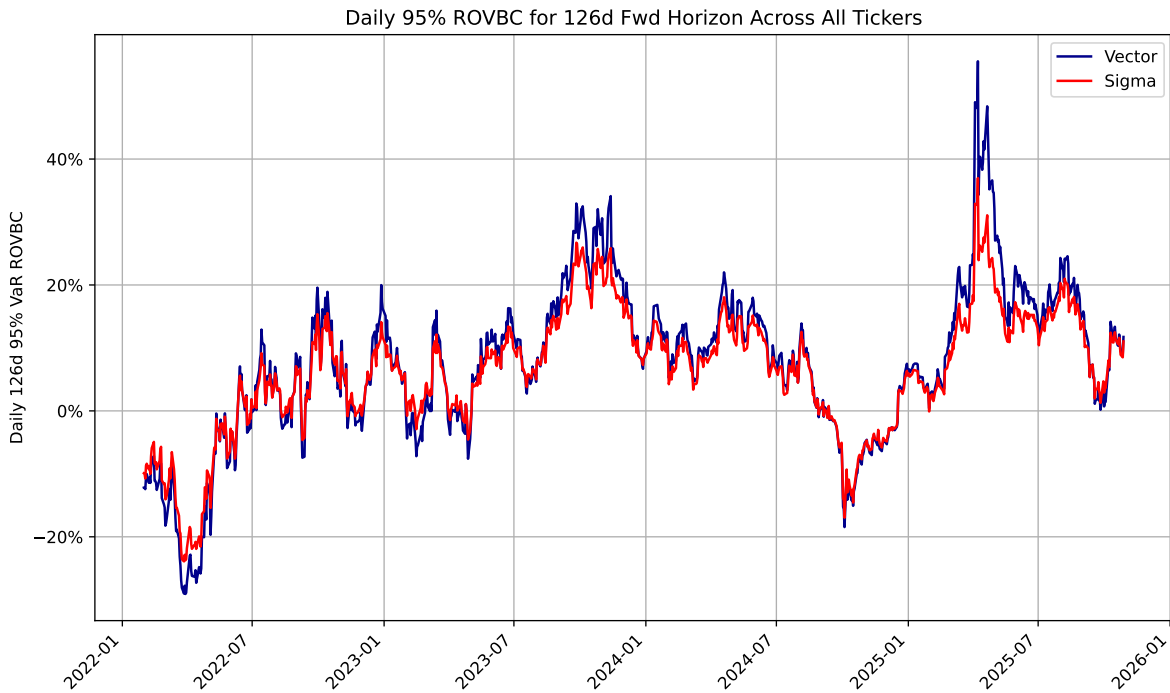
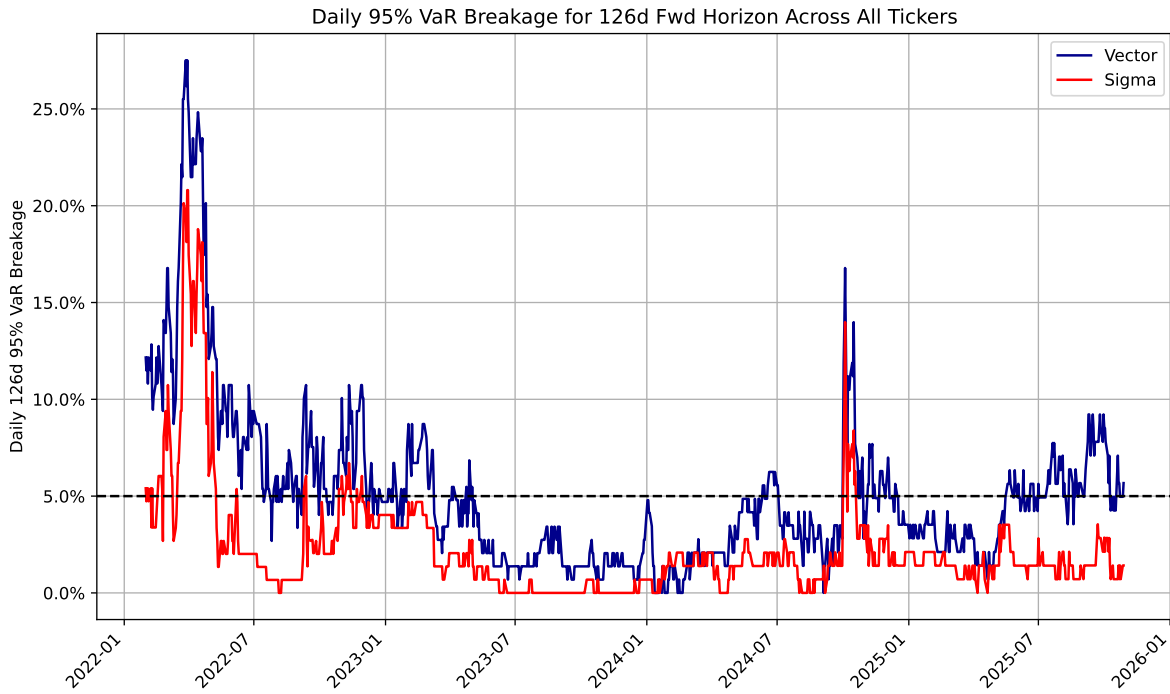
## 10d Horizon



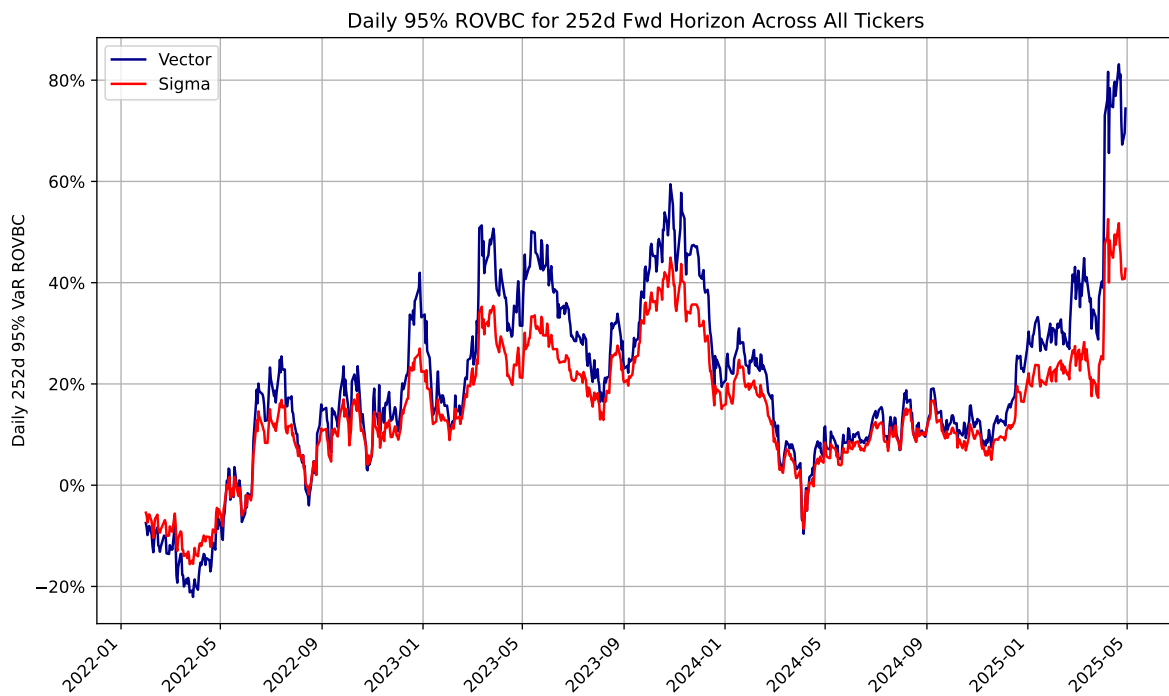
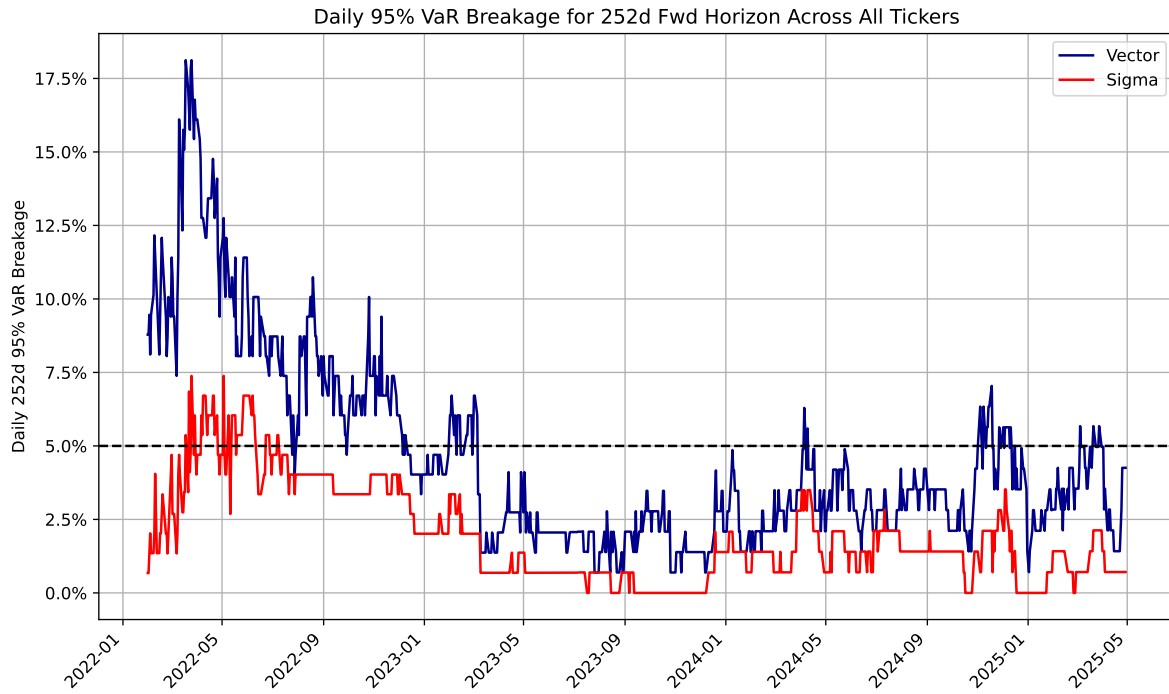
## 21d Horizon



## 63d Horizon



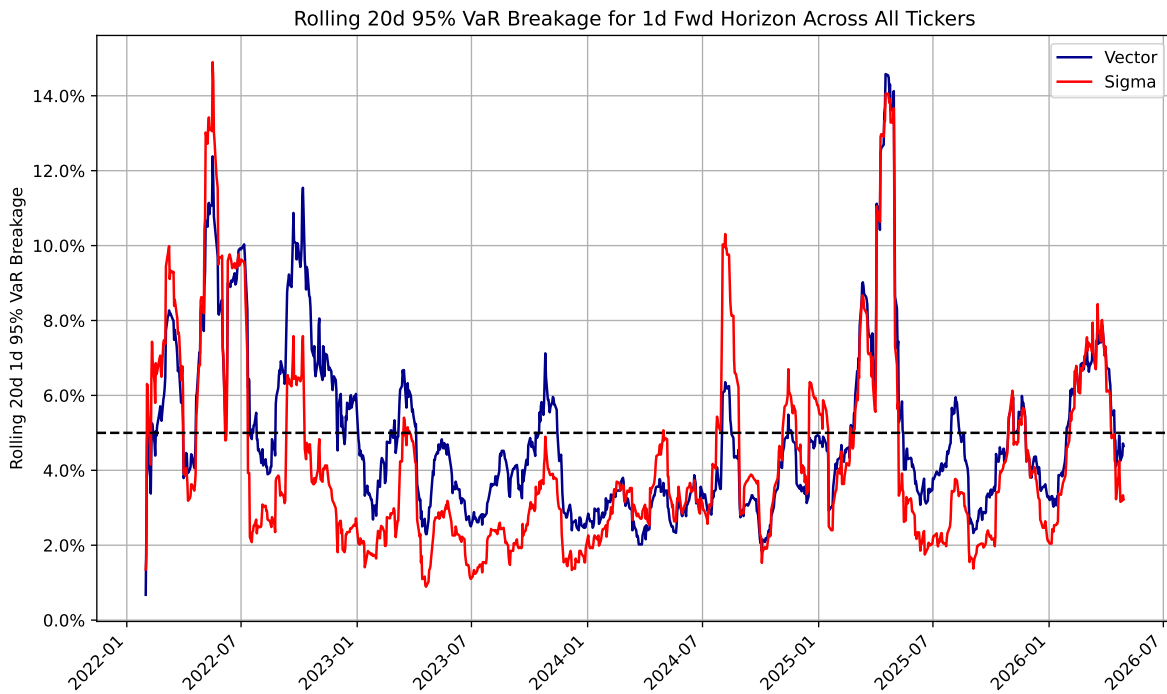
## 252d Horizon

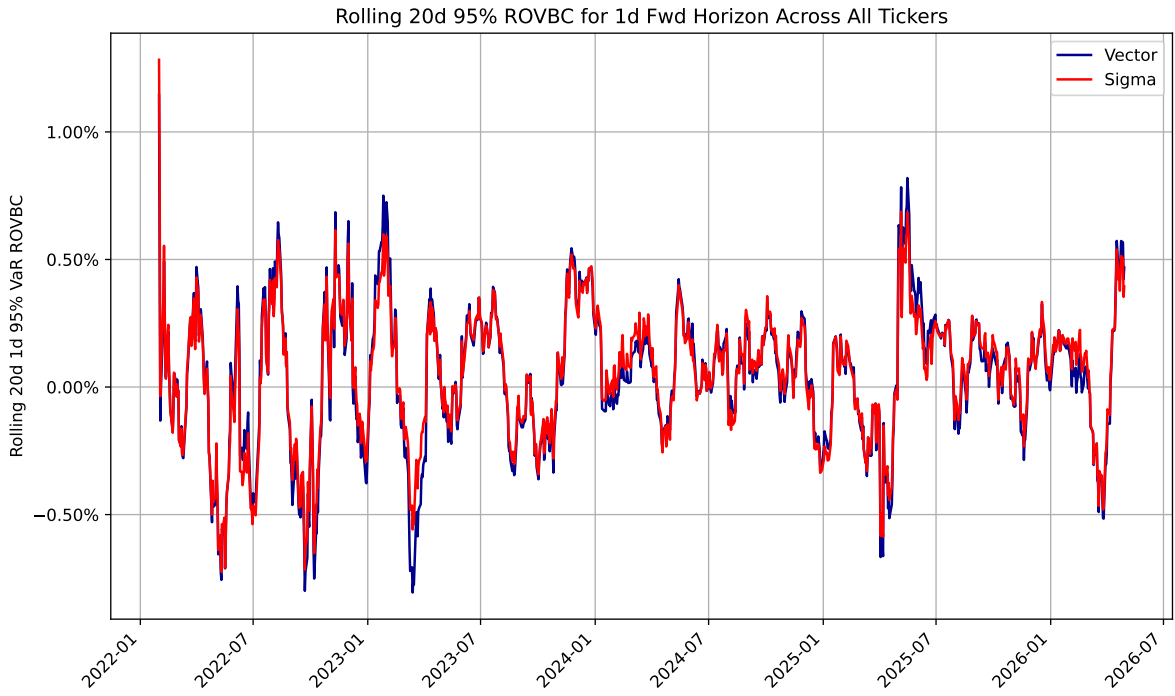


## Rolling 20d Performance

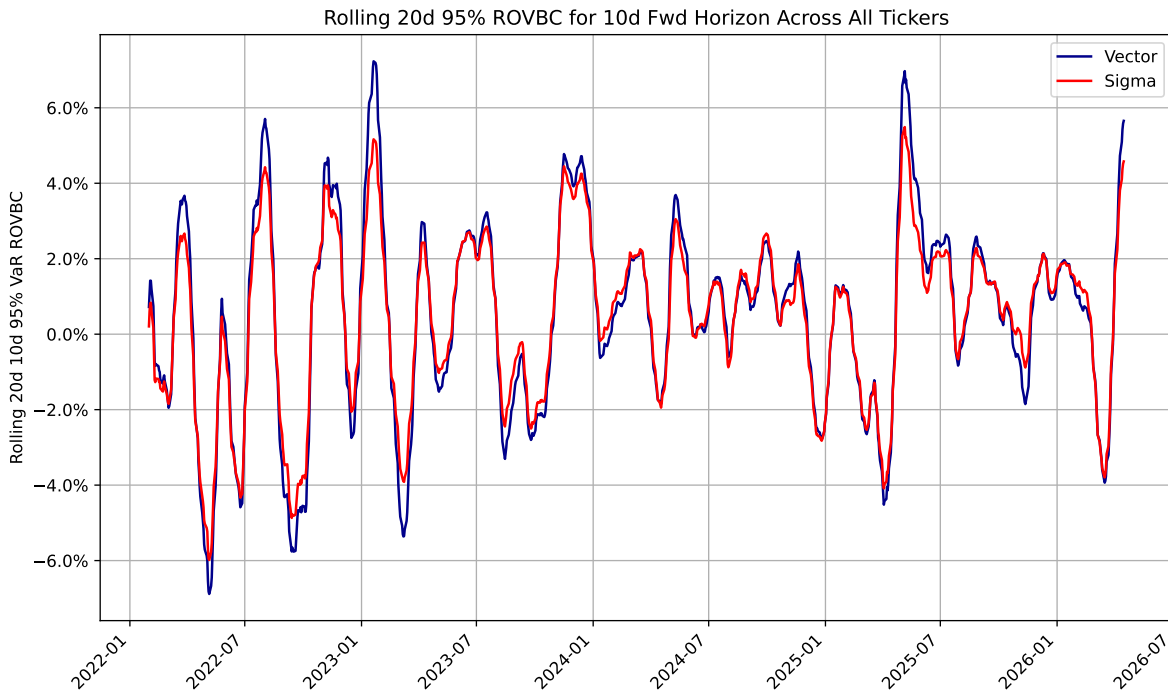
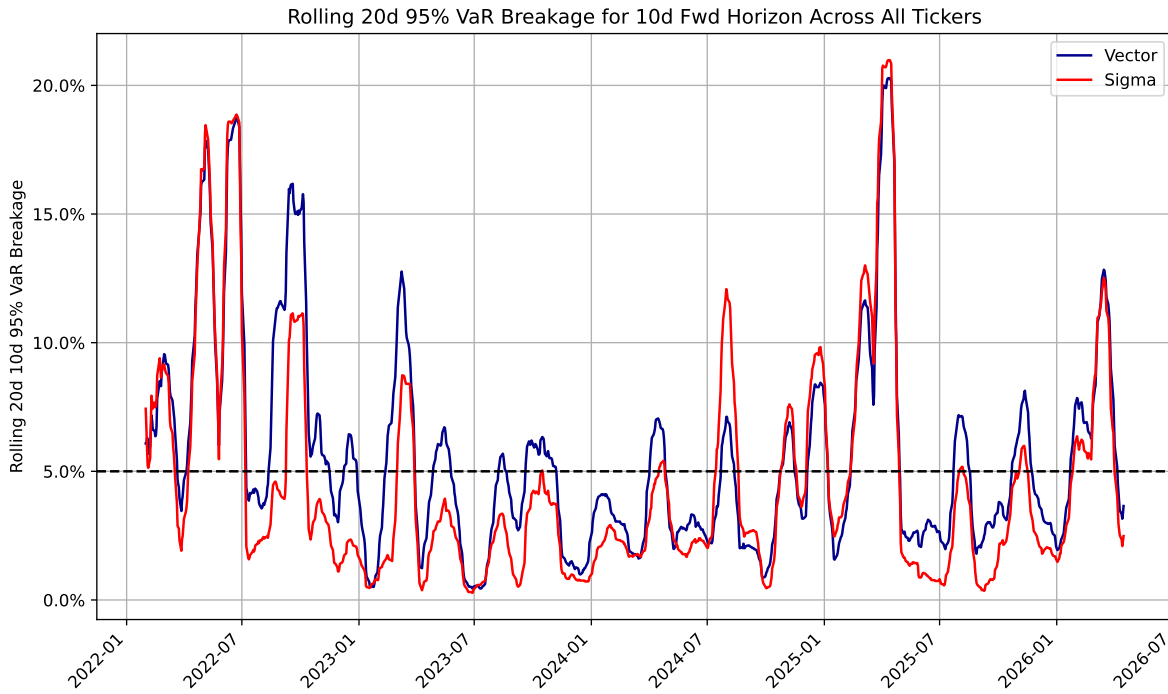
Here we look at 20 day rolling moving averages of the breakage and ROVBC statistics summarized in the preceding section. These 20day moving averages are averages of daily averages across all tickers.

### 1d Horizon

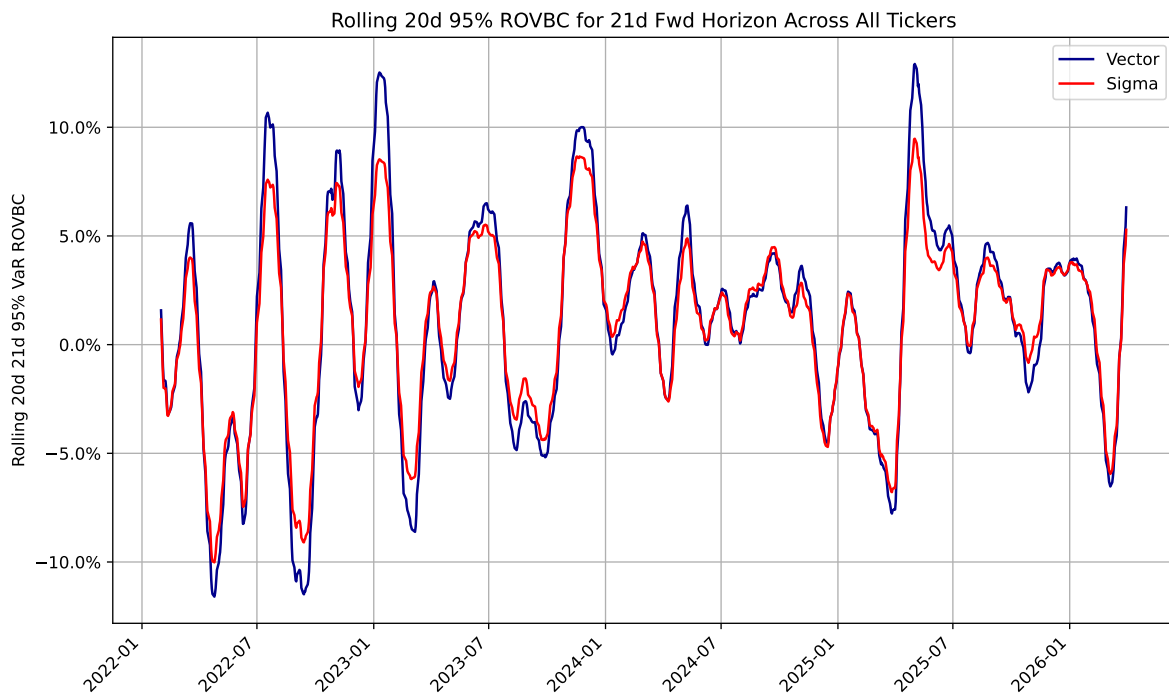
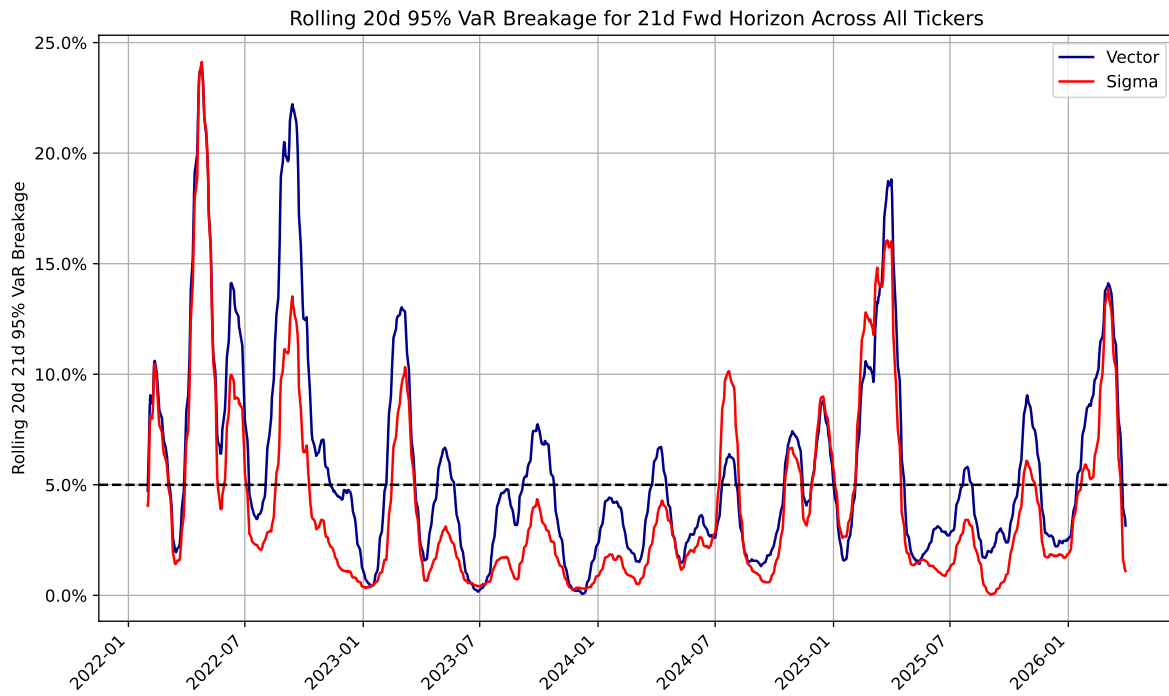




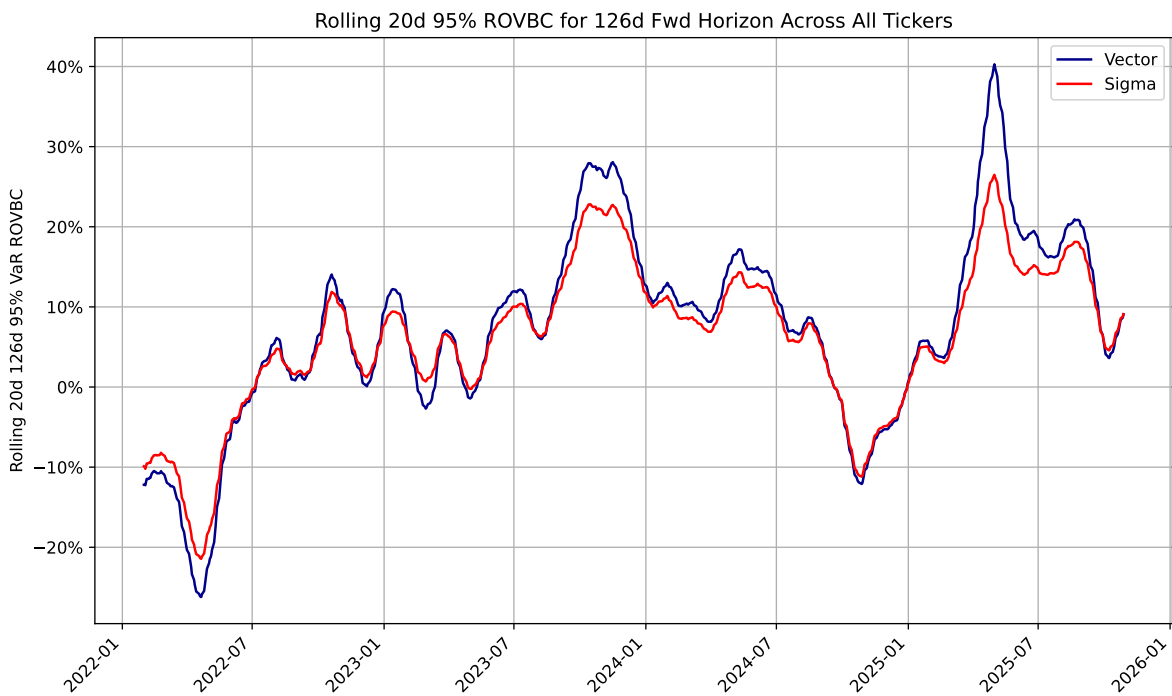
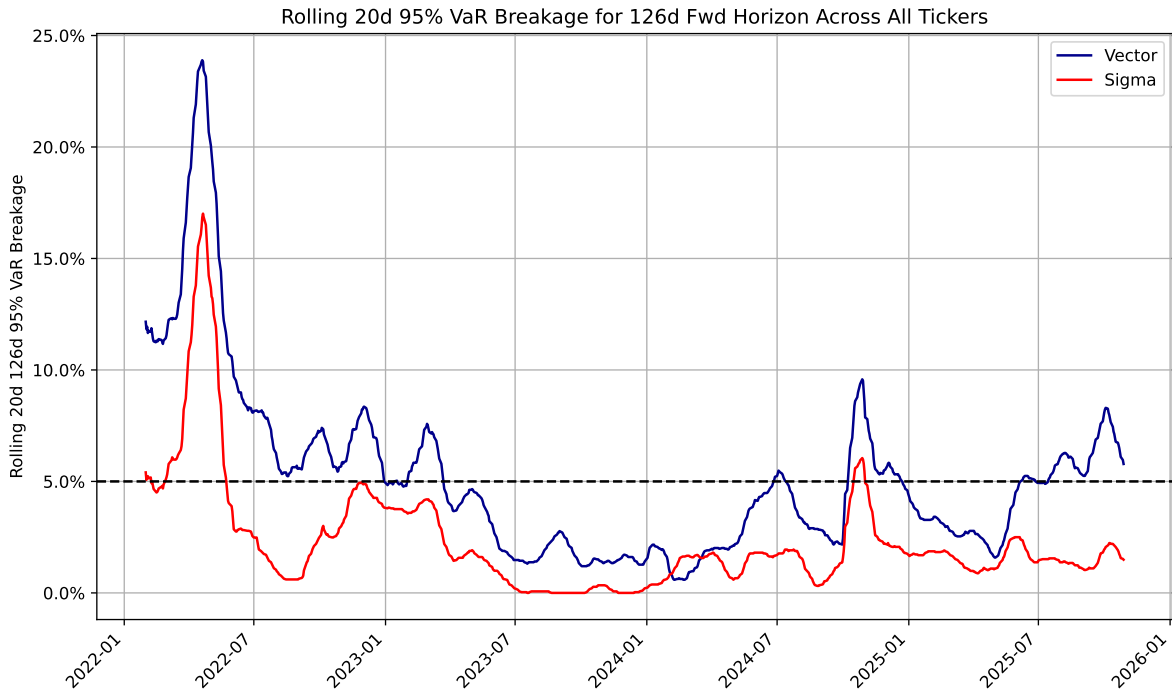
# 10d Horizon



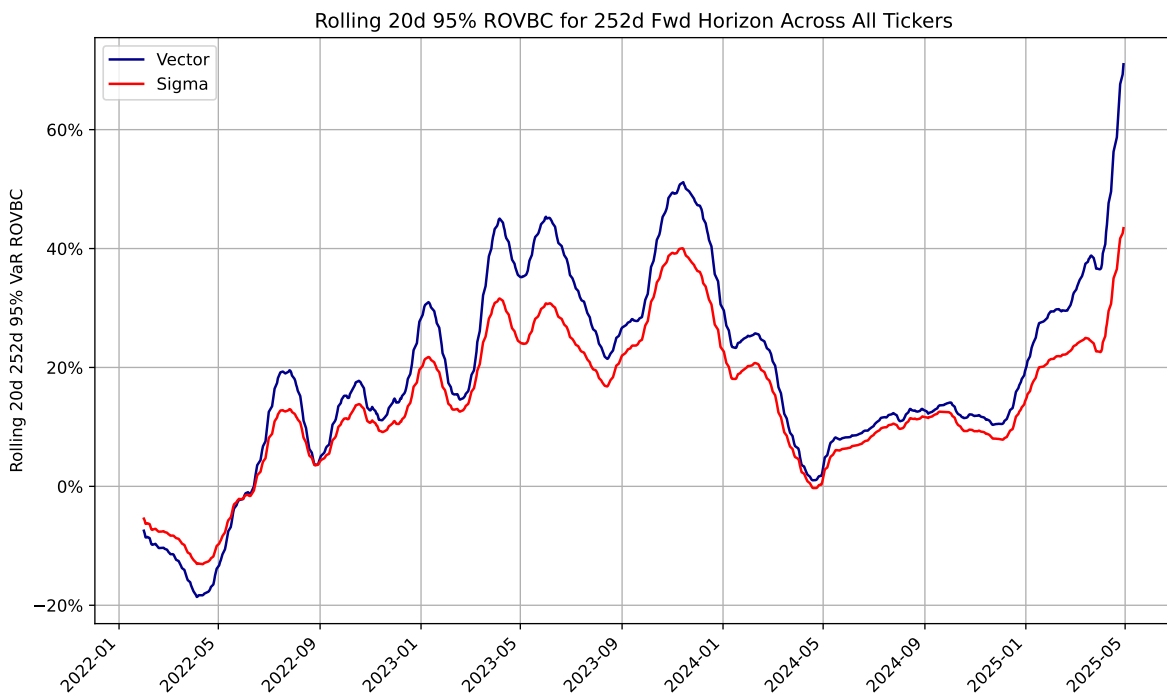
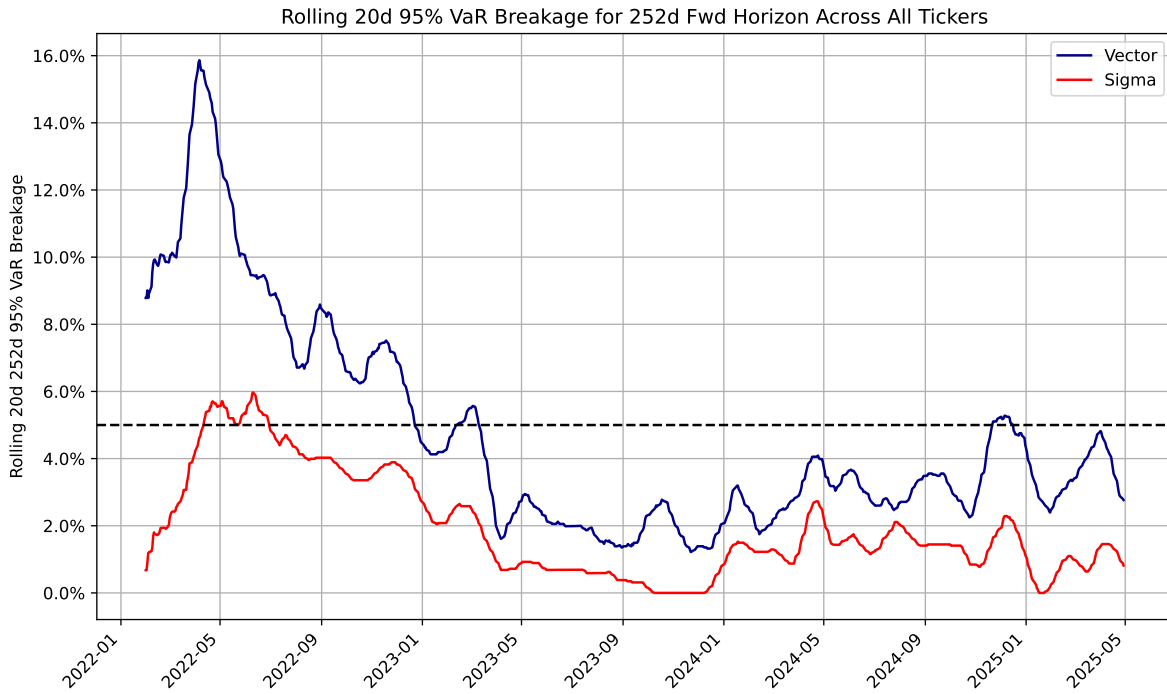
## 21d Horizon



## 63d Horizon



## 252d Horizon



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## Top 30 Tickers By VaR Breakage

### All TMD: 1d

Results reflect ticker level average 95% VaR breakage (VaRBreak) across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	VaRBreak_V	Ticker_S	VaRBreak_S
1.0	SBNY	30.22%	SBNY	7.91%
1.0	SIVBQ	19.06%	FRCB	6.47%
1.0	TSLA	16.62%	GLD	6.1%
1.0	CHTR	15.12%	VST	5.92%
1.0	LQD	14.08%	SIVBQ	5.76%
1.0	FRCB	13.67%	NEM	5.73%
1.0	MSTR	11.36%	ACGL	5.63%
1.0	AMZN	11.36%	PHM	5.63%
1.0	B	10.99%	AAPL	5.54%
1.0	ZTS	10.8%	NVS	5.45%
1.0	AAP	10.14%	MSFT	5.45%
1.0	ISRG	10.14%	MOS	5.45%
1.0	SBUX	10.05%	NVDA	5.45%
1.0	META	10.05%	VCSH	5.35%
1.0	UAA	10.05%	B	5.35%
1.0	GME	9.58%	XOM	5.35%
1.0	GNRC	9.3%	IRM	5.35%
1.0	CDNS	9.11%	AZN	5.35%
1.0	HD	9.11%	MUB	5.26%
1.0	PRGO	8.64%	LEN	5.26%
1.0	SLV	8.55%	PEP	5.26%
1.0	AMC	8.26%	SLV	5.17%
1.0	BALL	8.26%	TRGP	5.16%
1.0	BUD	8.17%	INTU	5.16%
1.0	VFC	7.89%	HLT	5.16%



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## All TMD: 10d

Results reflect ticker level average 95% VaR breakage (VaRBreak) across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	VaRBreak_V	Ticker_S	VaRBreak_S
10.0	SBNY	40.44%	MUB	11.66%
10.0	SIVBQ	22.43%	SIVBQ	10.66%
10.0	CHTR	19.03%	SBNY	9.93%
10.0	AAP	18.94%	FRCB	8.46%
10.0	AMC	17.14%	AAP	7.67%
10.0	TSLA	16.67%	FRA	7.58%
10.0	ZTS	15.62%	BAC	7.39%
10.0	B	14.68%	UNH	7.1%
10.0	FRCB	13.97%	CTLT	6.94%
10.0	BUD	13.16%	WFC	6.91%
10.0	META	12.78%	CHTR	6.91%
10.0	PRGO	12.41%	FIS	6.82%
10.0	LQD	12.41%	CLF	6.82%
10.0	GME	12.03%	LW	6.72%
10.0	GNRC	11.84%	CVS	6.53%
10.0	CVS	11.74%	GSK	6.44%
10.0	MSTR	11.65%	NEM	6.34%
10.0	KALU	11.36%	ADBE	6.34%
10.0	GSK	11.08%	NWL	6.34%
10.0	NEM	10.7%	AZN	6.25%
10.0	AMZN	10.7%	FITB	6.25%
10.0	SLV	10.33%	X	6.09%
10.0	TLT	10.13%	BALL	6.06%
10.0	VFC	9.94%	BMY	6.06%
10.0	CTLT	9.93%	CMG	5.97%



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## All TMD: 21d

Results reflect ticker level average 95% VaR breakage (VaRBreak) across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	VaRBreak_V	Ticker_S	VaRBreak_S
21.0	SBNY	56.67%	SIVBQ	12.96%
21.0	CHTR	23.83%	MUB	12.45%
21.0	SIVBQ	23.33%	FRCB	11.48%
21.0	AAP	19.33%	LW	9.67%
21.0	ZTS	17.03%	SBNY	8.89%
21.0	PRGO	16.65%	AAP	8.61%
21.0	AMC	16.17%	CHTR	8.61%
21.0	TSLA	16.08%	FIS	8.13%
21.0	BUD	15.02%	GSK	7.85%
21.0	B	14.83%	CTLT	7.73%
21.0	CVS	14.45%	EMB	7.66%
21.0	FRCB	14.44%	PRGO	6.99%
21.0	LQD	14.16%	CMG	6.89%
21.0	GNRC	13.78%	CVS	6.7%
21.0	GSK	13.68%	UNH	6.51%
21.0	BXP	12.92%	FRA	6.51%
21.0	KALU	12.82%	VCSH	6.41%
21.0	CTLT	12.57%	BMY	6.22%
21.0	NEM	11.96%	ABBV	6.22%
21.0	META	11.87%	BUD	6.22%
21.0	TLT	11.67%	LQD	6.12%
21.0	MSTR	11.58%	IRM	6.03%
21.0	VFC	11.58%	AZN	6.03%
21.0	VCSH	11.48%	BAC	6.03%
21.0	FIS	11.48%	TEVA	5.84%



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## All TMD: 63d

Results reflect ticker level average 95% VaR breakage (VaRBreak) across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	VaRBreak_V	Ticker_S	VaRBreak_S
63.0	SBNY	85.56%	SBNY	30.37%
63.0	SIVBQ	41.85%	SIVBQ	30.0%
63.0	CHTR	31.11%	FRCB	24.81%
63.0	AAP	30.11%	CHTR	12.36%
63.0	FRCB	29.26%	CTLT	10.7%
63.0	AMC	19.64%	MUB	10.38%
63.0	VFC	17.55%	GSK	9.67%
63.0	PRGO	17.25%	NEM	9.27%
63.0	GNRC	15.75%	CNC	8.37%
63.0	BXP	15.45%	UNH	8.08%
63.0	CTLT	14.66%	NFLX	7.78%
63.0	MSTR	14.36%	BXP	7.48%
63.0	BIIB	14.36%	BMJ	7.38%
63.0	FIS	14.26%	LW	7.38%
63.0	BHC	14.16%	VFC	6.88%
63.0	B	13.96%	INTU	6.88%
63.0	TSLA	13.86%	FIS	6.78%
63.0	BUD	13.66%	LQD	6.68%
63.0	KALU	13.66%	CVS	6.68%
63.0	AMZN	12.86%	ZION	6.57%
63.0	TLT	12.76%	IEP	6.48%
63.0	META	12.66%	KEY	6.48%
63.0	NEM	12.46%	AAP	6.48%
63.0	GSK	12.36%	BHC	6.48%
63.0	LQD	11.96%	HCA	6.08%
63.0	NFLX	11.27%	CMA	5.94%
63.0	CNC	11.27%	BALL	5.88%
63.0	NWL	10.77%	NWL	5.88%
63.0	ZTS	10.67%	VCSH	5.78%
63.0	BMJ	10.67%	TLT	5.78%



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## All TMD: 126d

Results reflect ticker level average 95% VaR breakage (VaRBreak) across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	VaRBreak_V	Ticker_S	VaRBreak_S
126.0	SBNY	100.0%	SIVBQ	47.78%
126.0	SIVBQ	63.7%	SBNY	44.81%
126.0	FRCB	44.07%	FRCB	43.7%
126.0	CHTR	37.45%	GSK	13.72%
126.0	AMC	30.74%	IEP	13.51%
126.0	AAP	30.53%	AAP	13.09%
126.0	VFC	29.47%	UNH	10.85%
126.0	GSK	16.38%	CTLT	10.5%
126.0	BXP	16.38%	CNC	10.11%
126.0	PRGO	16.17%	PRGO	9.68%
126.0	BMJ	16.06%	CHTR	9.47%
126.0	BIIB	15.96%	VZ	8.62%
126.0	CNC	15.85%	CSTM	7.77%
126.0	GNRC	15.64%	INTC	7.66%
126.0	MSTR	15.32%	MRK	7.55%
126.0	TSLA	14.15%	MUB	7.45%
126.0	TLT	13.94%	BHC	7.23%
126.0	IEP	13.62%	BALL	7.13%
126.0	UNH	13.4%	LEN	6.91%
126.0	ZTS	12.87%	NEM	5.85%
126.0	CTLT	12.76%	EMB	5.64%
126.0	ZION	12.2%	LW	5.64%
126.0	CVS	12.02%	VCSH	5.43%
126.0	BHC	11.38%	KEY	5.32%
126.0	NEM	10.96%	BIIB	5.11%
126.0	OXY	10.53%	INTU	4.89%
126.0	BUD	9.68%	LQD	4.68%
126.0	MRK	9.47%	ELAN	4.53%
126.0	B	9.47%	LUMN	4.47%
126.0	CMCSA	9.47%	BXP	4.47%



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## All TMD: 252d

Results reflect ticker level average 95% VaR breakage (VaRBreak) across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	VaRBreak_V	Ticker_S	VaRBreak_S
252.0	SBNY	100.0%	SIVBQ	90.74%
252.0	SIVBQ	90.74%	FRCB	90.0%
252.0	FRCB	90.37%	SBNY	79.63%
252.0	AAP	52.46%	IEP	29.85%
252.0	CHTR	41.52%	UNH	18.55%
252.0	AMC	41.03%	AAP	16.95%
252.0	BIIB	33.42%	MRK	13.02%
252.0	IEP	28.26%	BMY	12.29%
252.0	VFC	23.83%	GSK	11.92%
252.0	CMA	20.32%	LUMN	11.18%
252.0	UNH	20.02%	LW	10.69%
252.0	ZION	18.62%	CNC	9.46%
252.0	PRGO	17.81%	BXP	7.62%
252.0	OXY	16.34%	CPRT	7.0%
252.0	NWL	15.6%	VZ	6.39%
252.0	FIS	14.99%	CTLT	5.27%
252.0	CTLT	13.79%	VNO	4.67%
252.0	GSK	12.9%	INTC	3.93%
252.0	CVS	12.65%	PRGO	3.32%
252.0	CNC	12.16%	CMCSA	2.95%
252.0	MRK	12.04%	CSTM	2.7%
252.0	BXP	11.92%	CLF	2.21%
252.0	BMY	10.81%	CMG	2.21%
252.0	TLT	9.95%	LNC	1.97%
252.0	VNO	9.71%	ELAN	1.87%
252.0	UAA	9.46%	CVS	1.72%
252.0	ELAN	8.49%	EMB	1.48%
252.0	BHC	8.35%	PEP	1.47%
252.0	CLF	7.99%	WDC	1.23%
252.0	KHC	7.13%	BALL	0.98%



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### P30D: 1d

Results reflect ticker level average 95% VaR breakage (VaRBreak) across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	VaRBreak_V	Ticker_S	VaRBreak_S
1.0	TMUS	30.0%	GE	20.0%
1.0	HD	30.0%	AA	15.0%
1.0	ISRG	25.0%	INTU	15.0%
1.0	BBY	25.0%	T	15.0%
1.0	INTU	25.0%	CHTR	15.0%
1.0	GE	25.0%	NEM	15.0%
1.0	CDNS	20.0%	OXY	15.0%
1.0	LLY	20.0%	HON	10.0%
1.0	TSLA	20.0%	HLT	10.0%
1.0	TDG	15.0%	HCA	10.0%
1.0	CMCSA	15.0%	CDNS	10.0%
1.0	ORCL	15.0%	CCL	10.0%
1.0	GLD	15.0%	ELAN	10.0%
1.0	NFLX	15.0%	CAH	10.0%
1.0	KHC	15.0%	MSFT	10.0%
1.0	VICI	15.0%	FCX	10.0%
1.0	XOM	15.0%	MNST	10.0%
1.0	FIS	15.0%	BMY	10.0%
1.0	EXPE	10.0%	FIS	10.0%
1.0	FRA	10.0%	XOM	10.0%
1.0	MRK	10.0%	TDG	10.0%
1.0	HCA	10.0%	ACGL	10.0%
1.0	MSFT	10.0%	TMUS	10.0%
1.0	NVDA	10.0%	ADBE	10.0%
1.0	NWL	10.0%	LVS	5.0%
1.0	OXY	10.0%	FRA	5.0%
1.0	CHTR	10.0%	FSUGY	5.0%
1.0	AA	10.0%	WFC	5.0%
1.0	ACGL	10.0%	GLD	5.0%
1.0	AVGO	10.0%	GSK	5.0%



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## P30D: 10d

Results reflect ticker level average 95% VaR breakage (VaRBreak) across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	VaRBreak_V	Ticker_S	VaRBreak_S
10.0	NFLX	81.82%	HON	45.45%
10.0	GE	54.55%	CHTR	45.45%
10.0	CHTR	45.45%	HCA	45.45%
10.0	HCA	45.45%	NFLX	36.36%
10.0	PCG	45.45%	GSK	36.36%
10.0	HON	45.45%	MRK	27.27%
10.0	T	36.36%	PCG	27.27%
10.0	GSK	36.36%	FCX	27.27%
10.0	MRK	36.36%	XOM	27.27%
10.0	HD	27.27%	OXY	27.27%
10.0	FCX	27.27%	AZN	18.18%
10.0	CMCSA	18.18%	T	18.18%
10.0	TDG	18.18%	TDG	18.18%
10.0	OXY	18.18%	NVS	9.09%
10.0	GLD	9.09%	CAH	9.09%
10.0	ORCL	9.09%	ON	0.0%
10.0	TMUS	9.09%	NWL	0.0%
10.0	CYH	9.09%	NVDA	0.0%
10.0	VZ	9.09%	MUB	0.0%
10.0	B	9.09%	ORCL	0.0%
10.0	KHC	9.09%	NEM	0.0%
10.0	INTU	9.09%	ORLY	0.0%
10.0	META	9.09%	NAVI	0.0%
10.0	LVS	0.0%	AA	0.0%
10.0	ORLY	0.0%	MU	0.0%
10.0	LQD	0.0%	MSTR	0.0%
10.0	ON	0.0%	PEP	0.0%
10.0	NWL	0.0%	MSFT	0.0%
10.0	NVS	0.0%	MS	0.0%
10.0	LUMN	0.0%	MOS	0.0%



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## P90D: 1d

Results reflect ticker level average 95% VaR breakage (VaRBreak) across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	VaRBreak_V	Ticker_S	VaRBreak_S
1.0	INTU	26.23%	FCX	16.39%
1.0	HD	24.59%	GE	14.75%
1.0	GLD	24.59%	GLD	14.75%
1.0	TMUS	22.95%	BHP	14.75%
1.0	AZO	21.31%	INTU	14.75%
1.0	CDNS	21.31%	NEM	13.11%
1.0	ISRG	18.03%	AA	11.48%
1.0	ORCL	18.03%	B	11.48%
1.0	NFLX	18.03%	CSTM	11.48%
1.0	BBY	18.03%	OXY	11.48%
1.0	LLY	18.03%	BUD	11.48%
1.0	UNH	16.39%	RIO	11.48%
1.0	GE	16.39%	HSBC	11.48%
1.0	AMZN	14.75%	ELAN	11.48%
1.0	BXP	14.75%	AZO	11.48%
1.0	MSFT	14.75%	MOS	11.48%
1.0	AMAT	14.75%	AMAT	9.84%
1.0	VICI	13.11%	EMB	9.84%
1.0	KHC	13.11%	MNST	9.84%
1.0	TDG	13.11%	T	9.84%
1.0	CMCSA	13.11%	TEVA	9.84%
1.0	TSLA	13.11%	FSUGY	9.84%
1.0	WDC	13.11%	ADBE	9.84%
1.0	HON	11.48%	CCL	9.84%
1.0	BHC	11.48%	WFC	9.84%
1.0	PEP	11.48%	WDC	9.84%
1.0	PRGO	11.48%	MS	9.84%
1.0	SBUX	11.48%	VCSH	9.84%
1.0	EXPE	11.48%	BAC	9.84%
1.0	FIS	9.84%	GS	8.2%



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## P90D: 10d

Results reflect ticker level average 95% VaR breakage (VaRBreak) across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	VaRBreak_V	Ticker_S	VaRBreak_S
10.0	HD	44.23%	FITB	23.08%
10.0	GSK	36.54%	HCA	21.15%
10.0	NFLX	36.54%	TFC	21.15%
10.0	GE	34.62%	GSK	19.23%
10.0	BUD	32.69%	B	19.23%
10.0	META	30.77%	THC	19.23%
10.0	INTU	30.77%	NVS	19.23%
10.0	CLF	28.85%	CPRT	19.23%
10.0	GLD	25.0%	CCL	19.23%
10.0	BXP	25.0%	GE	17.31%
10.0	GNRC	23.08%	VICI	17.31%
10.0	PRGO	23.08%	MNST	17.31%
10.0	KHC	21.15%	BUD	15.38%
10.0	BALL	21.15%	FCX	15.38%
10.0	HON	19.23%	LEN	15.38%
10.0	AZO	19.23%	BHP	15.38%
10.0	CCL	19.23%	MUB	15.38%
10.0	T	19.23%	GLD	15.38%
10.0	LNC	19.23%	NEM	15.38%
10.0	LLY	19.23%	PRGO	15.38%
10.0	FCX	19.23%	INTU	15.38%
10.0	TMUS	19.23%	XOM	13.46%
10.0	B	19.23%	OXY	13.46%
10.0	TFC	17.31%	CNC	13.46%
10.0	AMC	17.31%	HSBC	13.46%
10.0	SNY	17.31%	RIO	13.46%
10.0	CVS	17.31%	EMB	13.46%
10.0	VICI	15.38%	USB	13.46%
10.0	NEM	15.38%	LQD	13.46%
10.0	TXN	13.46%	KEY	13.46%



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## P90D: 21d

Results reflect ticker level average 95% VaR breakage (VaRBreak) across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	VaRBreak_V	Ticker_S	VaRBreak_S
21.0	HD	53.66%	HD	39.02%
21.0	BXP	48.78%	CCL	36.59%
21.0	PRGO	46.34%	LEN	36.59%
21.0	CLF	43.9%	FITB	34.15%
21.0	TMUS	39.02%	PRGO	34.15%
21.0	GLD	36.59%	USB	31.71%
21.0	LNC	34.15%	TFC	31.71%
21.0	BALL	34.15%	GT	31.71%
21.0	TFC	34.15%	KEY	26.83%
21.0	GNRC	34.15%	BUD	26.83%
21.0	GE	31.71%	TEVA	26.83%
21.0	BUD	29.27%	EMB	26.83%
21.0	FITB	29.27%	MNST	24.39%
21.0	INTU	29.27%	B	21.95%
21.0	MSFT	26.83%	VICI	21.95%
21.0	KHC	26.83%	GE	21.95%
21.0	T	26.83%	RIO	21.95%
21.0	CCL	26.83%	NVS	21.95%
21.0	AZO	24.39%	NEM	19.51%
21.0	TXN	21.95%	PHM	19.51%
21.0	CMCSA	21.95%	THC	19.51%
21.0	NEM	21.95%	LNC	19.51%
21.0	VICI	21.95%	BXP	19.51%
21.0	META	19.51%	MUB	19.51%
21.0	VFC	19.51%	VCSH	19.51%
21.0	LQD	19.51%	BAC	19.51%
21.0	GSK	19.51%	WFC	19.51%
21.0	LEN	19.51%	BHP	17.07%
21.0	NAVI	19.51%	GLD	17.07%
21.0	CVS	17.07%	BA	17.07%



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## P365D: 1d

Results reflect ticker level average 95% VaR breakage (VaRBreak) across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	VaRBreak_V	Ticker_S	VaRBreak_S
1.0	LLY	19.2%	NEM	9.2%
1.0	AMZN	15.6%	GLD	8.0%
1.0	TDG	15.6%	B	7.6%
1.0	SBUX	14.8%	MOS	7.2%
1.0	ISRG	14.0%	AZO	6.8%
1.0	TSLA	13.2%	GE	6.8%
1.0	CDNS	13.2%	WDC	6.8%
1.0	CMCSA	12.8%	SLV	6.43%
1.0	PRGO	12.4%	AA	6.4%
1.0	ZTS	12.0%	GSK	6.4%
1.0	TXN	11.6%	FCX	6.4%
1.0	GWV	11.6%	INTU	6.4%
1.0	TMUS	10.4%	BHP	6.0%
1.0	INTU	10.4%	HLT	6.0%
1.0	HD	10.4%	HCA	6.0%
1.0	META	10.0%	OXY	5.6%
1.0	AMC	9.6%	POST	5.6%
1.0	KHC	9.2%	NVS	5.6%
1.0	UNH	9.2%	MSFT	5.6%
1.0	MSTR	9.2%	XOM	5.6%
1.0	GLD	9.2%	WFC	5.6%
1.0	AZO	8.8%	T	5.6%
1.0	NFLX	8.8%	MNST	5.2%
1.0	NAVI	8.4%	BAC	5.2%
1.0	AMGN	8.0%	GILD	5.2%
1.0	MSFT	7.6%	FIS	5.2%
1.0	AMD	7.6%	AMAT	5.2%
1.0	CVS	7.6%	NFLX	5.2%
1.0	BHC	7.2%	ORLY	5.2%
1.0	PEP	7.2%	LEN	5.2%



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## P365D: 10d

Results reflect ticker level average 95% VaR breakage (VaRBreak) across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	VaRBreak_V	Ticker_S	VaRBreak_S
10.0	AMC	26.97%	INTU	14.11%
10.0	PRGO	19.92%	FIS	12.03%
10.0	META	19.92%	PRGO	11.2%
10.0	TDG	17.43%	AZO	9.54%
10.0	UNH	17.01%	TDG	8.71%
10.0	INTU	16.18%	CPRT	8.71%
10.0	CMCSA	16.18%	CMG	8.71%
10.0	ZTS	15.77%	MOS	8.71%
10.0	GNRC	14.94%	ORLY	8.3%
10.0	TXN	14.94%	CNC	8.3%
10.0	BUD	14.52%	GBTC	7.88%
10.0	NFLX	14.52%	SLV	7.5%
10.0	CLF	13.69%	LEN	7.47%
10.0	AMZN	13.69%	T	7.47%
10.0	LLY	13.28%	BUD	7.47%
10.0	GWV	12.45%	CHTR	7.05%
10.0	CHTR	12.45%	ADBE	6.64%
10.0	AAP	11.62%	POST	6.64%
10.0	MSTR	11.62%	B	6.64%
10.0	HD	11.62%	GNRC	6.22%
10.0	NAVI	11.2%	FCX	6.22%
10.0	CVS	10.79%	NEM	6.22%
10.0	GE	10.37%	UNH	6.22%
10.0	TMUS	9.96%	HCA	6.22%
10.0	VZ	9.54%	CLF	6.22%
10.0	TSLA	9.13%	NVS	5.81%
10.0	AMD	9.13%	PCG	5.81%
10.0	QCOM	9.13%	NAVI	5.81%
10.0	CZR	8.3%	FITB	5.81%
10.0	GSK	7.88%	MSI	5.81%



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## P365D: 21d

Results reflect ticker level average 95% VaR breakage (VaRBreak) across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	VaRBreak_V	Ticker_S	VaRBreak_S
21.0	PRGO	27.83%	INTU	16.96%
21.0	ZTS	26.09%	CMG	16.96%
21.0	TDG	25.22%	PRGO	16.96%
21.0	UNH	23.48%	FIS	13.04%
21.0	CHTR	22.17%	CHTR	12.17%
21.0	CMCSA	21.74%	AZO	11.3%
21.0	AMC	20.87%	NAVI	11.3%
21.0	INTU	19.57%	GBTC	10.87%
21.0	CLF	17.83%	MSFT	10.0%
21.0	NAVI	16.09%	CNC	10.0%
21.0	META	15.22%	HD	9.57%
21.0	BUD	14.78%	MSI	9.57%
21.0	AMZN	14.78%	CPRT	9.57%
21.0	TXN	14.35%	LEN	9.13%
21.0	MSTR	13.48%	T	9.13%
21.0	GNRC	13.04%	LW	8.7%
21.0	FIS	12.61%	BUD	8.7%
21.0	ADBE	12.61%	IRM	8.7%
21.0	BXP	12.17%	PCG	8.7%
21.0	CNC	11.74%	MOS	8.26%
21.0	CMG	11.3%	GT	8.26%
21.0	LW	10.43%	ZTS	7.83%
21.0	HD	10.43%	EXPE	7.83%
21.0	NWL	10.43%	ADBE	6.52%
21.0	AMD	10.0%	FITB	6.52%
21.0	T	9.57%	CCL	6.52%
21.0	TMUS	9.57%	ORLY	6.09%
21.0	MSI	9.57%	USB	5.65%
21.0	IRM	9.13%	UNH	5.65%
21.0	LNC	9.13%	TFC	5.65%



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## P365D: 63d

Results reflect ticker level average 95% VaR breakage (VaRBreak) across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	VaRBreak_V	Ticker_S	VaRBreak_S
63.0	PRGO	68.62%	INTU	31.91%
63.0	MSTR	39.89%	CHTR	27.66%
63.0	INTU	34.04%	CNC	22.34%
63.0	CHTR	32.98%	PRGO	21.28%
63.0	TDG	32.45%	MSFT	20.74%
63.0	AMC	31.38%	FIS	19.68%
63.0	MSI	29.79%	NAVI	15.43%
63.0	NFLX	29.79%	NFLX	12.77%
63.0	ZTS	28.19%	MSI	12.77%
63.0	BXP	27.13%	ADBE	10.64%
63.0	CMCSA	26.6%	MOS	10.11%
63.0	BUD	24.47%	CPRT	9.04%
63.0	NAVI	22.34%	AZO	6.91%
63.0	META	22.34%	CMG	6.38%
63.0	CNC	22.34%	BUD	5.85%
63.0	FIS	20.21%	BXP	5.32%
63.0	ADBE	16.49%	FRA	4.79%
63.0	CLF	13.3%	T	4.26%
63.0	NWL	12.77%	LNC	4.26%
63.0	QCOM	12.77%	ORCL	3.72%
63.0	UNH	11.7%	VICI	3.72%
63.0	LW	11.7%	UNH	3.19%
63.0	GNRC	10.11%	SLV	2.67%
63.0	IRM	9.04%	ZTS	2.66%
63.0	VNO	7.98%	GBTC	1.6%
63.0	ISRG	7.45%	B	1.6%
63.0	AMZN	7.45%	QCOM	1.6%
63.0	AAP	6.38%	LUMN	1.06%
63.0	ORCL	6.38%	TDG	1.06%
63.0	CPRT	6.38%	HD	0.53%



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## P365D: 126d

Results reflect ticker level average 95% VaR breakage (VaRBreak) across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	VaRBreak_V	Ticker_S	VaRBreak_S
126.0	PRGO	96.8%	PRGO	72.8%
126.0	MSTR	83.2%	CHTR	40.0%
126.0	AMC	83.2%	INTU	36.8%
126.0	ZTS	61.6%	FRA	18.4%
126.0	INTU	51.2%	CPRT	13.6%
126.0	CHTR	50.4%	MSFT	12.0%
126.0	CMCSA	45.6%	CNC	11.2%
126.0	NFLX	44.8%	CMG	9.6%
126.0	BXP	33.6%	FIS	4.8%
126.0	ORCL	33.6%	ORCL	3.2%
126.0	CPRT	31.2%	MOS	3.2%
126.0	CNC	29.6%	GBTC	2.4%
126.0	TDG	24.0%	NFLX	2.4%
126.0	NAVI	20.8%	NVS	0.0%
126.0	LEN	20.0%	NWL	0.0%
126.0	AAP	16.8%	AA	0.0%
126.0	META	14.4%	ON	0.0%
126.0	UNH	14.4%	ORLY	0.0%
126.0	VNO	13.6%	OXY	0.0%
126.0	ADBE	10.4%	PCG	0.0%
126.0	FIS	8.8%	NVDA	0.0%
126.0	BUD	6.4%	NAVI	0.0%
126.0	MSFT	5.6%	NEM	0.0%
126.0	CLF	3.2%	PHM	0.0%
126.0	AMZN	2.4%	LEN	0.0%
126.0	KHC	1.6%	LLY	0.0%
126.0	VST	0.8%	LNC	0.0%
126.0	TXN	0.8%	LQD	0.0%
126.0	ZION	0.0%	LUMN	0.0%
126.0	MU	0.0%	LVS	0.0%



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## Top 30 Tickers By ROVBC

### All TMD: 1d

Results reflect ticker level average 95% VaR based ROVBC across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
1.0	MSTR	0.46%	MSTR	0.31%
1.0	GME	0.39%	WDC	0.25%
1.0	WDC	0.29%	NVDA	0.25%
1.0	MU	0.25%	VST	0.24%
1.0	NFLX	0.23%	MU	0.23%
1.0	META	0.21%	AVGO	0.22%
1.0	AVGO	0.17%	PWR	0.21%
1.0	AMD	0.17%	TEVA	0.17%
1.0	PWR	0.17%	GME	0.17%
1.0	NVDA	0.16%	X	0.17%
1.0	AAPL	0.16%	AMD	0.17%
1.0	GOOGL	0.15%	TRGP	0.16%
1.0	ORCL	0.15%	GBTC	0.15%
1.0	LLY	0.15%	GE	0.15%
1.0	GWW	0.15%	LLY	0.15%
1.0	CDNS	0.14%	SLV	0.14%
1.0	GBTC	0.13%	AMAT	0.14%
1.0	XOM	0.13%	CAH	0.14%
1.0	INTC	0.13%	THC	0.12%
1.0	ON	0.12%	GOOGL	0.12%
1.0	AA	0.12%	INTC	0.12%
1.0	B	0.12%	ETRN	0.12%
1.0	X	0.12%	IRM	0.11%
1.0	AMZN	0.11%	NFLX	0.11%
1.0	TEVA	0.1%	ON	0.11%
1.0	TRGP	0.1%	META	0.11%
1.0	CAH	0.09%	GS	0.11%
1.0	QCOM	0.09%	PHM	0.1%
1.0	VST	0.09%	HSBC	0.1%
1.0	IRM	0.09%	CSTM	0.1%



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## All TMD: 10d

Results reflect ticker level average 95% VaR based ROVBC across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
10.0	MSTR	5.93%	MSTR	3.17%
10.0	GME	5.26%	NVDA	2.51%
10.0	MU	3.16%	WDC	2.51%
10.0	WDC	2.97%	VST	2.32%
10.0	META	2.41%	MU	2.23%
10.0	NFLX	2.2%	AVGO	2.21%
10.0	TEVA	2.09%	PWR	1.93%
10.0	AVGO	2.04%	TEVA	1.7%
10.0	NVDA	1.93%	X	1.58%
10.0	VST	1.83%	TRGP	1.5%
10.0	ORCL	1.77%	AMD	1.49%
10.0	AMD	1.66%	GE	1.47%
10.0	INTC	1.63%	LLY	1.47%
10.0	PWR	1.63%	GME	1.45%
10.0	SLV	1.57%	CAH	1.42%
10.0	KALU	1.47%	GBTC	1.41%
10.0	GOOGL	1.45%	ETRN	1.41%
10.0	GWV	1.39%	SLV	1.38%
10.0	OXY	1.29%	AMAT	1.34%
10.0	LLY	1.29%	META	1.3%
10.0	CAH	1.28%	THC	1.21%
10.0	GBTC	1.28%	NFLX	1.21%
10.0	GE	1.25%	IRM	1.1%
10.0	ETRN	1.23%	PHM	1.07%
10.0	X	1.21%	GS	1.05%
10.0	CDNS	1.21%	ORCL	1.04%
10.0	AAPL	1.21%	GOOGL	1.04%
10.0	AMZN	1.18%	INTC	1.04%
10.0	GS	1.13%	TSLA	0.98%
10.0	XOM	1.09%	HSBC	0.98%



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## All TMD: 21d

Results reflect ticker level average 95% VaR based ROVBC across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
21.0	MSTR	14.2%	MSTR	6.88%
21.0	GME	8.16%	NVDA	5.35%
21.0	WDC	6.92%	WDC	5.21%
21.0	META	6.39%	VST	5.0%
21.0	MU	6.26%	AVGO	4.46%
21.0	NFLX	5.42%	MU	4.45%
21.0	TEVA	5.08%	PWR	4.02%
21.0	AVGO	4.54%	TEVA	3.63%
21.0	NVDA	4.15%	ETRN	3.5%
21.0	VST	3.79%	GE	3.24%
21.0	PWR	3.71%	X	3.17%
21.0	ETRN	3.51%	TRGP	3.15%
21.0	GBTC	3.51%	LLY	3.1%
21.0	ORCL	3.48%	CAH	3.08%
21.0	GOOGL	3.17%	GBTC	3.04%
21.0	INTC	3.14%	AMD	3.0%
21.0	SLV	3.14%	SLV	2.84%
21.0	GE	3.07%	AMAT	2.81%
21.0	AMD	3.04%	META	2.8%
21.0	KALU	2.98%	NFLX	2.74%
21.0	LLY	2.98%	THC	2.59%
21.0	GWV	2.96%	PHM	2.25%
21.0	CAH	2.83%	GME	2.25%
21.0	TSLA	2.77%	IRM	2.25%
21.0	GILD	2.7%	TSLA	2.25%
21.0	CTLT	2.65%	GS	2.24%
21.0	AA	2.63%	GOOGL	2.16%
21.0	GS	2.6%	ORCL	2.15%
21.0	THC	2.48%	HSBC	2.06%
21.0	AMZN	2.37%	GWV	2.05%



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## All TMD: 63d

Results reflect ticker level average 95% VaR based ROVBC across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
63.0	MSTR	31.33%	MSTR	19.86%
63.0	WDC	28.95%	NVDA	17.71%
63.0	META	21.12%	WDC	17.29%
63.0	MU	17.02%	VST	16.5%
63.0	NFLX	16.83%	MU	14.87%
63.0	VST	14.95%	AVGO	13.34%
63.0	NVDA	14.94%	PWR	11.32%
63.0	AVGO	14.43%	GE	10.68%
63.0	TEVA	12.59%	TEVA	10.63%
63.0	GE	11.6%	ETRN	10.28%
63.0	ORCL	11.3%	GBTC	10.23%
63.0	ETRN	11.21%	META	9.83%
63.0	CTLT	11.11%	CAH	9.49%
63.0	SLV	10.67%	LLY	9.46%
63.0	AMAT	10.23%	SLV	9.1%
63.0	KALU	9.58%	NFLX	9.03%
63.0	PWR	9.54%	TRGP	8.98%
63.0	AMD	9.48%	AMAT	8.61%
63.0	CAH	9.39%	THC	8.51%
63.0	GOOGL	9.0%	AMD	8.02%
63.0	GBTC	8.88%	PHM	7.91%
63.0	NEM	8.63%	GS	6.92%
63.0	GILD	8.58%	GOOGL	6.87%
63.0	THC	8.45%	CCL	6.68%
63.0	LLY	8.39%	ORCL	6.65%
63.0	GS	8.07%	HSBC	6.63%
63.0	TSLA	8.04%	GLD	6.26%
63.0	GWV	7.92%	GILD	6.11%
63.0	B	7.91%	B	6.1%
63.0	GNRC	7.85%	TSLA	5.94%



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## All TMD: 126d

Results reflect ticker level average 95% VaR based ROVBC across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
126.0	MSTR	93.49%	MSTR	51.15%
126.0	WDC	77.55%	NVDA	44.77%
126.0	META	55.1%	WDC	40.81%
126.0	MU	46.07%	VST	36.89%
126.0	NVDA	45.65%	MU	35.79%
126.0	NFLX	43.64%	AVGO	30.34%
126.0	AVGO	40.14%	GBTC	30.11%
126.0	VST	36.89%	GE	25.9%
126.0	GBTC	30.46%	META	23.74%
126.0	GE	27.25%	NFLX	23.04%
126.0	SLV	27.17%	TEVA	22.66%
126.0	TEVA	27.12%	PWR	22.17%
126.0	ORCL	26.81%	THC	20.82%
126.0	AMD	25.01%	CAH	20.24%
126.0	LLY	24.23%	SLV	20.14%
126.0	AMAT	23.98%	LLY	19.99%
126.0	B	23.64%	AMD	19.15%
126.0	CAH	22.09%	AMAT	18.75%
126.0	GOOGL	21.51%	ETRN	18.49%
126.0	PWR	21.41%	TRGP	18.09%
126.0	NEM	20.2%	PHM	17.62%
126.0	THC	20.01%	ORCL	16.64%
126.0	GILD	19.03%	GOOGL	16.28%
126.0	TSLA	18.09%	GS	15.44%
126.0	ISRG	17.37%	B	15.24%
126.0	GS	17.1%	CCL	14.38%
126.0	ETRN	16.95%	HSBC	13.79%
126.0	INTC	16.33%	GLD	13.46%
126.0	EXPE	15.69%	JPM	13.18%
126.0	KALU	15.38%	HCA	12.84%



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## All TMD: 252d

Results reflect ticker level average 95% VaR based ROVBC across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
252.0	MSTR	328.02%	MSTR	175.05%
252.0	WDC	159.5%	NVDA	121.14%
252.0	META	146.01%	VST	109.27%
252.0	VST	130.88%	GBTC	95.86%
252.0	NVDA	122.66%	WDC	79.54%
252.0	NFLX	116.46%	AVGO	76.63%
252.0	AVGO	107.53%	MU	68.25%
252.0	GBTC	102.04%	META	65.44%
252.0	MU	93.33%	GE	61.82%
252.0	GE	71.19%	NFLX	59.69%
252.0	ORCL	61.64%	THC	48.84%
252.0	THC	61.5%	PWR	47.27%
252.0	SLV	59.42%	PHM	43.32%
252.0	LLY	58.47%	LLY	42.63%
252.0	AMD	56.42%	TEVA	41.15%
252.0	TEVA	56.34%	TRGP	40.22%
252.0	AMZN	53.64%	CAH	39.5%
252.0	B	52.91%	AMD	38.44%
252.0	AMAT	52.47%	CCL	37.88%
252.0	GOOGL	50.71%	ORCL	37.55%
252.0	NEM	49.77%	SLV	37.12%
252.0	ISRG	49.54%	ETRN	35.78%
252.0	CAH	48.82%	AMAT	35.49%
252.0	PWR	47.63%	GS	32.85%
252.0	TSLA	45.57%	GOOGL	32.47%
252.0	EXPE	42.54%	JPM	31.38%
252.0	TDG	41.61%	TDG	30.62%
252.0	GILD	40.3%	HSBC	30.31%
252.0	TRGP	38.84%	ISRG	29.18%
252.0	ETRN	38.77%	GLD	29.07%



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### P30D: 1d

Results reflect ticker level average 95% VaR based ROVBC across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
1.0	UNH	4.04%	INTC	3.61%
1.0	INTC	4.01%	AMD	2.72%
1.0	AMC	3.86%	ON	2.51%
1.0	AMD	3.75%	CNC	2.38%
1.0	CNC	3.07%	AMC	2.14%
1.0	WDC	3.01%	WDC	1.94%
1.0	ON	3.0%	TXN	1.91%
1.0	QCOM	2.71%	QCOM	1.82%
1.0	TXN	2.09%	MU	1.78%
1.0	MSTR	2.08%	MSTR	1.6%
1.0	MU	1.82%	UNH	1.55%
1.0	CLF	1.63%	AVGO	1.48%
1.0	CVS	1.6%	GNRC	1.41%
1.0	ORCL	1.55%	PWR	1.38%
1.0	BXP	1.49%	KALU	1.36%
1.0	CDNS	1.44%	GOOGL	1.33%
1.0	KALU	1.3%	LUMN	1.18%
1.0	AMZN	1.25%	AMZN	1.17%
1.0	SBUX	1.21%	IRM	1.15%
1.0	NAVI	1.2%	CLF	1.12%
1.0	IRM	1.18%	CDNS	0.87%
1.0	NWL	1.13%	CSCO	0.82%
1.0	MSFT	1.04%	VNO	0.8%
1.0	GOOGL	0.99%	SBUX	0.79%
1.0	GBTC	0.9%	TEVA	0.79%
1.0	PWR	0.82%	NWL	0.77%
1.0	IEP	0.82%	CVS	0.72%
1.0	PRGO	0.79%	CSTM	0.71%
1.0	LW	0.79%	MS	0.7%
1.0	GNRC	0.78%	BXP	0.69%



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### P30D: 10d

Results reflect ticker level average 95% VaR based ROVBC across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
10.0	MSTR	74.65%	ON	34.5%
10.0	AMD	54.86%	AMD	30.54%
10.0	AMC	53.83%	INTC	30.11%
10.0	ORCL	47.29%	MSTR	27.53%
10.0	UNH	47.14%	AMC	25.36%
10.0	INTC	46.09%	TXN	21.36%
10.0	ON	37.63%	LUMN	18.49%
10.0	TXN	25.74%	KALU	18.29%
10.0	META	23.58%	WDC	18.19%
10.0	MU	21.6%	MU	17.88%
10.0	QCOM	21.57%	CNC	17.81%
10.0	KALU	20.66%	AVGO	16.24%
10.0	CNC	19.06%	ORCL	15.89%
10.0	LUMN	18.41%	UNH	15.71%
10.0	VFC	17.7%	CDNS	13.4%
10.0	BXP	17.42%	QCOM	12.53%
10.0	CDNS	15.8%	AMZN	12.01%
10.0	NWL	15.58%	VFC	11.44%
10.0	MSFT	14.74%	MSFT	10.42%
10.0	WDC	14.65%	NWL	10.28%
10.0	CLF	13.05%	GNRC	10.22%
10.0	AMZN	13.0%	NVDA	10.13%
10.0	GBTC	12.8%	DHI	9.76%
10.0	TSLA	11.95%	GOOGL	9.48%
10.0	EXPE	11.85%	VNO	9.3%
10.0	AVGO	11.75%	BXP	9.11%
10.0	NVDA	9.79%	CLF	9.01%
10.0	PRGO	8.97%	EXPE	8.75%
10.0	LW	8.84%	PWR	8.7%
10.0	NAVI	8.61%	META	8.25%



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## P90D: 1d

Results reflect ticker level average 95% VaR based ROVBC across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
1.0	WDC	1.72%	INTC	1.21%
1.0	INTC	1.33%	WDC	0.89%
1.0	UNH	1.13%	ON	0.87%
1.0	GBTC	1.05%	GNRC	0.76%
1.0	ON	0.85%	PWR	0.73%
1.0	AMD	0.73%	AMD	0.7%
1.0	CNC	0.72%	IRM	0.59%
1.0	MSTR	0.71%	OXY	0.57%
1.0	CZR	0.61%	CZR	0.57%
1.0	IRM	0.6%	CSTM	0.52%
1.0	MU	0.54%	KALU	0.48%
1.0	ORCL	0.49%	TRGP	0.45%
1.0	AAP	0.48%	UNH	0.45%
1.0	TXN	0.45%	CNC	0.45%
1.0	OXY	0.44%	MSTR	0.44%
1.0	QCOM	0.43%	AVGO	0.42%
1.0	KALU	0.42%	TXN	0.41%
1.0	CVS	0.39%	MU	0.37%
1.0	PCG	0.39%	AAP	0.37%
1.0	NFLX	0.37%	AMAT	0.36%
1.0	TRGP	0.35%	JAZZ	0.34%
1.0	JAZZ	0.35%	QCOM	0.31%
1.0	PWR	0.35%	CDNS	0.26%
1.0	VZ	0.28%	SBUX	0.25%
1.0	SBUX	0.26%	BHP	0.25%
1.0	MSI	0.23%	NFLX	0.24%
1.0	BUD	0.22%	CSCO	0.24%
1.0	BALL	0.22%	AMC	0.22%
1.0	AZO	0.21%	AA	0.22%
1.0	AVGO	0.2%	GOOGL	0.21%



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## P90D: 10d

Results reflect ticker level average 95% VaR based ROVBC across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
10.0	MSTR	18.67%	INTC	10.7%
10.0	AMD	14.35%	AMD	8.51%
10.0	UNH	13.53%	ON	8.22%
10.0	INTC	13.02%	WDC	8.04%
10.0	ORCL	10.24%	CZR	6.81%
10.0	CZR	9.48%	AMC	6.59%
10.0	ON	9.21%	MSTR	6.11%
10.0	MU	8.93%	CSTM	5.14%
10.0	NFLX	8.8%	AVGO	4.98%
10.0	WDC	8.72%	MU	4.95%
10.0	AMC	7.36%	UNH	4.85%
10.0	KALU	6.19%	OXY	4.8%
10.0	GBTC	5.89%	PWR	4.71%
10.0	OXY	5.25%	AMAT	4.36%
10.0	EXPE	4.67%	IRM	4.21%
10.0	CDNS	4.58%	KALU	4.18%
10.0	TXN	4.33%	GNRC	4.08%
10.0	CNC	4.25%	JAZZ	3.92%
10.0	JAZZ	3.98%	AMZN	3.77%
10.0	IRM	3.82%	NFLX	3.65%
10.0	META	3.61%	TXN	3.34%
10.0	AVGO	3.57%	LUMN	3.3%
10.0	LUMN	3.57%	ORCL	2.99%
10.0	AMZN	3.34%	CDNS	2.79%
10.0	PWR	3.02%	TRGP	2.64%
10.0	AMAT	2.98%	CNC	2.6%
10.0	CSTM	2.74%	NVDA	2.41%
10.0	AAP	2.23%	AA	2.28%
10.0	AA	2.2%	BHP	2.27%
10.0	TRGP	1.99%	EXPE	2.26%



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## P90D: 21d

Results reflect ticker level average 95% VaR based ROVBC across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
21.0	AMD	26.73%	INTC	24.35%
21.0	NFLX	26.01%	AMD	17.1%
21.0	INTC	23.81%	WDC	15.96%
21.0	UNH	21.56%	CZR	14.76%
21.0	MSTR	21.05%	AMC	14.65%
21.0	AMC	19.04%	ON	11.95%
21.0	CZR	18.59%	OXY	10.66%
21.0	WDC	17.69%	CSTM	10.62%
21.0	ON	12.07%	NFLX	9.84%
21.0	ORCL	11.46%	AVGO	8.94%
21.0	KALU	10.55%	UNH	7.97%
21.0	AMZN	10.36%	KALU	7.94%
21.0	OXY	9.97%	AMZN	7.8%
21.0	TXN	9.78%	MSTR	7.61%
21.0	MU	9.7%	PWR	7.18%
21.0	GBTC	9.4%	JAZZ	7.13%
21.0	EXPE	8.95%	AA	6.9%
21.0	JAZZ	8.4%	EXPE	6.32%
21.0	AVGO	7.64%	MU	6.14%
21.0	AA	6.62%	AMAT	5.86%
21.0	CSTM	5.77%	IRM	5.16%
21.0	PWR	5.37%	LUMN	5.03%
21.0	IRM	4.84%	TRGP	4.7%
21.0	AMAT	4.75%	TXN	4.41%
21.0	LUMN	4.38%	GBTC	4.15%
21.0	CSCO	3.56%	ORCL	3.84%
21.0	TRGP	3.5%	CSCO	3.22%
21.0	CNC	2.82%	NVDA	3.1%
21.0	AAP	2.64%	MS	3.05%
21.0	MS	2.54%	GOOGL	3.0%



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## P365D: 1d

Results reflect ticker level average 95% VaR based ROVBC across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
1.0	MU	1.01%	WDC	1.0%
1.0	WDC	1.01%	MU	0.83%
1.0	AAP	0.89%	X	0.81%
1.0	INTC	0.66%	INTC	0.71%
1.0	AMD	0.62%	AMD	0.59%
1.0	ON	0.58%	LUMN	0.49%
1.0	GOOGL	0.48%	CSTM	0.47%
1.0	X	0.43%	AA	0.44%
1.0	AA	0.41%	AMAT	0.43%
1.0	TXN	0.36%	ON	0.43%
1.0	CSTM	0.35%	KALU	0.41%
1.0	B	0.34%	SLV	0.4%
1.0	CLF	0.34%	ELAN	0.38%
1.0	CMA	0.34%	GNRC	0.38%
1.0	QCOM	0.34%	GOOGL	0.37%
1.0	KALU	0.33%	TEVA	0.36%
1.0	LLY	0.31%	PWR	0.35%
1.0	EXPE	0.31%	NEM	0.35%
1.0	NEM	0.27%	B	0.34%
1.0	GNRC	0.26%	AAP	0.34%
1.0	NVDA	0.26%	AVGO	0.34%
1.0	UNH	0.26%	CMA	0.28%
1.0	FCX	0.26%	TXN	0.26%
1.0	TSLA	0.26%	NVDA	0.26%
1.0	CYH	0.25%	JAZZ	0.25%
1.0	GBTC	0.25%	VFC	0.23%
1.0	ELAN	0.24%	RIO	0.23%
1.0	MRK	0.23%	FCX	0.23%
1.0	CVS	0.23%	EXPE	0.22%
1.0	SBUX	0.23%	BHP	0.22%



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## P365D: 10d

Results reflect ticker level average 95% VaR based ROVBC across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
10.0	X	12.0%	X	11.83%
10.0	WDC	11.97%	WDC	9.89%
10.0	MU	11.05%	MU	8.19%
10.0	INTC	7.07%	INTC	6.44%
10.0	AAP	6.26%	AMD	5.46%
10.0	AMD	5.55%	CSTM	4.46%
10.0	ON	5.34%	LUMN	4.3%
10.0	KALU	5.24%	AA	4.26%
10.0	AA	4.85%	AMAT	4.23%
10.0	TSLA	4.41%	SLV	4.1%
10.0	GOOGL	3.86%	KALU	4.08%
10.0	TXN	3.52%	ON	4.03%
10.0	JAZZ	3.49%	B	3.61%
10.0	NEM	3.31%	NEM	3.56%
10.0	CMA	3.27%	GOOGL	3.45%
10.0	B	3.24%	AAP	3.37%
10.0	CSTM	3.23%	GNRC	3.29%
10.0	GNRC	3.12%	ELAN	3.22%
10.0	EXPE	3.1%	AVGO	3.16%
10.0	ELAN	3.1%	TEVA	2.98%
10.0	FCX	2.97%	CMA	2.95%
10.0	VFC	2.97%	PWR	2.87%
10.0	PWR	2.93%	JAZZ	2.87%
10.0	ORCL	2.8%	FCX	2.53%
10.0	AVGO	2.64%	NVDA	2.46%
10.0	NVDA	2.56%	RIO	2.2%
10.0	AMAT	2.52%	EXPE	2.2%
10.0	UNH	2.35%	BHP	2.17%
10.0	MRK	2.28%	VFC	2.15%
10.0	AMZN	2.26%	GS	2.15%



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## P365D: 21d

Results reflect ticker level average 95% VaR based ROVBC across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
21.0	X	27.38%	X	27.75%
21.0	WDC	27.31%	WDC	21.01%
21.0	MU	21.86%	MU	17.02%
21.0	INTC	15.11%	INTC	13.03%
21.0	AA	11.92%	AMD	10.59%
21.0	ON	10.46%	AA	9.49%
21.0	KALU	10.25%	CSTM	9.28%
21.0	AMD	9.89%	SLV	9.08%
21.0	AAP	9.52%	AMAT	8.98%
21.0	NEM	9.31%	LUMN	8.46%
21.0	GOOGL	8.62%	B	8.35%
21.0	B	8.47%	KALU	8.02%
21.0	CSTM	8.11%	NEM	7.95%
21.0	GNRC	7.87%	ON	7.0%
21.0	JAZZ	7.71%	GOOGL	6.94%
21.0	TXN	7.27%	GNRC	6.4%
21.0	TSLA	6.81%	ELAN	6.39%
21.0	CMA	6.72%	TEVA	6.39%
21.0	SLV	6.27%	CMA	6.32%
21.0	FCX	6.23%	JAZZ	5.97%
21.0	PWR	6.2%	PWR	5.76%
21.0	AMAT	6.17%	AAP	5.6%
21.0	EXPE	5.52%	FCX	5.54%
21.0	VFC	5.38%	AVGO	5.52%
21.0	LLY	5.2%	RIO	4.73%
21.0	MRK	4.99%	BHP	4.51%
21.0	TEVA	4.92%	EXPE	4.43%
21.0	AVGO	4.9%	NVDA	4.32%
21.0	LUMN	4.89%	GS	4.28%
21.0	ELAN	4.88%	HSBC	4.21%



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## P365D: 63d

Results reflect ticker level average 95% VaR based ROVBC across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
63.0	WDC	112.24%	WDC	75.39%
63.0	MU	65.67%	MU	60.23%
63.0	AA	41.64%	INTC	36.86%
63.0	INTC	40.56%	SLV	33.73%
63.0	NEM	38.46%	AA	32.24%
63.0	GNRC	35.88%	B	32.13%
63.0	B	35.74%	AMAT	28.76%
63.0	KALU	33.7%	LUMN	28.2%
63.0	AMAT	31.19%	NEM	28.04%
63.0	CSTM	30.33%	CSTM	27.68%
63.0	SLV	28.52%	TEVA	26.16%
63.0	TSLA	28.49%	GOOGL	23.3%
63.0	JAZZ	27.76%	AMD	23.07%
63.0	GOOGL	25.5%	ELAN	22.43%
63.0	TEVA	23.34%	KALU	21.9%
63.0	ON	23.14%	CMA	19.64%
63.0	AMD	22.8%	JAZZ	19.19%
63.0	VFC	22.69%	GNRC	19.07%
63.0	LUMN	21.59%	RIO	17.07%
63.0	CMA	21.31%	FCX	16.48%
63.0	OXY	19.28%	PWR	16.12%
63.0	ELAN	19.17%	VFC	15.24%
63.0	BHP	17.84%	BHP	14.84%
63.0	BIIB	16.88%	MRK	14.41%
63.0	FCX	16.33%	GLD	13.81%
63.0	GSK	16.27%	GSK	13.66%
63.0	MRK	16.18%	BIIB	13.6%
63.0	PWR	16.0%	TRGP	13.26%
63.0	AMGN	15.94%	HSBC	13.25%
63.0	EXPE	14.42%	XOM	12.88%



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## P365D: 126d

Results reflect ticker level average 95% VaR based ROVBC across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
126.0	WDC	380.83%	WDC	214.91%
126.0	MU	201.95%	MU	172.53%
126.0	INTC	124.03%	SLV	87.59%
126.0	AA	122.29%	INTC	86.99%
126.0	B	115.36%	B	82.25%
126.0	SLV	100.4%	AA	81.06%
126.0	KALU	100.11%	AMAT	71.98%
126.0	AMAT	91.09%	TEVA	71.34%
126.0	NEM	90.69%	LUMN	70.87%
126.0	JAZZ	78.21%	NEM	61.88%
126.0	VFC	74.8%	CSTM	60.23%
126.0	LUMN	72.93%	GOOGL	58.2%
126.0	CSTM	69.45%	KALU	56.18%
126.0	GOOGL	67.55%	AMD	51.86%
126.0	TEVA	60.36%	ELAN	49.42%
126.0	CMA	54.53%	JAZZ	46.51%
126.0	TSLA	52.78%	CMA	42.99%
126.0	ELAN	51.06%	RIO	38.81%
126.0	AMD	48.52%	VFC	37.18%
126.0	PWR	47.82%	CAH	35.4%
126.0	LLY	44.55%	MRK	33.53%
126.0	MRK	42.95%	BIIB	33.16%
126.0	GSK	42.21%	EXPE	33.11%
126.0	AZN	41.15%	FCX	32.48%
126.0	BIIB	40.86%	PWR	32.06%
126.0	ON	40.83%	GLD	31.75%
126.0	EXPE	40.18%	GSK	31.66%
126.0	AMGN	39.99%	LLY	31.47%
126.0	FCX	34.45%	HSBC	28.38%
126.0	AVGO	33.12%	BHP	28.25%



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## Bottom 30 Tickers By ROVBC

### All TMD: 1d

Results reflect ticker level average 95% VaR based ROVBC across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
1.0	SIVBQ	-1.87%	SIVBQ	-0.78%
1.0	SBNY	-1.06%	SBNY	-0.45%
1.0	FRCB	-0.39%	FRCB	-0.23%
1.0	AMC	-0.2%	AMC	-0.17%
1.0	CHTR	-0.17%	IEP	-0.14%
1.0	FIS	-0.16%	NWL	-0.1%
1.0	IEP	-0.15%	CHTR	-0.09%
1.0	PRGO	-0.13%	PRGO	-0.08%
1.0	LUMN	-0.11%	AAP	-0.07%
1.0	CYH	-0.09%	FIS	-0.07%
1.0	BXP	-0.06%	VFC	-0.05%
1.0	BHC	-0.06%	BHC	-0.05%
1.0	TLT	-0.06%	GT	-0.05%
1.0	ELAN	-0.05%	ADBE	-0.05%
1.0	BBY	-0.05%	UAA	-0.05%
1.0	T	-0.05%	CMCSA	-0.04%
1.0	NAVI	-0.04%	TLT	-0.04%
1.0	UAA	-0.04%	BXP	-0.04%
1.0	CMCSA	-0.04%	CZR	-0.04%
1.0	GT	-0.04%	ZTS	-0.04%
1.0	GSK	-0.04%	NAVI	-0.03%
1.0	EMB	-0.04%	KHC	-0.03%
1.0	TSLA	-0.03%	BALL	-0.02%
1.0	LNC	-0.03%	BBY	-0.02%
1.0	CTLT	-0.03%	LNC	-0.02%
1.0	VFC	-0.03%	CTLT	-0.01%
1.0	USB	-0.03%	MOS	-0.01%
1.0	VNO	-0.02%	FRA	-0.01%
1.0	PEP	-0.02%	LQD	-0.01%
1.0	LQD	-0.02%	EMB	-0.01%



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## All TMD: 10d

Results reflect ticker level average 95% VaR based ROVBC across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
10.0	SBNY	-10.1%	SBNY	-4.05%
10.0	SIVBQ	-7.85%	SIVBQ	-3.9%
10.0	AMC	-3.96%	FRCB	-2.19%
10.0	FRCB	-3.12%	AMC	-1.6%
10.0	PRGO	-1.85%	IEP	-1.34%
10.0	IEP	-1.51%	NWL	-1.01%
10.0	CHTR	-1.45%	PRGO	-0.78%
10.0	FIS	-1.13%	CHTR	-0.68%
10.0	AAP	-1.04%	AAP	-0.68%
10.0	NWL	-0.85%	FIS	-0.63%
10.0	BXP	-0.77%	UAA	-0.55%
10.0	GT	-0.66%	VFC	-0.54%
10.0	TLT	-0.66%	CZR	-0.54%
10.0	VFC	-0.57%	GT	-0.51%
10.0	ZTS	-0.56%	NAVI	-0.44%
10.0	CYH	-0.53%	BXP	-0.44%
10.0	BHC	-0.53%	ADBE	-0.43%
10.0	NAVI	-0.43%	TLT	-0.41%
10.0	GSK	-0.43%	BHC	-0.41%
10.0	VZ	-0.37%	CMCSA	-0.4%
10.0	ADBE	-0.36%	ZTS	-0.37%
10.0	LUMN	-0.31%	KHC	-0.35%
10.0	CNC	-0.3%	MOS	-0.26%
10.0	LNC	-0.28%	CNC	-0.25%
10.0	BIIB	-0.25%	LNC	-0.25%
10.0	LQD	-0.25%	CYH	-0.24%
10.0	KHC	-0.2%	BBY	-0.23%
10.0	BBY	-0.2%	BALL	-0.21%
10.0	MOS	-0.19%	FRA	-0.17%
10.0	BALL	-0.16%	LQD	-0.12%



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## All TMD: 21d

Results reflect ticker level average 95% VaR based ROVBC across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
21.0	SBNY	-29.82%	SBNY	-11.16%
21.0	SIVBQ	-18.52%	SIVBQ	-9.37%
21.0	FRCB	-10.1%	FRCB	-6.02%
21.0	AMC	-8.39%	AMC	-4.01%
21.0	PRGO	-3.72%	IEP	-2.95%
21.0	NWL	-2.98%	NWL	-2.36%
21.0	AAP	-2.79%	PRGO	-1.71%
21.0	IEP	-2.67%	AAP	-1.41%
21.0	CHTR	-2.64%	CHTR	-1.36%
21.0	FIS	-2.0%	VFC	-1.26%
21.0	VFC	-1.64%	CZR	-1.22%
21.0	BXP	-1.58%	FIS	-1.2%
21.0	BHC	-1.46%	BHC	-1.16%
21.0	ZTS	-1.32%	BXP	-1.06%
21.0	TLT	-1.28%	UAA	-1.04%
21.0	NAVI	-1.2%	NAVI	-1.03%
21.0	CYH	-0.98%	GT	-0.98%
21.0	GT	-0.96%	TLT	-0.85%
21.0	LNC	-0.85%	CMCSA	-0.82%
21.0	CMCSA	-0.82%	ADBE	-0.8%
21.0	CNC	-0.78%	KHC	-0.8%
21.0	GSK	-0.64%	ZTS	-0.78%
21.0	KHC	-0.62%	CNC	-0.69%
21.0	ADBE	-0.61%	LNC	-0.65%
21.0	VNO	-0.59%	MOS	-0.53%
21.0	LW	-0.54%	BBY	-0.47%
21.0	LQD	-0.42%	BALL	-0.42%
21.0	BIIB	-0.41%	CYH	-0.36%
21.0	MOS	-0.41%	FRA	-0.34%
21.0	BMY	-0.32%	UNH	-0.24%



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## All TMD: 63d

Results reflect ticker level average 95% VaR based ROVBC across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
63.0	SBNY	-109.2%	SBNY	-37.59%
63.0	SIVBQ	-74.52%	SIVBQ	-33.73%
63.0	FRCB	-50.1%	FRCB	-24.04%
63.0	AMC	-33.95%	AMC	-16.29%
63.0	PRGO	-10.75%	IEP	-9.93%
63.0	AAP	-9.96%	NWL	-7.65%
63.0	IEP	-9.87%	PRGO	-5.85%
63.0	NWL	-9.27%	CZR	-5.14%
63.0	CHTR	-7.23%	AAP	-4.83%
63.0	VFC	-7.1%	CHTR	-3.97%
63.0	FIS	-5.1%	BHC	-3.86%
63.0	BHC	-4.44%	VFC	-3.85%
63.0	MOS	-3.92%	MOS	-3.47%
63.0	CNC	-3.9%	BXP	-3.32%
63.0	UNH	-3.74%	FIS	-3.31%
63.0	ZTS	-3.62%	NAVI	-3.28%
63.0	TLT	-3.58%	KHC	-2.85%
63.0	NAVI	-3.47%	CNC	-2.81%
63.0	KHC	-3.46%	UAA	-2.62%
63.0	BXP	-3.4%	CLF	-2.52%
63.0	CZR	-3.34%	TLT	-2.29%
63.0	CMCSA	-3.26%	ZTS	-2.29%
63.0	CLF	-2.99%	CMCSA	-2.18%
63.0	VNO	-2.79%	GT	-2.17%
63.0	LNC	-2.63%	ADBE	-2.13%
63.0	GT	-1.81%	UNH	-2.09%
63.0	ADBE	-1.78%	LNC	-1.93%
63.0	BBY	-0.88%	BBY	-1.58%
63.0	LQD	-0.84%	BALL	-1.08%
63.0	BALL	-0.81%	CVS	-1.0%



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## All TMD: 126d

Results reflect ticker level average 95% VaR based ROVBC across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
126.0	SBNY	-181.89%	SIVBQ	-65.15%
126.0	SIVBQ	-152.22%	SBNY	-64.8%
126.0	FRCB	-117.46%	FRCB	-51.17%
126.0	AMC	-59.82%	AMC	-29.57%
126.0	IEP	-22.94%	IEP	-19.48%
126.0	NWL	-22.54%	NWL	-17.87%
126.0	AAP	-20.78%	AAP	-11.54%
126.0	PRGO	-20.48%	PRGO	-11.38%
126.0	CHTR	-15.09%	CZR	-9.58%
126.0	VFC	-15.07%	CHTR	-8.03%
126.0	CZR	-9.96%	MOS	-7.97%
126.0	BHC	-9.9%	VFC	-7.15%
126.0	CNC	-9.53%	CNC	-6.74%
126.0	MOS	-9.16%	UAA	-6.72%
126.0	CMCSA	-7.55%	KHC	-5.94%
126.0	KHC	-6.64%	CTLT	-5.69%
126.0	TLT	-6.23%	FIS	-5.19%
126.0	UNH	-6.12%	BHC	-5.11%
126.0	ZTS	-5.89%	BXP	-5.06%
126.0	FIS	-5.82%	NAVI	-4.81%
126.0	BXP	-5.69%	GT	-4.62%
126.0	NAVI	-5.08%	CMCSA	-4.41%
126.0	UAA	-4.88%	ZTS	-4.19%
126.0	CLF	-3.71%	UNH	-4.18%
126.0	LNC	-3.43%	TLT	-4.12%
126.0	GT	-3.01%	CLF	-3.36%
126.0	BMY	-2.7%	BALL	-2.61%
126.0	BALL	-2.07%	BMY	-2.19%
126.0	OXY	-1.49%	ADBE	-2.02%
126.0	BBY	-1.27%	LNC	-1.86%



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## All TMD: 252d

Results reflect ticker level average 95% VaR based ROVBC across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
252.0	SBNY	-265.02%	SBNY	-95.75%
252.0	SIVBQ	-218.68%	SIVBQ	-95.29%
252.0	FRCB	-185.83%	FRCB	-91.61%
252.0	AMC	-96.51%	AMC	-54.76%
252.0	AAP	-50.94%	IEP	-40.49%
252.0	IEP	-49.84%	NWL	-30.95%
252.0	NWL	-44.31%	AAP	-25.02%
252.0	VFC	-37.42%	VFC	-20.16%
252.0	PRGO	-29.62%	PRGO	-18.39%
252.0	UAA	-27.14%	CNC	-18.27%
252.0	CHTR	-25.83%	CZR	-17.6%
252.0	CZR	-25.11%	UAA	-15.02%
252.0	CNC	-22.6%	MOS	-14.1%
252.0	MOS	-21.04%	CLF	-12.2%
252.0	BIIB	-19.11%	KHC	-11.63%
252.0	CLF	-17.5%	CHTR	-11.27%
252.0	BHC	-16.42%	UNH	-10.96%
252.0	OXY	-16.1%	BMY	-9.17%
252.0	KHC	-15.0%	BHC	-8.98%
252.0	UNH	-14.11%	GT	-8.09%
252.0	TLT	-12.22%	NAVI	-7.7%
252.0	BMY	-10.02%	TLT	-7.39%
252.0	BXP	-9.18%	BIIB	-6.89%
252.0	NAVI	-8.47%	OXY	-6.81%
252.0	GT	-7.63%	CTLT	-6.24%
252.0	ZTS	-7.4%	CVS	-5.79%
252.0	CMCSA	-7.07%	CYH	-5.49%
252.0	CYH	-6.66%	BXP	-5.34%
252.0	PEP	-4.02%	CMCSA	-5.24%
252.0	AA	-2.75%	LW	-4.94%



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## P30D: 1d

Results reflect ticker level average 95% VaR based ROVBC across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
1.0	CHTR	-1.27%	CHTR	-1.1%
1.0	BBY	-1.14%	MOS	-0.64%
1.0	INTU	-1.08%	AA	-0.57%
1.0	TDG	-0.64%	MRK	-0.49%
1.0	GE	-0.52%	CAH	-0.46%
1.0	TMUS	-0.51%	HCA	-0.41%
1.0	B	-0.44%	INTU	-0.4%
1.0	T	-0.42%	T	-0.38%
1.0	ISRG	-0.37%	GILD	-0.34%
1.0	AA	-0.37%	AZN	-0.34%
1.0	PCG	-0.36%	THC	-0.33%
1.0	MOS	-0.34%	B	-0.33%
1.0	MRK	-0.32%	GSK	-0.32%
1.0	HCA	-0.27%	PCG	-0.32%
1.0	GSK	-0.26%	HON	-0.3%
1.0	HON	-0.24%	BBY	-0.28%
1.0	GLD	-0.23%	NVS	-0.23%
1.0	CAH	-0.21%	FCX	-0.21%
1.0	AZN	-0.18%	TMUS	-0.19%
1.0	THC	-0.16%	XOM	-0.19%
1.0	FIS	-0.16%	GLD	-0.16%
1.0	GILD	-0.14%	ELAN	-0.14%
1.0	SNY	-0.13%	CYH	-0.13%
1.0	AMGN	-0.13%	VZ	-0.12%
1.0	XOM	-0.12%	SNY	-0.12%
1.0	FCX	-0.09%	CMCSA	-0.12%
1.0	NVS	-0.07%	OXY	-0.1%
1.0	BMY	-0.06%	AMGN	-0.09%
1.0	NEM	-0.03%	ZTS	-0.09%
1.0	OXY	-0.03%	SLV	-0.08%



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### P30D: 10d

Results reflect ticker level average 95% VaR based ROVBC across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
10.0	NFLX	-20.37%	AA	-8.23%
10.0	PCG	-9.32%	NFLX	-6.98%
10.0	CYH	-8.57%	HCA	-6.42%
10.0	HCA	-7.34%	MRK	-5.94%
10.0	GE	-6.88%	CHTR	-5.85%
10.0	MRK	-6.46%	PCG	-5.81%
10.0	CHTR	-6.44%	MOS	-5.68%
10.0	AA	-6.13%	CYH	-5.38%
10.0	HON	-5.55%	GILD	-5.22%
10.0	LLY	-5.22%	HON	-5.05%
10.0	T	-4.19%	AZN	-4.66%
10.0	B	-4.13%	CAH	-4.24%
10.0	MOS	-3.97%	THC	-4.11%
10.0	GSK	-3.82%	GE	-3.96%
10.0	GILD	-3.6%	GSK	-3.85%
10.0	KHC	-3.51%	B	-3.85%
10.0	THC	-3.35%	NVS	-3.84%
10.0	TMUS	-3.14%	XOM	-3.61%
10.0	TDG	-3.06%	LLY	-3.42%
10.0	NEM	-2.92%	OXY	-3.14%
10.0	ABBV	-2.87%	T	-3.07%
10.0	AZN	-2.81%	ABBV	-2.87%
10.0	CAH	-2.5%	ELAN	-2.77%
10.0	OXY	-2.42%	NEM	-2.58%
10.0	BBY	-2.39%	KHC	-2.22%
10.0	NVS	-1.78%	TDG	-2.0%
10.0	XOM	-1.74%	WFC	-1.91%
10.0	GLD	-1.63%	TMUS	-1.87%
10.0	WFC	-1.55%	BBY	-1.79%
10.0	ELAN	-1.41%	FCX	-1.4%



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## P90D: 1d

Results reflect ticker level average 95% VaR based ROVBC across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
1.0	CLF	-1.37%	CLF	-0.4%
1.0	INTU	-0.84%	GT	-0.4%
1.0	TDG	-0.72%	TDG	-0.32%
1.0	BBY	-0.63%	CHTR	-0.32%
1.0	FIS	-0.57%	INTU	-0.31%
1.0	PRGO	-0.55%	CPRT	-0.28%
1.0	LNC	-0.54%	LEN	-0.28%
1.0	NWL	-0.54%	FIS	-0.28%
1.0	LUMN	-0.52%	CCL	-0.26%
1.0	CHTR	-0.44%	PRGO	-0.26%
1.0	UAA	-0.42%	ADBE	-0.25%
1.0	CMG	-0.38%	B	-0.23%
1.0	ADBE	-0.32%	HD	-0.21%
1.0	CCL	-0.29%	META	-0.2%
1.0	HD	-0.28%	MOS	-0.2%
1.0	LEN	-0.27%	HCA	-0.2%
1.0	ISRG	-0.25%	CAH	-0.19%
1.0	CMCSA	-0.23%	CMG	-0.18%
1.0	GT	-0.22%	WFC	-0.17%
1.0	GE	-0.18%	LNC	-0.15%
1.0	GLD	-0.17%	LLY	-0.14%
1.0	BHC	-0.16%	TSLA	-0.13%
1.0	B	-0.15%	ELAN	-0.13%
1.0	HCA	-0.15%	CYH	-0.13%
1.0	CPRT	-0.13%	GILD	-0.13%
1.0	FRA	-0.13%	ZTS	-0.12%
1.0	VFC	-0.11%	CMCSA	-0.12%
1.0	WFC	-0.1%	ISRG	-0.12%
1.0	CAH	-0.08%	BBY	-0.12%
1.0	ACGL	-0.07%	NAVI	-0.11%



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## P90D: 10d

Results reflect ticker level average 95% VaR based ROVBC across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
10.0	CLF	-7.42%	GT	-5.51%
10.0	PRGO	-6.98%	CLF	-3.98%
10.0	LLY	-4.3%	LEN	-3.93%
10.0	HD	-4.25%	MOS	-3.48%
10.0	CYH	-4.07%	CPRT	-2.89%
10.0	GT	-3.81%	CCL	-2.89%
10.0	CCL	-3.24%	PRGO	-2.79%
10.0	LEN	-3.07%	LLY	-2.64%
10.0	NAVI	-2.87%	HD	-2.43%
10.0	KHC	-2.69%	GILD	-2.29%
10.0	INTU	-2.68%	B	-2.09%
10.0	GLD	-2.56%	WFC	-2.05%
10.0	CMG	-2.55%	CHTR	-2.01%
10.0	MOS	-2.31%	HCA	-1.98%
10.0	GE	-2.24%	CMG	-1.82%
10.0	NWL	-2.13%	ABBV	-1.77%
10.0	LNC	-2.1%	CYH	-1.74%
10.0	TSLA	-1.97%	KHC	-1.71%
10.0	FIS	-1.88%	ELAN	-1.7%
10.0	HON	-1.84%	TDG	-1.67%
10.0	BHC	-1.78%	LW	-1.62%
10.0	BBY	-1.77%	ADBE	-1.6%
10.0	ISRG	-1.75%	CMCSA	-1.57%
10.0	CPRT	-1.73%	HON	-1.5%
10.0	BXP	-1.68%	TSLA	-1.45%
10.0	HCA	-1.67%	NAVI	-1.43%
10.0	ADBE	-1.66%	CAH	-1.41%
10.0	CHTR	-1.62%	BBY	-1.39%
10.0	TMUS	-1.45%	ZTS	-1.29%
10.0	CMCSA	-1.44%	LNC	-1.29%



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## P90D: 21d

Results reflect ticker level average 95% VaR based ROVBC across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
21.0	PRGO	-25.33%	GT	-11.58%
21.0	CLF	-19.26%	LEN	-11.35%
21.0	NWL	-10.63%	CLF	-8.55%
21.0	LEN	-10.2%	PRGO	-7.83%
21.0	CYH	-9.86%	MOS	-7.29%
21.0	HD	-9.42%	UAA	-6.85%
21.0	GT	-9.03%	CCL	-6.56%
21.0	LLY	-8.76%	CPRT	-6.52%
21.0	BXP	-8.12%	THC	-6.24%
21.0	CMG	-7.83%	B	-6.23%
21.0	LW	-7.64%	HD	-6.17%
21.0	CMCSA	-7.5%	LLY	-5.86%
21.0	GLD	-6.67%	NWL	-5.55%
21.0	GE	-6.49%	CYH	-5.53%
21.0	NAVI	-6.44%	LW	-5.44%
21.0	KHC	-6.31%	TSLA	-4.98%
21.0	MOS	-6.04%	PHM	-4.79%
21.0	CCL	-5.76%	HCA	-4.71%
21.0	GNRC	-5.51%	CMCSA	-4.67%
21.0	BALL	-5.44%	GILD	-4.67%
21.0	BHC	-5.08%	ELAN	-4.66%
21.0	ISRG	-4.97%	CMG	-4.62%
21.0	TMUS	-4.94%	GE	-4.61%
21.0	UAA	-4.85%	ABBV	-4.59%
21.0	FIS	-4.7%	BXP	-4.27%
21.0	LNC	-4.66%	ADBE	-4.2%
21.0	TSLA	-4.65%	TDG	-4.12%
21.0	CHTR	-4.38%	MNST	-4.11%
21.0	CPRT	-4.37%	KHC	-3.97%
21.0	TDG	-4.31%	TEVA	-3.81%



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## P365D: 1d

Results reflect ticker level average 95% VaR based ROVBC across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
1.0	MSTR	-0.45%	CHTR	-0.29%
1.0	PRGO	-0.44%	PRGO	-0.26%
1.0	CHTR	-0.41%	MSTR	-0.24%
1.0	ZTS	-0.33%	CPRT	-0.23%
1.0	INTU	-0.28%	FIS	-0.19%
1.0	FIS	-0.28%	INTU	-0.16%
1.0	CMG	-0.23%	AMC	-0.15%
1.0	TDG	-0.23%	ADBE	-0.15%
1.0	UAA	-0.21%	CMG	-0.13%
1.0	BBY	-0.2%	GT	-0.12%
1.0	AMC	-0.15%	ZTS	-0.11%
1.0	CPRT	-0.14%	NAVI	-0.09%
1.0	ADBE	-0.13%	TMUS	-0.08%
1.0	NAVI	-0.13%	KHC	-0.08%
1.0	ISRG	-0.11%	CMCSA	-0.07%
1.0	CMCSA	-0.1%	MOS	-0.07%
1.0	NWL	-0.1%	TDG	-0.07%
1.0	POST	-0.08%	GBTC	-0.06%
1.0	TMUS	-0.07%	NFLX	-0.05%
1.0	GT	-0.06%	VNO	-0.05%
1.0	CNC	-0.06%	SNY	-0.05%
1.0	FRA	-0.05%	LEN	-0.05%
1.0	VNO	-0.05%	FRA	-0.04%
1.0	LEN	-0.04%	ISRG	-0.03%
1.0	GME	-0.03%	LW	-0.03%
1.0	MOS	-0.03%	NWL	-0.03%
1.0	ACGL	-0.02%	VICI	-0.03%
1.0	KHC	-0.02%	HD	-0.02%
1.0	VICI	-0.01%	BXP	-0.02%
1.0	NFLX	-0.01%	BBY	-0.02%



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## P365D: 10d

Results reflect ticker level average 95% VaR based ROVBC across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
10.0	PRGO	-5.84%	MSTR	-2.84%
10.0	MSTR	-4.42%	PRGO	-2.6%
10.0	AMC	-4.14%	CPRT	-2.35%
10.0	CHTR	-3.28%	CHTR	-2.26%
10.0	ZTS	-2.69%	FIS	-1.93%
10.0	INTU	-2.34%	ADBE	-1.7%
10.0	NAVI	-2.3%	INTU	-1.59%
10.0	FIS	-2.2%	GT	-1.43%
10.0	CMG	-1.99%	NAVI	-1.28%
10.0	ADBE	-1.93%	CMG	-1.24%
10.0	TDG	-1.61%	ZTS	-1.07%
10.0	CPRT	-1.54%	MOS	-0.93%
10.0	GT	-1.1%	VNO	-0.92%
10.0	KHC	-1.01%	AMC	-0.91%
10.0	VNO	-0.86%	KHC	-0.91%
10.0	CNC	-0.72%	TMUS	-0.88%
10.0	TMUS	-0.67%	GBTC	-0.8%
10.0	MOS	-0.65%	CMCSA	-0.66%
10.0	BBY	-0.58%	TDG	-0.57%
10.0	POST	-0.57%	NFLX	-0.56%
10.0	BXP	-0.46%	FRA	-0.51%
10.0	NWL	-0.45%	ISRG	-0.42%
10.0	FRA	-0.41%	LEN	-0.39%
10.0	VICI	-0.39%	CNC	-0.38%
10.0	CMCSA	-0.35%	SNY	-0.36%
10.0	T	-0.24%	VICI	-0.36%
10.0	HD	-0.2%	BBY	-0.34%
10.0	LEN	-0.18%	BXP	-0.29%
10.0	ACGL	-0.14%	NWL	-0.28%
10.0	IEP	-0.12%	IEP	-0.25%



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## P365D: 21d

Results reflect ticker level average 95% VaR based ROVBC across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
21.0	MSTR	-13.94%	MSTR	-7.45%
21.0	PRGO	-12.92%	PRGO	-6.07%
21.0	AMC	-11.34%	CPRT	-4.94%
21.0	CHTR	-8.02%	CHTR	-4.76%
21.0	ZTS	-6.41%	FIS	-4.34%
21.0	ADBE	-5.15%	ADBE	-4.21%
21.0	NAVI	-5.05%	AMC	-4.08%
21.0	CMG	-4.95%	INTU	-3.9%
21.0	INTU	-4.87%	NAVI	-3.27%
21.0	FIS	-4.54%	GT	-3.15%
21.0	TDG	-3.73%	CMG	-2.76%
21.0	CPRT	-3.61%	ZTS	-2.56%
21.0	NWL	-2.86%	VNO	-2.48%
21.0	VNO	-2.62%	GBTC	-2.48%
21.0	CMCSA	-2.31%	MOS	-2.28%
21.0	GT	-2.28%	TMUS	-1.77%
21.0	KHC	-2.16%	KHC	-1.74%
21.0	BXP	-2.06%	CMCSA	-1.61%
21.0	CNC	-1.81%	NWL	-1.47%
21.0	MOS	-1.74%	TDG	-1.29%
21.0	TMUS	-1.3%	BXP	-1.22%
21.0	GME	-1.12%	CNC	-1.21%
21.0	VICI	-1.09%	NFLX	-1.2%
21.0	LEN	-1.06%	FRA	-1.14%
21.0	BBY	-1.05%	LEN	-1.13%
21.0	POST	-0.93%	ISRG	-1.1%
21.0	GBTC	-0.76%	VICI	-0.92%
21.0	FRA	-0.76%	LW	-0.91%
21.0	CYH	-0.64%	GME	-0.89%
21.0	T	-0.52%	BBY	-0.79%



---

## P365D: 63d

Results reflect ticker level average 95% VaR based ROVBC across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
63.0	MSTR	-58.89%	MSTR	-27.78%
63.0	AMC	-50.79%	AMC	-23.23%
63.0	PRGO	-48.02%	PRGO	-23.05%
63.0	CHTR	-23.81%	INTU	-15.91%
63.0	ZTS	-19.28%	CHTR	-15.39%
63.0	INTU	-19.13%	FIS	-14.82%
63.0	NAVI	-16.32%	NAVI	-13.05%
63.0	ADBE	-15.28%	ADBE	-12.82%
63.0	FIS	-14.78%	GBTC	-12.34%
63.0	TDG	-13.87%	CPRT	-11.75%
63.0	NWL	-13.12%	CMG	-11.08%
63.0	VNO	-13.02%	VNO	-9.81%
63.0	NFLX	-11.97%	GT	-8.97%
63.0	CPRT	-11.63%	ZTS	-8.31%
63.0	BXP	-10.95%	NFLX	-8.3%
63.0	CMCSA	-10.94%	MOS	-7.96%
63.0	GBTC	-10.33%	NWL	-7.04%
63.0	CMG	-9.77%	BXP	-5.59%
63.0	KHC	-7.84%	TDG	-5.36%
63.0	MOS	-6.22%	MSFT	-5.2%
63.0	GT	-5.84%	KHC	-5.05%
63.0	META	-5.22%	FRA	-4.66%
63.0	CZR	-4.47%	CMCSA	-4.53%
63.0	IEP	-3.78%	LW	-4.24%
63.0	VICI	-3.52%	TMUS	-4.17%
63.0	LEN	-3.5%	VICI	-3.74%
63.0	LW	-3.37%	CZR	-3.53%
63.0	TMUS	-3.31%	IEP	-3.43%
63.0	SNY	-3.29%	QCOM	-2.57%
63.0	FRA	-3.27%	ORCL	-2.18%



---

## P365D: 126d

Results reflect ticker level average 95% VaR based ROVBC across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
126.0	MSTR	-152.27%	MSTR	-56.02%
126.0	AMC	-121.57%	PRGO	-46.96%
126.0	PRGO	-97.79%	AMC	-45.4%
126.0	CHTR	-49.99%	CHTR	-31.66%
126.0	NWL	-42.37%	NWL	-27.7%
126.0	ZTS	-36.4%	GBTC	-26.64%
126.0	NFLX	-32.91%	INTU	-26.2%
126.0	CMCSA	-31.34%	FIS	-24.07%
126.0	INTU	-30.57%	MOS	-23.14%
126.0	VNO	-27.15%	CPRT	-22.98%
126.0	CPRT	-26.04%	CMG	-22.97%
126.0	NAVI	-25.92%	NAVI	-21.44%
126.0	ADBE	-24.86%	ADBE	-21.35%
126.0	FIS	-24.67%	NFLX	-21.29%
126.0	ORCL	-23.07%	ZTS	-19.98%
126.0	META	-23.0%	VNO	-19.82%
126.0	BXP	-22.08%	ORCL	-16.44%
126.0	CMG	-19.89%	TMUS	-14.59%
126.0	TDG	-18.93%	GT	-13.53%
126.0	LW	-18.02%	CMCSA	-12.85%
126.0	GBTC	-17.34%	LW	-12.5%
126.0	CZR	-16.51%	KHC	-11.46%
126.0	TMUS	-15.22%	VICI	-11.39%
126.0	VST	-14.98%	FRA	-10.93%
126.0	KHC	-14.31%	MSFT	-10.5%
126.0	IEP	-13.76%	VST	-10.2%
126.0	MOS	-13.49%	CZR	-9.89%
126.0	GME	-12.48%	META	-9.85%
126.0	LEN	-12.04%	BXP	-9.8%
126.0	AAP	-10.69%	TDG	-8.17%



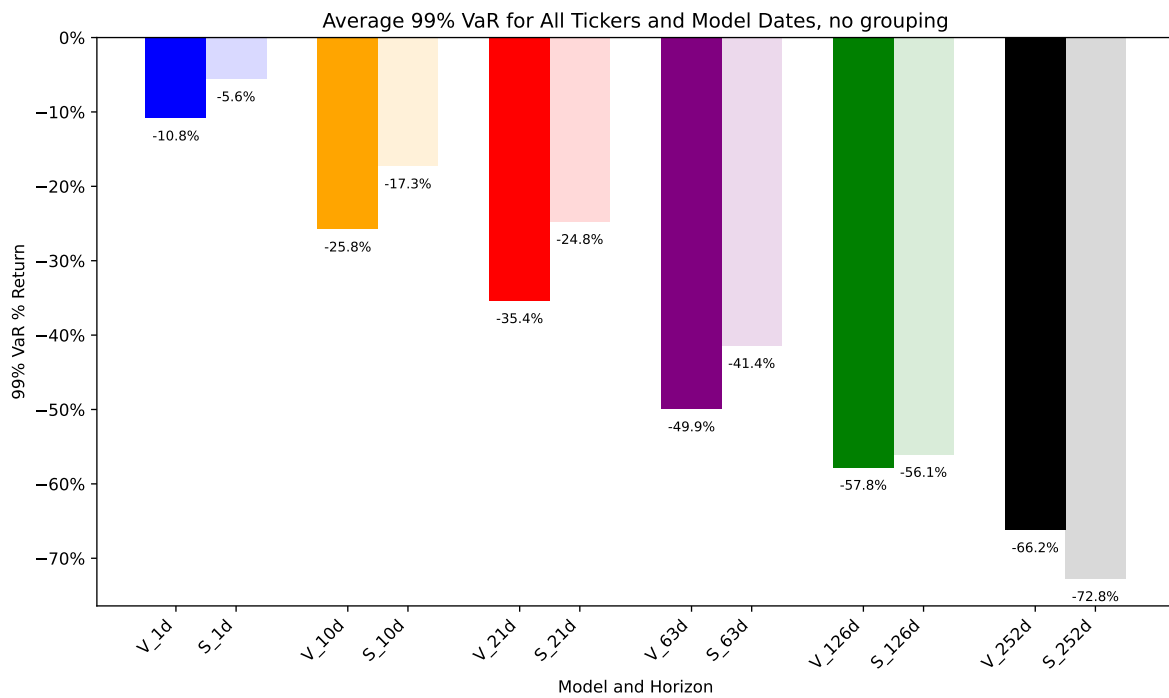
# 99% Value at Risk (VaR)

## Historic Average Levels

Here we compare Vector Model (“V”, dark shading) and Sigma (“S”, light shading) 99% 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.

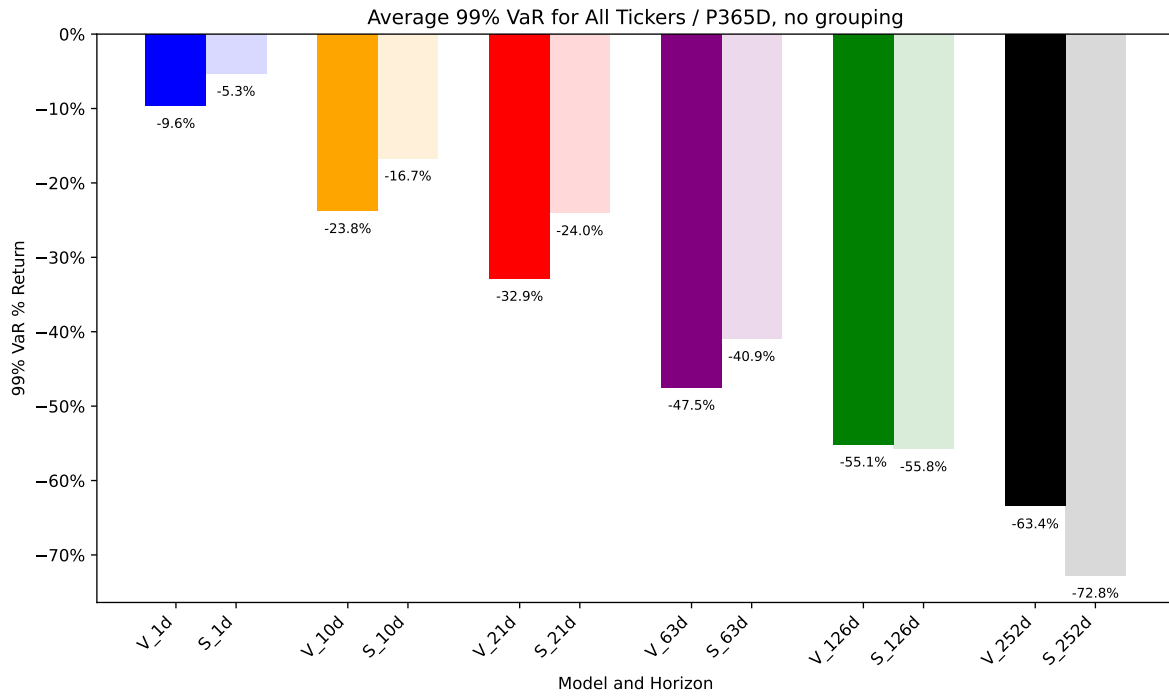
## All Out of Sample Model Dates

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



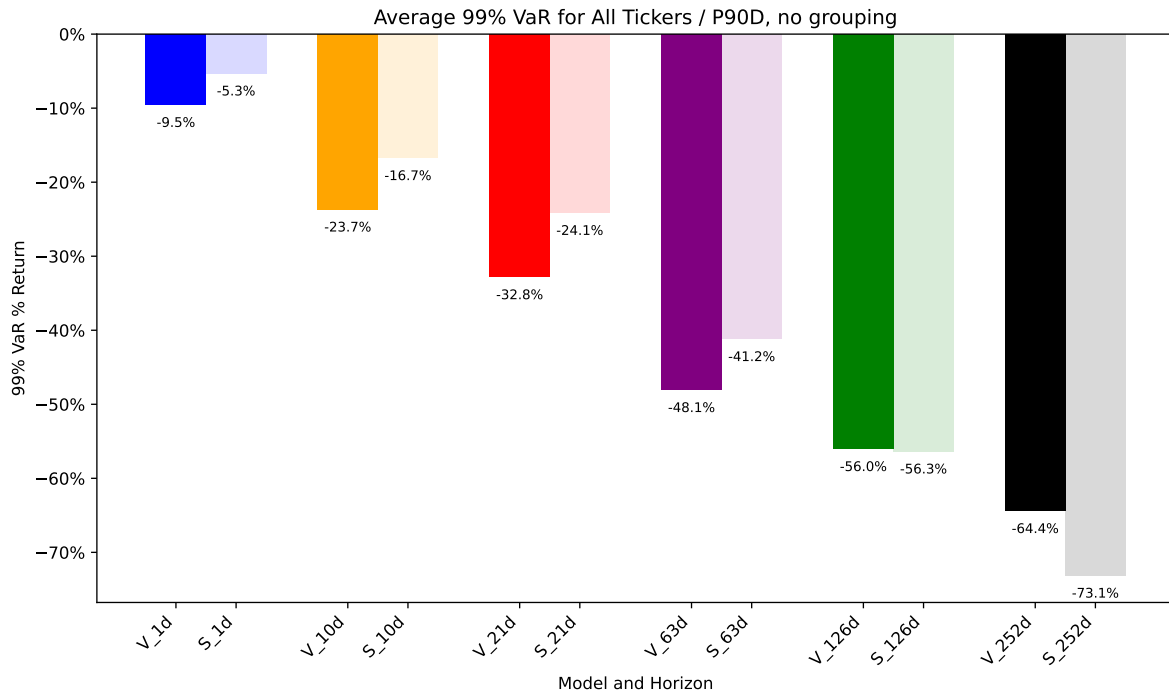
## Prior 365 Calendar Days (P365D)

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



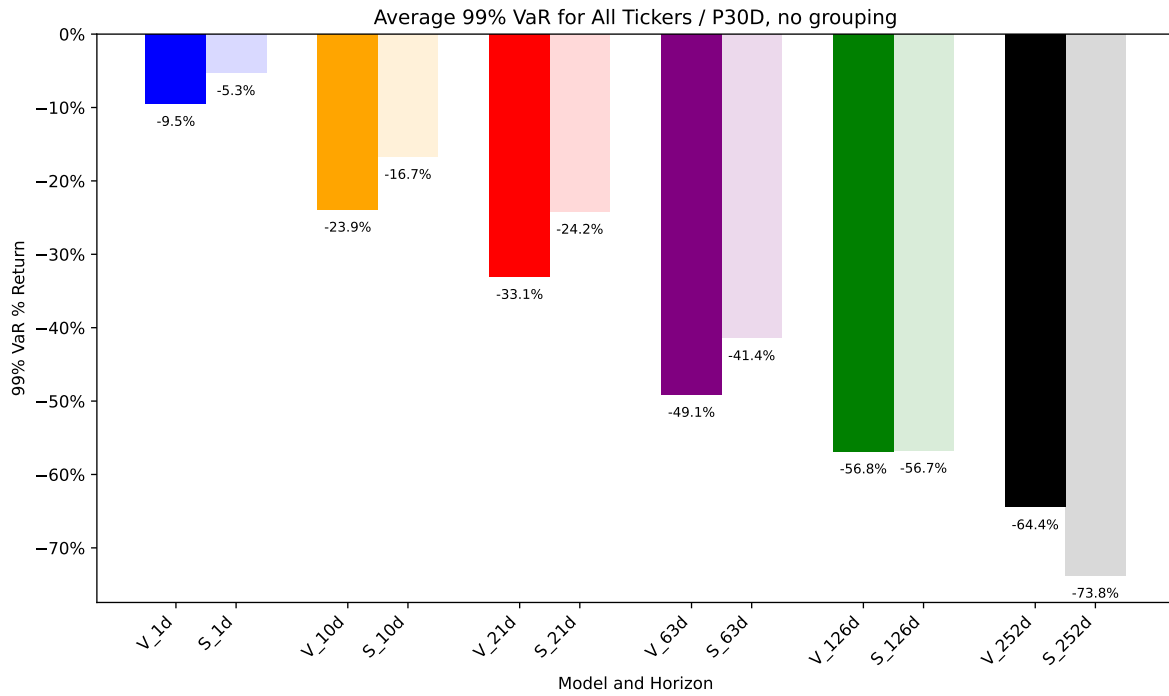
## Prior 90 Calendar Days (P90D)

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



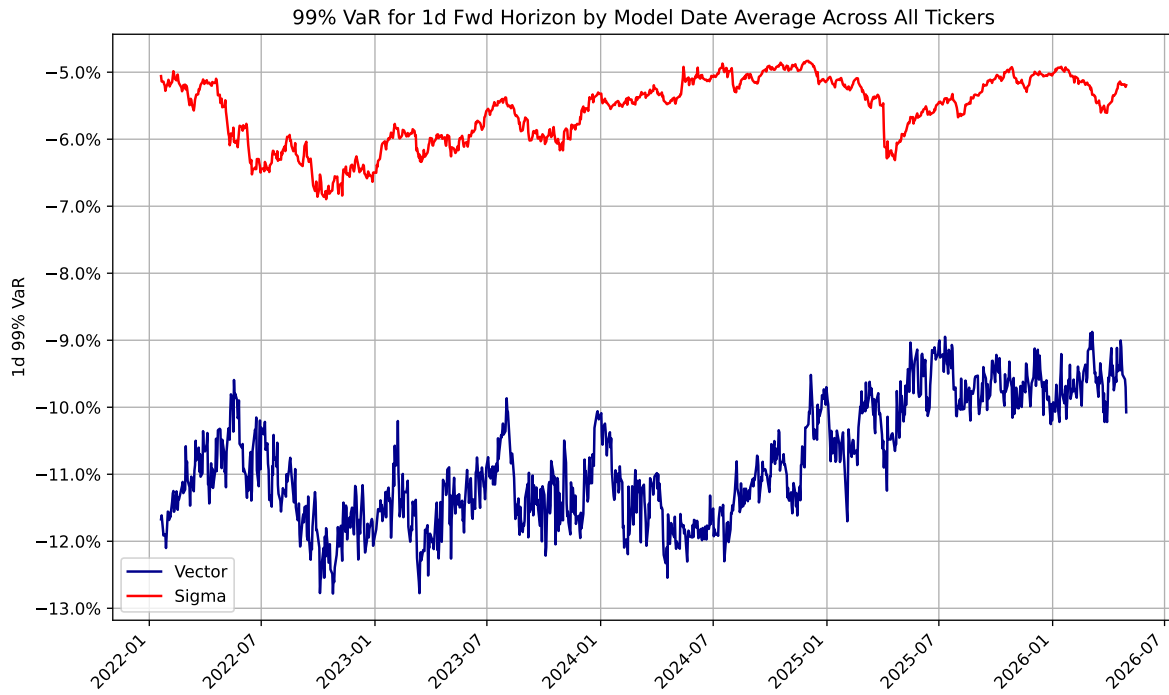
## Prior 30 Calendar Days (P30D)

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

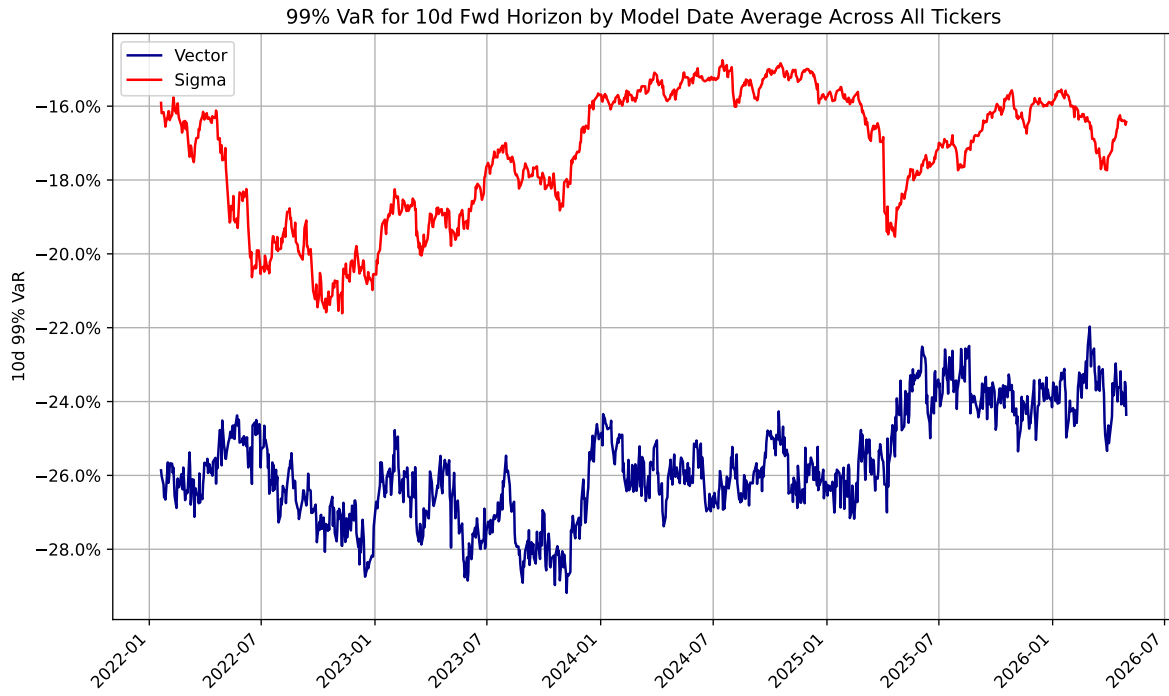


## Daily Levels

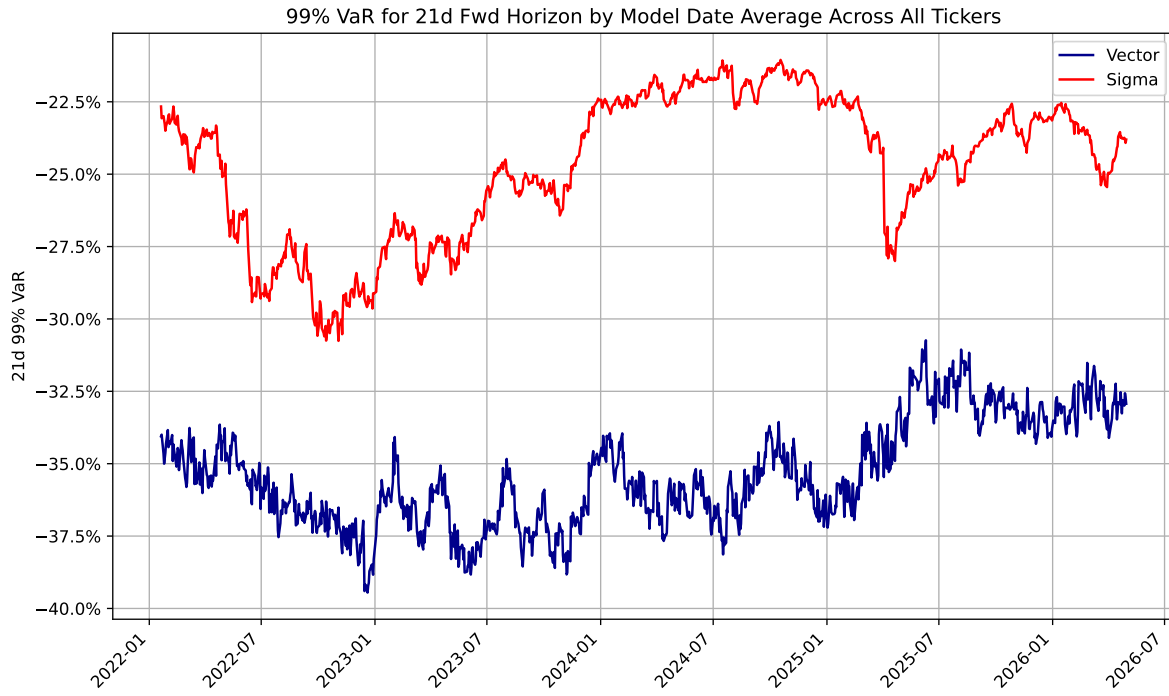
### 1d Horizon



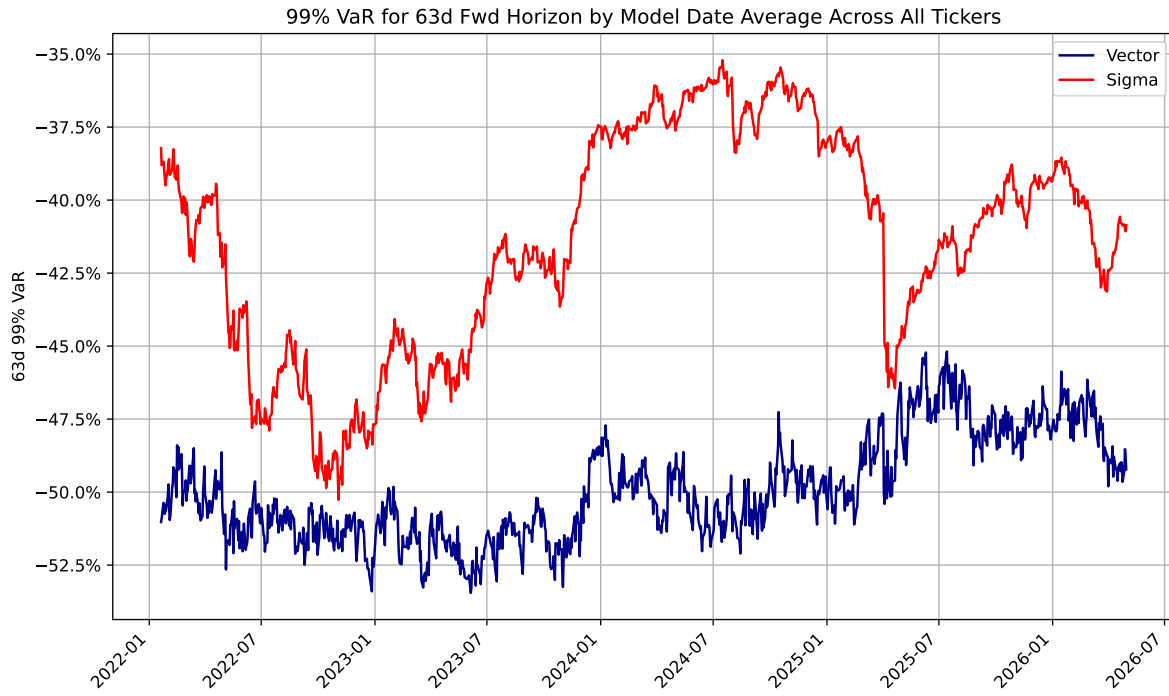
## 10d Horizon



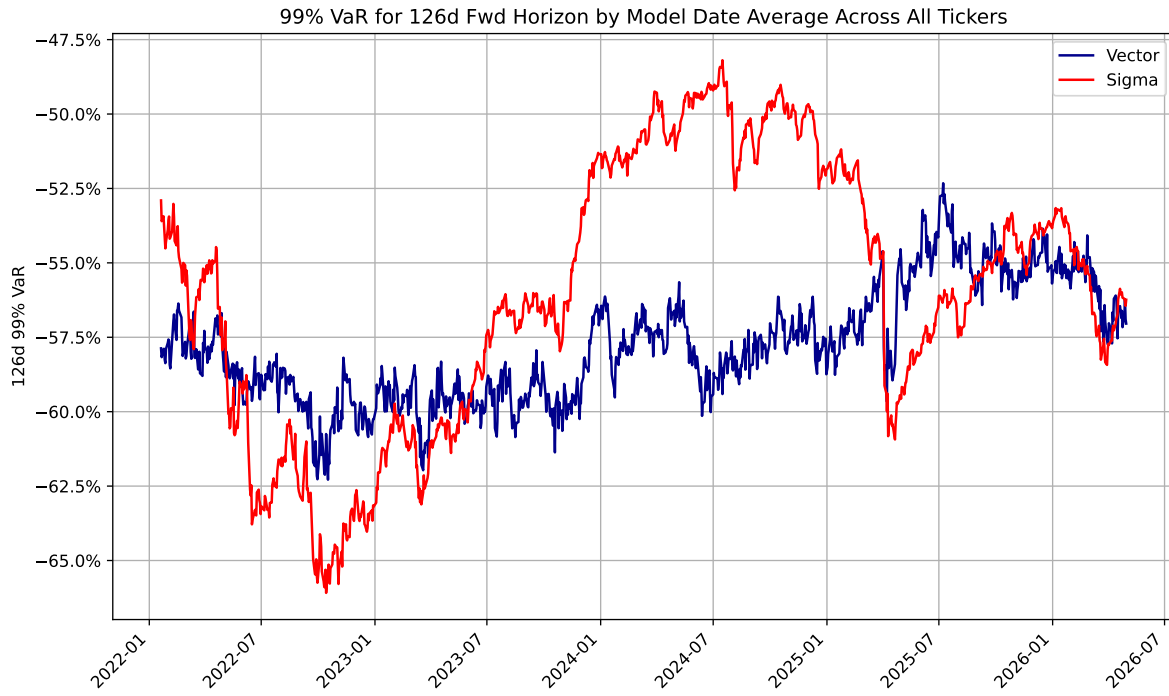
## 21d Horizon



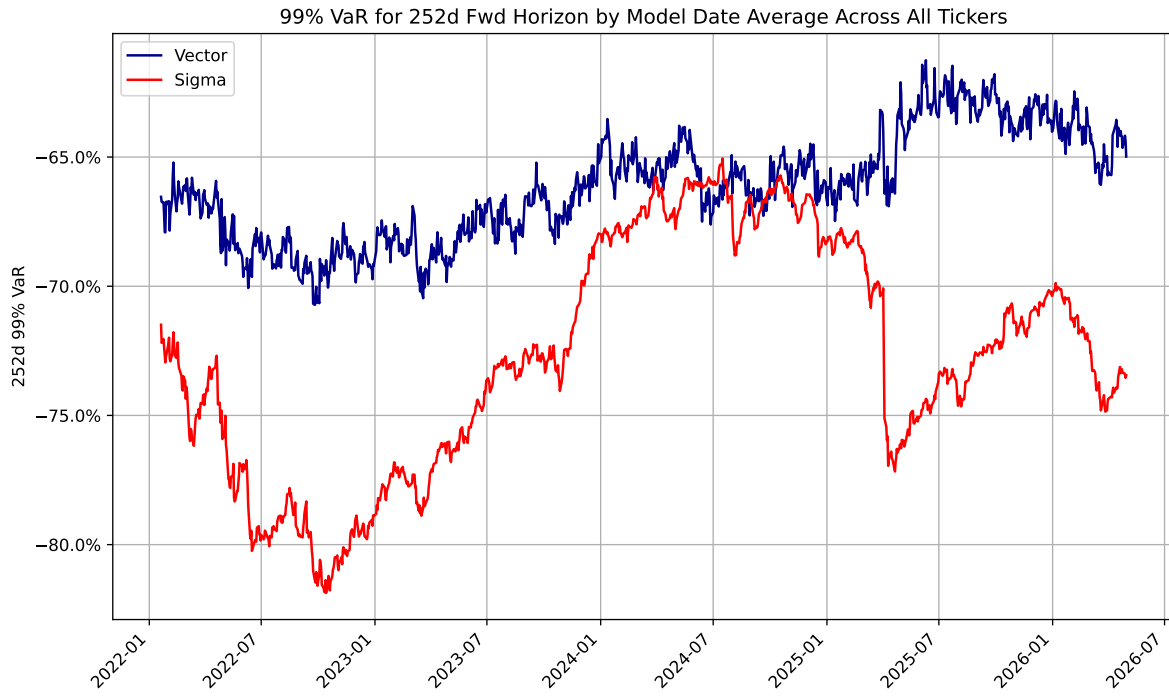
## 63d Horizon



## 126d Horizon



## 252d Horizon



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## Performance Summary

Here we compare the performance of 99% VaR estimates generated by the Vector Model (“V”, presented with dark shading) with those generated by Sigma (“S”, presented with light shading). This comparison is made on the basis of VaR breakage rates and Return on VaR based Capital (ROVBC), presenting the average results across tickers and model dates for model dates in the period indicated.

To facilitate evaluation of VaR breakage we provide dashed horizontal lines at the targetted breakage level. Proximity to that line is the key breakage related criteria.

Vector Model ROVBC can be evaluated on the basis of outright levels relative to Sigma and alpha relative to Sigma ROVBC (which, as discussed previously, is assigned the underlying ticker price returns). We advise keeping proximity of VaR breakage rates to targetted levels in mind when comparing outright ROVBC levels. For example, a model with much more benign VaR estimates will likely have higher ROVBC in the context of an upwardly trending market, but how did it do on VaR breakage rates compared to the other model. This tradeoff between ROVBC and VaR breakage rate proximity to target is the motivation for including ROVBC Adjusted for Average Vector Model-Sigma VaR Differentials in the Report Card presented earlier in this report, and for providing the alpha metrics.

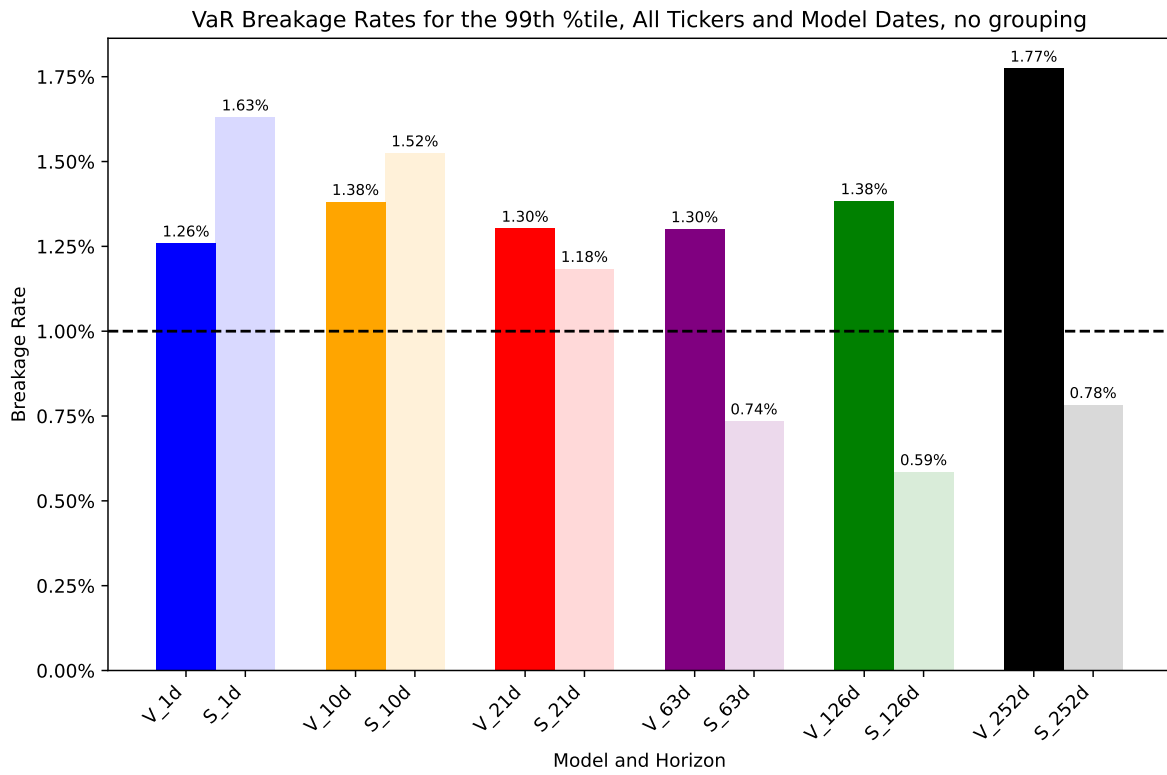
Alpha allows us to isolate ROVBC performance differences between the Vector Model and Sigma apart from any systematic difference between the ROVBC multiplier for the Vector Model and 1.00x. Alpha across TMD’s could be driven by VaR differentials between tickers and / or between dates. Thus we also present average alpha by ticker across model dates. If this cross-date based alpha is positive, at least some of the overall alpha is driven by variation in Vector Model VaR relative to Sigma across time as opposed to variation in Vector Model VaR relative to Sigma between tickers.

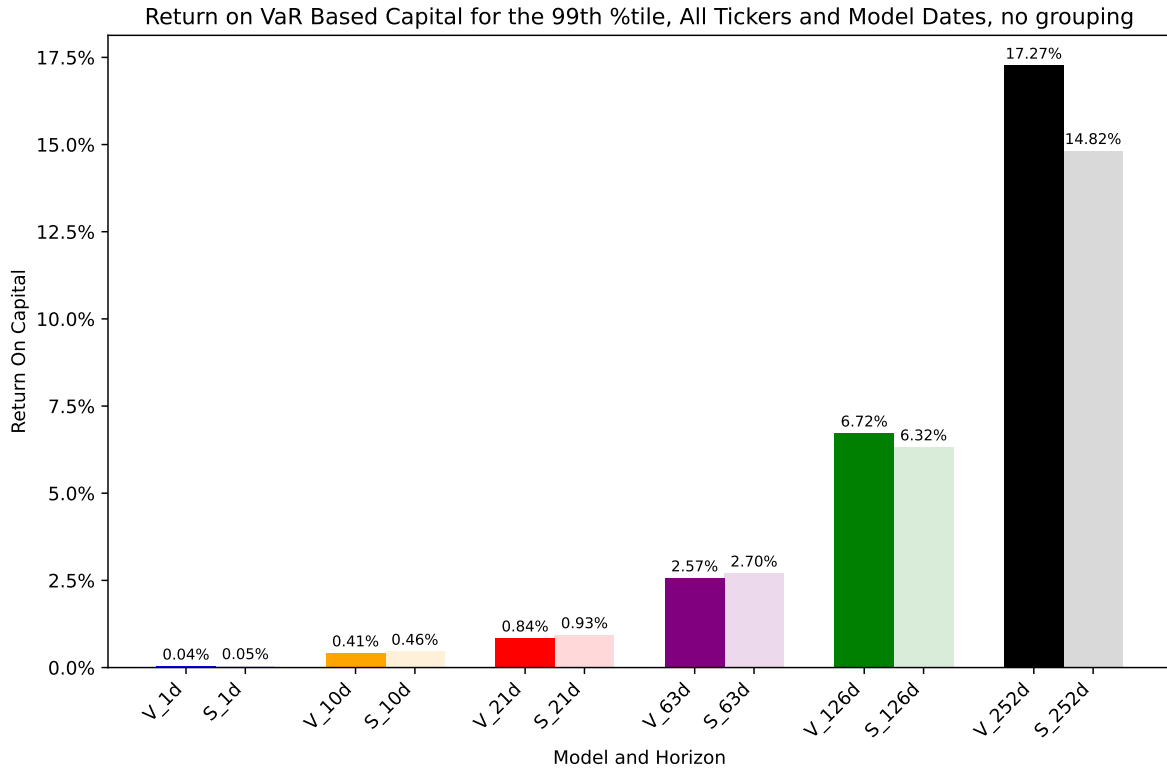
Results for each horizon reflect the average for all model estimates for that horizon from all model dates for which forward performance is known. Note that periods for all horizons > 1d overlap.



## 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 ROVBC regressed upon corresponding actual returns across TMD's:

	1d	10d	21d	63d	126d	252d
intercept	-0.01%	-0.06%	-0.14%	-0.37%	-0.87%	-1.30%
intercept_p_value	13.06%	0.00%	0.00%	0.00%	0.00%	0.00%
slope	88.58%	103.06%	105.26%	108.63%	120.05%	125.31%
slope_p_value	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

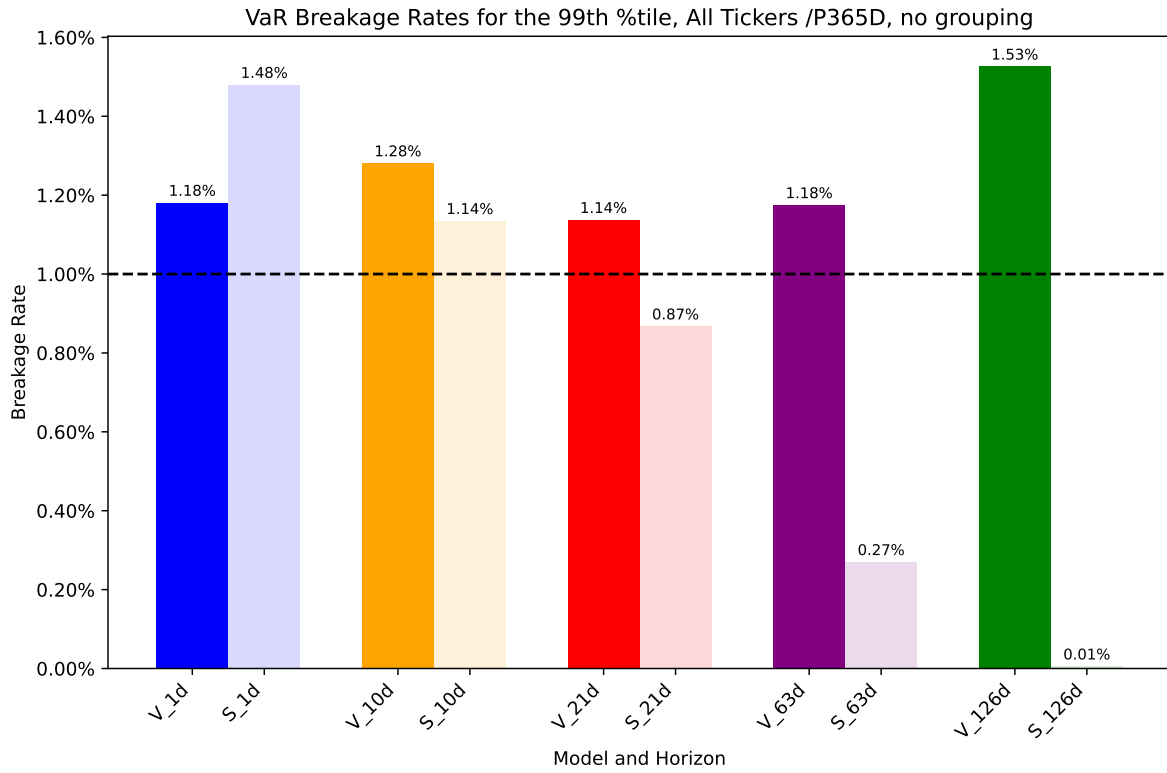
Average Alpha (intercept) and Beta (slope) of Vector Model ROVBC regressed upon corresponding actual returns, by ticker across Model Dates:

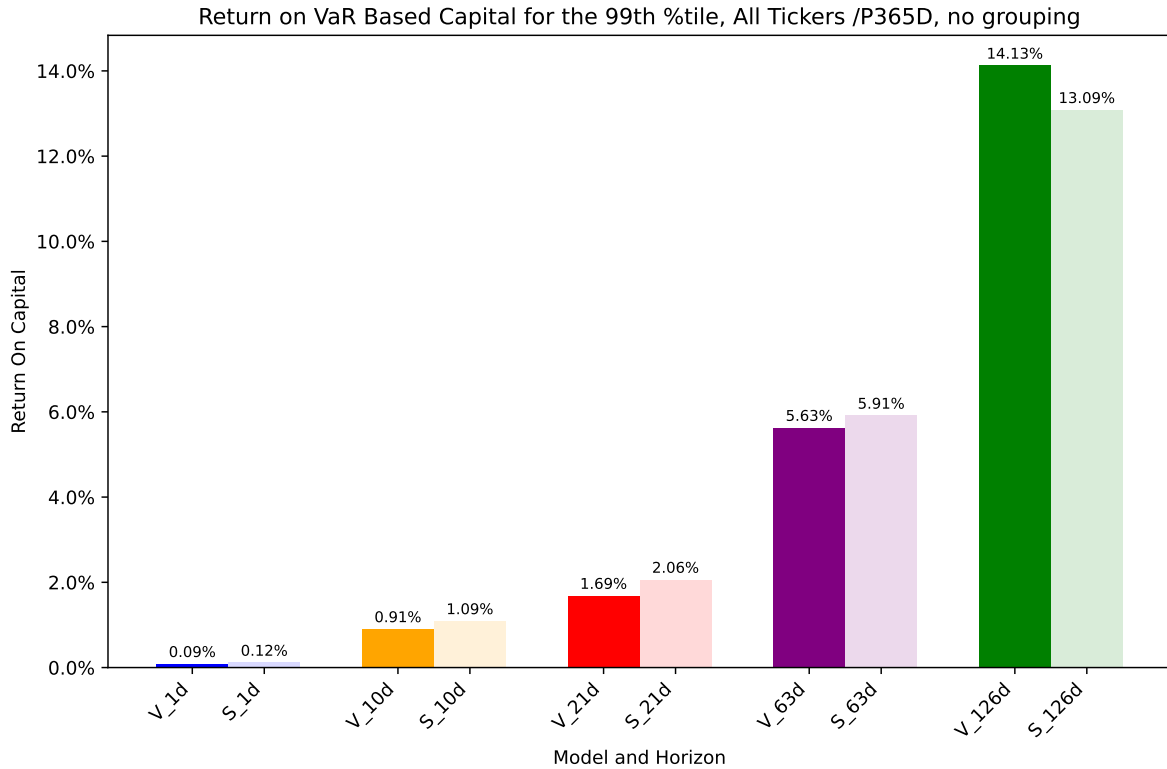
	1d	10d	21d	63d	126d	252d
intercept	-0.04%	-0.21%	-0.57%	-2.23%	-4.35%	-5.29%
intercept_p_value	0.00%	0.07%	0.00%	0.00%	0.00%	0.08%
slope	164.88%	150.08%	166.33%	181.32%	178.53%	164.79%
slope_p_value	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%



## Prior 365 Calendar Days (P365D)

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





Alpha (intercept) and Beta (slope) of Vector Model ROVBC regressed upon corresponding actual returns across P365D:

	1d	10d	21d	63d	126d
intercept	-0.01%	-0.11%	-0.19%	-0.46%	-2.01%
intercept_p_value	33.71%	0.00%	0.00%	0.00%	0.00%
slope	80.65%	92.86%	90.91%	102.97%	123.31%
slope_p_value	0.00%	0.00%	0.00%	0.00%	0.00%

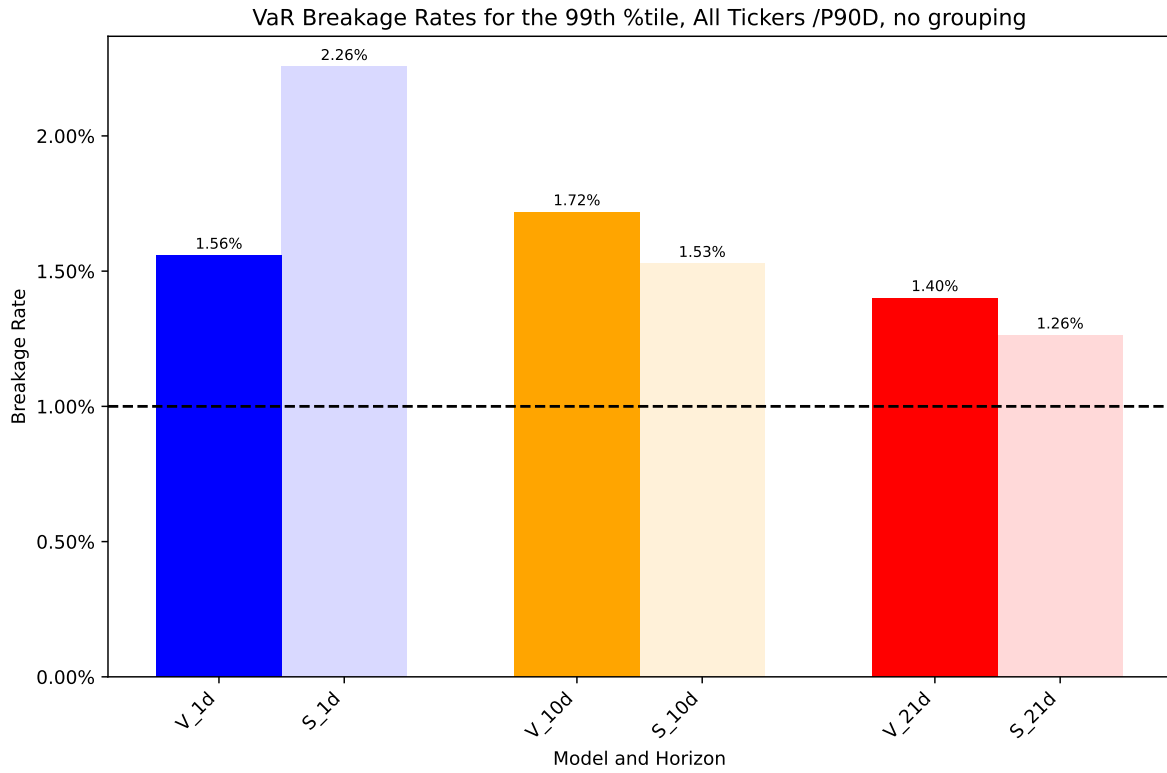
Average Alpha (intercept) and Beta (slope) of Vector Model ROVBC regressed upon corresponding actual returns, by ticker across P365D:

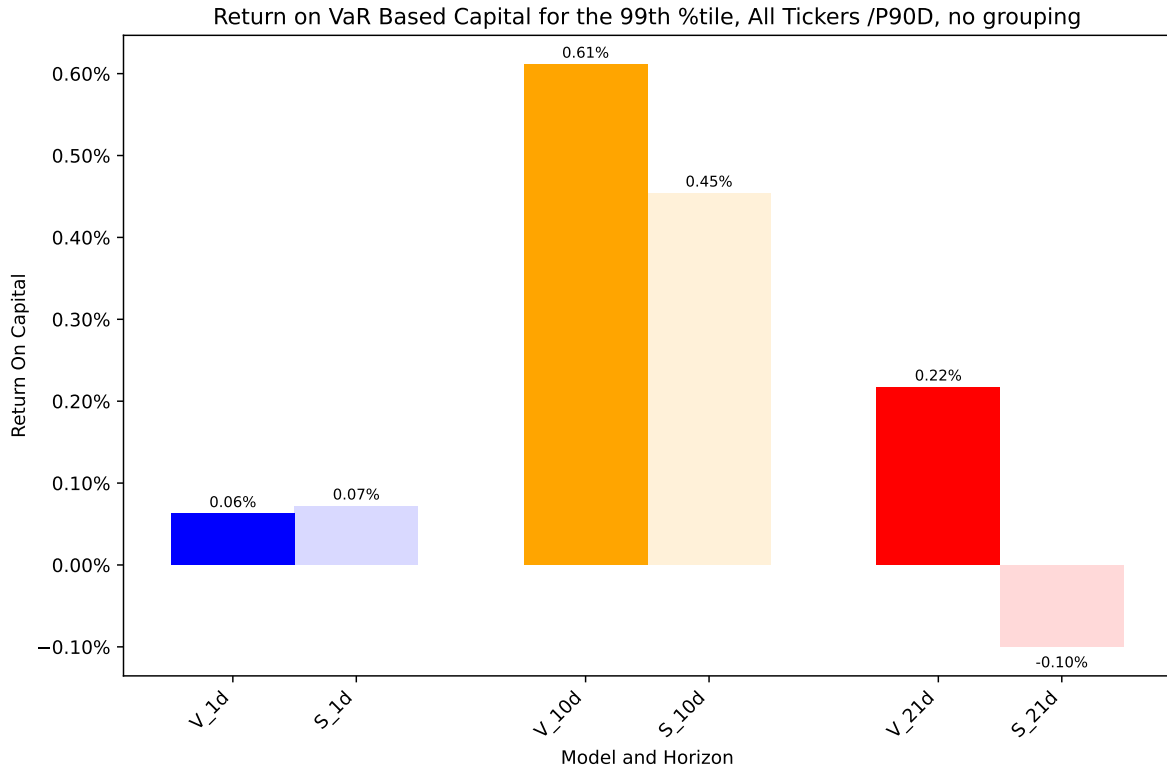
	1d	10d	21d	63d	126d
intercept	-0.00%	-0.03%	-0.14%	-1.13%	-3.51%
intercept_p_value	89.00%	76.12%	39.11%	3.01%	0.85%
slope	94.49%	109.62%	113.05%	127.87%	144.90%
slope_p_value	0.00%	0.00%	0.00%	0.00%	0.00%



## Prior 90 Calendar Days (P90D)

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





Alpha (intercept) and Beta (slope) of Vector Model ROVBC regressed upon corresponding actual returns across P90D:

	1d	10d	21d
intercept	0.00%	0.15%	0.31%
intercept_p_value	74.88%	0.89%	0.00%
slope	80.42%	100.62%	91.74%
slope_p_value	0.00%	0.00%	0.00%

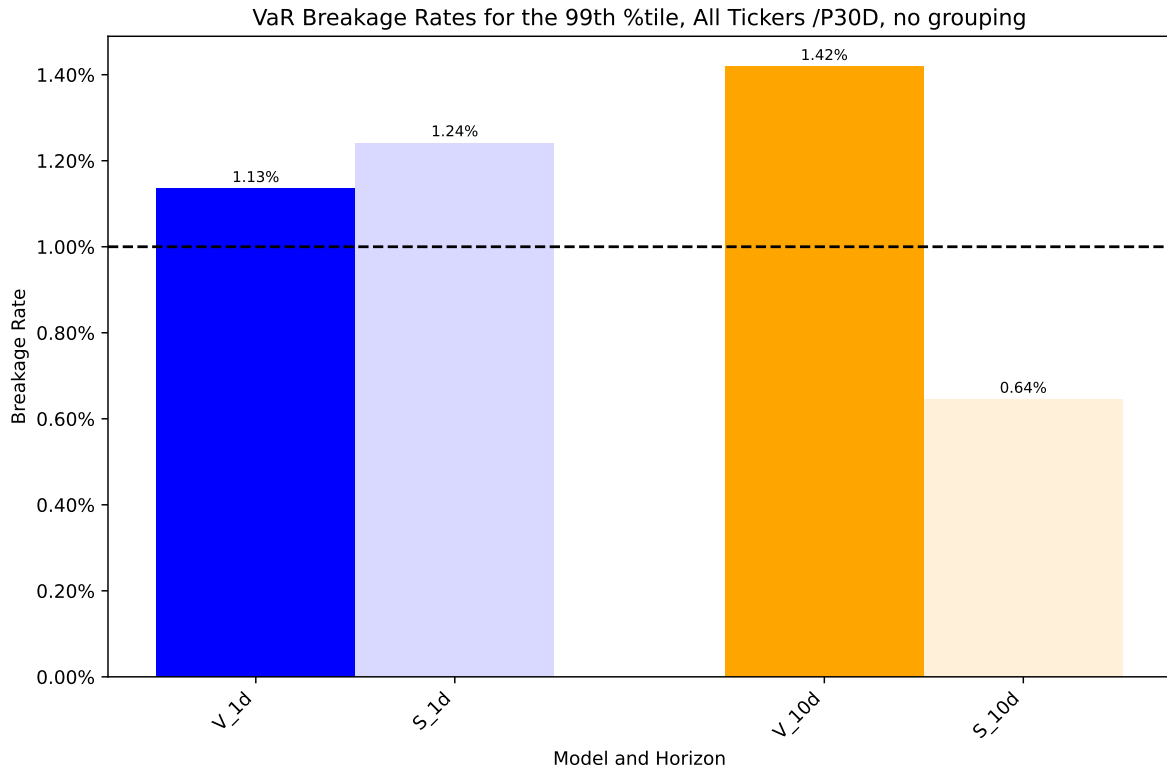
Average Alpha (intercept) and Beta (slope) of Vector Model ROVBC regressed upon corresponding actual returns, by ticker across P90D:

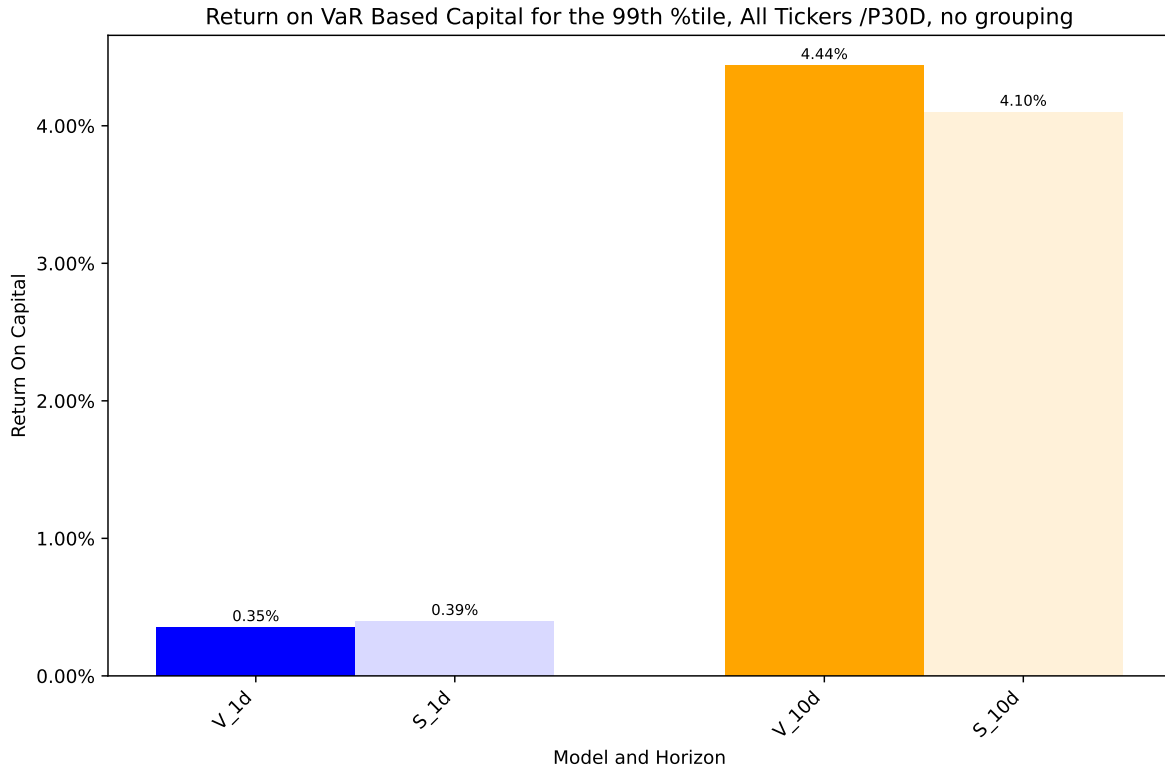
	1d	10d	21d
intercept	-0.01%	0.20%	0.28%
intercept_p_value	63.02%	20.76%	31.16%
slope	110.21%	127.52%	123.00%
slope_p_value	0.00%	0.00%	0.00%



## Prior 30 Calendar Days (P30D)

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





Alpha (intercept) and Beta (slope) of Vector Model ROVBC regressed upon corresponding actual returns across P30D:

	1d	10d
intercept	0.01%	-0.38%
intercept_p_value	62.81%	4.86%
slope	85.15%	117.59%
slope_p_value	0.00%	0.00%

Average Alpha (intercept) and Beta (slope) of Vector Model ROVBC regressed upon corresponding actual returns, by ticker across P30D:

	1d	10d
intercept	-0.00%	-0.54%
intercept_p_value	93.92%	32.10%
slope	119.79%	149.59%
slope_p_value	0.00%	0.00%

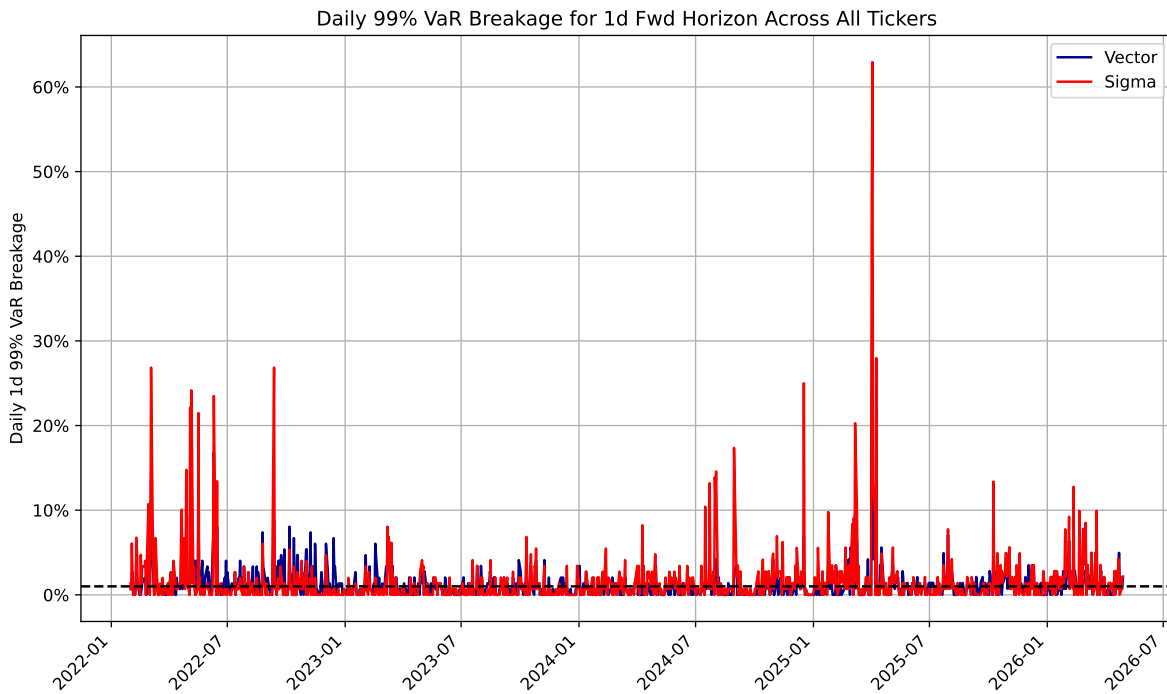


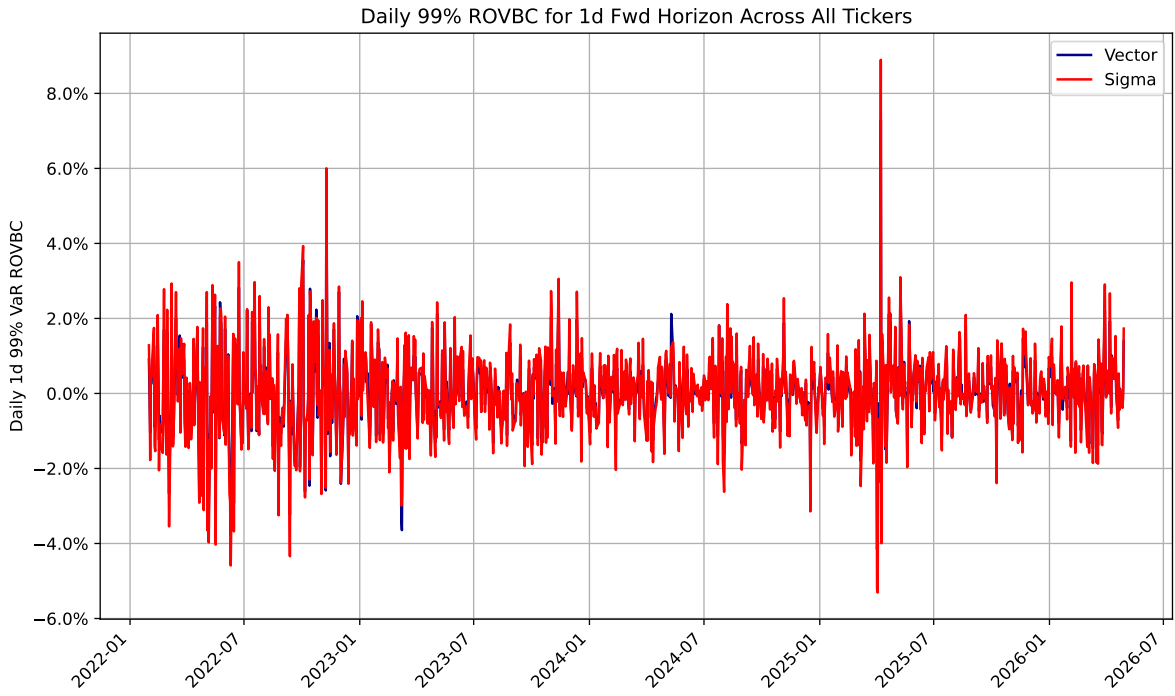
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## Daily Performance

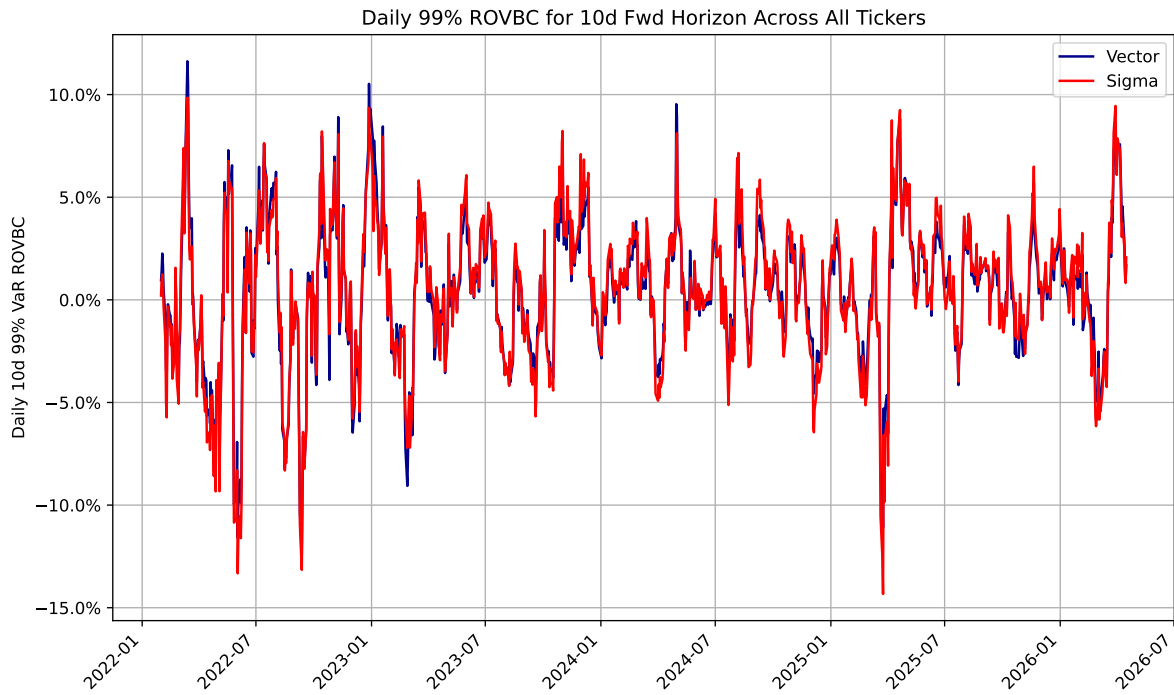
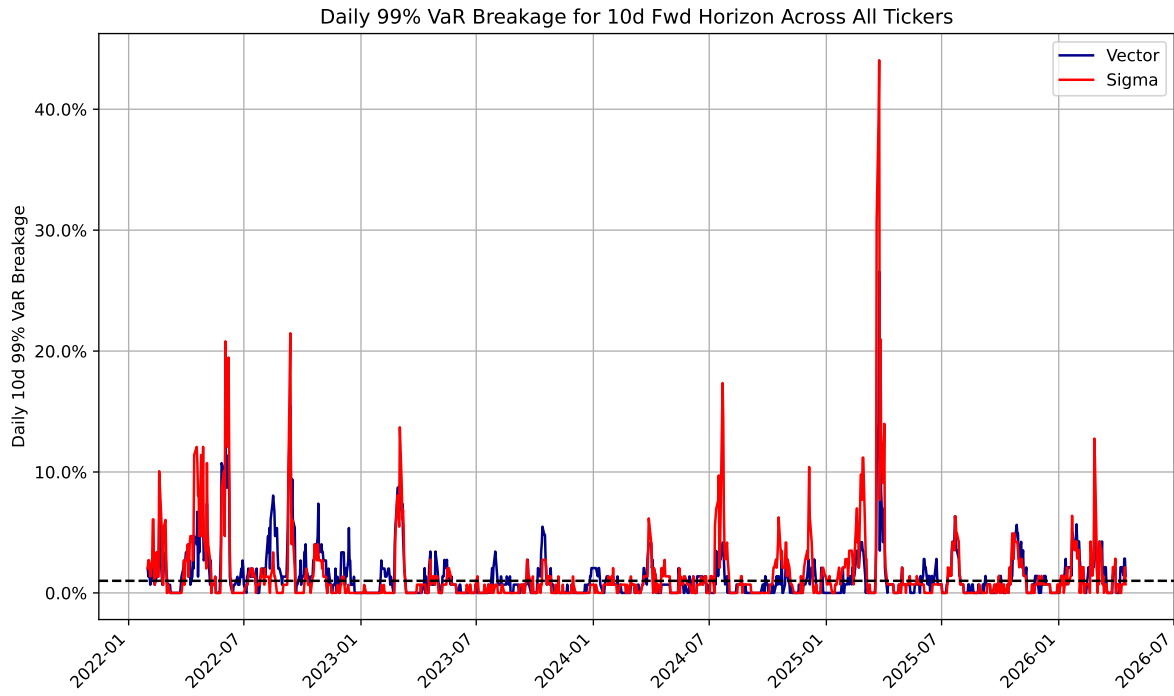
Here we look at the daily breakage and ROVBC statistics summarized in the preceding section. The daily basis of the presentation allows for observation of the magnitude, frequency and proximity of breakage and ROVBC outliers.

### 1d Horizon

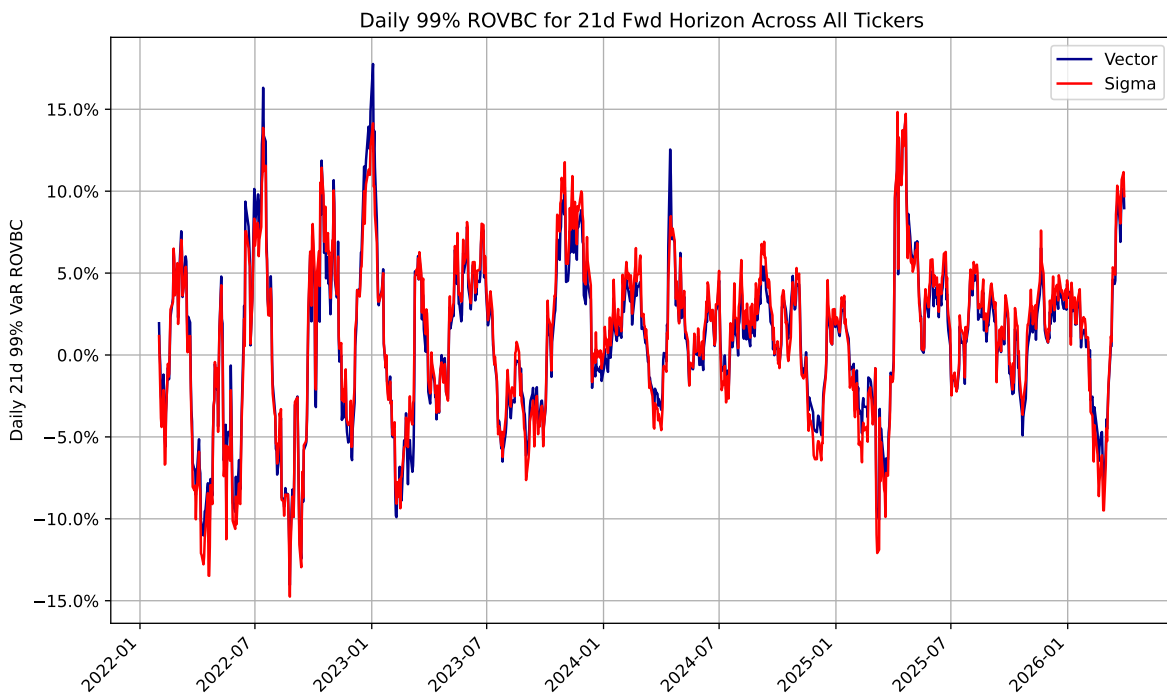
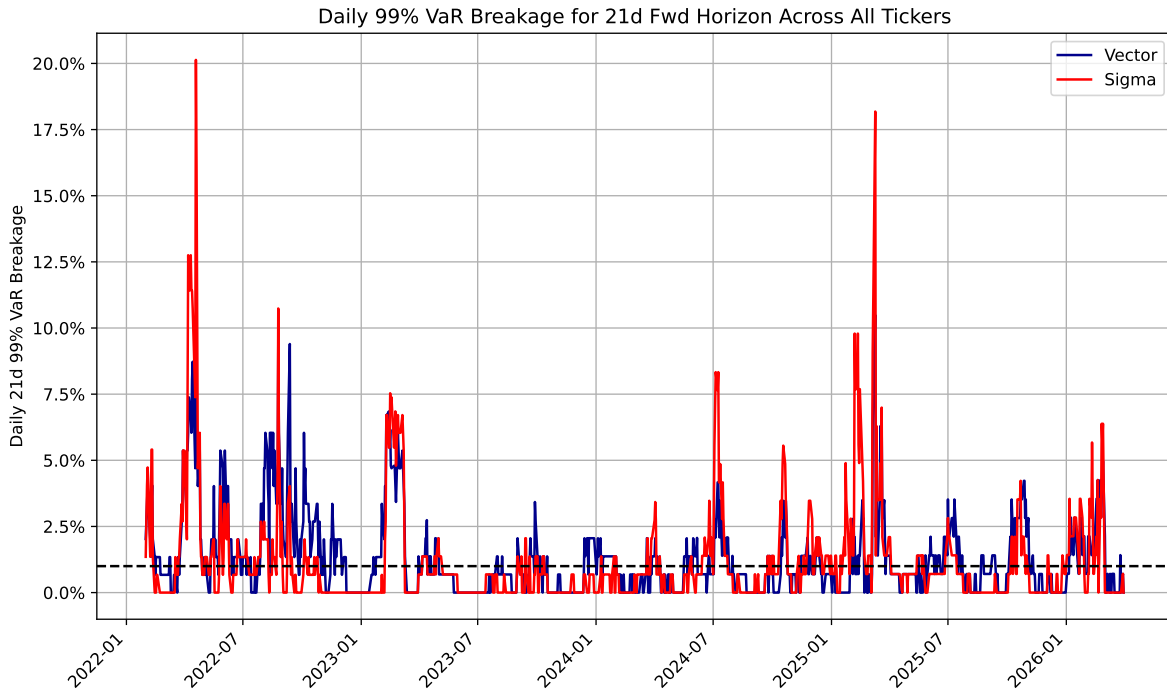




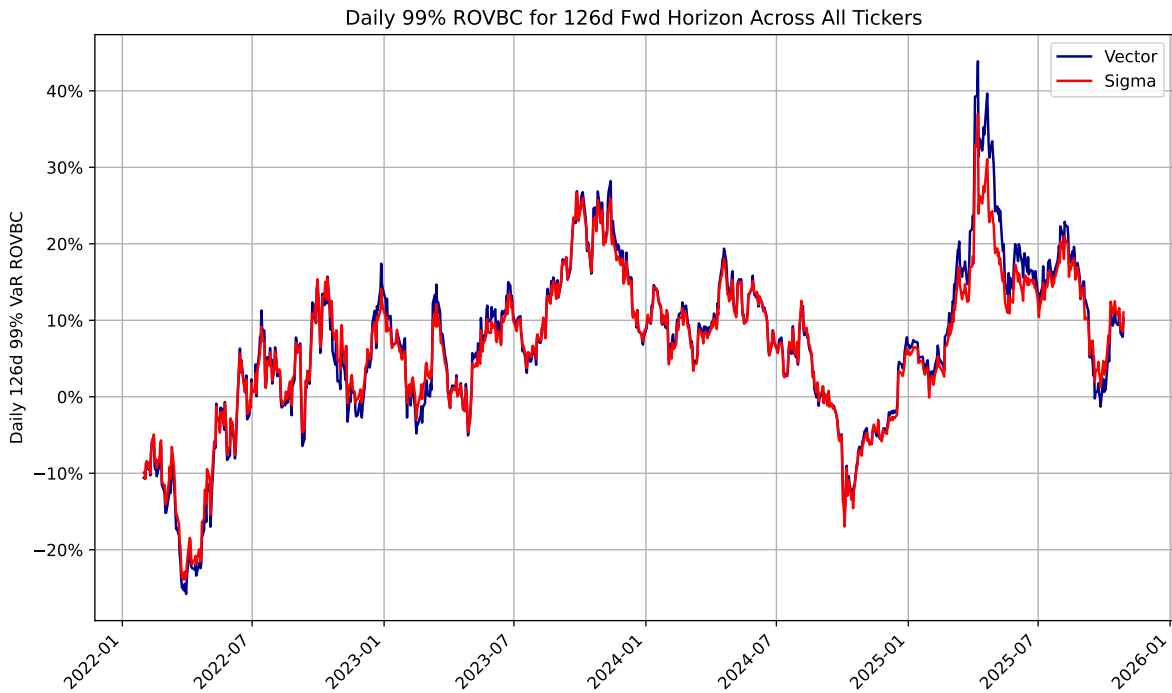
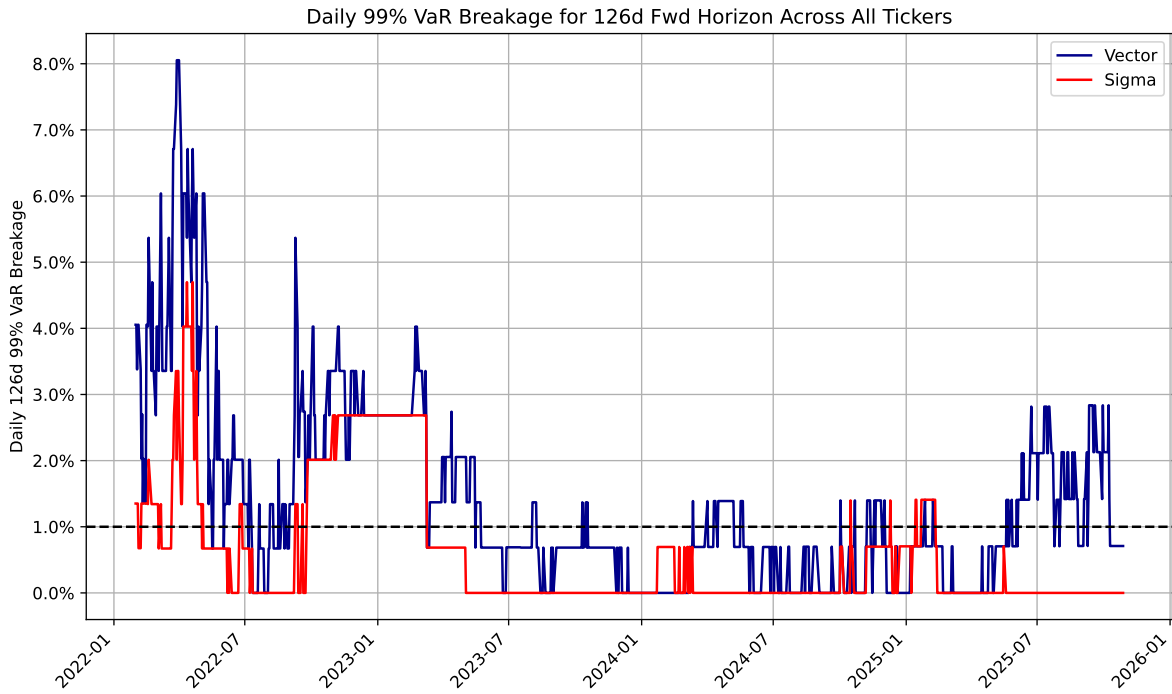
## 10d Horizon



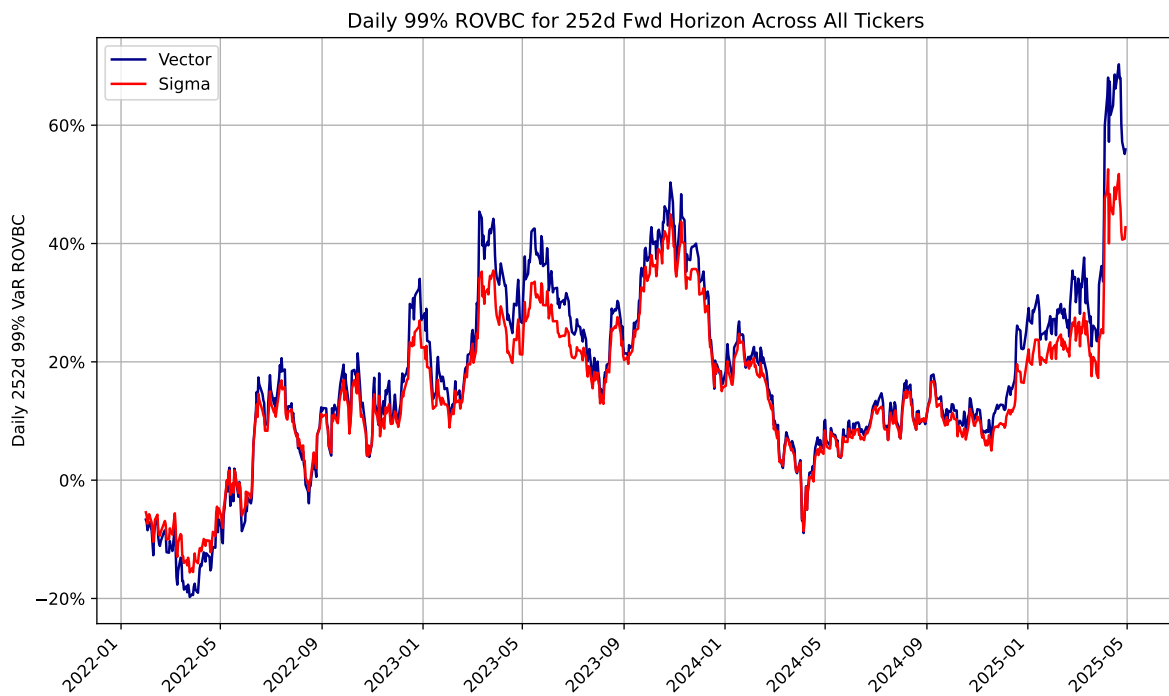
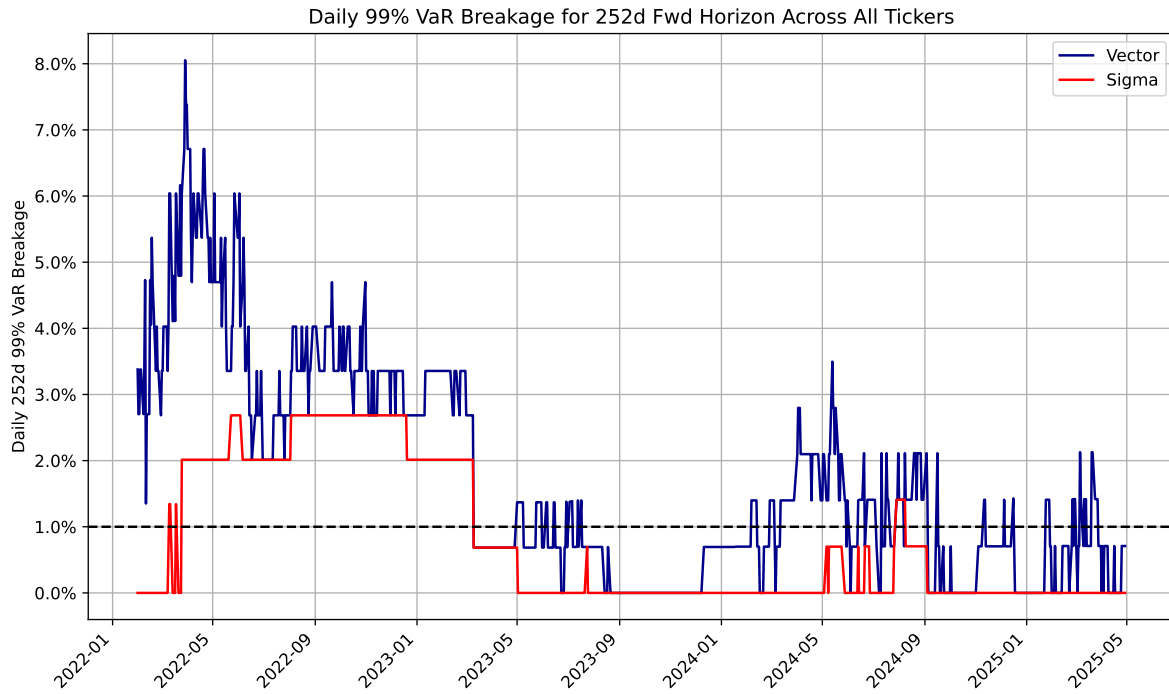
## 21d Horizon



## 63d Horizon



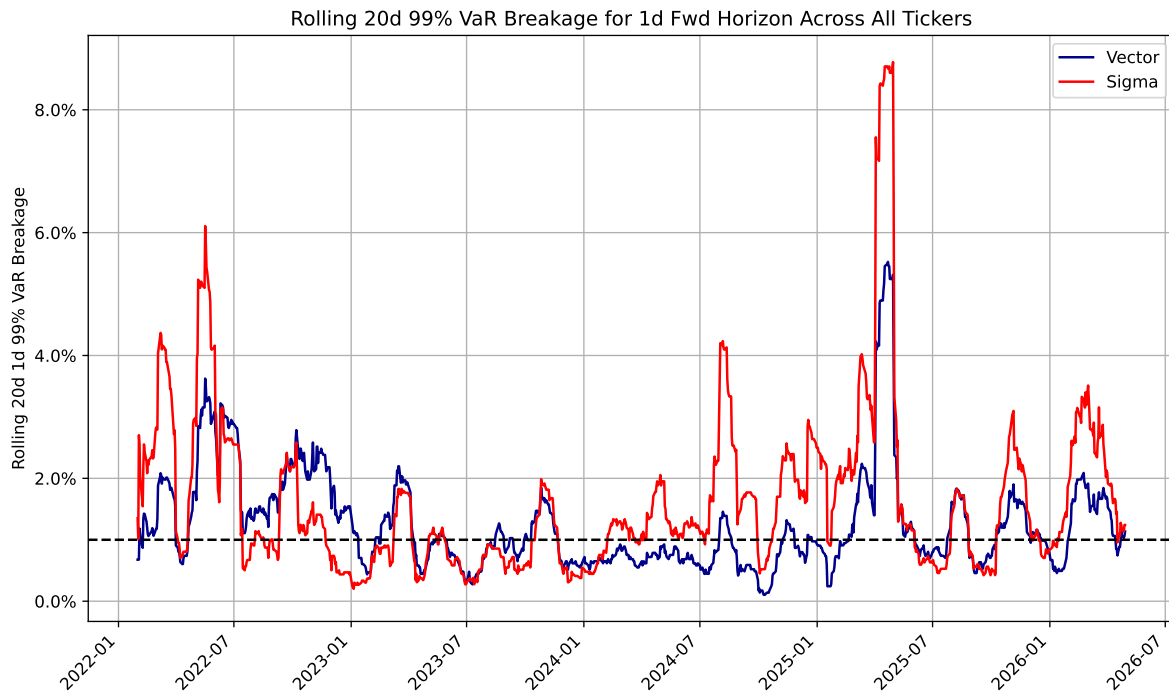
## 252d Horizon

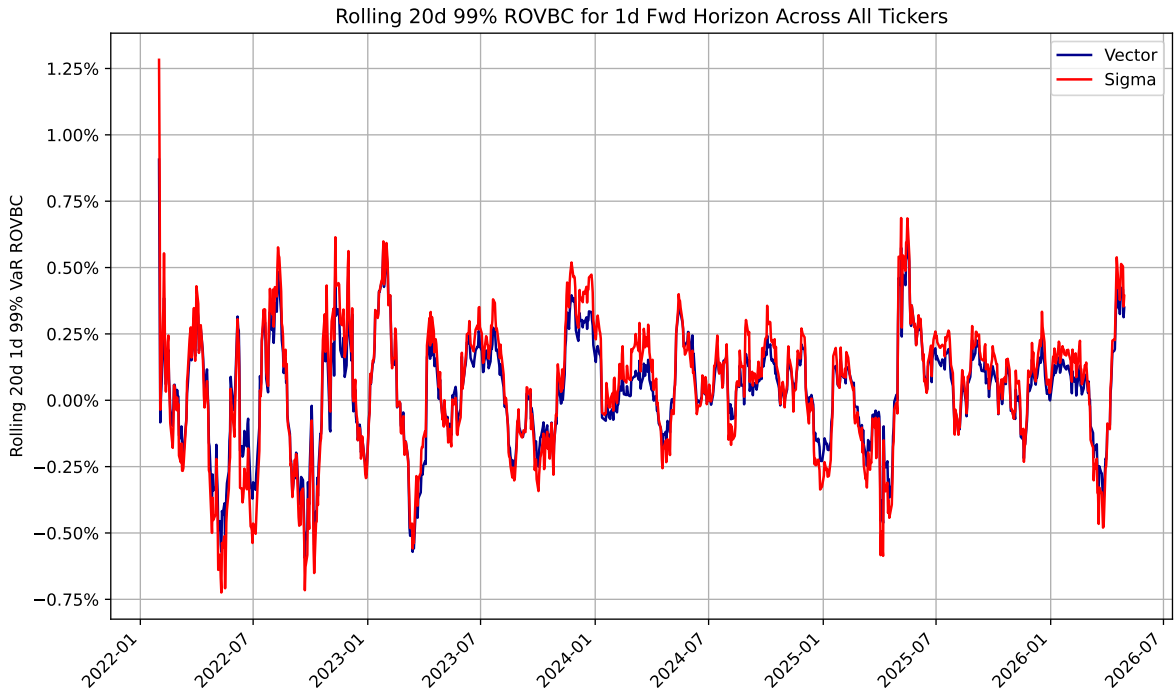


## Rolling 20d Performance

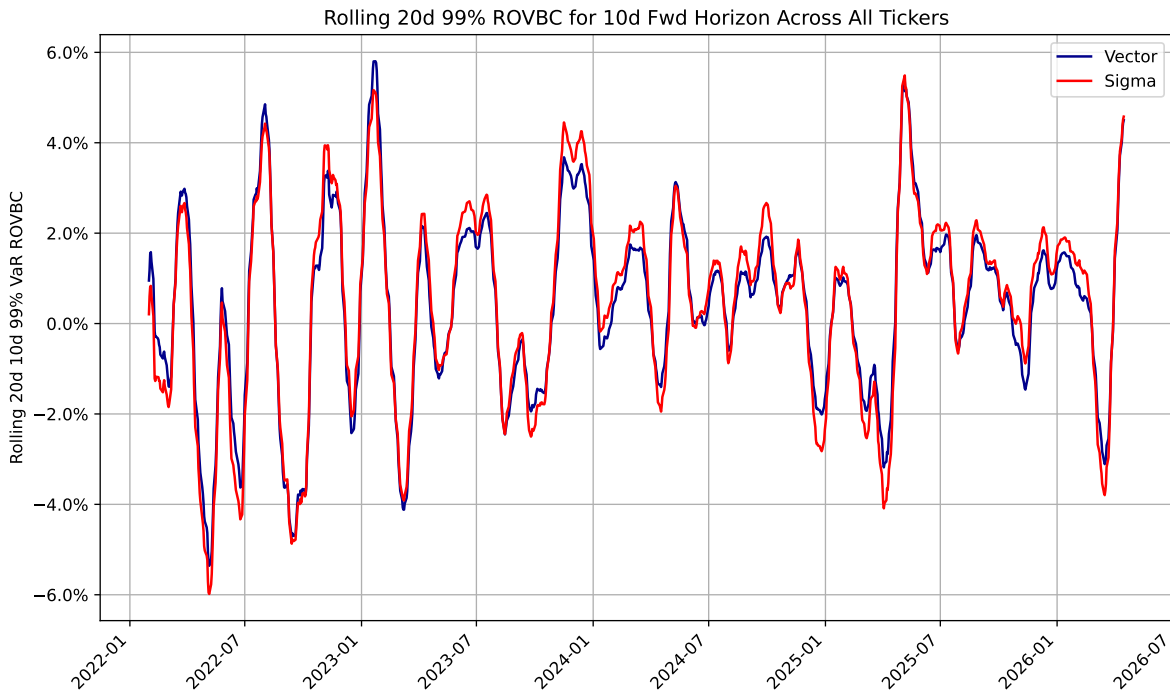
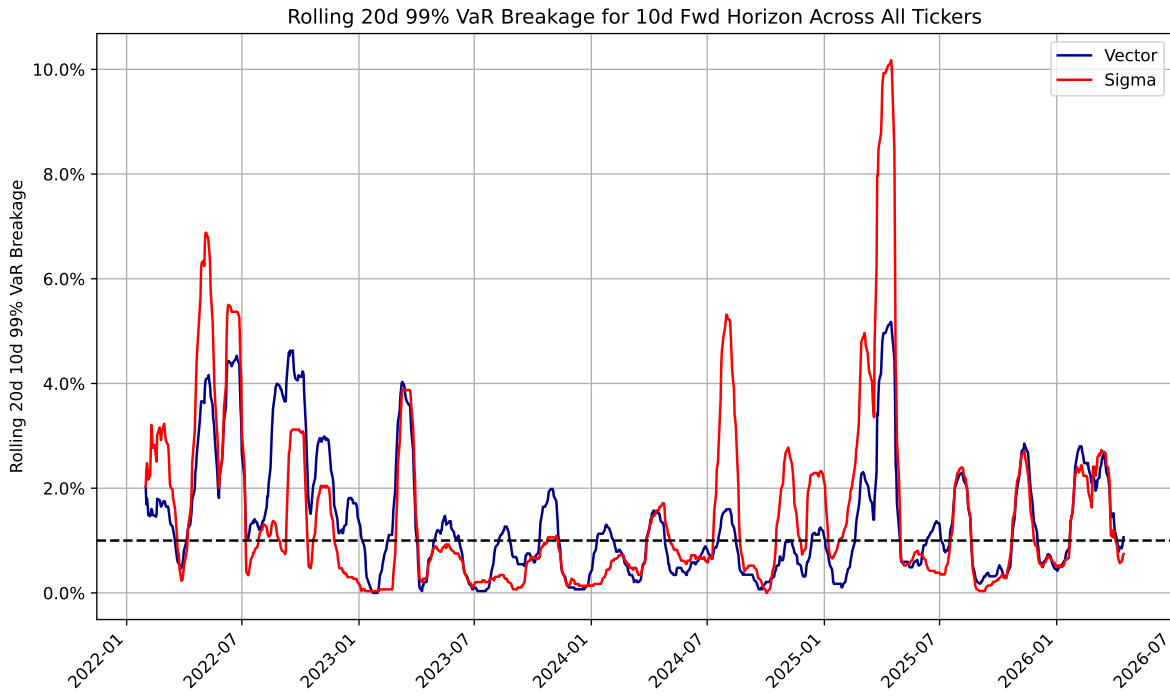
Here we look at 20 day rolling moving averages of the breakage and ROVBC statistics summarized in the preceding section. These 20day moving averages are averages of daily averages across all tickers.

### 1d Horizon

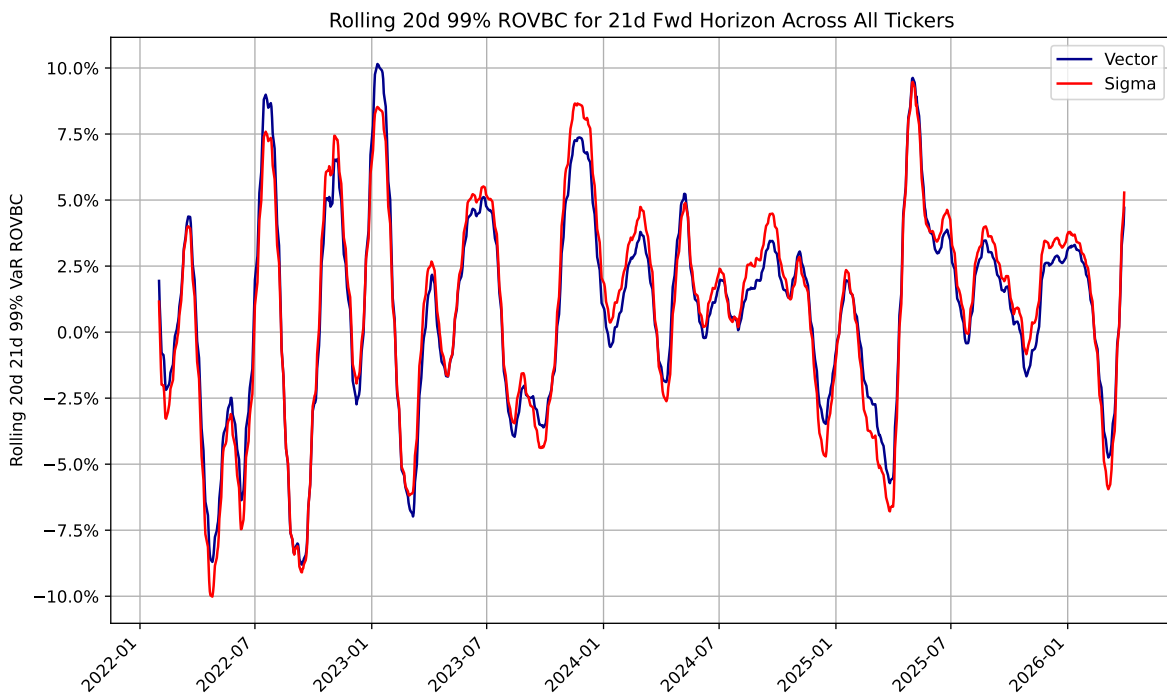
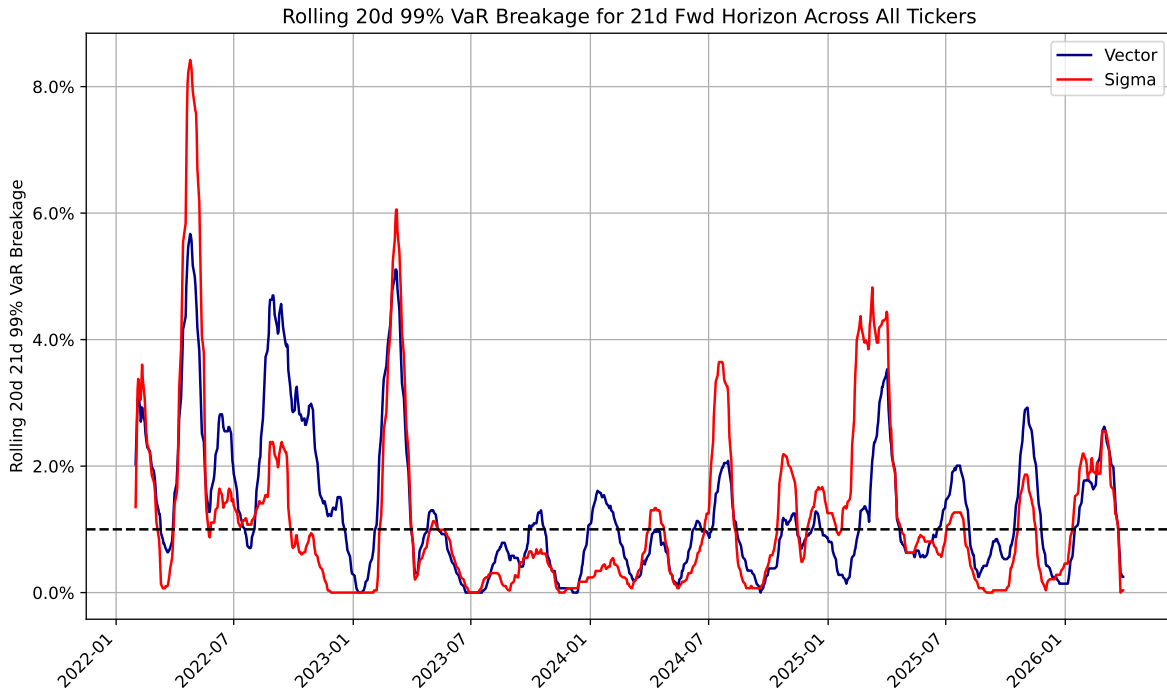




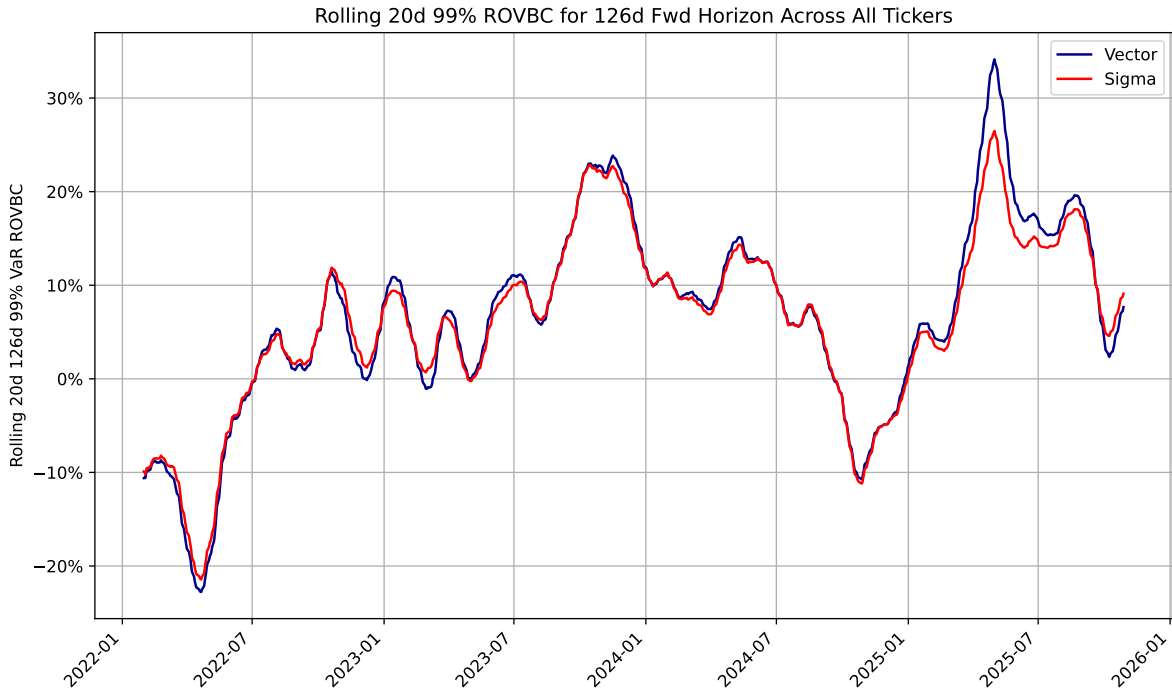
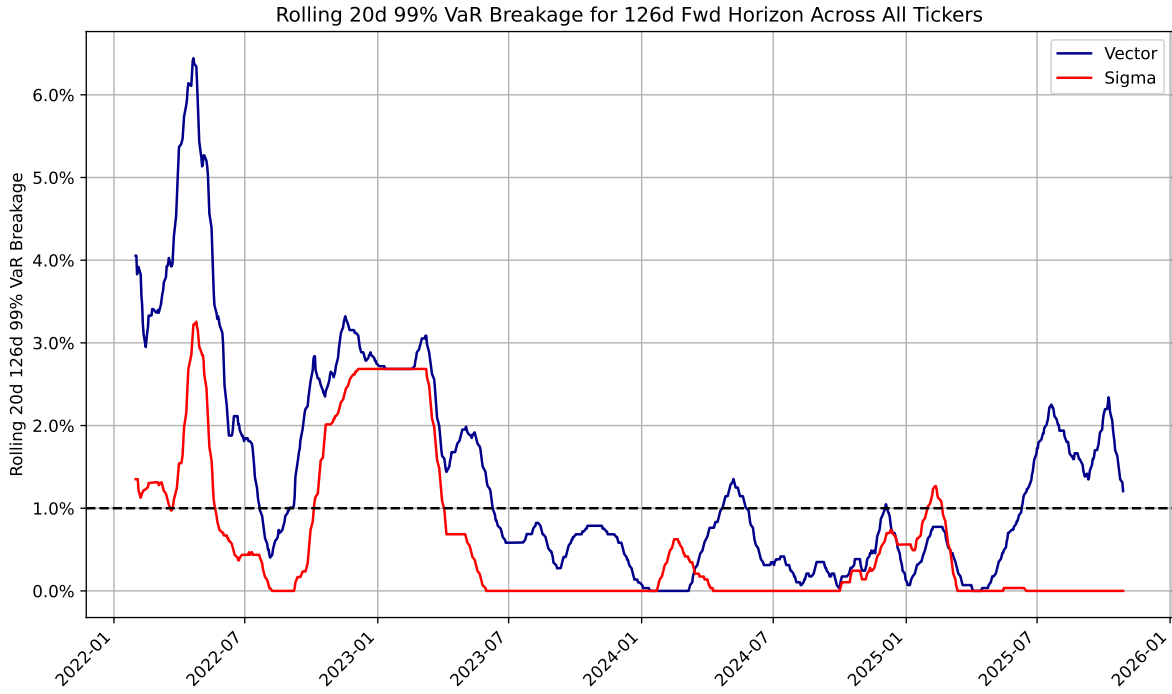
# 10d Horizon



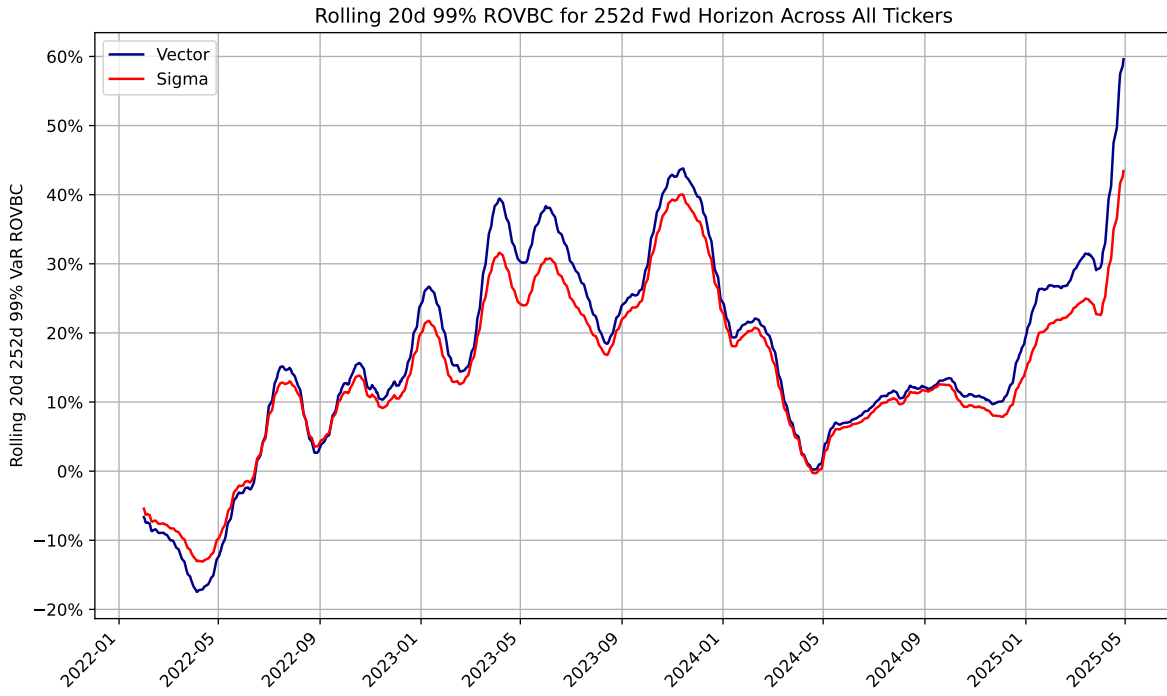
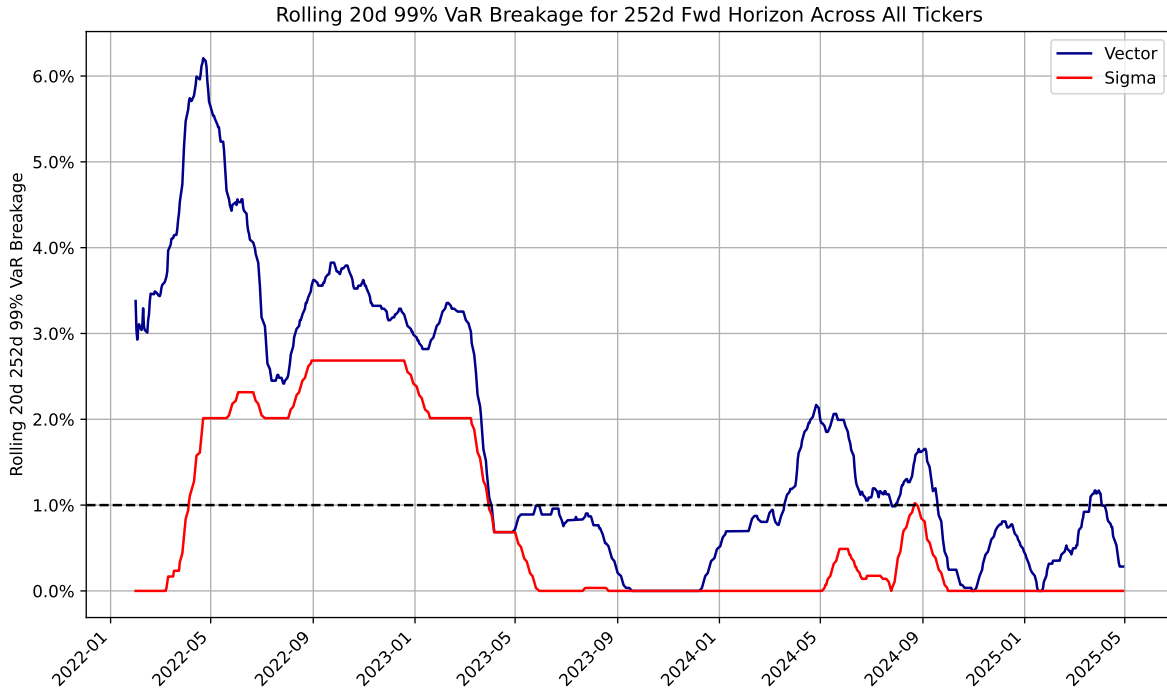
## 21d Horizon



## 63d Horizon



## 252d Horizon



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## Top 30 Tickers By VaR Breakage

### All TMD: 1d

Results reflect ticker level average 99% VaR breakage (VaRBreak) across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	VaRBreak_V	Ticker_S	VaRBreak_S
1.0	SBNY	15.47%	SBNY	3.6%
1.0	SIVBQ	10.43%	SIVBQ	2.88%
1.0	TSLA	7.14%	INTU	2.63%
1.0	FRCB	5.76%	HSEC	2.63%
1.0	ZTS	5.73%	VCSH	2.54%
1.0	LQD	5.63%	IRM	2.44%
1.0	B	4.88%	QCOM	2.44%
1.0	GME	3.94%	WFC	2.35%
1.0	AMC	3.76%	TRGP	2.35%
1.0	CDNS	3.57%	NVS	2.35%
1.0	MSTR	3.57%	PWR	2.25%
1.0	GNRC	3.29%	WDC	2.25%
1.0	AAP	3.19%	NEM	2.25%
1.0	CHTR	3.19%	ABBV	2.25%
1.0	JAZZ	3.1%	PEP	2.16%
1.0	ISRG	2.91%	PCG	2.16%
1.0	BUD	2.82%	GLD	2.16%
1.0	CMCSA	2.72%	SPY	2.16%
1.0	FRA	2.63%	KHC	2.16%
1.0	VZ	2.44%	VST	2.16%
1.0	QCOM	2.35%	ACGL	2.16%
1.0	EXPE	2.35%	UNH	2.16%
1.0	SLV	2.26%	FRCB	2.16%
1.0	KALU	2.25%	SLV	2.07%
1.0	LLY	2.25%	ORLY	2.07%
1.0	PRGO	2.07%	AMAT	2.07%
1.0	TDG	2.07%	QQQ	2.07%
1.0	META	2.07%	MSFT	2.07%
1.0	KHC	2.07%	GS	2.07%
1.0	BXP	2.07%	GOOGL	2.07%



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## All TMD: 10d

Results reflect ticker level average 99% VaR breakage (VaRBreak) across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	VaRBreak_V	Ticker_S	VaRBreak_S
10.0	SBNY	17.65%	SIVBQ	5.51%
10.0	SIVBQ	12.87%	MUB	4.17%
10.0	AMC	9.19%	CTLT	4.08%
10.0	CHTR	8.52%	CHTR	3.88%
10.0	TSLA	7.86%	FIS	3.79%
10.0	AAP	7.1%	LW	3.79%
10.0	ZTS	5.68%	PRGO	3.31%
10.0	LQD	5.4%	SBNY	3.31%
10.0	B	5.3%	FRCB	3.31%
10.0	MSTR	4.73%	UNH	3.22%
10.0	CVS	4.36%	AAP	3.12%
10.0	GNRC	4.26%	PCG	3.12%
10.0	KALU	4.07%	CMG	2.84%
10.0	PRGO	3.69%	INTU	2.84%
10.0	CTLT	3.67%	BAC	2.75%
10.0	UNH	3.5%	BHC	2.65%
10.0	FRCB	3.31%	ABBV	2.65%
10.0	BHC	3.22%	GSK	2.56%
10.0	LW	3.12%	WDC	2.56%
10.0	GSK	3.03%	FITB	2.37%
10.0	ISRG	3.03%	CVS	2.37%
10.0	VCSH	2.94%	IEP	2.37%
10.0	BUD	2.84%	FRA	2.37%
10.0	SNY	2.84%	EMB	2.27%
10.0	GME	2.84%	KALU	2.27%
10.0	AMZN	2.75%	AMZN	2.27%
10.0	BXP	2.56%	TRGP	2.27%
10.0	GE	2.56%	IRM	2.27%
10.0	EXPE	2.56%	LNC	2.18%
10.0	NEM	2.46%	EXPE	2.18%



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## All TMD: 21d

Results reflect ticker level average 99% VaR breakage (VaRBreak) across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	VaRBreak_V	Ticker_S	VaRBreak_S
21.0	SBNY	21.48%	SIVBQ	7.04%
21.0	SIVBQ	14.07%	FRCB	5.56%
21.0	CHTR	12.06%	SBNY	5.56%
21.0	AMC	9.0%	LW	4.69%
21.0	VCSH	6.89%	MUB	4.5%
21.0	TSLA	6.79%	GSK	4.31%
21.0	FRCB	6.67%	CHTR	4.11%
21.0	ZTS	5.65%	CTLT	3.59%
21.0	BUD	4.98%	INTU	2.87%
21.0	LQD	4.69%	WDC	2.78%
21.0	GNRC	4.69%	TFC	2.68%
21.0	AAP	4.69%	CMG	2.68%
21.0	UNH	4.5%	CNC	2.68%
21.0	PRGO	4.4%	PCG	2.68%
21.0	B	4.11%	EMB	2.59%
21.0	GSK	3.83%	SNY	2.58%
21.0	CTLT	3.59%	FITB	2.58%
21.0	BIIB	3.54%	AAP	2.58%
21.0	BHC	3.54%	PRGO	2.49%
21.0	MSTR	3.44%	IEP	2.49%
21.0	KALU	3.35%	NEM	2.49%
21.0	BXP	3.16%	UNH	2.49%
21.0	NEM	3.16%	FIS	2.39%
21.0	CMA	3.15%	BUD	2.39%
21.0	CNC	2.87%	INTC	2.3%
21.0	META	2.78%	VFC	2.2%
21.0	AMZN	2.68%	BHC	2.2%
21.0	KEY	2.68%	FRA	2.2%
21.0	CVS	2.58%	COST	2.2%
21.0	ZION	2.42%	VCSH	2.11%



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## All TMD: 63d

Results reflect ticker level average 99% VaR breakage (VaRBreak) across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	VaRBreak_V	Ticker_S	VaRBreak_S
63.0	SBNY	48.89%	SIVBQ	20.37%
63.0	SIVBQ	25.19%	FRCB	20.0%
63.0	FRCB	20.74%	SBNY	20.0%
63.0	CHTR	19.34%	IEP	6.28%
63.0	AMC	10.27%	GSK	6.18%
63.0	MSTR	8.37%	BHC	6.08%
63.0	AAP	8.08%	CNC	5.28%
63.0	VCSH	7.28%	UNH	4.59%
63.0	ZION	5.66%	CTLT	4.25%
63.0	LQD	5.58%	MUB	3.89%
63.0	CNC	5.38%	INTU	3.09%
63.0	BUD	5.18%	PCG	3.09%
63.0	GNRC	5.08%	EMB	2.69%
63.0	PRGO	4.69%	KEY	2.59%
63.0	UNH	4.59%	NEM	2.59%
63.0	GSK	4.39%	USB	2.39%
63.0	B	4.29%	CMA	2.34%
63.0	NFLX	3.89%	VZ	2.19%
63.0	CMA	3.72%	VCSH	2.19%
63.0	BHC	3.69%	BUD	2.19%
63.0	META	3.59%	X	2.17%
63.0	BMY	3.29%	ZION	2.12%
63.0	BXP	3.19%	HCA	1.79%
63.0	TLT	3.09%	VFC	1.79%
63.0	KEY	2.99%	TFC	1.5%
63.0	ON	2.69%	AZN	1.5%
63.0	CTLT	2.64%	LQD	1.4%
63.0	EMB	2.3%	SNY	1.4%
63.0	INTU	2.19%	WDC	1.3%
63.0	NEM	2.19%	AA	1.3%



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## All TMD: 126d

Results reflect ticker level average 99% VaR breakage (VaRBreak) across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	VaRBreak_V	Ticker_S	VaRBreak_S
126.0	SBNY	68.52%	SIVBQ	43.7%
126.0	SIVBQ	45.19%	FRCB	43.33%
126.0	FRCB	43.33%	SBNY	42.22%
126.0	CHTR	22.34%	IEP	13.19%
126.0	AAP	20.11%	GSK	10.0%
126.0	AMC	18.51%	UNH	4.57%
126.0	MSTR	9.68%	BHC	2.87%
126.0	BXP	8.51%	BALL	2.55%
126.0	GSK	7.87%	LW	2.23%
126.0	VCSH	6.17%	CNC	2.02%
126.0	CTLT	6.14%	EMB	1.92%
126.0	VFC	5.96%	NEM	1.91%
126.0	UNH	5.0%	PCG	1.49%
126.0	GNRC	4.26%	VZ	1.28%
126.0	CMA	3.87%	VCSH	1.06%
126.0	TLT	3.72%	MUB	0.64%
126.0	BHC	3.72%	IRM	0.64%
126.0	PRGO	3.62%	CHTR	0.53%
126.0	OXY	3.09%	CTLT	0.48%
126.0	ZION	2.7%	INTC	0.32%
126.0	B	2.34%	CPRT	0.11%
126.0	VNO	1.91%	LEN	0.11%
126.0	NFLX	1.81%	HYG	0.11%
126.0	LQD	1.7%	ON	0.0%
126.0	NEM	1.7%	ORCL	0.0%
126.0	ON	1.49%	NVDA	0.0%
126.0	SNY	1.49%	NWL	0.0%
126.0	META	1.38%	ORLY	0.0%
126.0	BIIB	1.28%	OXY	0.0%
126.0	EMB	1.06%	NVS	0.0%



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## All TMD: 252d

Results reflect ticker level average 99% VaR breakage (VaRBreak) across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	VaRBreak_V	Ticker_S	VaRBreak_S
252.0	SBNY	94.81%	SIVBQ	90.37%
252.0	SIVBQ	90.37%	FRCB	90.0%
252.0	FRCB	89.63%	SBNY	68.89%
252.0	AMC	28.13%	IEP	24.08%
252.0	AAP	26.17%	CNC	3.32%
252.0	CHTR	16.22%	MRK	2.33%
252.0	BIIB	13.39%	UNH	1.11%
252.0	BXP	10.32%	LW	0.12%
252.0	VFC	9.58%	NWL	0.0%
252.0	UNH	9.21%	NEM	0.0%
252.0	CMA	6.91%	NFLX	0.0%
252.0	OXY	6.51%	NVDA	0.0%
252.0	MRK	6.27%	NVS	0.0%
252.0	VNO	5.04%	AA	0.0%
252.0	ZION	4.62%	ON	0.0%
252.0	CTLT	3.85%	MUB	0.0%
252.0	CNC	3.19%	ORCL	0.0%
252.0	BHC	2.7%	ORLY	0.0%
252.0	KEY	2.33%	OXY	0.0%
252.0	GNRC	2.21%	PCG	0.0%
252.0	VCSH	1.84%	PEP	0.0%
252.0	BMY	1.84%	NAVI	0.0%
252.0	UAA	1.6%	MSTR	0.0%
252.0	EMB	1.11%	MU	0.0%
252.0	FIS	1.11%	LUMN	0.0%
252.0	GSK	0.86%	KEY	0.0%
252.0	PRGO	0.86%	KHC	0.0%
252.0	ELAN	0.75%	LEN	0.0%
252.0	TLT	0.74%	LLY	0.0%
252.0	FITB	0.49%	LNC	0.0%



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### P30D: 1d

Results reflect ticker level average 99% VaR breakage (VaRBreak) across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	VaRBreak_V	Ticker_S	VaRBreak_S
1.0	TMUS	20.0%	OXY	15.0%
1.0	TDG	10.0%	AA	10.0%
1.0	MRK	10.0%	INTU	10.0%
1.0	CDNS	10.0%	GE	10.0%
1.0	NFLX	10.0%	MSFT	10.0%
1.0	CMCSA	10.0%	CHTR	10.0%
1.0	HD	10.0%	XOM	10.0%
1.0	NVDA	5.0%	MRK	5.0%
1.0	GLD	5.0%	META	5.0%
1.0	BBY	5.0%	HCA	5.0%
1.0	GE	5.0%	NFLX	5.0%
1.0	CHTR	5.0%	CAH	5.0%
1.0	LLY	5.0%	LVS	5.0%
1.0	CAH	5.0%	FSUGY	5.0%
1.0	ORCL	5.0%	PCG	5.0%
1.0	PEP	5.0%	FCX	5.0%
1.0	HCA	5.0%	COST	5.0%
1.0	EXPE	5.0%	CMCSA	5.0%
1.0	AMC	5.0%	TDG	5.0%
1.0	XOM	5.0%	GSK	5.0%
1.0	INTU	5.0%	CYH	5.0%
1.0	AVGO	5.0%	VFC	5.0%
1.0	META	5.0%	B	5.0%
1.0	NVS	0.0%	ACGL	5.0%
1.0	PCG	0.0%	ADBE	5.0%
1.0	OXY	0.0%	WFC	5.0%
1.0	ORLY	0.0%	VZ	5.0%
1.0	LQD	0.0%	TRGP	0.0%
1.0	LUMN	0.0%	NAVI	0.0%
1.0	ON	0.0%	ORCL	0.0%



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### P30D: 10d

Results reflect ticker level average 99% VaR breakage (VaRBreak) across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	VaRBreak_V	Ticker_S	VaRBreak_S
10.0	NFLX	72.73%	CHTR	36.36%
10.0	GE	36.36%	OXY	18.18%
10.0	CHTR	36.36%	HCA	18.18%
10.0	PCG	27.27%	GSK	9.09%
10.0	HCA	18.18%	FCX	9.09%
10.0	GSK	9.09%	AA	0.0%
10.0	AA	0.0%	NVDA	0.0%
10.0	MUB	0.0%	MUB	0.0%
10.0	NAVI	0.0%	NAVI	0.0%
10.0	NEM	0.0%	NEM	0.0%
10.0	NVS	0.0%	NFLX	0.0%
10.0	NVDA	0.0%	NWL	0.0%
10.0	MSTR	0.0%	NVS	0.0%
10.0	NWL	0.0%	MSTR	0.0%
10.0	ON	0.0%	ON	0.0%
10.0	ORCL	0.0%	ORCL	0.0%
10.0	ORLY	0.0%	ORLY	0.0%
10.0	OXY	0.0%	PCG	0.0%
10.0	MU	0.0%	MU	0.0%
10.0	MSI	0.0%	MSI	0.0%
10.0	PHM	0.0%	PHM	0.0%
10.0	MSFT	0.0%	MSFT	0.0%
10.0	MS	0.0%	MS	0.0%
10.0	MRK	0.0%	MRK	0.0%
10.0	MOS	0.0%	MOS	0.0%
10.0	MNST	0.0%	MNST	0.0%
10.0	META	0.0%	META	0.0%
10.0	LW	0.0%	LW	0.0%
10.0	LVS	0.0%	LVS	0.0%
10.0	LUMN	0.0%	LUMN	0.0%



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## P90D: 1d

Results reflect ticker level average 99% VaR breakage (VaRBreak) across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	VaRBreak_V	Ticker_S	VaRBreak_S
1.0	NFLX	14.75%	HSBC	9.84%
1.0	GLD	13.11%	WDC	8.2%
1.0	INTU	9.84%	B	8.2%
1.0	CDNS	9.84%	XOM	6.56%
1.0	TMUS	8.2%	OXY	6.56%
1.0	HD	8.2%	NEM	6.56%
1.0	AMC	8.2%	TFC	6.56%
1.0	CMCSA	4.92%	INTU	6.56%
1.0	BXP	4.92%	VCSH	4.92%
1.0	GNRC	4.92%	CAH	4.92%
1.0	CAH	4.92%	KEY	4.92%
1.0	META	4.92%	AA	4.92%
1.0	UNH	4.92%	MS	4.92%
1.0	KHC	4.92%	GS	4.92%
1.0	TDG	4.92%	GLD	4.92%
1.0	LLY	4.92%	CSTM	4.92%
1.0	WDC	4.92%	GE	4.92%
1.0	CLF	3.28%	FSUGY	4.92%
1.0	CCL	3.28%	BHP	4.92%
1.0	LNC	3.28%	ELAN	4.92%
1.0	GE	3.28%	MSFT	4.92%
1.0	IEP	3.28%	PCG	4.92%
1.0	EXPE	3.28%	MU	4.92%
1.0	BBY	3.28%	ORLY	4.92%
1.0	POST	3.28%	ADBE	4.92%
1.0	MRK	3.28%	MUB	4.92%
1.0	QCOM	3.28%	AMAT	4.92%
1.0	AZO	3.28%	WFC	4.92%
1.0	PEP	3.28%	SLV	4.92%
1.0	KALU	3.28%	SBUX	3.28%



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## P90D: 10d

Results reflect ticker level average 99% VaR breakage (VaRBreak) across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	VaRBreak_V	Ticker_S	VaRBreak_S
10.0	GE	28.85%	MNST	11.54%
10.0	NFLX	21.15%	PRGO	9.62%
10.0	PRGO	19.23%	B	9.62%
10.0	BXP	15.38%	GLD	9.62%
10.0	GNRC	15.38%	LNC	7.69%
10.0	INTU	13.46%	FITB	7.69%
10.0	GLD	11.54%	INTU	7.69%
10.0	KHC	9.62%	CCL	7.69%
10.0	AMC	9.62%	CHTR	7.69%
10.0	BUD	9.62%	BHP	7.69%
10.0	CHTR	7.69%	NVS	7.69%
10.0	CLF	7.69%	OXY	7.69%
10.0	CVS	7.69%	HSBC	5.77%
10.0	CCL	7.69%	T	5.77%
10.0	PCG	5.77%	XOM	5.77%
10.0	VZ	5.77%	TFC	5.77%
10.0	MU	3.85%	BUD	5.77%
10.0	GSK	3.85%	TEVA	5.77%
10.0	AMZN	3.85%	CLF	3.85%
10.0	T	3.85%	EMB	3.85%
10.0	HCA	3.85%	FCX	3.85%
10.0	HD	3.85%	HCA	3.85%
10.0	LQD	3.85%	VICI	3.85%
10.0	OXY	3.85%	MU	3.85%
10.0	TDG	1.92%	VZ	3.85%
10.0	FCX	1.92%	VCSH	3.85%
10.0	FIS	1.92%	FIS	1.92%
10.0	META	1.92%	CSCO	1.92%
10.0	TMUS	1.92%	MS	1.92%
10.0	BHP	1.92%	RIO	1.92%



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## P90D: 21d

Results reflect ticker level average 99% VaR breakage (VaRBreak) across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	VaRBreak_V	Ticker_S	VaRBreak_S
21.0	BXP	46.34%	FITB	21.95%
21.0	PRGO	39.02%	TFC	19.51%
21.0	BUD	24.39%	B	14.63%
21.0	LQD	12.2%	BUD	14.63%
21.0	GLD	12.2%	MNST	12.2%
21.0	GSK	9.76%	EMB	12.2%
21.0	CLF	7.32%	MUB	12.2%
21.0	TMUS	7.32%	CCL	9.76%
21.0	GNRC	7.32%	WFC	7.32%
21.0	CCL	4.88%	HSEC	7.32%
21.0	BALL	4.88%	KEY	4.88%
21.0	KHC	4.88%	GT	4.88%
21.0	FCX	2.44%	VCSH	4.88%
21.0	LNC	2.44%	USB	4.88%
21.0	CVS	2.44%	HD	4.88%
21.0	HD	2.44%	RIO	2.44%
21.0	CHTR	2.44%	GSK	2.44%
21.0	INTU	2.44%	CHTR	2.44%
21.0	T	2.44%	GE	2.44%
21.0	OXY	0.0%	BXP	2.44%
21.0	PCG	0.0%	FRA	2.44%
21.0	NVS	0.0%	BHP	2.44%
21.0	NWL	0.0%	BAC	2.44%
21.0	LUMN	0.0%	LEN	2.44%
21.0	ORLY	0.0%	NVDA	0.0%
21.0	ON	0.0%	PCG	0.0%
21.0	ORCL	0.0%	OXY	0.0%
21.0	META	0.0%	LVS	0.0%
21.0	NFLX	0.0%	ORLY	0.0%
21.0	NVDA	0.0%	ORCL	0.0%



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## P365D: 1d

Results reflect ticker level average 99% VaR breakage (VaRBreak) across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	VaRBreak_V	Ticker_S	VaRBreak_S
1.0	ZTS	8.8%	NEM	5.2%
1.0	LLY	8.4%	B	4.8%
1.0	AMC	7.2%	INTU	4.0%
1.0	CMCSA	5.6%	WDC	4.0%
1.0	CDNS	5.6%	SLV	3.61%
1.0	TDG	5.2%	VCSH	3.6%
1.0	GWV	5.2%	GLD	3.6%
1.0	GLD	4.8%	CLF	3.2%
1.0	UNH	4.4%	HSBC	3.2%
1.0	TSLA	4.0%	OXY	2.8%
1.0	NFLX	4.0%	ABBV	2.8%
1.0	KHC	3.6%	TFC	2.4%
1.0	TMUS	3.6%	CAH	2.4%
1.0	GNRC	3.6%	ORLY	2.4%
1.0	SBUX	3.2%	TDG	2.4%
1.0	INTU	3.2%	POST	2.4%
1.0	TXN	2.8%	NVS	2.4%
1.0	AAP	2.4%	AA	2.4%
1.0	CVS	2.4%	GSK	2.4%
1.0	MSTR	2.4%	MNST	2.4%
1.0	PRGO	2.4%	ADBE	2.4%
1.0	VZ	2.4%	RIO	2.4%
1.0	PCG	2.0%	MU	2.4%
1.0	HD	2.0%	MOS	2.0%
1.0	QCOM	2.0%	MSI	2.0%
1.0	SNY	2.0%	FSUGY	2.0%
1.0	META	2.0%	KEY	2.0%
1.0	AMGN	2.0%	GNRC	2.0%
1.0	AMD	2.0%	FITB	2.0%
1.0	POST	2.0%	KHC	2.0%



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## P365D: 10d

Results reflect ticker level average 99% VaR breakage (VaRBreak) across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	VaRBreak_V	Ticker_S	VaRBreak_S
10.0	AMC	12.86%	INTU	8.3%
10.0	ZTS	10.37%	CMG	8.3%
10.0	UNH	9.96%	PRGO	7.88%
10.0	PRGO	9.54%	CHTR	5.81%
10.0	TDG	8.71%	FIS	4.98%
10.0	CHTR	7.05%	CPRT	4.56%
10.0	BUD	6.64%	UNH	4.56%
10.0	INTU	6.22%	ZTS	4.15%
10.0	GE	6.22%	BUD	4.15%
10.0	MSTR	5.81%	LW	4.15%
10.0	AMZN	4.98%	LUMN	4.15%
10.0	NFLX	4.98%	CNC	4.15%
10.0	CLF	4.98%	SLV	3.75%
10.0	CNC	4.56%	TDG	3.73%
10.0	MSI	4.15%	AZO	3.73%
10.0	LW	4.15%	MSI	3.32%
10.0	GNRC	4.15%	PCG	2.9%
10.0	BXP	3.73%	GLD	2.9%
10.0	TSLA	3.73%	IRM	2.9%
10.0	TXN	3.32%	NAVI	2.9%
10.0	CZR	3.32%	B	2.49%
10.0	QCOM	2.9%	MNST	2.49%
10.0	GLD	2.9%	MOS	2.49%
10.0	LLY	2.9%	META	2.07%
10.0	CMCSA	2.9%	MSFT	2.07%
10.0	PCG	2.49%	LNC	2.07%
10.0	CVS	2.49%	T	2.07%
10.0	IRM	2.07%	GBTC	2.07%
10.0	KHC	2.07%	AMZN	2.07%
10.0	KALU	1.66%	FCX	2.07%



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## P365D: 21d

Results reflect ticker level average 99% VaR breakage (VaRBreak) across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	VaRBreak_V	Ticker_S	VaRBreak_S
21.0	PRGO	16.09%	INTU	10.43%
21.0	ZTS	13.48%	CNC	9.13%
21.0	UNH	10.87%	PRGO	9.13%
21.0	CHTR	9.57%	CHTR	8.7%
21.0	BXP	9.13%	CPRT	7.39%
21.0	CNC	9.13%	CMG	6.52%
21.0	BUD	9.13%	MSI	5.65%
21.0	MSI	8.7%	FIS	5.65%
21.0	INTU	8.26%	BUD	3.91%
21.0	CMCSA	7.83%	FITB	3.91%
21.0	AMC	6.96%	MSFT	3.91%
21.0	MSTR	6.96%	TFC	3.48%
21.0	IRM	5.22%	PCG	3.04%
21.0	NAVI	3.48%	EXPE	2.61%
21.0	LW	3.04%	NAVI	2.61%
21.0	CLF	3.04%	B	2.61%
21.0	QCOM	2.61%	SLV	2.18%
21.0	LQD	2.17%	MUB	2.17%
21.0	GLD	2.17%	EMB	2.17%
21.0	AMZN	2.17%	MNST	2.17%
21.0	TDG	1.74%	ZTS	1.74%
21.0	CZR	1.74%	IRM	1.74%
21.0	NFLX	1.74%	GBTC	1.74%
21.0	GSK	1.74%	HD	1.74%
21.0	SLV	1.31%	CCL	1.74%
21.0	TMUS	1.3%	MOS	1.74%
21.0	GBTC	1.3%	LW	1.74%
21.0	PCG	1.3%	WFC	1.3%
21.0	GNRC	1.3%	HSBC	1.3%
21.0	META	1.3%	AZO	1.3%



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## P365D: 63d

Results reflect ticker level average 99% VaR breakage (VaRBreak) across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	VaRBreak_V	Ticker_S	VaRBreak_S
63.0	CHTR	26.06%	CNC	17.02%
63.0	PRGO	24.47%	INTU	15.96%
63.0	MSTR	24.47%	SLV	1.6%
63.0	CNC	21.81%	MSFT	1.6%
63.0	NFLX	12.23%	FIS	1.06%
63.0	INTU	11.7%	PRGO	0.53%
63.0	TDG	9.57%	CPRT	0.53%
63.0	CMCSA	7.98%	NAVI	0.0%
63.0	BUD	7.45%	NEM	0.0%
63.0	BXP	5.32%	NFLX	0.0%
63.0	META	4.79%	NVDA	0.0%
63.0	UNH	2.66%	NVS	0.0%
63.0	MSI	2.66%	NWL	0.0%
63.0	AMC	2.66%	MU	0.0%
63.0	NWL	1.6%	ON	0.0%
63.0	FIS	0.53%	ORCL	0.0%
63.0	CYH	0.53%	ORLY	0.0%
63.0	ORCL	0.0%	OXY	0.0%
63.0	ORLY	0.0%	PCG	0.0%
63.0	ON	0.0%	MUB	0.0%
63.0	NVS	0.0%	MSTR	0.0%
63.0	PEP	0.0%	PHM	0.0%
63.0	OXY	0.0%	LUMN	0.0%
63.0	NVDA	0.0%	KEY	0.0%
63.0	PCG	0.0%	KHC	0.0%
63.0	AA	0.0%	LEN	0.0%
63.0	NEM	0.0%	LLY	0.0%
63.0	PHM	0.0%	LNC	0.0%
63.0	MUB	0.0%	LQD	0.0%
63.0	MU	0.0%	LVS	0.0%



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## P365D: 126d

Results reflect ticker level average 99% VaR breakage (VaRBreak) across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	VaRBreak_V	Ticker_S	VaRBreak_S
126.0	MSTR	68.8%	CPRT	0.8%
126.0	CHTR	44.8%	NVS	0.0%
126.0	PRGO	27.2%	MU	0.0%
126.0	AMC	23.2%	MUB	0.0%
126.0	BXP	16.8%	NAVI	0.0%
126.0	NFLX	13.6%	NEM	0.0%
126.0	AAP	11.2%	NFLX	0.0%
126.0	ZTS	4.0%	NVDA	0.0%
126.0	ORCL	2.4%	NWL	0.0%
126.0	LEN	1.6%	MSI	0.0%
126.0	CNC	0.8%	ON	0.0%
126.0	CLF	0.8%	ORCL	0.0%
126.0	TDG	0.8%	ORLY	0.0%
126.0	LQD	0.0%	OXY	0.0%
126.0	LUMN	0.0%	PCG	0.0%
126.0	PEP	0.0%	PEP	0.0%
126.0	PCG	0.0%	MSTR	0.0%
126.0	OXY	0.0%	MSFT	0.0%
126.0	ORLY	0.0%	POST	0.0%
126.0	ON	0.0%	LQD	0.0%
126.0	NWL	0.0%	KALU	0.0%
126.0	NVS	0.0%	KEY	0.0%
126.0	KHC	0.0%	KHC	0.0%
126.0	NVDA	0.0%	LEN	0.0%
126.0	LLY	0.0%	LLY	0.0%
126.0	NEM	0.0%	LNC	0.0%
126.0	NAVI	0.0%	LUMN	0.0%
126.0	MUB	0.0%	MS	0.0%
126.0	PHM	0.0%	LVS	0.0%
126.0	LNC	0.0%	LW	0.0%



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## Top 30 Tickers By ROVBC

### All TMD: 1d

Results reflect ticker level average 99% VaR based ROVBC across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
1.0	GME	0.42%	MSTR	0.31%
1.0	MSTR	0.35%	WDC	0.25%
1.0	MU	0.23%	NVDA	0.25%
1.0	WDC	0.19%	VST	0.24%
1.0	ORCL	0.17%	MU	0.23%
1.0	ON	0.15%	AVGO	0.22%
1.0	AVGO	0.14%	PWR	0.21%
1.0	NVDA	0.13%	TEVA	0.17%
1.0	META	0.13%	GME	0.17%
1.0	NFLX	0.13%	X	0.17%
1.0	LLY	0.13%	AMD	0.17%
1.0	AAPL	0.13%	TRGP	0.16%
1.0	PWR	0.12%	GBTC	0.15%
1.0	GOOGL	0.12%	GE	0.15%
1.0	AMD	0.12%	LLY	0.15%
1.0	QCOM	0.12%	SLV	0.14%
1.0	GW	0.12%	AMAT	0.14%
1.0	VST	0.11%	CAH	0.14%
1.0	X	0.1%	THC	0.12%
1.0	GNRC	0.1%	GOOGL	0.12%
1.0	TEVA	0.09%	INTC	0.12%
1.0	XOM	0.09%	ETRN	0.12%
1.0	UNH	0.09%	IRM	0.11%
1.0	AMZN	0.08%	NFLX	0.11%
1.0	THC	0.08%	ON	0.11%
1.0	UAA	0.08%	META	0.11%
1.0	AA	0.08%	GS	0.11%
1.0	GE	0.07%	PHM	0.1%
1.0	TRGP	0.07%	HSBC	0.1%
1.0	GBTC	0.07%	CSTM	0.1%



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## All TMD: 10d

Results reflect ticker level average 99% VaR based ROVBC across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
10.0	MSTR	5.71%	MSTR	3.17%
10.0	GME	4.17%	NVDA	2.51%
10.0	MU	2.96%	WDC	2.51%
10.0	WDC	2.67%	VST	2.32%
10.0	NVDA	1.87%	MU	2.23%
10.0	META	1.7%	AVGO	2.21%
10.0	NFLX	1.63%	PWR	1.93%
10.0	TEVA	1.57%	TEVA	1.7%
10.0	VST	1.53%	X	1.58%
10.0	AVGO	1.5%	TRGP	1.5%
10.0	PWR	1.41%	AMD	1.49%
10.0	ORCL	1.34%	GE	1.47%
10.0	KALU	1.31%	LLY	1.47%
10.0	INTC	1.28%	GME	1.45%
10.0	AMD	1.28%	CAH	1.42%
10.0	ETRN	1.26%	GBTC	1.41%
10.0	SLV	1.23%	ETRN	1.41%
10.0	LLY	1.2%	SLV	1.38%
10.0	AAPL	1.1%	AMAT	1.34%
10.0	CTLT	1.06%	META	1.3%
10.0	GBTC	1.06%	THC	1.21%
10.0	GOOGL	1.02%	NFLX	1.21%
10.0	CAH	1.01%	IRM	1.1%
10.0	GE	1.01%	PHM	1.07%
10.0	FCX	0.99%	GS	1.05%
10.0	XOM	0.96%	ORCL	1.04%
10.0	AA	0.93%	GOOGL	1.04%
10.0	GNRC	0.91%	INTC	1.04%
10.0	X	0.9%	TSLA	0.98%
10.0	AMAT	0.89%	HSBC	0.98%



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## All TMD: 21d

Results reflect ticker level average 99% VaR based ROVBC across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
21.0	MSTR	12.57%	MSTR	6.88%
21.0	GME	7.31%	NVDA	5.35%
21.0	WDC	5.64%	WDC	5.21%
21.0	MU	4.48%	VST	5.0%
21.0	NFLX	4.37%	AVGO	4.46%
21.0	META	4.32%	MU	4.45%
21.0	NVDA	3.81%	PWR	4.02%
21.0	VST	3.7%	TEVA	3.63%
21.0	TEVA	3.6%	ETRN	3.5%
21.0	AVGO	3.34%	GE	3.24%
21.0	PWR	2.88%	X	3.17%
21.0	GBTC	2.86%	TRGP	3.15%
21.0	AMD	2.73%	LLY	3.1%
21.0	CTLT	2.71%	CAH	3.08%
21.0	AA	2.69%	GBTC	3.04%
21.0	KALU	2.56%	AMD	3.0%
21.0	ETRN	2.53%	SLV	2.84%
21.0	GE	2.44%	AMAT	2.81%
21.0	AMAT	2.27%	META	2.8%
21.0	XOM	2.27%	NFLX	2.74%
21.0	SLV	2.26%	THC	2.59%
21.0	CAH	2.24%	PHM	2.25%
21.0	LLY	2.24%	GME	2.25%
21.0	ORCL	2.16%	IRM	2.25%
21.0	THC	2.15%	TSLA	2.25%
21.0	INTC	2.13%	GS	2.24%
21.0	TSLA	2.02%	GOOGL	2.16%
21.0	X	1.96%	ORCL	2.15%
21.0	NEM	1.92%	HSBC	2.06%
21.0	GNRC	1.92%	GW	2.05%



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## All TMD: 63d

Results reflect ticker level average 99% VaR based ROVBC across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
63.0	WDC	22.23%	MSTR	19.86%
63.0	MSTR	20.59%	NVDA	17.71%
63.0	META	18.07%	WDC	17.29%
63.0	NVDA	16.38%	VST	16.5%
63.0	VST	14.49%	MU	14.87%
63.0	AVGO	14.32%	AVGO	13.34%
63.0	MU	13.77%	PWR	11.32%
63.0	TEVA	10.67%	GE	10.68%
63.0	CTLT	10.43%	TEVA	10.63%
63.0	NFLX	10.17%	ETRN	10.28%
63.0	ETRN	10.07%	GBTC	10.23%
63.0	PWR	9.35%	META	9.83%
63.0	KALU	9.08%	CAH	9.49%
63.0	LLY	9.01%	LLY	9.46%
63.0	GBTC	8.83%	SLV	9.1%
63.0	SLV	8.82%	NFLX	9.03%
63.0	CAH	8.5%	TRGP	8.98%
63.0	AMAT	8.49%	AMAT	8.61%
63.0	GE	8.3%	THC	8.51%
63.0	GILD	7.46%	AMD	8.02%
63.0	NEM	7.31%	PHM	7.91%
63.0	ORCL	7.14%	GS	6.92%
63.0	THC	7.02%	GOOGL	6.87%
63.0	TSLA	6.82%	CCL	6.68%
63.0	AMD	6.77%	ORCL	6.65%
63.0	GME	6.69%	HSBC	6.63%
63.0	GOOGL	6.63%	GLD	6.26%
63.0	GS	6.29%	GILD	6.11%
63.0	GNRC	6.25%	B	6.1%
63.0	AMZN	6.1%	TSLA	5.94%



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## All TMD: 126d

Results reflect ticker level average 99% VaR based ROVBC across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
126.0	WDC	61.73%	MSTR	51.15%
126.0	MSTR	58.29%	NVDA	44.77%
126.0	META	48.4%	WDC	40.81%
126.0	NVDA	46.93%	VST	36.89%
126.0	AVGO	41.9%	MU	35.79%
126.0	MU	40.58%	AVGO	30.34%
126.0	VST	35.26%	GBTC	30.11%
126.0	GBTC	31.09%	GE	25.9%
126.0	NFLX	28.23%	META	23.74%
126.0	TEVA	27.15%	NFLX	23.04%
126.0	LLY	26.15%	TEVA	22.66%
126.0	SLV	25.07%	PWR	22.17%
126.0	PWR	23.29%	THC	20.82%
126.0	AMD	21.69%	CAH	20.24%
126.0	GE	21.46%	SLV	20.14%
126.0	AMAT	21.18%	LLY	19.99%
126.0	CAH	20.74%	AMD	19.15%
126.0	GOOGL	20.44%	AMAT	18.75%
126.0	THC	19.78%	ETRN	18.49%
126.0	ORCL	18.87%	TRGP	18.09%
126.0	NEM	18.55%	PHM	17.62%
126.0	GILD	18.38%	ORCL	16.64%
126.0	ETRN	18.14%	GOOGL	16.28%
126.0	B	17.9%	GS	15.44%
126.0	KALU	17.64%	B	15.24%
126.0	TSLA	17.13%	CCL	14.38%
126.0	AMZN	16.69%	HSBC	13.79%
126.0	ISRG	16.31%	GLD	13.46%
126.0	INTC	16.01%	JPM	13.18%
126.0	GS	14.22%	HCA	12.84%



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## All TMD: 252d

Results reflect ticker level average 99% VaR based ROVBC across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
252.0	MSTR	205.25%	MSTR	175.05%
252.0	VST	132.87%	NVDA	121.14%
252.0	NVDA	119.45%	VST	109.27%
252.0	WDC	117.83%	GBTC	95.86%
252.0	META	108.33%	WDC	79.54%
252.0	AVGO	101.42%	AVGO	76.63%
252.0	GBTC	96.16%	MU	68.25%
252.0	MU	84.3%	META	65.44%
252.0	NFLX	82.44%	GE	61.82%
252.0	GE	67.77%	NFLX	59.69%
252.0	THC	60.83%	THC	48.84%
252.0	SLV	54.53%	PWR	47.27%
252.0	AMZN	53.59%	PHM	43.32%
252.0	ORCL	53.43%	LLY	42.63%
252.0	B	50.71%	TEVA	41.15%
252.0	GOOGL	50.1%	TRGP	40.22%
252.0	TEVA	49.42%	CAH	39.5%
252.0	ISRG	49.2%	AMD	38.44%
252.0	NEM	46.41%	CCL	37.88%
252.0	CAH	45.93%	ORCL	37.55%
252.0	AMAT	44.24%	SLV	37.12%
252.0	AMD	43.25%	ETRN	35.78%
252.0	PWR	42.98%	AMAT	35.49%
252.0	TDG	41.36%	GS	32.85%
252.0	PHM	39.89%	GOOGL	32.47%
252.0	LLY	38.88%	JPM	31.38%
252.0	GILD	37.28%	TDG	30.62%
252.0	CCL	37.04%	HSBC	30.31%
252.0	INTU	35.96%	ISRG	29.18%
252.0	ETRN	35.77%	GLD	29.07%



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### P30D: 1d

Results reflect ticker level average 99% VaR based ROVBC across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
1.0	UNH	3.8%	INTC	3.61%
1.0	AMC	3.54%	AMD	2.72%
1.0	INTC	3.43%	ON	2.51%
1.0	AMD	3.18%	CNC	2.38%
1.0	CNC	2.67%	AMC	2.14%
1.0	WDC	2.48%	WDC	1.94%
1.0	QCOM	2.37%	TXN	1.91%
1.0	ON	2.3%	QCOM	1.82%
1.0	MSTR	2.02%	MU	1.78%
1.0	ORCL	1.53%	MSTR	1.6%
1.0	TXN	1.42%	UNH	1.55%
1.0	MU	1.29%	AVGO	1.48%
1.0	KALU	1.26%	GNRC	1.41%
1.0	CVS	1.09%	PWR	1.38%
1.0	CLF	1.01%	KALU	1.36%
1.0	BXP	0.83%	GOOGL	1.33%
1.0	GOOGL	0.78%	LUMN	1.18%
1.0	IRM	0.67%	AMZN	1.17%
1.0	LUMN	0.66%	IRM	1.15%
1.0	LW	0.65%	CLF	1.12%
1.0	AMZN	0.64%	CDNS	0.87%
1.0	META	0.63%	CSCO	0.82%
1.0	VFC	0.63%	VNO	0.8%
1.0	GNRC	0.61%	SBUX	0.79%
1.0	GBTC	0.56%	TEVA	0.79%
1.0	AAP	0.54%	NWL	0.77%
1.0	PWR	0.54%	CVS	0.72%
1.0	NAVI	0.53%	CSTM	0.71%
1.0	CDNS	0.53%	MS	0.7%
1.0	NWL	0.53%	BXP	0.69%



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### P30D: 10d

Results reflect ticker level average 99% VaR based ROVBC across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
10.0	MSTR	58.84%	ON	34.5%
10.0	AMC	49.21%	AMD	30.54%
10.0	INTC	48.93%	INTC	30.11%
10.0	ORCL	48.04%	MSTR	27.53%
10.0	UNH	41.52%	AMC	25.36%
10.0	ON	28.65%	TXN	21.36%
10.0	AMD	28.13%	LUMN	18.49%
10.0	MU	26.43%	KALU	18.29%
10.0	KALU	19.04%	WDC	18.19%
10.0	LUMN	16.95%	MU	17.88%
10.0	VFC	16.77%	CNC	17.81%
10.0	TXN	15.43%	AVGO	16.24%
10.0	QCOM	15.38%	ORCL	15.89%
10.0	AVGO	14.59%	UNH	15.71%
10.0	CNC	13.72%	CDNS	13.4%
10.0	META	13.42%	QCOM	12.53%
10.0	BXP	12.72%	AMZN	12.01%
10.0	WDC	10.61%	VFC	11.44%
10.0	EXPE	10.36%	MSFT	10.42%
10.0	GBTC	10.19%	NWL	10.28%
10.0	AMZN	8.66%	GNRC	10.22%
10.0	NAVI	8.53%	NVDA	10.13%
10.0	NVDA	8.38%	DHI	9.76%
10.0	CLF	8.33%	GOOGL	9.48%
10.0	LW	8.14%	VNO	9.3%
10.0	PWR	7.57%	BXP	9.11%
10.0	GNRC	7.38%	CLF	9.01%
10.0	GME	7.27%	EXPE	8.75%
10.0	NWL	6.97%	PWR	8.7%
10.0	CDNS	6.58%	META	8.25%



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## P90D: 1d

Results reflect ticker level average 99% VaR based ROVBC across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
1.0	INTC	1.19%	INTC	1.21%
1.0	WDC	1.16%	WDC	0.89%
1.0	UNH	1.02%	ON	0.87%
1.0	ORCL	0.97%	GNRC	0.76%
1.0	MSTR	0.82%	PWR	0.73%
1.0	CNC	0.68%	AMD	0.7%
1.0	ON	0.68%	IRM	0.59%
1.0	CZR	0.6%	OXY	0.57%
1.0	AMD	0.59%	CZR	0.57%
1.0	MU	0.49%	CSTM	0.52%
1.0	QCOM	0.46%	KALU	0.48%
1.0	KALU	0.45%	TRGP	0.45%
1.0	GBTC	0.39%	UNH	0.45%
1.0	IRM	0.37%	CNC	0.45%
1.0	OXY	0.36%	MSTR	0.44%
1.0	PCG	0.35%	AVGO	0.42%
1.0	NFLX	0.35%	TXN	0.41%
1.0	AAP	0.34%	MU	0.37%
1.0	JAZZ	0.29%	AAP	0.37%
1.0	AMC	0.29%	AMAT	0.36%
1.0	TXN	0.28%	JAZZ	0.34%
1.0	PWR	0.28%	QCOM	0.31%
1.0	CVS	0.28%	CDNS	0.26%
1.0	AMAT	0.24%	SBUX	0.25%
1.0	KHC	0.21%	BHP	0.25%
1.0	CSTM	0.17%	NFLX	0.24%
1.0	TRGP	0.15%	CSCO	0.24%
1.0	BUD	0.14%	AMC	0.22%
1.0	BHP	0.13%	AA	0.22%
1.0	GOOGL	0.13%	GOOGL	0.21%



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## P90D: 10d

Results reflect ticker level average 99% VaR based ROVBC across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
10.0	MSTR	14.91%	INTC	10.7%
10.0	INTC	13.4%	AMD	8.51%
10.0	ORCL	10.88%	ON	8.22%
10.0	MU	9.93%	WDC	8.04%
10.0	AMD	9.85%	CZR	6.81%
10.0	UNH	9.58%	AMC	6.59%
10.0	NFLX	9.37%	MSTR	6.11%
10.0	CZR	8.8%	CSTM	5.14%
10.0	AMC	7.04%	AVGO	4.98%
10.0	ON	5.65%	MU	4.95%
10.0	KALU	5.54%	UNH	4.85%
10.0	WDC	5.12%	OXY	4.8%
10.0	AVGO	4.28%	PWR	4.71%
10.0	GBTC	3.92%	AMAT	4.36%
10.0	PWR	3.7%	IRM	4.21%
10.0	OXY	3.48%	KALU	4.18%
10.0	VFC	3.41%	GNRC	4.08%
10.0	CNC	3.24%	JAZZ	3.92%
10.0	EXPE	3.23%	AMZN	3.77%
10.0	LUMN	3.21%	NFLX	3.65%
10.0	META	3.14%	TXN	3.34%
10.0	JAZZ	3.0%	LUMN	3.3%
10.0	IRM	2.43%	ORCL	2.99%
10.0	AA	2.42%	CDNS	2.79%
10.0	AMZN	2.11%	TRGP	2.64%
10.0	AMAT	2.07%	CNC	2.6%
10.0	TXN	1.97%	NVDA	2.41%
10.0	CVS	1.96%	AA	2.28%
10.0	CSTM	1.82%	BHP	2.27%
10.0	NVDA	1.71%	EXPE	2.26%



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## P90D: 21d

Results reflect ticker level average 99% VaR based ROVBC across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
21.0	NFLX	24.34%	INTC	24.35%
21.0	AMD	20.76%	AMD	17.1%
21.0	INTC	17.64%	WDC	15.96%
21.0	CZR	17.1%	CZR	14.76%
21.0	MSTR	14.22%	AMC	14.65%
21.0	WDC	13.87%	ON	11.95%
21.0	ON	12.2%	OXY	10.66%
21.0	ORCL	11.64%	CSTM	10.62%
21.0	AMC	10.25%	NFLX	9.84%
21.0	OXY	10.16%	AVGO	8.94%
21.0	GBTC	8.69%	UNH	7.97%
21.0	AMZN	8.64%	KALU	7.94%
21.0	AVGO	6.63%	AMZN	7.8%
21.0	JAZZ	6.26%	MSTR	7.61%
21.0	UNH	5.99%	PWR	7.18%
21.0	LUMN	5.94%	JAZZ	7.13%
21.0	EXPE	5.89%	AA	6.9%
21.0	MU	5.66%	EXPE	6.32%
21.0	AA	5.56%	MU	6.14%
21.0	CSTM	4.96%	AMAT	5.86%
21.0	KALU	4.92%	IRM	5.16%
21.0	PWR	4.76%	LUMN	5.03%
21.0	TXN	4.0%	TRGP	4.7%
21.0	IRM	3.37%	TXN	4.41%
21.0	AMAT	3.05%	GBTC	4.15%
21.0	CNC	2.63%	ORCL	3.84%
21.0	VFC	2.52%	CSCO	3.22%
21.0	MS	2.5%	NVDA	3.1%
21.0	CVS	2.44%	MS	3.05%
21.0	CSCO	2.11%	GOOGL	3.0%



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## P365D: 1d

Results reflect ticker level average 99% VaR based ROVBC across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
1.0	MU	0.87%	WDC	1.0%
1.0	WDC	0.84%	MU	0.83%
1.0	ON	0.53%	X	0.81%
1.0	X	0.46%	INTC	0.71%
1.0	INTC	0.46%	AMD	0.59%
1.0	AMD	0.44%	LUMN	0.49%
1.0	GOOGL	0.39%	CSTM	0.47%
1.0	QCOM	0.34%	AA	0.44%
1.0	AAP	0.34%	AMAT	0.43%
1.0	AA	0.34%	ON	0.43%
1.0	TSLA	0.32%	KALU	0.41%
1.0	KALU	0.32%	SLV	0.4%
1.0	TXN	0.31%	ELAN	0.38%
1.0	ORCL	0.31%	GNRC	0.38%
1.0	CSTM	0.29%	GOOGL	0.37%
1.0	CMA	0.26%	TEVA	0.36%
1.0	UNH	0.25%	PWR	0.35%
1.0	LLY	0.25%	NEM	0.35%
1.0	ELAN	0.25%	B	0.34%
1.0	GNRC	0.24%	AAP	0.34%
1.0	B	0.24%	AVGO	0.34%
1.0	NEM	0.24%	CMA	0.28%
1.0	AMAT	0.24%	TXN	0.26%
1.0	PWR	0.21%	NVDA	0.26%
1.0	NVDA	0.2%	JAZZ	0.25%
1.0	FCX	0.2%	VFC	0.23%
1.0	AMZN	0.2%	RIO	0.23%
1.0	TEVA	0.19%	FCX	0.23%
1.0	EXPE	0.19%	EXPE	0.22%
1.0	CVS	0.17%	BHP	0.22%



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## P365D: 10d

Results reflect ticker level average 99% VaR based ROVBC across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
10.0	X	11.29%	X	11.83%
10.0	MU	10.28%	WDC	9.89%
10.0	WDC	9.31%	MU	8.19%
10.0	INTC	6.0%	INTC	6.44%
10.0	KALU	4.49%	AMD	5.46%
10.0	AMD	4.25%	CSTM	4.46%
10.0	AA	3.77%	LUMN	4.3%
10.0	ON	3.7%	AA	4.26%
10.0	AAP	3.44%	AMAT	4.23%
10.0	TSLA	3.28%	SLV	4.1%
10.0	B	3.03%	KALU	4.08%
10.0	PWR	2.93%	ON	4.03%
10.0	JAZZ	2.91%	B	3.61%
10.0	FCX	2.88%	NEM	3.56%
10.0	AVGO	2.79%	GOOGL	3.45%
10.0	CMA	2.77%	AAP	3.37%
10.0	GOOGL	2.71%	GNRC	3.29%
10.0	NVDA	2.71%	ELAN	3.22%
10.0	NEM	2.71%	AVGO	3.16%
10.0	GNRC	2.43%	TEVA	2.98%
10.0	VFC	2.38%	CMA	2.95%
10.0	EXPE	2.34%	PWR	2.87%
10.0	CSTM	2.32%	JAZZ	2.87%
10.0	AMAT	2.16%	FCX	2.53%
10.0	LUMN	2.14%	NVDA	2.46%
10.0	TXN	2.09%	RIO	2.2%
10.0	ELAN	2.08%	EXPE	2.2%
10.0	ORCL	2.03%	BHP	2.17%
10.0	SLV	2.0%	VFC	2.15%
10.0	TEVA	1.93%	GS	2.15%



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## P365D: 21d

Results reflect ticker level average 99% VaR based ROVBC across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
21.0	X	31.96%	X	27.75%
21.0	WDC	21.42%	WDC	21.01%
21.0	MU	15.24%	MU	17.02%
21.0	AA	10.55%	INTC	13.03%
21.0	INTC	10.52%	AMD	10.59%
21.0	ON	8.77%	AA	9.49%
21.0	AAP	8.18%	CSTM	9.28%
21.0	KALU	7.74%	SLV	9.08%
21.0	NEM	7.66%	AMAT	8.98%
21.0	AMD	7.45%	LUMN	8.46%
21.0	B	6.94%	B	8.35%
21.0	GNRC	6.88%	KALU	8.02%
21.0	AMAT	6.39%	NEM	7.95%
21.0	JAZZ	6.28%	ON	7.0%
21.0	CMA	5.78%	GOOGL	6.94%
21.0	CSTM	5.36%	GNRC	6.4%
21.0	FCX	4.99%	ELAN	6.39%
21.0	VFC	4.73%	TEVA	6.39%
21.0	LUMN	4.71%	CMA	6.32%
21.0	SLV	4.7%	JAZZ	5.97%
21.0	PWR	4.61%	PWR	5.76%
21.0	CVS	4.58%	AAP	5.6%
21.0	ELAN	4.55%	FCX	5.54%
21.0	TEVA	4.41%	AVGO	5.52%
21.0	NVDA	4.34%	RIO	4.73%
21.0	AVGO	4.3%	BHP	4.51%
21.0	OXY	4.15%	EXPE	4.43%
21.0	EXPE	4.11%	NVDA	4.32%
21.0	AMGN	4.03%	GS	4.28%
21.0	GOOGL	3.93%	HSBC	4.21%



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## P365D: 63d

Results reflect ticker level average 99% VaR based ROVBC across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
63.0	WDC	88.96%	WDC	75.39%
63.0	MU	52.25%	MU	60.23%
63.0	AA	39.72%	INTC	36.86%
63.0	INTC	38.87%	SLV	33.73%
63.0	GNRC	32.83%	AA	32.24%
63.0	NEM	30.59%	B	32.13%
63.0	KALU	29.88%	AMAT	28.76%
63.0	AMAT	27.7%	LUMN	28.2%
63.0	LUMN	26.77%	NEM	28.04%
63.0	SLV	26.31%	CSTM	27.68%
63.0	B	25.61%	TEVA	26.16%
63.0	JAZZ	25.51%	GOOGL	23.3%
63.0	TEVA	22.86%	AMD	23.07%
63.0	CSTM	22.09%	ELAN	22.43%
63.0	VFC	18.81%	KALU	21.9%
63.0	OXY	18.15%	CMA	19.64%
63.0	TSLA	17.61%	JAZZ	19.19%
63.0	PWR	17.13%	GNRC	19.07%
63.0	ON	16.77%	RIO	17.07%
63.0	ELAN	16.36%	FCX	16.48%
63.0	GSK	15.76%	PWR	16.12%
63.0	GOOGL	15.52%	VFC	15.24%
63.0	FCX	15.51%	BHP	14.84%
63.0	CMA	15.5%	MRK	14.41%
63.0	AVGO	15.44%	GLD	13.81%
63.0	NVDA	14.59%	GSK	13.66%
63.0	CVS	14.57%	BIIB	13.6%
63.0	AMD	14.2%	TRGP	13.26%
63.0	AAP	14.0%	HSBC	13.25%
63.0	BHP	13.58%	XOM	12.88%



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## P365D: 126d

Results reflect ticker level average 99% VaR based ROVBC across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
126.0	WDC	303.7%	WDC	214.91%
126.0	MU	186.01%	MU	172.53%
126.0	INTC	119.75%	SLV	87.59%
126.0	AA	110.84%	INTC	86.99%
126.0	SLV	102.12%	B	82.25%
126.0	KALU	99.19%	AA	81.06%
126.0	NEM	81.67%	AMAT	71.98%
126.0	B	78.23%	TEVA	71.34%
126.0	TEVA	75.98%	LUMN	70.87%
126.0	AMAT	75.63%	NEM	61.88%
126.0	LUMN	70.74%	CSTM	60.23%
126.0	JAZZ	64.81%	GOOGL	58.2%
126.0	PWR	53.0%	KALU	56.18%
126.0	GOOGL	51.67%	AMD	51.86%
126.0	ELAN	51.49%	ELAN	49.42%
126.0	CSTM	51.41%	JAZZ	46.51%
126.0	VFC	49.87%	CMA	42.99%
126.0	CMA	46.77%	RIO	38.81%
126.0	LLY	46.63%	VFC	37.18%
126.0	AMD	44.06%	CAH	35.4%
126.0	AVGO	43.0%	MRK	33.53%
126.0	GSK	42.29%	BIIB	33.16%
126.0	EXPE	38.59%	EXPE	33.11%
126.0	MRK	35.32%	FCX	32.48%
126.0	ON	34.99%	PWR	32.06%
126.0	CAH	33.6%	GLD	31.75%
126.0	AZN	33.25%	GSK	31.66%
126.0	AAPL	32.41%	LLY	31.47%
126.0	BIIB	31.0%	HSBC	28.38%
126.0	AMGN	30.24%	BHP	28.25%



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## Bottom 30 Tickers By ROVBC

### All TMD: 1d

Results reflect ticker level average 99% VaR based ROVBC across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
1.0	SIVBQ	-1.97%	SIVBQ	-0.78%
1.0	SBNY	-0.75%	SBNY	-0.45%
1.0	FRCB	-0.29%	FRCB	-0.23%
1.0	AMC	-0.13%	AMC	-0.17%
1.0	FIS	-0.11%	IEP	-0.14%
1.0	AAP	-0.1%	NWL	-0.1%
1.0	PRGO	-0.1%	CHTR	-0.09%
1.0	CHTR	-0.1%	PRGO	-0.08%
1.0	IEP	-0.1%	AAP	-0.07%
1.0	BHC	-0.09%	FIS	-0.07%
1.0	LUMN	-0.09%	VFC	-0.05%
1.0	BXP	-0.06%	BHC	-0.05%
1.0	TLT	-0.05%	GT	-0.05%
1.0	VFC	-0.05%	ADBE	-0.05%
1.0	CNC	-0.04%	UAA	-0.05%
1.0	NAVI	-0.04%	CMCSA	-0.04%
1.0	BBY	-0.04%	TLT	-0.04%
1.0	CMCSA	-0.03%	BXP	-0.04%
1.0	LQD	-0.03%	CZR	-0.04%
1.0	ELAN	-0.02%	ZTS	-0.04%
1.0	GT	-0.02%	NAVI	-0.03%
1.0	GSK	-0.02%	KHC	-0.03%
1.0	ZTS	-0.02%	BALL	-0.02%
1.0	VZ	-0.02%	BBY	-0.02%
1.0	T	-0.02%	LNC	-0.02%
1.0	ADBE	-0.02%	CTLT	-0.01%
1.0	BMY	-0.01%	MOS	-0.01%
1.0	MOS	-0.01%	FRA	-0.01%
1.0	VNO	-0.01%	LQD	-0.01%
1.0	EMB	-0.01%	EMB	-0.01%



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## All TMD: 10d

Results reflect ticker level average 99% VaR based ROVBC across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
10.0	SIVBQ	-7.57%	SBNY	-4.05%
10.0	SBNY	-6.83%	SIVBQ	-3.9%
10.0	AMC	-2.8%	FRCB	-2.19%
10.0	FRCB	-2.21%	AMC	-1.6%
10.0	PRGO	-1.13%	IEP	-1.34%
10.0	AAP	-1.09%	NWL	-1.01%
10.0	IEP	-0.91%	PRGO	-0.78%
10.0	BHC	-0.87%	CHTR	-0.68%
10.0	CHTR	-0.81%	AAP	-0.68%
10.0	NWL	-0.69%	FIS	-0.63%
10.0	FIS	-0.65%	UAA	-0.55%
10.0	BXP	-0.59%	VFC	-0.54%
10.0	CNC	-0.51%	CZR	-0.54%
10.0	ZTS	-0.49%	GT	-0.51%
10.0	ADBE	-0.49%	NAVI	-0.44%
10.0	TLT	-0.41%	BXP	-0.44%
10.0	GT	-0.4%	ADBE	-0.43%
10.0	TFC	-0.38%	TLT	-0.41%
10.0	CMCSA	-0.35%	BHC	-0.41%
10.0	CYH	-0.32%	CMCSA	-0.4%
10.0	VFC	-0.32%	ZTS	-0.37%
10.0	LQD	-0.3%	KHC	-0.35%
10.0	GSK	-0.28%	MOS	-0.26%
10.0	MOS	-0.26%	CNC	-0.25%
10.0	KHC	-0.19%	LNC	-0.25%
10.0	NAVI	-0.18%	CYH	-0.24%
10.0	BMY	-0.14%	BBY	-0.23%
10.0	EMB	-0.14%	BALL	-0.21%
10.0	VZ	-0.13%	FRA	-0.17%
10.0	CLF	-0.12%	LQD	-0.12%



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## All TMD: 21d

Results reflect ticker level average 99% VaR based ROVBC across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
21.0	SBNY	-21.4%	SBNY	-11.16%
21.0	SIVBQ	-15.08%	SIVBQ	-9.37%
21.0	AMC	-8.33%	FRCB	-6.02%
21.0	FRCB	-6.98%	AMC	-4.01%
21.0	PRGO	-2.83%	IEP	-2.95%
21.0	BHC	-1.89%	NWL	-2.36%
21.0	IEP	-1.8%	PRGO	-1.71%
21.0	NWL	-1.76%	AAP	-1.41%
21.0	CHTR	-1.58%	CHTR	-1.36%
21.0	CNC	-1.3%	VFC	-1.26%
21.0	BXP	-1.19%	CZR	-1.22%
21.0	FIS	-1.15%	FIS	-1.2%
21.0	VFC	-1.0%	BHC	-1.16%
21.0	AAP	-0.99%	BXP	-1.06%
21.0	CMCSA	-0.92%	UAA	-1.04%
21.0	GT	-0.89%	NAVI	-1.03%
21.0	TLT	-0.89%	GT	-0.98%
21.0	ADBE	-0.81%	TLT	-0.85%
21.0	ZTS	-0.72%	CMCSA	-0.82%
21.0	ELAN	-0.63%	ADBE	-0.8%
21.0	ZION	-0.59%	KHC	-0.8%
21.0	KHC	-0.56%	ZTS	-0.78%
21.0	NAVI	-0.55%	CNC	-0.69%
21.0	CZR	-0.53%	LNC	-0.65%
21.0	LQD	-0.52%	MOS	-0.53%
21.0	BALL	-0.44%	BBY	-0.47%
21.0	LW	-0.38%	BALL	-0.42%
21.0	UNH	-0.38%	CYH	-0.36%
21.0	TFC	-0.36%	FRA	-0.34%
21.0	LNC	-0.22%	UNH	-0.24%



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## All TMD: 63d

Results reflect ticker level average 99% VaR based ROVBC across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
63.0	SBNY	-80.29%	SBNY	-37.59%
63.0	SIVBQ	-67.12%	SIVBQ	-33.73%
63.0	FRCB	-40.48%	FRCB	-24.04%
63.0	AMC	-27.27%	AMC	-16.29%
63.0	PRGO	-7.92%	IEP	-9.93%
63.0	IEP	-7.57%	NWL	-7.65%
63.0	NWL	-7.34%	PRGO	-5.85%
63.0	CHTR	-6.49%	CZR	-5.14%
63.0	AAP	-4.06%	AAP	-4.83%
63.0	VFC	-3.93%	CHTR	-3.97%
63.0	MOS	-3.56%	BHC	-3.86%
63.0	CZR	-3.47%	VFC	-3.85%
63.0	BHC	-3.4%	MOS	-3.47%
63.0	CMCSA	-3.02%	BXP	-3.32%
63.0	KHC	-2.85%	FIS	-3.31%
63.0	TLT	-2.52%	NAVI	-3.28%
63.0	UNH	-2.48%	KHC	-2.85%
63.0	CNC	-2.44%	CNC	-2.81%
63.0	FIS	-2.4%	UAA	-2.62%
63.0	BXP	-2.35%	CLF	-2.52%
63.0	ADBE	-2.23%	TLT	-2.29%
63.0	NAVI	-2.12%	ZTS	-2.29%
63.0	CLF	-2.08%	CMCSA	-2.18%
63.0	LNC	-1.77%	GT	-2.17%
63.0	GT	-1.17%	ADBE	-2.13%
63.0	ZTS	-0.93%	UNH	-2.09%
63.0	FRA	-0.85%	LNC	-1.93%
63.0	BBY	-0.69%	BBY	-1.58%
63.0	UAA	-0.64%	BALL	-1.08%
63.0	BALL	-0.61%	CVS	-1.0%



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## All TMD: 126d

Results reflect ticker level average 99% VaR based ROVBC across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
126.0	SBNY	-152.34%	SIVBQ	-65.15%
126.0	SIVBQ	-133.25%	SBNY	-64.8%
126.0	FRCB	-104.15%	FRCB	-51.17%
126.0	AMC	-44.85%	AMC	-29.57%
126.0	AAP	-19.49%	IEP	-19.48%
126.0	NWL	-19.41%	NWL	-17.87%
126.0	CHTR	-17.31%	AAP	-11.54%
126.0	IEP	-15.01%	PRGO	-11.38%
126.0	PRGO	-13.78%	CZR	-9.58%
126.0	CZR	-10.66%	CHTR	-8.03%
126.0	VFC	-9.08%	MOS	-7.97%
126.0	MOS	-9.05%	VFC	-7.15%
126.0	UAA	-6.27%	CNC	-6.74%
126.0	FIS	-6.22%	UAA	-6.72%
126.0	CMCSA	-6.11%	KHC	-5.94%
126.0	BHC	-6.09%	CTLT	-5.69%
126.0	CNC	-5.85%	FIS	-5.19%
126.0	KHC	-5.56%	BHC	-5.11%
126.0	UNH	-5.43%	BXP	-5.06%
126.0	ZTS	-5.34%	NAVI	-4.81%
126.0	TLT	-5.17%	GT	-4.62%
126.0	GT	-3.86%	CMCSA	-4.41%
126.0	BXP	-3.85%	ZTS	-4.19%
126.0	CLF	-3.75%	UNH	-4.18%
126.0	NAVI	-3.53%	TLT	-4.12%
126.0	BALL	-2.4%	CLF	-3.36%
126.0	CTLT	-2.25%	BALL	-2.61%
126.0	ADBE	-1.62%	BMY	-2.19%
126.0	BMY	-1.34%	ADBE	-2.02%
126.0	OXY	-1.28%	LNC	-1.86%



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## All TMD: 252d

Results reflect ticker level average 99% VaR based ROVBC across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
252.0	SBNY	-189.18%	SBNY	-95.75%
252.0	SIVBQ	-167.74%	SIVBQ	-95.29%
252.0	FRCB	-141.18%	FRCB	-91.61%
252.0	AMC	-70.14%	AMC	-54.76%
252.0	AAP	-48.82%	IEP	-40.49%
252.0	NWL	-34.48%	NWL	-30.95%
252.0	IEP	-31.34%	AAP	-25.02%
252.0	VFC	-30.25%	VFC	-20.16%
252.0	CHTR	-26.54%	PRGO	-18.39%
252.0	PRGO	-24.19%	CNC	-18.27%
252.0	CZR	-21.81%	CZR	-17.6%
252.0	CNC	-19.88%	UAA	-15.02%
252.0	UAA	-18.36%	MOS	-14.1%
252.0	BIIB	-17.18%	CLF	-12.2%
252.0	CLF	-15.06%	KHC	-11.63%
252.0	UNH	-14.83%	CHTR	-11.27%
252.0	MOS	-14.76%	UNH	-10.96%
252.0	OXY	-14.56%	BMY	-9.17%
252.0	KHC	-12.28%	BHC	-8.98%
252.0	BMY	-10.79%	GT	-8.09%
252.0	BHC	-10.77%	NAVI	-7.7%
252.0	TLT	-9.6%	TLT	-7.39%
252.0	ZTS	-8.77%	BIIB	-6.89%
252.0	FIS	-8.68%	OXY	-6.81%
252.0	GT	-8.34%	CTLT	-6.24%
252.0	CMCSA	-7.46%	CVS	-5.79%
252.0	CTLT	-6.82%	CYH	-5.49%
252.0	BXP	-6.81%	BXP	-5.34%
252.0	AA	-6.67%	CMCSA	-5.24%
252.0	CYH	-5.57%	LW	-4.94%



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### P30D: 1d

Results reflect ticker level average 99% VaR based ROVBC across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
1.0	INTU	-0.66%	CHTR	-1.1%
1.0	TDG	-0.66%	MOS	-0.64%
1.0	BBY	-0.59%	AA	-0.57%
1.0	CHTR	-0.5%	MRK	-0.49%
1.0	TMUS	-0.46%	CAH	-0.46%
1.0	MRK	-0.4%	HCA	-0.41%
1.0	AA	-0.36%	INTU	-0.4%
1.0	MOS	-0.35%	T	-0.38%
1.0	HCA	-0.34%	GILD	-0.34%
1.0	T	-0.32%	AZN	-0.34%
1.0	CAH	-0.29%	THC	-0.33%
1.0	PCG	-0.28%	B	-0.33%
1.0	ISRG	-0.26%	GSK	-0.32%
1.0	B	-0.22%	PCG	-0.32%
1.0	ABBV	-0.22%	HON	-0.3%
1.0	ACGL	-0.18%	BBY	-0.28%
1.0	GE	-0.17%	NVS	-0.23%
1.0	THC	-0.16%	FCX	-0.21%
1.0	GSK	-0.16%	TMUS	-0.19%
1.0	GLD	-0.16%	XOM	-0.19%
1.0	CMCSA	-0.15%	GLD	-0.16%
1.0	AZN	-0.15%	ELAN	-0.14%
1.0	SNY	-0.13%	CYH	-0.13%
1.0	HON	-0.12%	VZ	-0.12%
1.0	VZ	-0.12%	SNY	-0.12%
1.0	GILD	-0.11%	CMCSA	-0.12%
1.0	XOM	-0.11%	OXY	-0.1%
1.0	AMGN	-0.08%	AMGN	-0.09%
1.0	NVS	-0.07%	ZTS	-0.09%
1.0	OXY	-0.07%	SLV	-0.08%



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## P30D: 10d

Results reflect ticker level average 99% VaR based ROVBC across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
10.0	NFLX	-17.51%	AA	-8.23%
10.0	GE	-8.13%	NFLX	-6.98%
10.0	CYH	-6.84%	HCA	-6.42%
10.0	HCA	-6.18%	MRK	-5.94%
10.0	CHTR	-6.14%	CHTR	-5.85%
10.0	PCG	-5.69%	PCG	-5.81%
10.0	AA	-5.05%	MOS	-5.68%
10.0	GSK	-4.41%	CYH	-5.38%
10.0	MOS	-4.19%	GILD	-5.22%
10.0	MRK	-4.06%	HON	-5.05%
10.0	GILD	-3.91%	AZN	-4.66%
10.0	THC	-3.55%	CAH	-4.24%
10.0	HON	-3.21%	THC	-4.11%
10.0	OXY	-2.69%	GE	-3.96%
10.0	TMUS	-2.56%	GSK	-3.85%
10.0	CAH	-2.47%	B	-3.85%
10.0	T	-2.26%	NVS	-3.84%
10.0	NEM	-2.21%	XOM	-3.61%
10.0	ABBV	-2.15%	LLY	-3.42%
10.0	AZN	-2.05%	OXY	-3.14%
10.0	LLY	-1.91%	T	-3.07%
10.0	NVS	-1.78%	ABBV	-2.87%
10.0	KHC	-1.64%	ELAN	-2.77%
10.0	B	-1.53%	NEM	-2.58%
10.0	GLD	-1.49%	KHC	-2.22%
10.0	XOM	-1.32%	TDG	-2.0%
10.0	VZ	-1.17%	WFC	-1.91%
10.0	SNY	-1.11%	TMUS	-1.87%
10.0	BBY	-1.1%	BBY	-1.79%
10.0	WFC	-1.1%	FCX	-1.4%



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## P90D: 1d

Results reflect ticker level average 99% VaR based ROVBC across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
1.0	INTU	-0.62%	CLF	-0.4%
1.0	TDG	-0.57%	GT	-0.4%
1.0	CLF	-0.47%	TDG	-0.32%
1.0	PRGO	-0.38%	CHTR	-0.32%
1.0	BBY	-0.33%	INTU	-0.31%
1.0	FIS	-0.31%	CPRT	-0.28%
1.0	LUMN	-0.3%	LEN	-0.28%
1.0	LEN	-0.29%	FIS	-0.28%
1.0	CCL	-0.28%	CCL	-0.26%
1.0	NAVI	-0.23%	PRGO	-0.26%
1.0	CMG	-0.22%	ADBE	-0.25%
1.0	ISRG	-0.22%	B	-0.23%
1.0	HD	-0.22%	HD	-0.21%
1.0	UAA	-0.21%	META	-0.2%
1.0	NWL	-0.21%	MOS	-0.2%
1.0	GLD	-0.18%	HCA	-0.2%
1.0	EXPE	-0.16%	CAH	-0.19%
1.0	HCA	-0.16%	CMG	-0.18%
1.0	ADBE	-0.16%	WFC	-0.17%
1.0	CMCSA	-0.15%	LNC	-0.15%
1.0	BHC	-0.14%	LLY	-0.14%
1.0	CHTR	-0.13%	TSLA	-0.13%
1.0	CPRT	-0.13%	ELAN	-0.13%
1.0	GT	-0.13%	CYH	-0.13%
1.0	ABBV	-0.12%	GILD	-0.13%
1.0	CAH	-0.11%	ZTS	-0.12%
1.0	MOS	-0.11%	CMCSA	-0.12%
1.0	GE	-0.1%	ISRG	-0.12%
1.0	B	-0.09%	BBY	-0.12%
1.0	BXP	-0.09%	NAVI	-0.11%



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## P90D: 10d

Results reflect ticker level average 99% VaR based ROVBC across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
10.0	PRGO	-6.28%	GT	-5.51%
10.0	CLF	-5.15%	CLF	-3.98%
10.0	CYH	-3.54%	LEN	-3.93%
10.0	LEN	-3.32%	MOS	-3.48%
10.0	BHC	-3.29%	CPRT	-2.89%
10.0	GE	-2.99%	CCL	-2.89%
10.0	GT	-2.89%	PRGO	-2.79%
10.0	BXP	-2.83%	LLY	-2.64%
10.0	LLY	-2.74%	HD	-2.43%
10.0	CCL	-2.7%	GILD	-2.29%
10.0	MOS	-2.5%	B	-2.09%
10.0	HD	-2.45%	WFC	-2.05%
10.0	INTU	-2.23%	CHTR	-2.01%
10.0	NAVI	-1.94%	HCA	-1.98%
10.0	KHC	-1.94%	CMG	-1.82%
10.0	GLD	-1.78%	ABBV	-1.77%
10.0	ADBE	-1.73%	CYH	-1.74%
10.0	CPRT	-1.72%	KHC	-1.71%
10.0	LW	-1.58%	ELAN	-1.7%
10.0	CHTR	-1.58%	TDG	-1.67%
10.0	GNRC	-1.52%	LW	-1.62%
10.0	UAA	-1.46%	ADBE	-1.6%
10.0	ISRG	-1.45%	CMCSA	-1.57%
10.0	GILD	-1.41%	HON	-1.5%
10.0	FIS	-1.37%	TSLA	-1.45%
10.0	CMCSA	-1.33%	NAVI	-1.43%
10.0	CMG	-1.3%	CAH	-1.41%
10.0	HCA	-1.28%	BBY	-1.39%
10.0	HON	-1.27%	ZTS	-1.29%
10.0	TMUS	-1.26%	LNC	-1.29%



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## P90D: 21d

Results reflect ticker level average 99% VaR based ROVBC across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
21.0	PRGO	-15.7%	GT	-11.58%
21.0	CLF	-11.16%	LEN	-11.35%
21.0	BXP	-9.96%	CLF	-8.55%
21.0	LEN	-8.79%	PRGO	-7.83%
21.0	GT	-7.85%	MOS	-7.29%
21.0	NWL	-6.95%	UAA	-6.85%
21.0	KHC	-6.62%	CCL	-6.56%
21.0	LW	-6.25%	CPRT	-6.52%
21.0	TMUS	-5.89%	THC	-6.24%
21.0	UAA	-5.72%	B	-6.23%
21.0	CCL	-5.45%	HD	-6.17%
21.0	ISRG	-5.41%	LLY	-5.86%
21.0	MOS	-5.1%	NWL	-5.55%
21.0	HD	-5.08%	CYH	-5.53%
21.0	CYH	-4.86%	LW	-5.44%
21.0	CPRT	-4.81%	TSLA	-4.98%
21.0	CMCSA	-4.69%	PHM	-4.79%
21.0	BHC	-4.58%	HCA	-4.71%
21.0	NAVI	-4.15%	CMCSA	-4.67%
21.0	CHTR	-3.9%	GILD	-4.67%
21.0	GE	-3.87%	ELAN	-4.66%
21.0	GLD	-3.74%	CMG	-4.62%
21.0	LNC	-3.7%	GE	-4.61%
21.0	BUD	-3.64%	ABBV	-4.59%
21.0	HCA	-3.52%	BXP	-4.27%
21.0	LLY	-3.47%	ADBE	-4.2%
21.0	BALL	-3.44%	TDG	-4.12%
21.0	FIS	-3.3%	MNST	-4.11%
21.0	T	-3.11%	KHC	-3.97%
21.0	ZTS	-3.07%	TEVA	-3.81%



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## P365D: 1d

Results reflect ticker level average 99% VaR based ROVBC across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
1.0	ZTS	-0.31%	CHTR	-0.29%
1.0	MSTR	-0.3%	PRGO	-0.26%
1.0	INTU	-0.26%	MSTR	-0.24%
1.0	PRGO	-0.26%	CPRT	-0.23%
1.0	CHTR	-0.22%	FIS	-0.19%
1.0	FIS	-0.2%	INTU	-0.16%
1.0	TDG	-0.19%	AMC	-0.15%
1.0	BBY	-0.17%	ADBE	-0.15%
1.0	NAVI	-0.15%	CMG	-0.13%
1.0	CMG	-0.12%	GT	-0.12%
1.0	CNC	-0.12%	ZTS	-0.11%
1.0	NWL	-0.12%	NAVI	-0.09%
1.0	CPRT	-0.11%	TMUS	-0.08%
1.0	ADBE	-0.09%	KHC	-0.08%
1.0	AMC	-0.08%	CMCSA	-0.07%
1.0	CMCSA	-0.06%	MOS	-0.07%
1.0	ISRG	-0.06%	TDG	-0.07%
1.0	LEN	-0.05%	GBTC	-0.06%
1.0	TMUS	-0.05%	NFLX	-0.05%
1.0	MOS	-0.05%	VNO	-0.05%
1.0	VNO	-0.04%	SNY	-0.05%
1.0	GT	-0.04%	LEN	-0.05%
1.0	ACGL	-0.03%	FRA	-0.04%
1.0	POST	-0.03%	ISRG	-0.03%
1.0	BXP	-0.03%	LW	-0.03%
1.0	UAA	-0.03%	NWL	-0.03%
1.0	HD	-0.02%	VICI	-0.03%
1.0	GME	-0.02%	HD	-0.02%
1.0	IEP	-0.02%	BXP	-0.02%
1.0	FRA	-0.02%	BBY	-0.02%



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## P365D: 10d

Results reflect ticker level average 99% VaR based ROVBC across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
10.0	MSTR	-4.03%	MSTR	-2.84%
10.0	PRGO	-3.46%	PRGO	-2.6%
10.0	CHTR	-2.78%	CPRT	-2.35%
10.0	ZTS	-2.72%	CHTR	-2.26%
10.0	AMC	-2.38%	FIS	-1.93%
10.0	ADBE	-1.85%	ADBE	-1.7%
10.0	INTU	-1.78%	INTU	-1.59%
10.0	FIS	-1.59%	GT	-1.43%
10.0	CPRT	-1.27%	NAVI	-1.28%
10.0	TDG	-1.24%	CMG	-1.24%
10.0	CNC	-1.12%	ZTS	-1.07%
10.0	CMG	-1.08%	MOS	-0.93%
10.0	NAVI	-0.9%	VNO	-0.92%
10.0	KHC	-0.78%	AMC	-0.91%
10.0	GT	-0.78%	KHC	-0.91%
10.0	CMCSA	-0.75%	TMUS	-0.88%
10.0	VNO	-0.71%	GBTC	-0.8%
10.0	BXP	-0.51%	CMCSA	-0.66%
10.0	LEN	-0.5%	TDG	-0.57%
10.0	MOS	-0.47%	NFLX	-0.56%
10.0	TMUS	-0.47%	FRA	-0.51%
10.0	POST	-0.44%	ISRG	-0.42%
10.0	FRA	-0.35%	LEN	-0.39%
10.0	VICI	-0.26%	CNC	-0.38%
10.0	PCG	-0.19%	SNY	-0.36%
10.0	ACGL	-0.06%	VICI	-0.36%
10.0	BHC	-0.03%	BBY	-0.34%
10.0	CYH	-0.02%	BXP	-0.29%
10.0	HD	0.0%	NWL	-0.28%
10.0	BBY	0.01%	IEP	-0.25%



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## P365D: 21d

Results reflect ticker level average 99% VaR based ROVBC across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
21.0	MSTR	-12.28%	MSTR	-7.45%
21.0	PRGO	-9.3%	PRGO	-6.07%
21.0	AMC	-6.87%	CPRT	-4.94%
21.0	CHTR	-6.87%	CHTR	-4.76%
21.0	ZTS	-5.53%	FIS	-4.34%
21.0	CNC	-4.06%	ADBE	-4.21%
21.0	ADBE	-3.79%	AMC	-4.08%
21.0	CMCSA	-3.46%	INTU	-3.9%
21.0	CPRT	-3.13%	NAVI	-3.27%
21.0	FIS	-3.03%	GT	-3.15%
21.0	INTU	-2.74%	CMG	-2.76%
21.0	NAVI	-2.62%	ZTS	-2.56%
21.0	GT	-2.22%	VNO	-2.48%
21.0	KHC	-2.03%	GBTC	-2.48%
21.0	BXP	-2.02%	MOS	-2.28%
21.0	GME	-1.92%	TMUS	-1.77%
21.0	CMG	-1.7%	KHC	-1.74%
21.0	TDG	-1.48%	CMCSA	-1.61%
21.0	TMUS	-1.29%	NWL	-1.47%
21.0	VNO	-1.21%	TDG	-1.29%
21.0	GBTC	-0.88%	BXP	-1.22%
21.0	T	-0.78%	CNC	-1.21%
21.0	LEN	-0.68%	NFLX	-1.2%
21.0	MOS	-0.66%	FRA	-1.14%
21.0	FRA	-0.6%	LEN	-1.13%
21.0	POST	-0.44%	ISRG	-1.1%
21.0	SNY	-0.43%	VICI	-0.92%
21.0	VICI	-0.42%	LW	-0.91%
21.0	PCG	-0.34%	GME	-0.89%
21.0	CYH	-0.25%	BBY	-0.79%



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## P365D: 63d

Results reflect ticker level average 99% VaR based ROVBC across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
63.0	MSTR	-61.56%	MSTR	-27.78%
63.0	PRGO	-37.86%	AMC	-23.23%
63.0	AMC	-31.4%	PRGO	-23.05%
63.0	CHTR	-19.17%	INTU	-15.91%
63.0	INTU	-14.06%	CHTR	-15.39%
63.0	ADBE	-12.06%	FIS	-14.82%
63.0	CMCSA	-11.69%	NAVI	-13.05%
63.0	CPRT	-10.58%	ADBE	-12.82%
63.0	NFLX	-10.55%	GBTC	-12.34%
63.0	NAVI	-10.26%	CPRT	-11.75%
63.0	FIS	-9.17%	CMG	-11.08%
63.0	BXP	-8.9%	VNO	-9.81%
63.0	NWL	-8.7%	GT	-8.97%
63.0	ZTS	-8.41%	ZTS	-8.31%
63.0	TDG	-7.87%	NFLX	-8.3%
63.0	GBTC	-7.38%	MOS	-7.96%
63.0	KHC	-6.98%	NWL	-7.04%
63.0	CMG	-6.72%	BXP	-5.59%
63.0	VNO	-6.42%	TDG	-5.36%
63.0	GT	-5.64%	MSFT	-5.2%
63.0	CZR	-4.37%	KHC	-5.05%
63.0	IEP	-4.15%	FRA	-4.66%
63.0	ORCL	-3.69%	CMCSA	-4.53%
63.0	LEN	-3.67%	LW	-4.24%
63.0	META	-3.63%	TMUS	-4.17%
63.0	MOS	-3.46%	VICI	-3.74%
63.0	SNY	-3.23%	CZR	-3.53%
63.0	TMUS	-2.87%	IEP	-3.43%
63.0	FRA	-2.6%	QCOM	-2.57%
63.0	BBY	-2.54%	ORCL	-2.18%



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## P365D: 126d

Results reflect ticker level average 99% VaR based ROVBC across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
126.0	MSTR	-139.95%	MSTR	-56.02%
126.0	AMC	-73.49%	PRGO	-46.96%
126.0	PRGO	-65.23%	AMC	-45.4%
126.0	CHTR	-50.11%	CHTR	-31.66%
126.0	NWL	-33.82%	NWL	-27.7%
126.0	NFLX	-31.61%	GBTC	-26.64%
126.0	INTU	-27.77%	INTU	-26.2%
126.0	ZTS	-25.76%	FIS	-24.07%
126.0	ORCL	-25.26%	MOS	-23.14%
126.0	ADBE	-23.16%	CPRT	-22.98%
126.0	CMCSA	-21.71%	CMG	-22.97%
126.0	NAVI	-20.78%	NAVI	-21.44%
126.0	CPRT	-20.68%	ADBE	-21.35%
126.0	VNO	-19.16%	NFLX	-21.29%
126.0	CMG	-18.96%	ZTS	-19.98%
126.0	META	-18.5%	VNO	-19.82%
126.0	BXP	-17.72%	ORCL	-16.44%
126.0	TMUS	-17.64%	TMUS	-14.59%
126.0	GBTC	-17.46%	GT	-13.53%
126.0	LW	-16.53%	CMCSA	-12.85%
126.0	FIS	-15.4%	LW	-12.5%
126.0	CZR	-14.72%	KHC	-11.46%
126.0	TDG	-13.77%	VICI	-11.39%
126.0	AAP	-12.64%	FRA	-10.93%
126.0	MOS	-12.47%	MSFT	-10.5%
126.0	KHC	-12.14%	VST	-10.2%
126.0	GT	-11.5%	CZR	-9.89%
126.0	LEN	-9.99%	META	-9.85%
126.0	IEP	-9.38%	BXP	-9.8%
126.0	AZO	-9.29%	TDG	-8.17%



## Appendix 1: Top 25 Ticker Level Differences in VM vs. Sigma 95% and 99% VaR Breakage

### All TMD: 1d

The columns labeled “VaRBreak\_VmS” represent the average amount by which Vector Model VaR Breakage exceeds Sigma VaR breakage for the given ticker across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Hzn	Ticker	95VaRBreak_VmS	Ticker	99VaRBreak_VmS
1.0	SBNY	22.3%	SBNY	11.87%
1.0	SIVBQ	13.31%	SIVBQ	7.55%
1.0	TSLA	12.58%	TSLA	5.73%
1.0	CHTR	10.7%	LQD	4.23%
1.0	LQD	9.01%	ZTS	3.85%
1.0	GME	8.54%	FRCB	3.6%
1.0	MSTR	7.7%	AMC	3.47%
1.0	AMC	7.61%	GME	3.19%
1.0	UAA	7.32%	B	2.91%
1.0	FRCB	7.19%	MSTR	2.35%
1.0	SBUX	6.76%	GNRC	1.97%
1.0	META	6.76%	AAP	1.78%
1.0	PRGO	6.48%	CDNS	1.78%
1.0	AMZN	6.48%	BUD	1.6%
1.0	ZTS	6.2%	JAZZ	1.6%
1.0	AAP	6.01%	ISRG	1.6%
1.0	B	5.63%	CHTR	1.41%
1.0	ISRG	5.54%	KALU	1.31%
1.0	GNRC	4.98%	PRGO	1.22%
1.0	HD	4.98%	EXPE	1.03%
1.0	BALL	4.88%	CMCSA	0.94%
1.0	KEY	4.69%	FRA	0.85%
1.0	NFLX	4.51%	TLT	0.75%
1.0	VFC	4.23%	NFLX	0.66%
1.0	CDNS	4.04%	LLY	0.66%



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## All TMD: 10d

The columns labeled “VaRBreak\_VmS” represent the average amount by which Vector Model VaR Breakage exceeds Sigma VaR breakage for the given ticker across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Hzn	Ticker	95VaRBreak_VmS	Ticker	99VaRBreak_VmS
10.0	SBNY	30.51%	SBNY	14.34%
10.0	AMC	16.19%	AMC	9.0%
10.0	TSLA	12.78%	TSLA	7.67%
10.0	CHTR	12.12%	SIVBQ	7.35%
10.0	SIVBQ	11.76%	CHTR	4.64%
10.0	GME	11.74%	ZTS	4.55%
10.0	AAP	11.27%	LQD	4.55%
10.0	ZTS	9.94%	B	4.45%
10.0	B	9.38%	MSTR	4.07%
10.0	BUD	8.71%	AAP	3.98%
10.0	MSTR	8.52%	GNRC	3.31%
10.0	META	8.05%	GME	2.56%
10.0	PRGO	7.39%	CVS	1.99%
10.0	TLT	7.39%	KALU	1.8%
10.0	LQD	7.2%	ISRG	1.8%
10.0	KALU	6.63%	BIIB	1.52%
10.0	JAZZ	6.34%	VCSH	1.33%
10.0	GNRC	6.16%	CZR	1.23%
10.0	FRCB	5.51%	SNY	1.14%
10.0	AMZN	5.49%	BXP	1.04%
10.0	VFC	5.4%	GE	0.95%
10.0	CVS	5.21%	TLT	0.95%
10.0	ISRG	5.02%	META	0.95%
10.0	SLV	4.93%	NFLX	0.95%
10.0	VZ	4.83%	CMA	0.9%



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## All TMD: 21d

The columns labeled “VaRBreak\_VmS” represent the average amount by which Vector Model VaR Breakage exceeds Sigma VaR breakage for the given ticker across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Hzn	Ticker	95VaRBreak_VmS	Ticker	99VaRBreak_VmS
21.0	SBNY	47.78%	SBNY	15.93%
21.0	CHTR	15.22%	AMC	8.9%
21.0	AMC	14.64%	CHTR	7.94%
21.0	ZTS	12.73%	SIVBQ	7.04%
21.0	TSLA	12.44%	TSLA	6.7%
21.0	AAP	10.72%	ZTS	4.98%
21.0	SIVBQ	10.37%	VCSH	4.78%
21.0	B	9.76%	GNRC	4.5%
21.0	PRGO	9.67%	LQD	3.73%
21.0	MSTR	9.67%	B	3.25%
21.0	TLT	8.9%	MSTR	3.16%
21.0	GNRC	8.9%	BIIB	3.16%
21.0	BUD	8.8%	BUD	2.58%
21.0	META	8.52%	META	2.39%
21.0	GME	8.42%	KALU	2.2%
21.0	TDG	8.42%	AAP	2.11%
21.0	LQD	8.04%	UNH	2.01%
21.0	CVS	7.75%	PRGO	1.91%
21.0	KALU	7.75%	BXP	1.91%
21.0	BXP	7.18%	CMCSA	1.72%
21.0	JAZZ	6.89%	ORCL	1.63%
21.0	VFC	6.41%	GME	1.53%
21.0	BIIB	6.32%	BHC	1.34%
21.0	NEM	6.22%	CMA	1.12%
21.0	GSK	5.84%	FRCB	1.11%



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## All TMD: 63d

The columns labeled “VaRBreak\_VmS” represent the average amount by which Vector Model VaR Breakage exceeds Sigma VaR breakage for the given ticker across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Hzn	Ticker	95VaRBreak_VmS	Ticker	99VaRBreak_VmS
63.0	SBNY	55.19%	SBNY	28.89%
63.0	AAP	23.63%	CHTR	19.24%
63.0	AMC	19.64%	AMC	10.27%
63.0	CHTR	18.74%	MSTR	8.37%
63.0	MSTR	14.36%	AAP	7.28%
63.0	BIIB	13.06%	VCSH	5.08%
63.0	KALU	12.66%	GNRC	5.08%
63.0	META	12.36%	SIVBQ	4.81%
63.0	PRGO	12.36%	PRGO	4.59%
63.0	TSLA	11.86%	LQD	4.19%
63.0	SIVBQ	11.85%	META	3.59%
63.0	GNRC	10.87%	ZION	3.54%
63.0	VFC	10.67%	B	3.29%
63.0	B	10.27%	BMY	3.29%
63.0	ZTS	9.17%	BXP	3.19%
63.0	BUD	8.67%	BUD	2.99%
63.0	AMZN	8.57%	TLT	2.89%
63.0	TDG	8.47%	NFLX	2.79%
63.0	BXP	7.98%	ON	2.69%
63.0	BHC	7.68%	BIIB	2.19%
63.0	FIS	7.48%	VNO	2.09%
63.0	TLT	6.98%	TDG	1.99%
63.0	LQD	5.28%	NWL	1.99%
63.0	NWL	4.89%	CMCSA	1.6%
63.0	JAZZ	4.59%	CMA	1.38%



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## All TMD: 126d

The columns labeled “VaRBreak\_VmS” represent the average amount by which Vector Model VaR Breakage exceeds Sigma VaR breakage for the given ticker across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Hzn	Ticker	95VaRBreak_VmS	Ticker	99VaRBreak_VmS
126.0	SBNY	55.19%	SBNY	26.3%
126.0	AMC	30.74%	CHTR	21.81%
126.0	CHTR	27.98%	AAP	20.11%
126.0	VFC	25.53%	AMC	18.51%
126.0	AAP	17.45%	MSTR	9.68%
126.0	SIVBQ	15.93%	BXP	8.51%
126.0	MSTR	15.32%	VFC	5.96%
126.0	GNRC	15.11%	CTLT	5.65%
126.0	TSLA	14.15%	VCSH	5.11%
126.0	BMJ	13.62%	GNRC	4.26%
126.0	ZTS	12.87%	CMA	3.87%
126.0	BXP	11.91%	TLT	3.72%
126.0	TLT	11.17%	PRGO	3.62%
126.0	BIIB	10.85%	OXY	3.09%
126.0	OXY	10.11%	ZION	2.7%
126.0	BUD	9.47%	B	2.34%
126.0	CVS	9.36%	VNO	1.91%
126.0	AMZN	9.04%	NFLX	1.81%
126.0	ZION	8.75%	LQD	1.7%
126.0	META	7.77%	ON	1.49%
126.0	NFLX	7.45%	SNY	1.49%
126.0	FIS	7.34%	SIVBQ	1.48%
126.0	CMCSA	7.13%	META	1.38%
126.0	NWL	6.81%	BIIB	1.28%
126.0	ORCL	6.7%	FIS	0.85%



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## All TMD: 252d

The columns labeled “VaRBreak\_VmS” represent the average amount by which Vector Model VaR Breakage exceeds Sigma VaR breakage for the given ticker across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Hzn	Ticker	95VaRBreak_VmS	Ticker	99VaRBreak_VmS
252.0	CHTR	41.52%	AMC	28.13%
252.0	AMC	41.03%	AAP	26.17%
252.0	AAP	35.5%	SBNY	25.93%
252.0	BIIB	33.29%	CHTR	16.22%
252.0	VFC	23.83%	BIIB	13.39%
252.0	SBNY	20.37%	BXP	10.32%
252.0	CMA	20.05%	VFC	9.58%
252.0	ZION	17.88%	UNH	8.11%
252.0	OXY	15.72%	CMA	6.91%
252.0	NWL	14.74%	OXY	6.51%
252.0	PRGO	14.5%	VNO	5.04%
252.0	FIS	14.13%	ZION	4.62%
252.0	CVS	10.93%	MRK	3.93%
252.0	UAA	9.46%	CTLT	3.85%
252.0	TLT	9.34%	BHC	2.7%
252.0	CTLT	8.52%	KEY	2.33%
252.0	BHC	7.86%	GNRC	2.21%
252.0	KHC	7.13%	BMJ	1.84%
252.0	ELAN	6.62%	VCSH	1.84%
252.0	MSTR	6.39%	UAA	1.6%
252.0	EXPE	6.14%	EMB	1.11%
252.0	GNRC	5.9%	FIS	1.11%
252.0	CLF	5.77%	PRGO	0.86%
252.0	ZTS	5.65%	GSK	0.86%
252.0	AMZN	5.41%	ELAN	0.75%



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### P30D: 1d

The columns labeled “VaRBreak\_VmS” represent the average amount by which Vector Model VaR Breakage exceeds Sigma VaR breakage for the given ticker across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Hzn	Ticker	95VaRBreak_VmS	Ticker	99VaRBreak_VmS
1.0	HD	30.0%	TMUS	20.0%
1.0	ISRG	25.0%	CDNS	10.0%
1.0	BBY	20.0%	HD	10.0%
1.0	LLY	20.0%	MRK	5.0%
1.0	TSLA	20.0%	ORCL	5.0%
1.0	TMUS	20.0%	EXPE	5.0%
1.0	KHC	15.0%	NVDA	5.0%
1.0	VICI	15.0%	NFLX	5.0%
1.0	GLD	10.0%	CMCSA	5.0%
1.0	NFLX	10.0%	TDG	5.0%
1.0	NWL	10.0%	GLD	5.0%
1.0	CMCSA	10.0%	BBY	5.0%
1.0	ORCL	10.0%	PEP	5.0%
1.0	CDNS	10.0%	AMC	5.0%
1.0	INTU	10.0%	AVGO	5.0%
1.0	AMD	10.0%	LLY	5.0%
1.0	AVGO	10.0%	LW	0.0%
1.0	LEN	5.0%	KALU	0.0%
1.0	AMAT	5.0%	ON	0.0%
1.0	FRA	5.0%	NWL	0.0%
1.0	MRK	5.0%	KEY	0.0%
1.0	FIS	5.0%	NVS	0.0%
1.0	XOM	5.0%	KHC	0.0%
1.0	EXPE	5.0%	LEN	0.0%
1.0	PRGO	5.0%	NEM	0.0%



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### P30D: 10d

The columns labeled “VaRBreak\_VmS” represent the average amount by which Vector Model VaR Breakage exceeds Sigma VaR breakage for the given ticker across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Hzn	Ticker	95VaRBreak_VmS	Ticker	99VaRBreak_VmS
10.0	GE	54.55%	NFLX	72.73%
10.0	NFLX	45.45%	GE	36.36%
10.0	HD	27.27%	PCG	27.27%
10.0	PCG	18.18%	AA	0.0%
10.0	CMCSA	18.18%	NVDA	0.0%
10.0	T	18.18%	MU	0.0%
10.0	TMUS	9.09%	MUB	0.0%
10.0	ORCL	9.09%	NAVI	0.0%
10.0	GLD	9.09%	NEM	0.0%
10.0	MRK	9.09%	NVS	0.0%
10.0	B	9.09%	MSI	0.0%
10.0	META	9.09%	NWL	0.0%
10.0	CYH	9.09%	ON	0.0%
10.0	VZ	9.09%	ORCL	0.0%
10.0	KHC	9.09%	ORLY	0.0%
10.0	INTU	9.09%	PEP	0.0%
10.0	LVS	0.0%	MSTR	0.0%
10.0	ORLY	0.0%	MSFT	0.0%
10.0	LEN	0.0%	JAZZ	0.0%
10.0	ON	0.0%	LQD	0.0%
10.0	NWL	0.0%	KALU	0.0%
10.0	NVDA	0.0%	KEY	0.0%
10.0	LLY	0.0%	KHC	0.0%
10.0	NEM	0.0%	LEN	0.0%
10.0	NAVI	0.0%	LLY	0.0%



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## P90D: 1d

The columns labeled “VaRBreak\_VmS” represent the average amount by which Vector Model VaR Breakage exceeds Sigma VaR breakage for the given ticker across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Hzn	Ticker	95VaRBreak_VmS	Ticker	99VaRBreak_VmS
1.0	HD	19.67%	NFLX	13.11%
1.0	UNH	16.39%	GLD	8.2%
1.0	BBY	14.75%	AMC	8.2%
1.0	ORCL	14.75%	TMUS	8.2%
1.0	NFLX	14.75%	CDNS	8.2%
1.0	TMUS	14.75%	HD	6.56%
1.0	ISRG	13.11%	UNH	4.92%
1.0	LLY	13.11%	BBY	3.28%
1.0	TSLA	13.11%	IEP	3.28%
1.0	CDNS	13.11%	GNRC	3.28%
1.0	INTU	11.48%	INTU	3.28%
1.0	CMCSA	9.84%	KHC	3.28%
1.0	BHC	9.84%	PEP	3.28%
1.0	GLD	9.84%	AZO	1.64%
1.0	AZO	9.84%	AVGO	1.64%
1.0	AMZN	9.84%	HON	1.64%
1.0	AMC	9.84%	AMD	1.64%
1.0	PRGO	8.2%	LEN	1.64%
1.0	TXN	8.2%	LLY	1.64%
1.0	NWL	8.2%	META	1.64%
1.0	GNRC	8.2%	MRK	1.64%
1.0	SNY	8.2%	CVS	1.64%
1.0	BXP	8.2%	TDG	1.64%
1.0	VICI	8.2%	NVDA	1.64%
1.0	PEP	6.56%	ON	1.64%



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## P90D: 10d

The columns labeled “VaRBreak\_VmS” represent the average amount by which Vector Model VaR Breakage exceeds Sigma VaR breakage for the given ticker across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Hzn	Ticker	95VaRBreak_VmS	Ticker	99VaRBreak_VmS
10.0	HD	32.69%	GE	28.85%
10.0	NFLX	28.85%	NFLX	21.15%
10.0	META	25.0%	BXP	15.38%
10.0	GNRC	23.08%	GNRC	15.38%
10.0	LLY	19.23%	PRGO	9.62%
10.0	BALL	19.23%	AMC	9.62%
10.0	BUD	17.31%	CVS	7.69%
10.0	CLF	17.31%	KHC	7.69%
10.0	GSK	17.31%	INTU	5.77%
10.0	AMC	17.31%	PCG	5.77%
10.0	CVS	17.31%	CLF	3.85%
10.0	GE	17.31%	BUD	3.85%
10.0	INTU	15.38%	BALL	1.92%
10.0	BXP	15.38%	META	1.92%
10.0	SNY	13.46%	GLD	1.92%
10.0	TMUS	13.46%	BHC	1.92%
10.0	UNH	11.54%	TDG	1.92%
10.0	KHC	11.54%	TMUS	1.92%
10.0	TXN	11.54%	VZ	1.92%
10.0	ORCL	9.62%	LQD	1.92%
10.0	GLD	9.62%	GSK	1.92%
10.0	PCG	7.69%	AMZN	1.92%
10.0	PRGO	7.69%	HD	1.92%
10.0	QCOM	7.69%	IRM	0.0%
10.0	HON	7.69%	AAP	0.0%



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## P90D: 21d

The columns labeled “VaRBreak\_VmS” represent the average amount by which Vector Model VaR Breakage exceeds Sigma VaR breakage for the given ticker across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Hzn	Ticker	95VaRBreak_VmS	Ticker	99VaRBreak_VmS
21.0	CLF	34.15%	BXP	43.9%
21.0	GNRC	34.15%	PRGO	39.02%
21.0	TMUS	34.15%	GLD	12.2%
21.0	BXP	29.27%	LQD	12.2%
21.0	MSFT	26.83%	BUD	9.76%
21.0	INTU	24.39%	TMUS	7.32%
21.0	TXN	21.95%	CLF	7.32%
21.0	KHC	19.51%	GSK	7.32%
21.0	NAVI	19.51%	GNRC	7.32%
21.0	GLD	19.51%	KHC	4.88%
21.0	CMCSA	17.07%	BALL	4.88%
21.0	BHC	17.07%	FCX	2.44%
21.0	BALL	17.07%	LNC	2.44%
21.0	CVS	17.07%	INTU	2.44%
21.0	VFC	17.07%	T	2.44%
21.0	AZO	17.07%	CVS	2.44%
21.0	NWL	17.07%	NWL	0.0%
21.0	T	17.07%	NVS	0.0%
21.0	HD	14.63%	MSTR	0.0%
21.0	META	14.63%	NFLX	0.0%
21.0	LNC	14.63%	ON	0.0%
21.0	CMG	12.2%	NEM	0.0%
21.0	POST	12.2%	NAVI	0.0%
21.0	PRGO	12.2%	MU	0.0%
21.0	AMC	12.2%	NVDA	0.0%



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### P365D: 1d

The columns labeled “VaRBreak\_VmS” represent the average amount by which Vector Model VaR Breakage exceeds Sigma VaR breakage for the given ticker across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Hzn	Ticker	95VaRBreak_VmS	Ticker	99VaRBreak_VmS
1.0	LLY	16.4%	ZTS	7.6%
1.0	SBUX	12.8%	AMC	7.2%
1.0	TDG	12.4%	LLY	6.4%
1.0	TSLA	12.0%	GWV	4.4%
1.0	AMZN	12.0%	CMCSA	4.0%
1.0	ISRG	10.8%	CDNS	3.6%
1.0	PRGO	10.8%	TSLA	3.6%
1.0	CMCSA	10.4%	UNH	3.2%
1.0	AMC	9.6%	TDG	2.8%
1.0	CDNS	9.2%	SBUX	2.4%
1.0	TXN	8.8%	NFLX	2.4%
1.0	GWV	8.8%	TMUS	2.4%
1.0	ZTS	8.4%	MSTR	2.0%
1.0	HD	7.6%	TXN	2.0%
1.0	META	7.6%	AAP	1.6%
1.0	MSTR	7.2%	GNRC	1.6%
1.0	UNH	6.4%	PRGO	1.6%
1.0	TMUS	5.6%	KHC	1.6%
1.0	NAVI	5.2%	GLD	1.2%
1.0	AMGN	4.4%	AMGN	1.2%
1.0	VICI	4.4%	VZ	1.2%
1.0	BHC	4.4%	HD	1.2%
1.0	PEP	4.0%	QCOM	0.8%
1.0	INTU	4.0%	CVS	0.8%
1.0	KHC	4.0%	BHC	0.8%



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### P365D: 10d

The columns labeled “VaRBreak\_VmS” represent the average amount by which Vector Model VaR Breakage exceeds Sigma VaR breakage for the given ticker across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Hzn	Ticker	95VaRBreak_VmS	Ticker	99VaRBreak_VmS
10.0	AMC	26.97%	AMC	12.86%
10.0	META	14.94%	ZTS	6.22%
10.0	CMCSA	14.52%	GE	6.22%
10.0	LLY	11.2%	MSTR	5.81%
10.0	ZTS	10.79%	UNH	5.39%
10.0	UNH	10.79%	TDG	4.98%
10.0	MSTR	9.96%	NFLX	4.56%
10.0	TXN	9.96%	BXP	3.73%
10.0	AAP	9.54%	TSLA	3.73%
10.0	CVS	9.54%	CZR	3.32%
10.0	TSLA	9.13%	CLF	3.32%
10.0	NFLX	9.13%	CMCSA	2.9%
10.0	GNRC	8.71%	AMZN	2.9%
10.0	AMZN	8.71%	QCOM	2.9%
10.0	TDG	8.71%	BUD	2.49%
10.0	PRGO	8.71%	CVS	2.49%
10.0	GW	7.47%	GNRC	2.49%
10.0	CLF	7.47%	TXN	2.07%
10.0	BUD	7.05%	PRGO	1.66%
10.0	QCOM	6.64%	LLY	1.66%
10.0	HD	6.22%	ADBE	1.66%
10.0	AMD	6.22%	KHC	1.66%
10.0	AMGN	5.81%	ON	1.24%
10.0	TMUS	5.81%	AMGN	1.24%
10.0	GE	5.81%	CHTR	1.24%



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### P365D: 21d

The columns labeled “VaRBreak\_VmS” represent the average amount by which Vector Model VaR Breakage exceeds Sigma VaR breakage for the given ticker across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Hzn	Ticker	95VaRBreak_VmS	Ticker	99VaRBreak_VmS
21.0	CMCSA	20.87%	ZTS	11.74%
21.0	AMC	20.87%	UNH	10.87%
21.0	TDG	20.43%	BXP	8.7%
21.0	ZTS	18.26%	CMCSA	7.83%
21.0	UNH	17.83%	PRGO	6.96%
21.0	TXN	13.91%	AMC	6.96%
21.0	CLF	13.04%	MSTR	6.96%
21.0	AMZN	11.74%	BUD	5.22%
21.0	META	11.3%	IRM	3.48%
21.0	MSTR	11.3%	MSI	3.04%
21.0	PRGO	10.87%	CLF	3.04%
21.0	CHTR	10.0%	QCOM	2.17%
21.0	AMD	10.0%	LQD	2.17%
21.0	NWL	9.57%	AMZN	2.17%
21.0	CVS	8.7%	GLD	2.17%
21.0	TMUS	8.7%	NFLX	1.74%
21.0	GNRC	8.7%	CZR	1.74%
21.0	BXP	8.26%	LW	1.3%
21.0	TSLA	6.96%	TMUS	1.3%
21.0	AAP	6.09%	GSK	1.3%
21.0	ADBE	6.09%	META	1.3%
21.0	BUD	6.09%	CYH	0.87%
21.0	LLY	5.22%	TDG	0.87%
21.0	KHC	4.78%	NAVI	0.87%
21.0	NAVI	4.78%	CHTR	0.87%



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### P365D: 63d

The columns labeled “VaRBreak\_VmS” represent the average amount by which Vector Model VaR Breakage exceeds Sigma VaR breakage for the given ticker across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Hzn	Ticker	95VaRBreak_VmS	Ticker	99VaRBreak_VmS
63.0	PRGO	47.34%	CHTR	26.06%
63.0	MSTR	39.89%	MSTR	24.47%
63.0	AMC	31.38%	PRGO	23.94%
63.0	TDG	31.38%	NFLX	12.23%
63.0	CMCSA	26.6%	TDG	9.57%
63.0	ZTS	25.53%	CMCSA	7.98%
63.0	META	22.34%	BUD	7.45%
63.0	BXP	21.81%	BXP	5.32%
63.0	BUD	18.62%	CNC	4.79%
63.0	MSI	17.02%	META	4.79%
63.0	NFLX	17.02%	AMC	2.66%
63.0	CLF	13.3%	UNH	2.66%
63.0	NWL	12.77%	MSI	2.66%
63.0	LW	11.7%	NWL	1.6%
63.0	QCOM	11.17%	CYH	0.53%
63.0	GNRC	10.11%	ORCL	0.0%
63.0	IRM	9.04%	ON	0.0%
63.0	UNH	8.51%	ORLY	0.0%
63.0	VNO	7.98%	NVS	0.0%
63.0	ISRG	7.45%	OXY	0.0%
63.0	AMZN	7.45%	PCG	0.0%
63.0	NAVI	6.91%	PEP	0.0%
63.0	AAP	6.38%	NVDA	0.0%
63.0	ADBE	5.85%	AA	0.0%
63.0	CHTR	5.32%	NEM	0.0%



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## P365D: 126d

The columns labeled “VaRBreak\_VmS” represent the average amount by which Vector Model VaR Breakage exceeds Sigma VaR breakage for the given ticker across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Hzn	Ticker	95VaRBreak_VmS	Ticker	99VaRBreak_VmS
126.0	MSTR	83.2%	MSTR	68.8%
126.0	AMC	83.2%	CHTR	44.8%
126.0	ZTS	61.6%	PRGO	27.2%
126.0	CMCSA	45.6%	AMC	23.2%
126.0	NFLX	42.4%	BXP	16.8%
126.0	BXP	33.6%	NFLX	13.6%
126.0	ORCL	30.4%	AAP	11.2%
126.0	PRGO	24.0%	ZTS	4.0%
126.0	TDG	24.0%	ORCL	2.4%
126.0	NAVI	20.8%	LEN	1.6%
126.0	LEN	20.0%	CNC	0.8%
126.0	CNC	18.4%	CLF	0.8%
126.0	CPRT	17.6%	TDG	0.8%
126.0	AAP	16.8%	LQD	0.0%
126.0	UNH	14.4%	LUMN	0.0%
126.0	META	14.4%	PEP	0.0%
126.0	INTU	14.4%	PCG	0.0%
126.0	VNO	13.6%	OXY	0.0%
126.0	ADBE	10.4%	ORLY	0.0%
126.0	CHTR	10.4%	ON	0.0%
126.0	BUD	6.4%	NWL	0.0%
126.0	FIS	4.0%	NVS	0.0%
126.0	CLF	3.2%	KHC	0.0%
126.0	AMZN	2.4%	NVDA	0.0%
126.0	KHC	1.6%	LLY	0.0%



## Appendix 2: Bottom 25 Ticker Level Differences in VM vs. Sigma 95% and 99% VaR Breakage

### All TMD: 1d

The columns labeled “VaRBreak\_VmS” represent the average amount by which Vector Model VaR Breakage exceeds Sigma VaR breakage for the given ticker across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Hzn	Ticker	95VaRBreak_VmS	Ticker	99VaRBreak_VmS
1.0	PHM	-4.98%	HSBC	-2.16%
1.0	MOS	-4.51%	TRGP	-2.07%
1.0	MS	-4.41%	QQQ	-2.07%
1.0	TRGP	-4.13%	IRM	-1.97%
1.0	NVDA	-4.13%	GS	-1.88%
1.0	THC	-3.76%	THC	-1.88%
1.0	HYG	-3.66%	MS	-1.78%
1.0	VNO	-3.57%	CMG	-1.78%
1.0	CAH	-3.38%	ORLY	-1.78%
1.0	QQQ	-3.29%	MNST	-1.78%
1.0	FSUGY	-3.29%	NVDA	-1.78%
1.0	PCG	-3.29%	VST	-1.78%
1.0	MNST	-3.29%	AMAT	-1.78%
1.0	VST	-3.19%	PWR	-1.78%
1.0	CCL	-3.19%	PCG	-1.69%
1.0	IRM	-3.19%	EMB	-1.6%
1.0	CSCO	-3.1%	NVS	-1.6%
1.0	X	-2.95%	SPY	-1.6%
1.0	CPRT	-2.91%	PHM	-1.6%
1.0	AMAT	-2.91%	CAH	-1.6%
1.0	WRK	-2.79%	MOS	-1.5%
1.0	GS	-2.72%	LVS	-1.5%
1.0	HLT	-2.63%	JPM	-1.5%
1.0	HSBC	-2.63%	PEP	-1.5%
1.0	PWR	-2.35%	HYG	-1.5%



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## All TMD: 10d

The columns labeled “VaRBreak\_VmS” represent the average amount by which Vector Model VaR Breakage exceeds Sigma VaR breakage for the given ticker across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Hzn	Ticker	95VaRBreak_VmS	Ticker	99VaRBreak_VmS
10.0	MS	-5.21%	MUB	-3.89%
10.0	MUB	-4.93%	BAC	-2.65%
10.0	NVDA	-4.07%	PCG	-2.56%
10.0	CSCO	-3.98%	ABBV	-2.56%
10.0	X	-3.94%	CMG	-2.46%
10.0	THC	-3.69%	TRGP	-2.27%
10.0	BAC	-3.6%	WRK	-2.17%
10.0	TRGP	-3.5%	WDC	-2.08%
10.0	MNST	-3.41%	COST	-2.08%
10.0	AZN	-3.41%	X	-1.91%
10.0	MOS	-3.22%	MRK	-1.8%
10.0	WRK	-3.17%	JPM	-1.8%
10.0	QQQ	-3.12%	VST	-1.8%
10.0	CPRT	-3.12%	MS	-1.8%
10.0	HLT	-3.03%	IRM	-1.8%
10.0	PHM	-3.03%	SBUX	-1.8%
10.0	COST	-2.94%	WFC	-1.7%
10.0	HSBC	-2.94%	AZN	-1.7%
10.0	IRM	-2.94%	USB	-1.61%
10.0	ABBV	-2.84%	LNC	-1.61%
10.0	MU	-2.84%	BBY	-1.61%
10.0	JPM	-2.84%	HCA	-1.61%
10.0	ORLY	-2.84%	FIS	-1.61%
10.0	VST	-2.75%	HLT	-1.52%
10.0	CMG	-2.65%	XOM	-1.42%



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## All TMD: 21d

The columns labeled “VaRBreak\_VmS” represent the average amount by which Vector Model VaR Breakage exceeds Sigma VaR breakage for the given ticker across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Hzn	Ticker	95VaRBreak_VmS	Ticker	99VaRBreak_VmS
21.0	MUB	-8.14%	MUB	-4.21%
21.0	TEVA	-4.31%	LW	-2.97%
21.0	ABBV	-4.21%	CMG	-2.68%
21.0	MS	-4.11%	PCG	-2.39%
21.0	QQQ	-3.92%	COST	-2.11%
21.0	COST	-3.64%	USB	-2.01%
21.0	WRK	-3.57%	TFC	-1.91%
21.0	CPRT	-3.54%	AZN	-1.82%
21.0	TRGP	-3.44%	CPRT	-1.72%
21.0	CMG	-3.44%	HLT	-1.63%
21.0	MNST	-3.16%	WDC	-1.63%
21.0	THC	-3.16%	INTC	-1.53%
21.0	USB	-3.06%	TEVA	-1.53%
21.0	IRM	-2.97%	FITB	-1.34%
21.0	SPY	-2.87%	HSBC	-1.34%
21.0	ORLY	-2.78%	FRA	-1.34%
21.0	FSUGY	-2.78%	LVS	-1.24%
21.0	PEP	-2.58%	ABBV	-1.24%
21.0	CSCO	-2.58%	ADBE	-1.24%
21.0	AZN	-2.58%	X	-1.21%
21.0	GT	-2.49%	TRGP	-1.15%
21.0	EMB	-2.39%	FCX	-1.05%
21.0	NVDA	-2.2%	INTU	-1.05%
21.0	HLT	-2.11%	CCL	-1.05%
21.0	PWR	-2.01%	MSFT	-1.05%



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## All TMD: 63d

The columns labeled “VaRBreak\_VmS” represent the average amount by which Vector Model VaR Breakage exceeds Sigma VaR breakage for the given ticker across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Hzn	Ticker	95VaRBreak_VmS	Ticker	99VaRBreak_VmS
63.0	MUB	-5.19%	IEP	-6.28%
63.0	USB	-3.99%	MUB	-3.89%
63.0	LEN	-3.79%	PCG	-3.09%
63.0	MSFT	-3.59%	BHC	-2.39%
63.0	X	-3.44%	USB	-2.39%
63.0	CMG	-3.29%	X	-2.17%
63.0	CSCO	-2.99%	GSK	-1.79%
63.0	TRGP	-2.79%	VFC	-1.79%
63.0	FSUGY	-2.29%	HCA	-1.69%
63.0	SPY	-2.19%	VZ	-1.69%
63.0	AZN	-2.19%	CTLT	-1.61%
63.0	DHI	-2.09%	AZN	-1.5%
63.0	CPRT	-1.99%	TFC	-1.4%
63.0	GE	-1.89%	AA	-1.3%
63.0	ACGL	-1.79%	CLF	-1.2%
63.0	THC	-1.79%	INTU	-0.9%
63.0	QQQ	-1.6%	IRM	-0.8%
63.0	IRM	-1.6%	HYG	-0.7%
63.0	NVDA	-1.5%	SNY	-0.7%
63.0	MS	-1.5%	LW	-0.5%
63.0	LUMN	-1.4%	MU	-0.5%
63.0	PWR	-1.4%	EMB	-0.4%
63.0	PHM	-1.4%	NEM	-0.4%
63.0	SLV	-1.3%	SLV	-0.3%
63.0	AZO	-1.2%	MSFT	-0.3%



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## All TMD: 126d

The columns labeled “VaRBreak\_VmS” represent the average amount by which Vector Model VaR Breakage exceeds Sigma VaR breakage for the given ticker across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Hzn	Ticker	95VaRBreak_VmS	Ticker	99VaRBreak_VmS
126.0	MUB	-6.28%	IEP	-13.19%
126.0	LW	-4.15%	BALL	-2.55%
126.0	IRM	-4.15%	LW	-2.23%
126.0	PCG	-3.62%	GSK	-2.13%
126.0	LEN	-3.3%	PCG	-1.49%
126.0	VZ	-2.66%	VZ	-1.28%
126.0	LUMN	-2.55%	CNC	-1.17%
126.0	BALL	-2.55%	EMB	-0.85%
126.0	INTC	-1.7%	MUB	-0.64%
126.0	FSUGY	-1.38%	IRM	-0.64%
126.0	CMG	-1.28%	INTC	-0.32%
126.0	PHM	-1.28%	NEM	-0.21%
126.0	LVS	-1.17%	CPRT	-0.11%
126.0	CSTM	-1.17%	NAVI	0.0%
126.0	BBY	-1.17%	MU	0.0%
126.0	WRK	-1.03%	MSI	0.0%
126.0	X	-0.97%	MSFT	0.0%
126.0	NVDA	-0.64%	MS	0.0%
126.0	MSFT	-0.53%	MOS	0.0%
126.0	CSCO	-0.43%	MNST	0.0%
126.0	GOOGL	-0.43%	AA	0.0%
126.0	GBTC	-0.32%	LNC	0.0%
126.0	ACGL	-0.32%	LLY	0.0%
126.0	EMB	-0.21%	KHC	0.0%
126.0	SPY	-0.21%	KALU	0.0%



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## All TMD: 252d

The columns labeled “VaRBreak\_VmS” represent the average amount by which Vector Model VaR Breakage exceeds Sigma VaR breakage for the given ticker across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Hzn	Ticker	95VaRBreak_VmS	Ticker	99VaRBreak_VmS
252.0	LUMN	-10.93%	IEP	-24.08%
252.0	LW	-10.44%	FRCB	-0.37%
252.0	CPRT	-7.0%	CNC	-0.12%
252.0	VZ	-5.65%	LW	-0.12%
252.0	CMG	-1.84%	IRM	0.0%
252.0	CSTM	-1.72%	NWL	0.0%
252.0	IEP	-1.6%	NVS	0.0%
252.0	BMJ	-1.47%	NVDA	0.0%
252.0	PEP	-1.11%	NFLX	0.0%
252.0	MRK	-0.98%	NAVI	0.0%
252.0	INTC	-0.61%	MUB	0.0%
252.0	PCG	-0.37%	MU	0.0%
252.0	QQQ	0.0%	MSTR	0.0%
252.0	INTU	0.0%	MSI	0.0%
252.0	POST	0.0%	MSFT	0.0%
252.0	PHM	0.0%	MS	0.0%
252.0	ORCL	0.0%	MOS	0.0%
252.0	ORLY	0.0%	INTU	0.0%
252.0	HSBC	0.0%	MNST	0.0%
252.0	HON	0.0%	ORCL	0.0%
252.0	IRM	0.0%	INTC	0.0%
252.0	HLT	0.0%	LVS	0.0%
252.0	HCA	0.0%	LUMN	0.0%
252.0	GWJ	0.0%	LQD	0.0%
252.0	GS	0.0%	LNC	0.0%



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### P30D: 1d

The columns labeled “VaRBreak\_VmS” represent the average amount by which Vector Model VaR Breakage exceeds Sigma VaR breakage for the given ticker across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Hzn	Ticker	95VaRBreak_VmS	Ticker	99VaRBreak_VmS
1.0	NEM	-15.0%	OXY	-15.0%
1.0	MNST	-10.0%	MSFT	-10.0%
1.0	T	-10.0%	AA	-10.0%
1.0	CCL	-10.0%	WFC	-5.0%
1.0	ADBE	-10.0%	CHTR	-5.0%
1.0	ELAN	-10.0%	FSUGY	-5.0%
1.0	HLT	-10.0%	XOM	-5.0%
1.0	CAH	-5.0%	INTU	-5.0%
1.0	CHTR	-5.0%	PCG	-5.0%
1.0	FCX	-5.0%	GSK	-5.0%
1.0	FSUGY	-5.0%	LVS	-5.0%
1.0	AA	-5.0%	COST	-5.0%
1.0	BMJ	-5.0%	B	-5.0%
1.0	MOS	-5.0%	VFC	-5.0%
1.0	ON	-5.0%	VZ	-5.0%
1.0	OXY	-5.0%	CYH	-5.0%
1.0	PCG	-5.0%	ADBE	-5.0%
1.0	PHM	-5.0%	ACGL	-5.0%
1.0	THC	-5.0%	FCX	-5.0%
1.0	HON	-5.0%	GE	-5.0%
1.0	BIIB	-5.0%	MUB	0.0%
1.0	ZTS	-5.0%	NWL	0.0%
1.0	ABBV	-5.0%	NVS	0.0%
1.0	B	-5.0%	NEM	0.0%
1.0	AZN	-5.0%	NAVI	0.0%



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### P30D: 10d

The columns labeled “VaRBreak\_VmS” represent the average amount by which Vector Model VaR Breakage exceeds Sigma VaR breakage for the given ticker across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Hzn	Ticker	95VaRBreak_VmS	Ticker	99VaRBreak_VmS
10.0	XOM	-27.27%	OXY	-18.18%
10.0	AZN	-18.18%	FCX	-9.09%
10.0	CAH	-9.09%	AA	0.0%
10.0	NVS	-9.09%	ORLY	0.0%
10.0	OXY	-9.09%	ORCL	0.0%
10.0	MSFT	0.0%	ON	0.0%
10.0	MSI	0.0%	NWL	0.0%
10.0	MSTR	0.0%	NVS	0.0%
10.0	MU	0.0%	NVDA	0.0%
10.0	MUB	0.0%	NEM	0.0%
10.0	AA	0.0%	NAVI	0.0%
10.0	NEM	0.0%	MUB	0.0%
10.0	NVDA	0.0%	MU	0.0%
10.0	NWL	0.0%	MSTR	0.0%
10.0	ON	0.0%	MSI	0.0%
10.0	ORLY	0.0%	MSFT	0.0%
10.0	NAVI	0.0%	MS	0.0%
10.0	MS	0.0%	MRK	0.0%
10.0	MNST	0.0%	JPM	0.0%
10.0	LW	0.0%	KALU	0.0%
10.0	LVS	0.0%	KEY	0.0%
10.0	LUMN	0.0%	KHC	0.0%
10.0	LQD	0.0%	LEN	0.0%
10.0	LNC	0.0%	LLY	0.0%
10.0	LLY	0.0%	PEP	0.0%



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## P90D: 1d

The columns labeled “VaRBreak\_VmS” represent the average amount by which Vector Model VaR Breakage exceeds Sigma VaR breakage for the given ticker across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Hzn	Ticker	95VaRBreak_VmS	Ticker	99VaRBreak_VmS
1.0	RIO	-11.48%	HSBC	-9.84%
1.0	ELAN	-11.48%	B	-8.2%
1.0	BHP	-11.48%	OXY	-6.56%
1.0	HSBC	-11.48%	TFC	-6.56%
1.0	CSTM	-11.48%	NEM	-6.56%
1.0	MS	-9.84%	SLV	-4.92%
1.0	NEM	-9.84%	ELAN	-4.92%
1.0	MOS	-9.84%	FSUGY	-4.92%
1.0	VCSH	-9.84%	BHP	-4.92%
1.0	MNST	-9.84%	VCSH	-4.92%
1.0	HLT	-8.2%	ORLY	-4.92%
1.0	OXY	-8.2%	GS	-4.92%
1.0	FSUGY	-8.2%	AA	-4.92%
1.0	FITB	-8.2%	WFC	-4.92%
1.0	CCL	-6.56%	AMAT	-4.92%
1.0	BUD	-6.56%	MS	-4.92%
1.0	HYG	-6.56%	KEY	-4.92%
1.0	FCX	-6.56%	XOM	-4.92%
1.0	GS	-6.56%	MUB	-4.92%
1.0	AA	-6.56%	CSTM	-4.92%
1.0	MUB	-6.56%	NVS	-3.28%
1.0	TEVA	-6.56%	MU	-3.28%
1.0	THC	-6.56%	MSFT	-3.28%
1.0	WFC	-6.56%	PCG	-3.28%
1.0	CSCO	-6.56%	ZION	-3.28%



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## P90D: 10d

The columns labeled “VaRBreak\_VmS” represent the average amount by which Vector Model VaR Breakage exceeds Sigma VaR breakage for the given ticker across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Hzn	Ticker	95VaRBreak_VmS	Ticker	99VaRBreak_VmS
10.0	CPRT	-19.23%	MNST	-11.54%
10.0	NVS	-19.23%	B	-9.62%
10.0	THC	-19.23%	FITB	-7.69%
10.0	MUB	-15.38%	NVS	-7.69%
10.0	LEN	-15.38%	LNC	-7.69%
10.0	MNST	-15.38%	TFC	-5.77%
10.0	XOM	-13.46%	XOM	-5.77%
10.0	HSBC	-13.46%	TEVA	-5.77%
10.0	CNC	-13.46%	HSBC	-5.77%
10.0	EMB	-13.46%	BHP	-5.77%
10.0	RIO	-13.46%	OXY	-3.85%
10.0	ABBV	-11.54%	EMB	-3.85%
10.0	FITB	-11.54%	VCSH	-3.85%
10.0	USB	-11.54%	VICI	-3.85%
10.0	TEVA	-9.62%	GS	-1.92%
10.0	VCSH	-9.62%	RIO	-1.92%
10.0	WFC	-9.62%	T	-1.92%
10.0	ELAN	-9.62%	GOOGL	-1.92%
10.0	CSCO	-7.69%	MUB	-1.92%
10.0	LQD	-7.69%	CPRT	-1.92%
10.0	GOOGL	-7.69%	NEM	-1.92%
10.0	HCA	-7.69%	THC	-1.92%
10.0	BA	-7.69%	MOS	-1.92%
10.0	SLV	-7.69%	ELAN	-1.92%
10.0	BHP	-7.69%	CSCO	-1.92%



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## P90D: 21d

The columns labeled “VaRBreak\_VmS” represent the average amount by which Vector Model VaR Breakage exceeds Sigma VaR breakage for the given ticker across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Hzn	Ticker	95VaRBreak_VmS	Ticker	99VaRBreak_VmS
21.0	EMB	-26.83%	FITB	-21.95%
21.0	TEVA	-26.83%	TFC	-19.51%
21.0	USB	-24.39%	B	-14.63%
21.0	NVS	-21.95%	EMB	-12.2%
21.0	RIO	-21.95%	MNST	-12.2%
21.0	WFC	-19.51%	MUB	-12.2%
21.0	VCSH	-19.51%	WFC	-7.32%
21.0	THC	-19.51%	HSBC	-7.32%
21.0	LEN	-17.07%	CCL	-4.88%
21.0	MNST	-17.07%	KEY	-4.88%
21.0	BA	-17.07%	VCSH	-4.88%
21.0	GT	-14.63%	USB	-4.88%
21.0	KEY	-14.63%	GT	-4.88%
21.0	MUB	-14.63%	GE	-2.44%
21.0	PHM	-14.63%	BHP	-2.44%
21.0	HSBC	-14.63%	RIO	-2.44%
21.0	BHP	-12.2%	FRA	-2.44%
21.0	DHI	-9.76%	HD	-2.44%
21.0	B	-9.76%	LEN	-2.44%
21.0	ZION	-9.76%	BAC	-2.44%
21.0	CCL	-9.76%	NFLX	0.0%
21.0	HYG	-9.76%	NVDA	0.0%
21.0	FRA	-7.32%	NVS	0.0%
21.0	XOM	-7.32%	NEM	0.0%
21.0	UAA	-7.32%	NWL	0.0%



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### P365D: 1d

The columns labeled “VaRBreak\_VmS” represent the average amount by which Vector Model VaR Breakage exceeds Sigma VaR breakage for the given ticker across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Hzn	Ticker	95VaRBreak_VmS	Ticker	99VaRBreak_VmS
1.0	HLT	-6.0%	NEM	-4.4%
1.0	MOS	-6.0%	B	-3.6%
1.0	MNST	-5.2%	VCSH	-3.6%
1.0	BHP	-4.8%	SLV	-3.21%
1.0	ELAN	-4.8%	HSBC	-3.2%
1.0	VCSH	-4.8%	AA	-2.4%
1.0	HSBC	-4.4%	RIO	-2.4%
1.0	NEM	-4.4%	TFC	-2.4%
1.0	SLV	-4.02%	OXY	-2.4%
1.0	AA	-4.0%	ORLY	-2.4%
1.0	THC	-4.0%	GSK	-2.4%
1.0	ORLY	-3.6%	MNST	-2.4%
1.0	PHM	-3.6%	WDC	-2.4%
1.0	MS	-3.6%	PWR	-2.0%
1.0	OXY	-3.6%	FSUGY	-2.0%
1.0	AZN	-3.2%	NVS	-2.0%
1.0	FSUGY	-3.2%	BHP	-2.0%
1.0	CSCO	-3.2%	THC	-2.0%
1.0	BIIB	-3.2%	KEY	-2.0%
1.0	RIO	-3.2%	ADBE	-2.0%
1.0	GILD	-2.8%	LVS	-2.0%
1.0	WFC	-2.8%	WFC	-2.0%
1.0	GSK	-2.8%	FITB	-1.6%
1.0	VNO	-2.8%	CSTM	-1.6%
1.0	CAH	-2.8%	XOM	-1.6%



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### P365D: 10d

The columns labeled “VaRBreak\_VmS” represent the average amount by which Vector Model VaR Breakage exceeds Sigma VaR breakage for the given ticker across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Hzn	Ticker	95VaRBreak_VmS	Ticker	99VaRBreak_VmS
10.0	ORLY	-8.3%	CMG	-7.05%
10.0	MOS	-5.81%	CPRT	-4.56%
10.0	CPRT	-5.39%	LUMN	-3.73%
10.0	SLV	-5.0%	AZO	-3.73%
10.0	THC	-4.98%	FIS	-3.32%
10.0	LEN	-4.98%	SLV	-2.5%
10.0	GBTC	-4.98%	B	-2.49%
10.0	HSBC	-4.56%	MNST	-2.49%
10.0	FIS	-4.15%	MOS	-2.49%
10.0	MNST	-3.73%	INTU	-2.07%
10.0	LUMN	-3.32%	LNC	-2.07%
10.0	FITB	-3.32%	MSFT	-2.07%
10.0	MUB	-3.32%	CYH	-2.07%
10.0	GT	-3.32%	NAVI	-1.66%
10.0	NVS	-3.32%	FCX	-1.66%
10.0	LVS	-2.9%	NVS	-1.66%
10.0	EMB	-2.9%	FITB	-1.66%
10.0	AZO	-2.9%	TFC	-1.24%
10.0	JPM	-2.9%	HSBC	-1.24%
10.0	BA	-2.9%	NEM	-1.24%
10.0	XOM	-2.9%	XOM	-1.24%
10.0	B	-2.49%	BHP	-1.24%
10.0	USB	-2.49%	T	-1.24%
10.0	RIO	-2.49%	TEVA	-1.24%
10.0	ELAN	-2.49%	EMB	-0.83%



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### P365D: 21d

The columns labeled “VaRBreak\_VmS” represent the average amount by which Vector Model VaR Breakage exceeds Sigma VaR breakage for the given ticker across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Hzn	Ticker	95VaRBreak_VmS	Ticker	99VaRBreak_VmS
21.0	MOS	-6.09%	CPRT	-7.39%
21.0	ORLY	-6.09%	CMG	-6.52%
21.0	CPRT	-6.09%	FIS	-5.65%
21.0	CMG	-5.65%	MSFT	-3.91%
21.0	GT	-5.22%	FITB	-3.91%
21.0	BA	-5.22%	TFC	-3.48%
21.0	GBTC	-4.78%	EXPE	-2.61%
21.0	EMB	-4.78%	B	-2.61%
21.0	TEVA	-4.78%	INTU	-2.17%
21.0	USB	-4.35%	MUB	-2.17%
21.0	RIO	-3.91%	EMB	-2.17%
21.0	NVS	-3.91%	MNST	-2.17%
21.0	FRA	-3.48%	PCG	-1.74%
21.0	WFC	-3.48%	MOS	-1.74%
21.0	THC	-3.48%	AZO	-1.3%
21.0	AZO	-3.48%	HD	-1.3%
21.0	VCSH	-3.48%	HSBC	-1.3%
21.0	MNST	-3.04%	WFC	-1.3%
21.0	UAA	-3.04%	SLV	-0.87%
21.0	SLV	-2.62%	USB	-0.87%
21.0	PHM	-2.61%	GT	-0.87%
21.0	KEY	-2.61%	VCSH	-0.87%
21.0	HSBC	-2.61%	KEY	-0.87%
21.0	MUB	-2.61%	CCL	-0.87%
21.0	ZION	-2.61%	FRA	-0.43%



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### P365D: 63d

The columns labeled “VaRBreak\_VmS” represent the average amount by which Vector Model VaR Breakage exceeds Sigma VaR breakage for the given ticker across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Hzn	Ticker	95VaRBreak_VmS	Ticker	99VaRBreak_VmS
63.0	MSFT	-20.74%	INTU	-4.26%
63.0	MOS	-10.11%	SLV	-1.6%
63.0	AZO	-6.38%	MSFT	-1.6%
63.0	CMG	-5.85%	CPRT	-0.53%
63.0	FRA	-4.79%	FIS	-0.53%
63.0	T	-3.72%	ORLY	0.0%
63.0	VICI	-2.66%	ORCL	0.0%
63.0	CPRT	-2.66%	ON	0.0%
63.0	GBTC	-1.6%	NVS	0.0%
63.0	B	-1.6%	NVDA	0.0%
63.0	SLV	-1.07%	NEM	0.0%
63.0	LNC	-1.06%	NAVI	0.0%
63.0	LUMN	-0.53%	MUB	0.0%
63.0	LQD	0.0%	MU	0.0%
63.0	LVS	0.0%	MS	0.0%
63.0	MRK	0.0%	MRK	0.0%
63.0	MS	0.0%	AA	0.0%
63.0	MNST	0.0%	MNST	0.0%
63.0	AA	0.0%	ZION	0.0%
63.0	KALU	0.0%	ISRG	0.0%
63.0	JPM	0.0%	JAZZ	0.0%
63.0	ZION	0.0%	JPM	0.0%
63.0	INTC	0.0%	KALU	0.0%
63.0	IEP	0.0%	KEY	0.0%
63.0	HYG	0.0%	OXY	0.0%



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## P365D: 126d

The columns labeled “VaRBreak\_VmS” represent the average amount by which Vector Model VaR Breakage exceeds Sigma VaR breakage for the given ticker across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Hzn	Ticker	95VaRBreak_VmS	Ticker	99VaRBreak_VmS
126.0	FRA	-18.4%	CPRT	-0.8%
126.0	CMG	-9.6%	AA	0.0%
126.0	MSFT	-6.4%	OXY	0.0%
126.0	MOS	-3.2%	ORLY	0.0%
126.0	GBTC	-2.4%	ON	0.0%
126.0	INTC	0.0%	NWL	0.0%
126.0	ON	0.0%	NVS	0.0%
126.0	NWL	0.0%	NVDA	0.0%
126.0	NVS	0.0%	NEM	0.0%
126.0	NVDA	0.0%	NAVI	0.0%
126.0	NEM	0.0%	MUB	0.0%
126.0	MUB	0.0%	MU	0.0%
126.0	MU	0.0%	MSI	0.0%
126.0	MSI	0.0%	MSFT	0.0%
126.0	MS	0.0%	MS	0.0%
126.0	MRK	0.0%	MRK	0.0%
126.0	MNST	0.0%	MOS	0.0%
126.0	LW	0.0%	META	0.0%
126.0	ORLY	0.0%	LW	0.0%
126.0	LVS	0.0%	LVS	0.0%
126.0	LUMN	0.0%	LUMN	0.0%
126.0	LQD	0.0%	LQD	0.0%
126.0	LNC	0.0%	LNC	0.0%
126.0	LLY	0.0%	LLY	0.0%
126.0	KEY	0.0%	KHC	0.0%



## Appendix 3: Top 25 Ticker Level Differences in VM vs. Sigma 95% and 99% ROVBC

### All TMD: 1d

The columns labeled “ROVBC\_VmS” represent the average amount by which Vector Model ROVBC exceeds Sigma ROVBC for the given ticker across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Hzn	Ticker	95ROVBC_VmS	Ticker	99ROVBC_VmS
1.0	GME	0.22%	GME	0.26%
1.0	MSTR	0.15%	NWL	0.15%
1.0	NFLX	0.12%	UAA	0.12%
1.0	NWL	0.1%	QCOM	0.09%
1.0	META	0.1%	UNH	0.09%
1.0	AAPL	0.1%	CZR	0.08%
1.0	UNH	0.08%	BALL	0.07%
1.0	HD	0.08%	ORCL	0.07%
1.0	INTU	0.07%	AAPL	0.07%
1.0	QCOM	0.06%	INTU	0.07%
1.0	GWV	0.05%	CTLT	0.06%
1.0	AAP	0.05%	ON	0.05%
1.0	AA	0.05%	GNRC	0.05%
1.0	CZR	0.05%	IEP	0.04%
1.0	ORCL	0.05%	KHC	0.04%
1.0	XOM	0.05%	MSTR	0.04%
1.0	SNY	0.04%	HD	0.04%
1.0	BAC	0.04%	AMC	0.04%
1.0	CLF	0.04%	SNY	0.04%
1.0	CDNS	0.04%	LW	0.03%
1.0	PCG	0.04%	CMA	0.03%
1.0	BALL	0.04%	SBUX	0.03%
1.0	BA	0.04%	FRA	0.03%
1.0	BHP	0.04%	LNC	0.03%
1.0	WDC	0.04%	ADBE	0.03%



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## All TMD: 10d

The columns labeled “ROVBC\_VmS” represent the average amount by which Vector Model ROVBC exceeds Sigma ROVBC for the given ticker across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Hzn	Ticker	95ROVBC_VmS	Ticker	99ROVBC_VmS
10.0	GME	3.81%	GME	2.72%
10.0	MSTR	2.76%	MSTR	2.54%
10.0	CTLT	1.13%	CTLT	1.11%
10.0	META	1.12%	MU	0.73%
10.0	NFLX	0.99%	CMA	0.57%
10.0	CZR	0.97%	GNRC	0.55%
10.0	MU	0.93%	AAPL	0.54%
10.0	UAA	0.85%	UAA	0.49%
10.0	ORCL	0.73%	INTU	0.48%
10.0	UNH	0.72%	CZR	0.48%
10.0	OXY	0.7%	CVS	0.45%
10.0	AAPL	0.65%	IEP	0.43%
10.0	INTC	0.59%	NFLX	0.42%
10.0	KALU	0.52%	META	0.41%
10.0	HD	0.47%	KALU	0.36%
10.0	WDC	0.47%	UNH	0.35%
10.0	SNY	0.46%	AA	0.34%
10.0	LW	0.46%	LNC	0.33%
10.0	AA	0.44%	NWL	0.32%
10.0	BA	0.44%	ORCL	0.3%
10.0	GWW	0.43%	QCOM	0.27%
10.0	AMZN	0.43%	WRK	0.26%
10.0	GOOGL	0.4%	NAVI	0.26%
10.0	TEVA	0.38%	ABBV	0.25%
10.0	XOM	0.37%	INTC	0.24%



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## All TMD: 21d

The columns labeled “ROVBC\_VmS” represent the average amount by which Vector Model ROVBC exceeds Sigma ROVBC for the given ticker across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Hzn	Ticker	95ROVBC_VmS	Ticker	99ROVBC_VmS
21.0	MSTR	7.32%	MSTR	5.69%
21.0	GME	5.91%	GME	5.06%
21.0	META	3.58%	CTLT	2.74%
21.0	CTLT	2.68%	NFLX	1.63%
21.0	NFLX	2.67%	AA	1.56%
21.0	UAA	1.92%	META	1.52%
21.0	MU	1.82%	GNRC	1.33%
21.0	WDC	1.71%	UAA	1.14%
21.0	AA	1.5%	IEP	1.14%
21.0	TEVA	1.45%	INTU	1.09%
21.0	ORCL	1.33%	CVS	1.09%
21.0	INTC	1.27%	CMA	0.97%
21.0	CZR	1.23%	KALU	0.81%
21.0	KALU	1.23%	XOM	0.7%
21.0	OXY	1.06%	CZR	0.69%
21.0	GOOGL	1.01%	NWL	0.6%
21.0	GNRC	0.99%	CYH	0.52%
21.0	HD	0.96%	SBUX	0.5%
21.0	AMZN	0.93%	NAVI	0.49%
21.0	AAPL	0.92%	AAPL	0.46%
21.0	AMGN	0.91%	WDC	0.43%
21.0	GWW	0.91%	HD	0.43%
21.0	GILD	0.89%	LNC	0.43%
21.0	SBUX	0.87%	AAP	0.42%
21.0	TXN	0.83%	ABBV	0.42%



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## All TMD: 63d

The columns labeled “ROVBC\_VmS” represent the average amount by which Vector Model ROVBC exceeds Sigma ROVBC for the given ticker across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Hzn	Ticker	95ROVBC_VmS	Ticker	99ROVBC_VmS
63.0	WDC	11.66%	CTLT	10.61%
63.0	MSTR	11.47%	META	8.24%
63.0	CTLT	11.29%	WDC	4.93%
63.0	META	11.29%	GNRC	4.53%
63.0	NFLX	7.79%	KALU	4.47%
63.0	GNRC	6.12%	GME	3.88%
63.0	KALU	4.97%	CMA	3.44%
63.0	GME	4.73%	CVS	3.06%
63.0	ORCL	4.66%	INTC	2.42%
63.0	CMA	4.48%	IEP	2.36%
63.0	NEM	3.45%	AMZN	2.33%
63.0	UAA	3.15%	NEM	2.13%
63.0	AA	2.82%	WRK	2.02%
63.0	SBUX	2.81%	UAA	1.98%
63.0	ISRG	2.75%	AA	1.86%
63.0	WRK	2.52%	CZR	1.67%
63.0	OXY	2.51%	OXY	1.46%
63.0	GILD	2.47%	ZTS	1.35%
63.0	AAPL	2.44%	GILD	1.35%
63.0	CVS	2.33%	SBUX	1.34%
63.0	XOM	2.28%	CYH	1.3%
63.0	AMGN	2.2%	ISRG	1.18%
63.0	MU	2.15%	TMUS	1.17%
63.0	GOOGL	2.14%	NAVI	1.16%
63.0	BA	2.1%	USB	1.16%



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## All TMD: 126d

The columns labeled “ROVBC\_VmS” represent the average amount by which Vector Model ROVBC exceeds Sigma ROVBC for the given ticker across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Hzn	Ticker	95ROVBC_VmS	Ticker	99ROVBC_VmS
126.0	MSTR	42.34%	META	24.66%
126.0	WDC	36.74%	WDC	20.92%
126.0	META	31.36%	AVGO	11.56%
126.0	NFLX	20.6%	KALU	10.18%
126.0	MU	10.28%	INTC	7.48%
126.0	ORCL	10.17%	AMZN	7.16%
126.0	AVGO	9.81%	MSTR	7.14%
126.0	B	8.4%	NEM	6.64%
126.0	NEM	8.29%	LLY	6.16%
126.0	GNRC	8.01%	GILD	6.1%
126.0	KALU	7.92%	WRK	5.32%
126.0	INTC	7.81%	NFLX	5.18%
126.0	SLV	7.03%	CVS	4.95%
126.0	BA	6.86%	BA	4.94%
126.0	GILD	6.75%	SLV	4.92%
126.0	CTLT	6.59%	MU	4.79%
126.0	INTU	6.24%	TEVA	4.48%
126.0	AMD	5.86%	IEP	4.46%
126.0	GME	5.81%	TSLA	4.36%
126.0	XOM	5.34%	ISRG	4.22%
126.0	TSLA	5.31%	GOOGL	4.16%
126.0	AAPL	5.28%	GNRC	4.04%
126.0	ISRG	5.28%	INTU	3.98%
126.0	GOOGL	5.23%	GME	3.63%
126.0	AMAT	5.23%	CTLT	3.44%



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## All TMD: 252d

The columns labeled “ROVBC\_VmS” represent the average amount by which Vector Model ROVBC exceeds Sigma ROVBC for the given ticker across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Hzn	Ticker	95ROVBC_VmS	Ticker	99ROVBC_VmS
252.0	MSTR	152.97%	META	42.9%
252.0	META	80.57%	WDC	38.28%
252.0	WDC	79.96%	MSTR	30.2%
252.0	NFLX	56.77%	AMZN	28.25%
252.0	AVGO	30.9%	AVGO	24.79%
252.0	AMZN	28.3%	VST	23.6%
252.0	B	25.13%	B	22.93%
252.0	MU	25.08%	NFLX	22.75%
252.0	NEM	24.64%	INTU	21.77%
252.0	INTU	24.2%	NEM	21.28%
252.0	ORCL	24.09%	ISRG	20.02%
252.0	GNRC	23.18%	KALU	17.96%
252.0	TSLA	22.91%	GOOGL	17.64%
252.0	SLV	22.3%	SLV	17.41%
252.0	VST	21.61%	MU	16.05%
252.0	ELAN	21.56%	ORCL	15.88%
252.0	ISRG	20.36%	GILD	14.82%
252.0	GOOGL	18.24%	THC	11.99%
252.0	CTLT	18.05%	TDG	10.74%
252.0	AMD	17.97%	LEN	9.76%
252.0	GILD	17.84%	COST	9.53%
252.0	EXPE	17.65%	TMUS	9.47%
252.0	AMAT	16.98%	EXPE	9.27%
252.0	KALU	16.73%	IEP	9.15%
252.0	LLY	15.84%	MSI	8.78%



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### P30D: 1d

The columns labeled “ROVBC\_VmS” represent the average amount by which Vector Model ROVBC exceeds Sigma ROVBC for the given ticker across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Hzn	Ticker	95ROVBC_VmS	Ticker	99ROVBC_VmS
1.0	UNH	2.49%	UNH	2.25%
1.0	AMC	1.73%	AMC	1.41%
1.0	WDC	1.06%	ORCL	0.92%
1.0	AMD	1.03%	CHTR	0.6%
1.0	ORCL	0.94%	LLY	0.56%
1.0	QCOM	0.89%	NFLX	0.56%
1.0	CVS	0.88%	QCOM	0.55%
1.0	BXP	0.8%	WDC	0.53%
1.0	CNC	0.69%	AMD	0.46%
1.0	CYH	0.65%	MSTR	0.43%
1.0	NAVI	0.63%	CVS	0.37%
1.0	BHC	0.62%	META	0.31%
1.0	CDNS	0.57%	FCX	0.29%
1.0	MSFT	0.52%	CNC	0.29%
1.0	CLF	0.51%	MOS	0.29%
1.0	ON	0.49%	GILD	0.23%
1.0	MSTR	0.48%	CYH	0.22%
1.0	NFLX	0.47%	AA	0.22%
1.0	LLY	0.47%	BHC	0.2%
1.0	META	0.44%	TSLA	0.19%
1.0	SBUX	0.42%	AZN	0.18%
1.0	IEP	0.42%	HON	0.18%
1.0	INTC	0.41%	THC	0.16%
1.0	PRGO	0.39%	CAH	0.16%
1.0	NWL	0.36%	GSK	0.16%



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### P30D: 10d

The columns labeled “ROVBC\_VmS” represent the average amount by which Vector Model ROVBC exceeds Sigma ROVBC for the given ticker across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Hzn	Ticker	95ROVBC_VmS	Ticker	99ROVBC_VmS
10.0	MSTR	47.11%	ORCL	32.15%
10.0	UNH	31.43%	MSTR	31.31%
10.0	ORCL	31.4%	UNH	25.8%
10.0	AMC	28.47%	AMC	23.84%
10.0	AMD	24.32%	INTC	18.82%
10.0	INTC	15.98%	MU	8.56%
10.0	META	15.33%	VFC	5.33%
10.0	QCOM	9.04%	META	5.17%
10.0	BXP	8.31%	BXP	3.61%
10.0	VFC	6.26%	CVS	3.35%
10.0	GBTC	5.75%	CMCSA	3.2%
10.0	TSLA	5.7%	AA	3.18%
10.0	NWL	5.3%	GBTC	3.14%
10.0	CMCSA	4.52%	QCOM	2.85%
10.0	TXN	4.37%	AZN	2.62%
10.0	MSFT	4.32%	B	2.31%
10.0	CLF	4.04%	XOM	2.29%
10.0	MU	3.72%	NVS	2.07%
10.0	ON	3.13%	MRK	1.87%
10.0	EXPE	3.1%	ELAN	1.85%
10.0	CVS	2.88%	HON	1.84%
10.0	PRGO	2.59%	CAH	1.77%
10.0	AZO	2.52%	LW	1.64%
10.0	AAP	2.51%	EXPE	1.61%
10.0	CDNS	2.4%	CZR	1.57%



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## P90D: 1d

The columns labeled “ROVBC\_VmS” represent the average amount by which Vector Model ROVBC exceeds Sigma ROVBC for the given ticker across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Hzn	Ticker	95ROVBC_VmS	Ticker	99ROVBC_VmS
1.0	GBTC	1.03%	ORCL	0.89%
1.0	WDC	0.83%	UNH	0.57%
1.0	UNH	0.68%	MSTR	0.37%
1.0	ORCL	0.41%	GBTC	0.37%
1.0	CNC	0.27%	META	0.29%
1.0	MSTR	0.26%	WDC	0.28%
1.0	TSLA	0.24%	GT	0.27%
1.0	MSFT	0.23%	KHC	0.25%
1.0	PCG	0.22%	TSLA	0.25%
1.0	CVS	0.21%	CNC	0.23%
1.0	AZO	0.2%	CHTR	0.19%
1.0	MRK	0.2%	PCG	0.18%
1.0	BAC	0.19%	LNC	0.15%
1.0	T	0.19%	CPRT	0.15%
1.0	LLY	0.19%	QCOM	0.15%
1.0	KHC	0.18%	B	0.13%
1.0	GT	0.18%	WFC	0.13%
1.0	META	0.18%	MRK	0.12%
1.0	MU	0.17%	MU	0.12%
1.0	EXPE	0.16%	NFLX	0.11%
1.0	CYH	0.16%	FCX	0.1%
1.0	CPRT	0.15%	ADBE	0.1%
1.0	VZ	0.15%	T	0.09%
1.0	BUD	0.14%	CVS	0.09%
1.0	BXP	0.14%	ELAN	0.09%



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## P90D: 10d

The columns labeled “ROVBC\_VmS” represent the average amount by which Vector Model ROVBC exceeds Sigma ROVBC for the given ticker across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Hzn	Ticker	95ROVBC_VmS	Ticker	99ROVBC_VmS
10.0	MSTR	12.56%	MSTR	8.8%
10.0	UNH	8.68%	ORCL	7.89%
10.0	ORCL	7.25%	NFLX	5.72%
10.0	AMD	5.84%	MU	4.98%
10.0	NFLX	5.15%	UNH	4.72%
10.0	MU	3.98%	VFC	3.34%
10.0	GBTC	3.95%	META	2.82%
10.0	META	3.3%	INTC	2.7%
10.0	CZR	2.66%	GT	2.62%
10.0	EXPE	2.41%	B	2.07%
10.0	INTC	2.32%	CZR	1.98%
10.0	KALU	2.01%	GBTC	1.97%
10.0	CDNS	1.79%	WFC	1.56%
10.0	GT	1.7%	KALU	1.36%
10.0	CNC	1.65%	AMD	1.34%
10.0	VFC	1.23%	CVS	1.21%
10.0	CPRT	1.17%	CPRT	1.17%
10.0	MOS	1.17%	TSLA	1.16%
10.0	WFC	1.1%	ELAN	1.13%
10.0	ELAN	1.09%	TDG	1.0%
10.0	CVS	1.03%	MOS	0.98%
10.0	TXN	0.99%	EXPE	0.97%
10.0	ON	0.99%	MRK	0.9%
10.0	AAP	0.98%	GILD	0.88%
10.0	GILD	0.91%	ABBV	0.85%



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## P90D: 21d

The columns labeled “ROVBC\_VmS” represent the average amount by which Vector Model ROVBC exceeds Sigma ROVBC for the given ticker across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Hzn	Ticker	95ROVBC_VmS	Ticker	99ROVBC_VmS
21.0	NFLX	16.17%	NFLX	14.5%
21.0	UNH	13.6%	ORCL	7.79%
21.0	MSTR	13.43%	MSTR	6.61%
21.0	AMD	9.63%	THC	4.59%
21.0	ORCL	7.62%	GBTC	4.54%
21.0	TXN	5.37%	VFC	4.15%
21.0	GBTC	5.26%	B	3.78%
21.0	AMC	4.39%	GT	3.73%
21.0	DHI	4.26%	AMD	3.66%
21.0	CZR	3.84%	ELAN	3.11%
21.0	THC	3.62%	WFC	3.1%
21.0	MU	3.55%	CNC	2.63%
21.0	WFC	3.46%	MNST	2.59%
21.0	META	3.03%	PHM	2.58%
21.0	CNC	2.82%	LEN	2.56%
21.0	EXPE	2.63%	CMG	2.4%
21.0	KALU	2.61%	LLY	2.39%
21.0	ELAN	2.6%	META	2.39%
21.0	AMZN	2.56%	CZR	2.35%
21.0	GT	2.55%	TSLA	2.22%
21.0	B	2.44%	MOS	2.2%
21.0	CPRT	2.15%	INTU	2.19%
21.0	UAA	1.99%	NVS	2.14%
21.0	CVS	1.98%	CVS	1.91%
21.0	MNST	1.96%	ABBV	1.91%



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### P365D: 1d

The columns labeled “ROVBC\_VmS” represent the average amount by which Vector Model ROVBC exceeds Sigma ROVBC for the given ticker across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Hzn	Ticker	95ROVBC_VmS	Ticker	99ROVBC_VmS
1.0	AAP	0.55%	UNH	0.24%
1.0	GBTC	0.31%	QCOM	0.2%
1.0	UNH	0.24%	ORCL	0.19%
1.0	LLY	0.22%	PCG	0.16%
1.0	QCOM	0.2%	LLY	0.15%
1.0	MU	0.18%	TSLA	0.15%
1.0	PCG	0.16%	GBTC	0.13%
1.0	CLF	0.16%	KHC	0.12%
1.0	CYH	0.16%	CPRT	0.12%
1.0	LW	0.15%	ON	0.1%
1.0	ON	0.15%	LW	0.09%
1.0	CVS	0.14%	SNY	0.09%
1.0	GOOGL	0.12%	GT	0.09%
1.0	SNY	0.11%	GWW	0.09%
1.0	SBUX	0.11%	CVS	0.08%
1.0	MRK	0.11%	CHTR	0.07%
1.0	MSFT	0.1%	AMC	0.07%
1.0	TXN	0.1%	NFLX	0.06%
1.0	TSLA	0.09%	ADBE	0.06%
1.0	BHC	0.09%	TXN	0.05%
1.0	BAC	0.09%	AMGN	0.05%
1.0	EXPE	0.08%	MSFT	0.05%
1.0	CPRT	0.08%	MRK	0.05%
1.0	AMGN	0.08%	AMZN	0.05%
1.0	HON	0.07%	HON	0.04%



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### P365D: 10d

The columns labeled “ROVBC\_VmS” represent the average amount by which Vector Model ROVBC exceeds Sigma ROVBC for the given ticker across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Hzn	Ticker	95ROVBC_VmS	Ticker	99ROVBC_VmS
10.0	TSLA	3.01%	MU	2.09%
10.0	AAP	2.89%	TSLA	1.88%
10.0	MU	2.86%	NFLX	1.18%
10.0	UNH	2.11%	CPRT	1.08%
10.0	WDC	2.08%	UNH	1.08%
10.0	LW	1.99%	GBTC	0.87%
10.0	ORCL	1.56%	CVS	0.85%
10.0	TXN	1.44%	NWL	0.83%
10.0	ON	1.31%	ORCL	0.8%
10.0	GBTC	1.23%	MSFT	0.79%
10.0	KALU	1.16%	ISRG	0.77%
10.0	AMGN	1.07%	LW	0.65%
10.0	LLY	0.99%	GT	0.65%
10.0	NFLX	0.93%	LLY	0.61%
10.0	AMZN	0.91%	AMGN	0.56%
10.0	CDNS	0.91%	QCOM	0.52%
10.0	EXPE	0.9%	META	0.47%
10.0	VST	0.9%	MOS	0.46%
10.0	QQQ	0.85%	SNY	0.45%
10.0	ISRG	0.85%	BUD	0.42%
10.0	MSI	0.82%	WFC	0.41%
10.0	VFC	0.81%	TMUS	0.41%
10.0	CPRT	0.81%	KALU	0.4%
10.0	CVS	0.79%	NAVI	0.39%
10.0	MSFT	0.73%	MSI	0.37%



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### P365D: 21d

The columns labeled “ROVBC\_VmS” represent the average amount by which Vector Model ROVBC exceeds Sigma ROVBC for the given ticker across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Hzn	Ticker	95ROVBC_VmS	Ticker	99ROVBC_VmS
21.0	WDC	6.3%	X	4.21%
21.0	TSLA	4.96%	ISRG	2.7%
21.0	MU	4.83%	AAP	2.58%
21.0	TXN	4.09%	CVS	2.48%
21.0	AAP	3.92%	NWL	2.33%
21.0	ON	3.46%	NFLX	2.04%
21.0	LLY	2.85%	CPRT	1.82%
21.0	NFLX	2.72%	ON	1.76%
21.0	UNH	2.7%	TSLA	1.73%
21.0	AMGN	2.46%	AMGN	1.66%
21.0	CVS	2.43%	MOS	1.62%
21.0	AA	2.43%	GBTC	1.6%
21.0	KALU	2.23%	LW	1.49%
21.0	ISRG	2.11%	FIS	1.31%
21.0	MSFT	2.11%	IEP	1.27%
21.0	SBUX	2.08%	VNO	1.27%
21.0	INTC	2.08%	INTU	1.15%
21.0	DHI	1.78%	CMG	1.06%
21.0	JAZZ	1.74%	AA	1.06%
21.0	GBTC	1.72%	GT	0.93%
21.0	GOOGL	1.67%	HD	0.89%
21.0	QQQ	1.55%	MSFT	0.85%
21.0	GNRC	1.46%	LNC	0.83%
21.0	UAA	1.43%	AMZN	0.73%
21.0	NEM	1.36%	BUD	0.72%



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### P365D: 63d

The columns labeled “ROVBC\_VmS” represent the average amount by which Vector Model ROVBC exceeds Sigma ROVBC for the given ticker across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Hzn	Ticker	95ROVBC_VmS	Ticker	99ROVBC_VmS
63.0	WDC	36.85%	GNRC	13.76%
63.0	TSLA	19.77%	WDC	13.57%
63.0	GNRC	16.81%	TSLA	8.9%
63.0	KALU	11.8%	OXY	8.21%
63.0	ON	10.98%	CVS	8.08%
63.0	NEM	10.43%	KALU	7.98%
63.0	ISRG	9.71%	AA	7.49%
63.0	TXN	9.58%	JAZZ	6.32%
63.0	AA	9.4%	AAP	6.22%
63.0	OXY	9.34%	FIS	5.65%
63.0	JAZZ	8.57%	BUD	5.44%
63.0	AMGN	7.81%	ISRG	5.3%
63.0	VFC	7.45%	NVDA	5.29%
63.0	CVS	7.24%	GBTC	4.97%
63.0	AAP	6.46%	MSI	4.88%
63.0	MU	5.43%	AMGN	4.76%
63.0	MSFT	4.87%	ON	4.62%
63.0	DHI	4.64%	MOS	4.5%
63.0	SBUX	4.64%	CMG	4.36%
63.0	UAA	4.46%	VFC	3.57%
63.0	AAPL	4.11%	VNO	3.39%
63.0	INTC	3.71%	GT	3.32%
63.0	B	3.61%	AVGO	3.24%
63.0	GWV	3.54%	UAA	3.12%
63.0	NVDA	3.49%	MSFT	3.06%



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## P365D: 126d

The columns labeled “ROVBC\_VmS” represent the average amount by which Vector Model ROVBC exceeds Sigma ROVBC for the given ticker across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Hzn	Ticker	95ROVBC_VmS	Ticker	99ROVBC_VmS
126.0	WDC	165.91%	WDC	88.78%
126.0	KALU	43.93%	KALU	43.01%
126.0	AA	41.23%	INTC	32.76%
126.0	VFC	37.62%	AA	29.78%
126.0	INTC	37.04%	PWR	20.94%
126.0	B	33.11%	NEM	19.79%
126.0	TSLA	31.83%	AVGO	19.51%
126.0	JAZZ	31.7%	JAZZ	18.29%
126.0	MU	29.42%	LLY	15.16%
126.0	NEM	28.81%	BUD	14.81%
126.0	AMGN	19.99%	SLV	14.53%
126.0	AMAT	19.11%	CVS	13.97%
126.0	ON	17.95%	NVDA	13.86%
126.0	AZN	15.8%	MU	13.48%
126.0	PWR	15.76%	VFC	12.69%
126.0	BUD	14.57%	ON	12.1%
126.0	CVS	13.8%	AAPL	12.07%
126.0	LLY	13.08%	MOS	10.67%
126.0	SLV	12.81%	GSK	10.63%
126.0	CMA	11.54%	AMGN	10.24%
126.0	GSK	10.55%	GBTC	9.18%
126.0	BMY	9.79%	TSLA	8.7%
126.0	MOS	9.65%	FIS	8.67%
126.0	AVGO	9.63%	AZN	7.9%
126.0	MRK	9.43%	BMY	7.14%



## Appendix 4: Bottom 25 Ticker Level Differences in VM vs. Sigma 95% and 99% ROVBC

### All TMD: 1d

The columns labeled “ROVBC\_VmS” represent the average amount by which Vector Model ROVBC exceeds Sigma ROVBC for the given ticker across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Hzn	Ticker	95ROVBC_VmS	Ticker	99ROVBC_VmS
1.0	SIVBQ	-1.1%	SIVBQ	-1.19%
1.0	SBNY	-0.61%	SBNY	-0.3%
1.0	FRCB	-0.16%	VST	-0.13%
1.0	VST	-0.15%	NVDA	-0.12%
1.0	LUMN	-0.13%	LUMN	-0.12%
1.0	TSLA	-0.12%	TRGP	-0.09%
1.0	CSTM	-0.11%	PWR	-0.09%
1.0	ETRN	-0.09%	AVGO	-0.08%
1.0	FIS	-0.09%	B	-0.08%
1.0	NVDA	-0.09%	GBTC	-0.08%
1.0	CYH	-0.09%	GE	-0.08%
1.0	CHTR	-0.09%	TEVA	-0.08%
1.0	ELAN	-0.08%	SLV	-0.07%
1.0	CCL	-0.08%	CCL	-0.07%
1.0	GE	-0.07%	X	-0.07%
1.0	TEVA	-0.07%	CAH	-0.07%
1.0	T	-0.07%	AMAT	-0.07%
1.0	AMAT	-0.07%	ETRN	-0.07%
1.0	TRGP	-0.06%	GLD	-0.06%
1.0	SLV	-0.06%	WDC	-0.06%
1.0	AVGO	-0.05%	CSTM	-0.06%
1.0	TDG	-0.05%	INTC	-0.06%
1.0	X	-0.05%	ACGL	-0.06%
1.0	GILD	-0.05%	FRCB	-0.06%
1.0	PHM	-0.05%	TSLA	-0.06%



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## All TMD: 10d

The columns labeled “ROVBC\_VmS” represent the average amount by which Vector Model ROVBC exceeds Sigma ROVBC for the given ticker across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Hzn	Ticker	95ROVBC_VmS	Ticker	99ROVBC_VmS
10.0	SBNY	-6.06%	SIVBQ	-3.67%
10.0	SIVBQ	-3.94%	SBNY	-2.79%
10.0	AMC	-2.36%	AMC	-1.2%
10.0	PRGO	-1.07%	VST	-0.79%
10.0	FRCB	-0.93%	AVGO	-0.7%
10.0	CHTR	-0.77%	TRGP	-0.7%
10.0	LUMN	-0.72%	X	-0.68%
10.0	TDG	-0.65%	NVDA	-0.64%
10.0	CCL	-0.63%	PWR	-0.51%
10.0	NVDA	-0.58%	PHM	-0.51%
10.0	GSK	-0.56%	GLD	-0.49%
10.0	TRGP	-0.55%	TDG	-0.48%
10.0	FIS	-0.5%	BHC	-0.46%
10.0	VST	-0.49%	CCL	-0.46%
10.0	PHM	-0.44%	GE	-0.45%
10.0	GLD	-0.4%	AMAT	-0.45%
10.0	TSLA	-0.4%	GSK	-0.41%
10.0	AMAT	-0.37%	CAH	-0.41%
10.0	X	-0.37%	LUMN	-0.41%
10.0	AAP	-0.36%	AAP	-0.41%
10.0	CMG	-0.35%	ACGL	-0.41%
10.0	VZ	-0.35%	TFC	-0.38%
10.0	CSTM	-0.34%	IRM	-0.38%
10.0	BXP	-0.33%	THC	-0.38%
10.0	B	-0.31%	MNST	-0.37%



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## All TMD: 21d

The columns labeled “ROVBC\_VmS” represent the average amount by which Vector Model ROVBC exceeds Sigma ROVBC for the given ticker across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Hzn	Ticker	95ROVBC_VmS	Ticker	99ROVBC_VmS
21.0	SBNY	-18.66%	SBNY	-10.24%
21.0	SIVBQ	-9.14%	SIVBQ	-5.7%
21.0	AMC	-4.38%	AMC	-4.32%
21.0	FRCB	-4.08%	NVDA	-1.54%
21.0	PRGO	-2.02%	ELAN	-1.34%
21.0	TDG	-1.38%	TRGP	-1.3%
21.0	AAP	-1.38%	VST	-1.29%
21.0	CHTR	-1.28%	X	-1.22%
21.0	VST	-1.2%	PWR	-1.14%
21.0	NVDA	-1.2%	AVGO	-1.13%
21.0	LUMN	-1.12%	PRGO	-1.12%
21.0	CCL	-1.09%	PHM	-1.03%
21.0	X	-1.07%	HSBC	-1.02%
21.0	GSK	-1.04%	COST	-1.01%
21.0	CMG	-0.87%	ETRN	-0.97%
21.0	GLD	-0.87%	FRCB	-0.96%
21.0	TRGP	-0.85%	GLD	-0.91%
21.0	FIS	-0.8%	CDNS	-0.87%
21.0	IRM	-0.69%	LLY	-0.86%
21.0	ELAN	-0.67%	CAH	-0.84%
21.0	ACGL	-0.66%	PCG	-0.8%
21.0	PHM	-0.65%	GE	-0.8%
21.0	CYH	-0.62%	ORLY	-0.78%
21.0	NWL	-0.62%	ACGL	-0.77%
21.0	HSBC	-0.61%	TDG	-0.75%



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## All TMD: 63d

The columns labeled “ROVBC\_VmS” represent the average amount by which Vector Model ROVBC exceeds Sigma ROVBC for the given ticker across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Hzn	Ticker	95ROVBC_VmS	Ticker	99ROVBC_VmS
63.0	SBNY	-71.61%	SBNY	-42.7%
63.0	SIVBQ	-40.79%	SIVBQ	-33.39%
63.0	FRCB	-26.06%	FRCB	-16.44%
63.0	AMC	-17.66%	AMC	-10.98%
63.0	AAP	-5.13%	TRGP	-3.42%
63.0	PRGO	-4.89%	PHM	-3.25%
63.0	CHTR	-3.26%	GLD	-2.7%
63.0	VFC	-3.25%	CHTR	-2.52%
63.0	VNO	-2.9%	GE	-2.39%
63.0	NVDA	-2.77%	MNST	-2.3%
63.0	GLD	-2.09%	CDNS	-2.21%
63.0	MNST	-2.01%	PRGO	-2.07%
63.0	PHM	-1.93%	HSBC	-2.03%
63.0	TRGP	-1.83%	VST	-2.01%
63.0	FIS	-1.8%	PWR	-1.97%
63.0	PWR	-1.77%	CPRT	-1.94%
63.0	UNH	-1.66%	COST	-1.94%
63.0	NWL	-1.62%	CSCO	-1.78%
63.0	GSK	-1.6%	GWV	-1.69%
63.0	VST	-1.55%	JPM	-1.65%
63.0	CPRT	-1.53%	IRM	-1.63%
63.0	HSBC	-1.48%	ORLY	-1.61%
63.0	CSCO	-1.38%	DHI	-1.58%
63.0	GBTC	-1.35%	PCG	-1.58%
63.0	ZTS	-1.33%	ELAN	-1.54%



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## All TMD: 126d

The columns labeled “ROVBC\_VmS” represent the average amount by which Vector Model ROVBC exceeds Sigma ROVBC for the given ticker across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Hzn	Ticker	95ROVBC_VmS	Ticker	99ROVBC_VmS
126.0	SBNY	-117.09%	SBNY	-87.54%
126.0	SIVBQ	-87.07%	SIVBQ	-68.1%
126.0	FRCB	-66.29%	FRCB	-52.98%
126.0	AMC	-30.26%	AMC	-15.28%
126.0	AAP	-9.24%	CHTR	-9.28%
126.0	PRGO	-9.1%	AAP	-7.94%
126.0	VFC	-7.92%	TRGP	-5.04%
126.0	CHTR	-7.06%	PHM	-4.65%
126.0	PHM	-4.81%	GE	-4.45%
126.0	BHC	-4.8%	CDNS	-3.86%
126.0	NWL	-4.66%	MS	-3.74%
126.0	TRGP	-3.79%	JPM	-3.61%
126.0	CCL	-3.6%	CPRT	-3.47%
126.0	GLD	-3.49%	ACGL	-3.3%
126.0	IEP	-3.46%	GLD	-3.29%
126.0	CPRT	-3.44%	CSCO	-3.2%
126.0	CMCSA	-3.14%	HSBC	-2.91%
126.0	CSCO	-2.88%	MNST	-2.86%
126.0	CNC	-2.8%	PRGO	-2.41%
126.0	MNST	-2.72%	CCL	-2.11%
126.0	MS	-2.68%	VFC	-1.93%
126.0	JPM	-2.63%	DHI	-1.88%
126.0	TLT	-2.11%	WYNN	-1.77%
126.0	UNH	-1.94%	PCG	-1.73%
126.0	HLT	-1.92%	CMCSA	-1.69%



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## All TMD: 252d

The columns labeled “ROVBC\_VmS” represent the average amount by which Vector Model ROVBC exceeds Sigma ROVBC for the given ticker across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Hzn	Ticker	95ROVBC_VmS	Ticker	99ROVBC_VmS
252.0	SBNY	-169.28%	SBNY	-93.43%
252.0	SIVBQ	-123.39%	SIVBQ	-72.45%
252.0	FRCB	-94.22%	FRCB	-49.57%
252.0	AMC	-41.75%	AAP	-23.8%
252.0	AAP	-25.92%	AMC	-15.37%
252.0	VFC	-17.27%	CHTR	-15.26%
252.0	CHTR	-14.56%	BIIB	-10.28%
252.0	NWL	-13.36%	VFC	-10.09%
252.0	BIIB	-12.22%	OXY	-7.76%
252.0	UAA	-12.11%	JPM	-7.4%
252.0	PRGO	-11.23%	AA	-7.32%
252.0	IEP	-9.35%	MS	-5.91%
252.0	OXY	-9.29%	PRGO	-5.8%
252.0	PHM	-8.9%	CSCO	-5.37%
252.0	CZR	-7.51%	FIS	-5.11%
252.0	BHC	-7.44%	TRGP	-4.51%
252.0	JPM	-6.95%	PWR	-4.29%
252.0	MOS	-6.93%	CZR	-4.21%
252.0	CCL	-5.56%	ZTS	-4.19%
252.0	MS	-5.42%	ACGL	-3.97%
252.0	CLF	-5.3%	UNH	-3.86%
252.0	CSCO	-4.95%	LLY	-3.75%
252.0	TLT	-4.83%	CPRT	-3.68%
252.0	CNC	-4.33%	NWL	-3.53%
252.0	BXP	-3.83%	JAZZ	-3.53%



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### P30D: 1d

The columns labeled “ROVBC\_VmS” represent the average amount by which Vector Model ROVBC exceeds Sigma ROVBC for the given ticker across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Hzn	Ticker	95ROVBC_VmS	Ticker	99ROVBC_VmS
1.0	BBY	-0.86%	AVGO	-1.3%
1.0	AVGO	-0.74%	PWR	-0.83%
1.0	INTU	-0.68%	GNRC	-0.8%
1.0	GNRC	-0.62%	TDG	-0.63%
1.0	TDG	-0.61%	GOOGL	-0.55%
1.0	PWR	-0.55%	AMZN	-0.53%
1.0	GE	-0.51%	SBUX	-0.53%
1.0	MS	-0.47%	LUMN	-0.52%
1.0	CSCO	-0.45%	VNO	-0.51%
1.0	LUMN	-0.43%	MU	-0.49%
1.0	QQQ	-0.4%	TXN	-0.49%
1.0	VNO	-0.39%	IRM	-0.47%
1.0	GOOGL	-0.35%	MS	-0.47%
1.0	CSTM	-0.35%	NVDA	-0.46%
1.0	FIS	-0.34%	CSCO	-0.45%
1.0	ISRG	-0.32%	QQQ	-0.45%
1.0	TMUS	-0.32%	CSTM	-0.43%
1.0	SPY	-0.31%	TEVA	-0.43%
1.0	TEVA	-0.29%	DHI	-0.39%
1.0	BA	-0.28%	CDNS	-0.34%
1.0	BHP	-0.24%	SPY	-0.31%
1.0	HSBC	-0.22%	ZION	-0.31%
1.0	NVDA	-0.21%	BBY	-0.31%
1.0	TRGP	-0.21%	BA	-0.3%
1.0	ORLY	-0.19%	FITB	-0.27%



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### P30D: 10d

The columns labeled “ROVBC\_VmS” represent the average amount by which Vector Model ROVBC exceeds Sigma ROVBC for the given ticker across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Hzn	Ticker	95ROVBC_VmS	Ticker	99ROVBC_VmS
10.0	NFLX	-13.39%	NFLX	-10.53%
10.0	AVGO	-4.49%	WDC	-7.58%
10.0	MS	-4.1%	CDNS	-6.82%
10.0	QQQ	-3.92%	DHI	-6.4%
10.0	WDC	-3.54%	TXN	-5.93%
10.0	PCG	-3.51%	ON	-5.85%
10.0	CSTM	-3.45%	VNO	-5.74%
10.0	CYH	-3.19%	QQQ	-4.47%
10.0	SPY	-3.07%	MSFT	-4.18%
10.0	GE	-2.92%	GE	-4.18%
10.0	PWR	-2.67%	CNC	-4.09%
10.0	DHI	-2.57%	CSTM	-3.87%
10.0	PHM	-2.2%	CSCO	-3.68%
10.0	CSCO	-2.07%	MS	-3.5%
10.0	TEVA	-1.98%	GOOGL	-3.41%
10.0	BA	-1.83%	AMZN	-3.35%
10.0	LLY	-1.8%	NWL	-3.31%
10.0	GS	-1.74%	BHC	-3.3%
10.0	VNO	-1.73%	IRM	-3.21%
10.0	GNRC	-1.64%	BA	-3.18%
10.0	INTU	-1.59%	SPY	-3.15%
10.0	GOOGL	-1.42%	GNRC	-2.84%
10.0	BHP	-1.33%	SBUX	-2.48%
10.0	KHC	-1.29%	AMD	-2.41%
10.0	TMUS	-1.27%	GS	-2.4%



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## P90D: 1d

The columns labeled “ROVBC\_VmS” represent the average amount by which Vector Model ROVBC exceeds Sigma ROVBC for the given ticker across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Hzn	Ticker	95ROVBC_VmS	Ticker	99ROVBC_VmS
1.0	CLF	-0.96%	GNRC	-0.65%
1.0	LUMN	-0.66%	PWR	-0.46%
1.0	GNRC	-0.64%	LUMN	-0.44%
1.0	UAA	-0.53%	AVGO	-0.39%
1.0	INTU	-0.53%	CSTM	-0.35%
1.0	BBY	-0.52%	UAA	-0.33%
1.0	NWL	-0.48%	INTU	-0.31%
1.0	TDG	-0.39%	TRGP	-0.3%
1.0	LNC	-0.39%	TDG	-0.24%
1.0	PWR	-0.39%	CDNS	-0.23%
1.0	CSTM	-0.32%	IRM	-0.23%
1.0	PRGO	-0.3%	BBY	-0.22%
1.0	FIS	-0.29%	OXY	-0.2%
1.0	AMAT	-0.22%	AMZN	-0.2%
1.0	AVGO	-0.22%	ON	-0.2%
1.0	CMG	-0.21%	GLD	-0.19%
1.0	BHC	-0.18%	BHC	-0.16%
1.0	GLD	-0.18%	BALL	-0.15%
1.0	AMZN	-0.17%	NWL	-0.15%
1.0	ISRG	-0.13%	AA	-0.15%
1.0	POST	-0.12%	IEP	-0.14%
1.0	VST	-0.12%	SBUX	-0.13%
1.0	CHTR	-0.12%	TXN	-0.13%
1.0	OXY	-0.12%	NAVI	-0.12%
1.0	BHP	-0.12%	PRGO	-0.12%



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## P90D: 10d

The columns labeled “ROVBC\_VmS” represent the average amount by which Vector Model ROVBC exceeds Sigma ROVBC for the given ticker across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Hzn	Ticker	95ROVBC_VmS	Ticker	99ROVBC_VmS
10.0	GNRC	-5.46%	GNRC	-5.61%
10.0	PRGO	-4.19%	PRGO	-3.49%
10.0	CLF	-3.44%	CSTM	-3.32%
10.0	CSTM	-2.4%	BHC	-3.0%
10.0	CYH	-2.33%	WDC	-2.91%
10.0	INTU	-1.86%	ON	-2.57%
10.0	HD	-1.81%	AMAT	-2.29%
10.0	GLD	-1.75%	CYH	-1.8%
10.0	PWR	-1.69%	IRM	-1.78%
10.0	LLY	-1.66%	GE	-1.77%
10.0	BHC	-1.49%	TRGP	-1.75%
10.0	NAVI	-1.44%	AMZN	-1.66%
10.0	AVGO	-1.41%	PCG	-1.65%
10.0	AMAT	-1.37%	BXP	-1.55%
10.0	NWL	-1.27%	INTU	-1.41%
10.0	ISRG	-1.06%	TXN	-1.38%
10.0	GE	-1.01%	OXY	-1.32%
10.0	NEM	-0.98%	CLF	-1.18%
10.0	KHC	-0.98%	CDNS	-1.15%
10.0	LNC	-0.81%	PWR	-1.0%
10.0	POST	-0.75%	GLD	-0.98%
10.0	CMG	-0.73%	JAZZ	-0.93%
10.0	QQQ	-0.69%	QQQ	-0.83%
10.0	TRGP	-0.65%	NEM	-0.77%
10.0	MS	-0.64%	ISRG	-0.76%



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## P90D: 21d

The columns labeled “ROVBC\_VmS” represent the average amount by which Vector Model ROVBC exceeds Sigma ROVBC for the given ticker across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Hzn	Ticker	95ROVBC_VmS	Ticker	99ROVBC_VmS
21.0	PRGO	-17.51%	PRGO	-7.88%
21.0	CLF	-10.71%	INTC	-6.71%
21.0	GNRC	-7.15%	BXP	-5.69%
21.0	NWL	-5.08%	CSTM	-5.66%
21.0	CSTM	-4.85%	AMC	-4.4%
21.0	CYH	-4.34%	GNRC	-3.97%
21.0	BXP	-3.85%	KALU	-3.02%
21.0	GLD	-3.64%	AMAT	-2.81%
21.0	HD	-3.25%	KHC	-2.65%
21.0	CMG	-3.22%	CLF	-2.61%
21.0	BHC	-2.91%	TRGP	-2.61%
21.0	LLY	-2.9%	BHC	-2.42%
21.0	INTU	-2.85%	PWR	-2.41%
21.0	CMCSA	-2.83%	AVGO	-2.31%
21.0	NAVI	-2.78%	ISRG	-2.29%
21.0	BALL	-2.74%	TMUS	-2.27%
21.0	KHC	-2.34%	WDC	-2.09%
21.0	LW	-2.2%	UNH	-1.98%
21.0	TFC	-1.93%	IRM	-1.79%
21.0	GE	-1.89%	BUD	-1.42%
21.0	ISRG	-1.84%	NWL	-1.4%
21.0	PWR	-1.81%	AA	-1.34%
21.0	LNC	-1.79%	GOOGL	-1.27%
21.0	QCOM	-1.59%	NVDA	-1.27%
21.0	T	-1.52%	CSCO	-1.11%



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### P365D: 1d

The columns labeled “ROVBC\_VmS” represent the average amount by which Vector Model ROVBC exceeds Sigma ROVBC for the given ticker across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Hzn	Ticker	95ROVBC_VmS	Ticker	99ROVBC_VmS
1.0	X	-0.38%	LUMN	-0.38%
1.0	UAA	-0.3%	X	-0.35%
1.0	LUMN	-0.3%	INTC	-0.26%
1.0	ZTS	-0.23%	SLV	-0.25%
1.0	SLV	-0.21%	ZTS	-0.2%
1.0	AMAT	-0.21%	AMAT	-0.19%
1.0	MSTR	-0.21%	AVGO	-0.18%
1.0	BBY	-0.18%	CSTM	-0.18%
1.0	PRGO	-0.18%	CNC	-0.18%
1.0	TDG	-0.16%	TEVA	-0.17%
1.0	TEVA	-0.16%	WDC	-0.15%
1.0	ELAN	-0.14%	AMD	-0.15%
1.0	HSBC	-0.14%	BBY	-0.15%
1.0	PWR	-0.13%	CCL	-0.14%
1.0	CCL	-0.13%	PWR	-0.14%
1.0	INTU	-0.12%	GNRC	-0.14%
1.0	GNRC	-0.12%	ELAN	-0.14%
1.0	AVGO	-0.12%	TRGP	-0.13%
1.0	MS	-0.12%	RIO	-0.13%
1.0	CHTR	-0.12%	HSBC	-0.13%
1.0	CNC	-0.12%	TDG	-0.12%
1.0	CSTM	-0.11%	MS	-0.12%
1.0	CMG	-0.11%	UAA	-0.12%
1.0	GS	-0.1%	GLD	-0.11%
1.0	LNC	-0.09%	GS	-0.11%



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## P365D: 10d

The columns labeled “ROVBC\_VmS” represent the average amount by which Vector Model ROVBC exceeds Sigma ROVBC for the given ticker across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Hzn	Ticker	95ROVBC_VmS	Ticker	99ROVBC_VmS
10.0	PRGO	-3.24%	LUMN	-2.17%
10.0	AMC	-3.23%	CSTM	-2.14%
10.0	LUMN	-2.06%	SLV	-2.1%
10.0	SLV	-1.85%	AMAT	-2.07%
10.0	AMAT	-1.71%	ZTS	-1.65%
10.0	ZTS	-1.63%	AMC	-1.47%
10.0	MSTR	-1.58%	BHC	-1.38%
10.0	CSTM	-1.24%	CLF	-1.35%
10.0	TDG	-1.04%	AMD	-1.21%
10.0	CHTR	-1.02%	MSTR	-1.19%
10.0	NAVI	-1.01%	ELAN	-1.14%
10.0	GLD	-0.88%	TRGP	-1.1%
10.0	MS	-0.84%	TEVA	-1.06%
10.0	CMG	-0.75%	GLD	-0.91%
10.0	INTU	-0.75%	GNRC	-0.86%
10.0	TEVA	-0.73%	PRGO	-0.86%
10.0	HSEC	-0.71%	NEM	-0.85%
10.0	TRGP	-0.7%	GS	-0.85%
10.0	GS	-0.66%	MS	-0.84%
10.0	RIO	-0.64%	LVS	-0.83%
10.0	CCL	-0.63%	RIO	-0.82%
10.0	CSCO	-0.53%	TFC	-0.77%
10.0	AVGO	-0.52%	CCL	-0.75%
10.0	MNST	-0.49%	HSBC	-0.75%
10.0	VZ	-0.46%	CNC	-0.74%



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## P365D: 21d

The columns labeled “ROVBC\_VmS” represent the average amount by which Vector Model ROVBC exceeds Sigma ROVBC for the given ticker across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Hzn	Ticker	95ROVBC_VmS	Ticker	99ROVBC_VmS
21.0	AMC	-7.26%	MSTR	-4.83%
21.0	PRGO	-6.85%	SLV	-4.38%
21.0	MSTR	-6.48%	CSTM	-3.92%
21.0	ZTS	-3.85%	LUMN	-3.75%
21.0	LUMN	-3.57%	PRGO	-3.23%
21.0	CHTR	-3.26%	AMD	-3.14%
21.0	CLF	-3.08%	GOOGL	-3.01%
21.0	AMAT	-2.82%	ZTS	-2.97%
21.0	SLV	-2.82%	CNC	-2.85%
21.0	TDG	-2.44%	AMC	-2.79%
21.0	CMG	-2.19%	CLF	-2.77%
21.0	NAVI	-1.78%	AMAT	-2.59%
21.0	GLD	-1.74%	INTC	-2.51%
21.0	TRGP	-1.59%	CHTR	-2.1%
21.0	ELAN	-1.51%	TEVA	-1.98%
21.0	TEVA	-1.47%	TRGP	-1.96%
21.0	NWL	-1.39%	RIO	-1.87%
21.0	HSBC	-1.34%	CMCSA	-1.86%
21.0	MS	-1.25%	HSBC	-1.84%
21.0	CSTM	-1.16%	ELAN	-1.84%
21.0	TFC	-1.06%	MU	-1.78%
21.0	INTU	-0.98%	GLD	-1.65%
21.0	ADBE	-0.93%	MS	-1.61%
21.0	CSCO	-0.89%	CSCO	-1.52%
21.0	CAH	-0.87%	LVS	-1.45%



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### P365D: 63d

The columns labeled “ROVBC\_VmS” represent the average amount by which Vector Model ROVBC exceeds Sigma ROVBC for the given ticker across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Hzn	Ticker	95ROVBC_VmS	Ticker	99ROVBC_VmS
63.0	MSTR	-31.11%	MSTR	-33.78%
63.0	AMC	-27.56%	PRGO	-14.81%
63.0	PRGO	-24.97%	AMD	-8.88%
63.0	ZTS	-10.97%	AMC	-8.17%
63.0	TDG	-8.51%	MU	-7.98%
63.0	CHTR	-8.42%	GOOGL	-7.78%
63.0	GLD	-6.95%	SLV	-7.42%
63.0	LUMN	-6.61%	RIO	-7.24%
63.0	CMCSA	-6.41%	CMCSA	-7.15%
63.0	NWL	-6.08%	GLD	-7.05%
63.0	BXP	-5.35%	B	-6.52%
63.0	SLV	-5.21%	LVS	-6.13%
63.0	MNST	-5.19%	ELAN	-6.07%
63.0	RIO	-4.34%	CSTM	-5.59%
63.0	META	-3.93%	TRGP	-5.22%
63.0	CLF	-3.86%	MNST	-5.17%
63.0	LVS	-3.75%	HSBC	-4.35%
63.0	NFLX	-3.67%	CMA	-4.14%
63.0	TRGP	-3.65%	MS	-3.86%
63.0	HSBC	-3.48%	CHTR	-3.78%
63.0	NAVI	-3.27%	THC	-3.6%
63.0	ELAN	-3.26%	BXP	-3.31%
63.0	INTU	-3.21%	TEVA	-3.3%
63.0	VNO	-3.21%	CSCO	-3.24%
63.0	IRM	-2.91%	BIIB	-2.92%



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## P365D: 126d

The columns labeled “ROVBC\_VmS” represent the average amount by which Vector Model ROVBC exceeds Sigma ROVBC for the given ticker across all model dates for which actual results for the stated horizon are known (periods for all horizons > 1d overlap).

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

Hzn	Ticker	95ROVBC_VmS	Ticker	99ROVBC_VmS
126.0	MSTR	-96.26%	MSTR	-83.93%
126.0	AMC	-76.18%	AMC	-28.09%
126.0	PRGO	-50.83%	CHTR	-18.45%
126.0	CMCSA	-18.49%	PRGO	-18.27%
126.0	CHTR	-18.33%	RIO	-17.91%
126.0	ZTS	-16.42%	NFLX	-10.33%
126.0	NWL	-14.67%	GLD	-10.0%
126.0	RIO	-13.32%	AAP	-9.93%
126.0	META	-13.15%	MNST	-9.59%
126.0	BXP	-12.28%	LVS	-9.52%
126.0	GLD	-11.69%	TRGP	-9.31%
126.0	NFLX	-11.63%	CMCSA	-8.86%
126.0	TEVA	-10.98%	CSTM	-8.82%
126.0	TDG	-10.76%	ORCL	-8.82%
126.0	MNST	-10.37%	MS	-8.78%
126.0	FSUGY	-9.99%	FSUGY	-8.73%
126.0	TRGP	-9.12%	META	-8.65%
126.0	HSBC	-8.45%	BXP	-7.92%
126.0	AAP	-7.98%	AMD	-7.8%
126.0	LVS	-7.41%	GOOGL	-6.53%
126.0	VNO	-7.33%	CSCO	-6.35%
126.0	MS	-7.23%	NWL	-6.12%
126.0	ORCL	-6.64%	ZTS	-5.78%
126.0	CZR	-6.62%	TDG	-5.6%
126.0	IEP	-5.62%	HSBC	-5.52%



## Appendix 5: Kupiec and Christoferson Tests for Sigma

The Kupiec Proportion of Failures test statistic (listed as VaR\_kStat in the table below), and its probability (VaR\_pValK) are used to test the null hypothesis that the VaR model breakage is consistent with expectations. The test statistic is calculated by comparing the number of VaR breaks experienced to the expected number of breaks given the total number of observations and the specified probability level. Breakage was measured at the individual ticker-model date level. The probability of the Kupiec statistic occurring is obtained from the chi-squared distribution. The lower the statistic, the higher the p-Value, and the more likely that Sigma's VaR breakage is consistent with expectations.

The Christoferson VaR Violation Independence test statistic (listed as VaR\_chrStat in the table below) and its probability (VaR\_pValChr) are used to test the null hypothesis that the VaR model violations are independent. The test statistic focuses on consecutive breakages over time. We measure breakage at the portfolio level, with portfolio breakage for a given period defined as equally weighted ticker level breakage for that period being beyond expectation given the specified probability level. The probability of the Christoferson statistic occurring is obtained from the chi-squared distribution. The lower the statistic, the higher the p-Value, and the more likely that Sigma VaR breakage is independent.

Kupiec and Christoferson results for the Vector Model can be found in the Report Card section.

Period examined: 2022-01-31 through 2026-04-29. Note that for horizon periods greater than 1d we exclude enough model dates to assure no overlap between observation periods.

Model	Pctile	Horizon	VaR_kStat	VaR_pValK	VaR_chrStat	VaR_pValChr
Sigma	95	1	206.38	0	10.34	0
Sigma	95	10	8.12	0	0.09	0.76
Sigma	95	21	33.63	0	0.35	0.55
Sigma	95	63	28.68	0	nan	0
Sigma	95	126	30.7	0	nan	0
Sigma	95	252	22.33	0	nan	0
Sigma	99	1	522.28	0	25.8	0
Sigma	99	10	36.83	0	0.41	0.52
Sigma	99	21	0.63	0.43	1.59	0.21
Sigma	99	63	1.44	0.23	1.84	0.17
Sigma	99	126	0.65	0.42	nan	0
Sigma	99	252	1.68	0.2	nan	0

