VecViz Value At Risk (VaR) Performance Report

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Table of contents

Introduction **8**
- Evaluation of VaR Estimates . . . 8
  - VaR Breakage Ratios . . . 8
  - ROVBC and its drivers . . . 9
  - Addressing The Tradeoff Between VaR Breakage and ROVBC . . . 9
  - Determining the drivers of ROVBC alpha . . . 10
  - ROVBC Beta . . . 10
- Vector Model Input and Calculation Details . . . 11
- Sigma Details . . . 12
- Using this report . . . 12
- Important considerations about the analytics and performance metrics presented in this report: . . . 13

Value at Risk (VaR) Report Cards **15**
- Sigma Comparison Report Card: . . . 15
- Vector Model Statistical Testing Report Card: . . . 15
- Combined Summary Report Card By Objective: . . . 17

95% Value at Risk (VaR) **19**
- Historic Average Levels . . . 19
  - All Out of Sample Model Dates . . . 19
  - Prior 365 Calendar Days (P365D) . . . 20
  - Prior 90 Calendar Days (P90D) . . . 21
  - Prior 30 Calendar Days (P30D) . . . 22
- Daily Levels . . . 23
  - 1d Horizon . . . 23

10d Horizon . . . 24
21d Horizon . . . 25
63d Horizon . . . 26
126d Horizon . . . 27
252d Horizon . . . 28
Performance Summary . . . 29
All Out of Sample Model Dates . . . 30
Prior 365 Calendar Days (P365D) . . . 32
Prior 90 Calendar Days (P90D) . . . 34
Prior 30 Calendar Days (P30D) . . . 36
Daily Performance . . . 38
1d Horizon . . . 38
10d Horizon . . . 40
21d Horizon . . . 41
63d Horizon . . . 42
252d Horizon . . . 43
Rolling 20d Performance . . . 44
1d Horizon . . . 44
10d Horizon . . . 46
21d Horizon . . . 47
63d Horizon . . . 48
252d Horizon . . . 49
Top 30 Tickers By VaR Breakage . . . 50
All TMD: 1d . . . 50
All TMD: 10d . . . 51
All TMD: 21d . . . 52
All TMD: 63d . . . 53
All TMD: 126d . . . 54
All TMD: 252d . . . 55
P30D: 1d . . . 56
P30D: 10d . . . 57
P90D: 1d . . . 58
P90D: 10d . . . 59
P90D: 21d . . . 60
P365D: 1d . . . 61
P365D: 10d . . . 62
P365D: 21d . . . 63
P365D: 63d . . . 64
P365D: 126d . . . 65
Top 30 Tickers By ROVBC . . . 66
All TMD: 1d . . . 66
All TMD: 10d . . . 67
All TMD: 21d . . . 68

All TMD: 63d . . . 69
All TMD: 126d . . . 70
All TMD: 252d . . . 71
P30D: 1d . . . 72
P30D: 10d . . . 73
P90D: 1d . . . 74
P90D: 10d . . . 75
P90D: 21d . . . 76
P365D: 1d . . . 77
P365D: 10d . . . 78
P365D: 21d . . . 79
P365D: 63d . . . 80
P365D: 126d . . . 81
Bottom 30 Tickers By ROVBC . . . 82
All TMD: 1d . . . 82
All TMD: 10d . . . 83
All TMD: 21d . . . 84
All TMD: 63d . . . 85
All TMD: 126d . . . 86
All TMD: 252d . . . 87
P30D: 1d . . . 88
P30D: 10d . . . 89
P90D: 1d . . . 90
P90D: 10d . . . 91
P90D: 21d . . . 92
P365D: 1d . . . 93
P365D: 10d . . . 94
P365D: 21d . . . 95
P365D: 63d . . . 96
P365D: 126d . . . 97

99% Value at Risk (VaR) 98
Historic Average Levels . . . 98
All Out of Sample Model Dates . . . 98
Prior 365 Calendar Days (P365D) . . . 99
Prior 90 Calendar Days (P90D) . . . 100
Prior 30 Calendar Days (P30D) . . . 101
Daily Levels . . . 102
1d Horizon . . . 102
10d Horizon . . . 103
21d Horizon . . . 104
63d Horizon . . . 105
126d Horizon . . . 106

252d Horizon . . . 107
Performance Summary . . . 108
All Out of Sample Model Dates . . . 109
Prior 365 Calendar Days (P365D) . . . 111
Prior 90 Calendar Days (P90D) . . . 113
Prior 30 Calendar Days (P30D) . . . 115
Daily Performance . . . 117
1d Horizon . . . 117
10d Horizon . . . 119
21d Horizon . . . 120
63d Horizon . . . 121
252d Horizon . . . 122
Rolling 20d Performance . . . 123
1d Horizon . . . 123
10d Horizon . . . 125
21d Horizon . . . 126
63d Horizon . . . 127
252d Horizon . . . 128
Top 30 Tickers By VaR Breakage . . . 129
All TMD: 1d . . . 129
All TMD: 10d . . . 130
All TMD: 21d . . . 131
All TMD: 63d . . . 132
All TMD: 126d . . . 133
All TMD: 252d . . . 134
P30D: 1d . . . 135
P30D: 10d . . . 136
P90D: 1d . . . 137
P90D: 10d . . . 138
P90D: 21d . . . 139
P365D: 1d . . . 140
P365D: 10d . . . 141
P365D: 21d . . . 142
P365D: 63d . . . 143
P365D: 126d . . . 144
Top 30 Tickers By ROVBC . . . 145
All TMD: 1d . . . 145
All TMD: 10d . . . 146
All TMD: 21d . . . 147
All TMD: 63d . . . 148
All TMD: 126d . . . 149
All TMD: 252d . . . 150
P30D: 1d . . . 151

P30D: 10d . . . 152
P90D: 1d . . . 153
P90D: 10d . . . 154
P90D: 21d . . . 155
P365D: 1d . . . 156
P365D: 10d . . . 157
P365D: 21d . . . 158
P365D: 63d . . . 159
P365D: 126d . . . 160
Bottom 30 Tickers By ROVBC . . . 161
All TMD: 1d . . . 161
All TMD: 10d . . . 162
All TMD: 21d . . . 163
All TMD: 63d . . . 164
All TMD: 126d . . . 165
All TMD: 252d . . . 166
P30D: 1d . . . 167
P30D: 10d . . . 168
P90D: 1d . . . 169
P90D: 10d . . . 170
P90D: 21d . . . 171
P365D: 1d . . . 172
P365D: 10d . . . 173
P365D: 21d . . . 174
P365D: 63d . . . 175
P365D: 126d . . . 176

Appendix 1: Top 25 Ticker Level Differences in VM vs. Sigma 95% and 99% VaR Breakage **177**
All TMD: 1d . . . 177
All TMD: 10d . . . 178
All TMD: 21d . . . 179
All TMD: 63d . . . 180
All TMD: 126d . . . 181
All TMD: 252d . . . 182
P30D: 1d . . . 183
P30D: 10d . . . 184
P90D: 1d . . . 185
P90D: 10d . . . 186
P90D: 21d . . . 187
P365D: 1d . . . 188
P365D: 10d . . . 189
P365D: 21d . . . 190

P365D: 63d . . . 191
P365D: 126d . . . 192

Appendix 2: Bottom 25 Ticker Level Differences in VM vs. Sigma 95% and 99% VaR Breakage 193
All TMD: 1d . . . 193
All TMD: 10d . . . 194
All TMD: 21d . . . 195
All TMD: 63d . . . 196
All TMD: 126d . . . 197
All TMD: 252d . . . 198
P30D: 1d . . . 199
P30D: 10d . . . 200
P90D: 1d . . . 201
P90D: 10d . . . 202
P90D: 21d . . . 203
P365D: 1d . . . 204
P365D: 10d . . . 205
P365D: 21d . . . 206
P365D: 63d . . . 207
P365D: 126d . . . 208

Appendix 3: Top 25 Ticker Level Differences in VM vs. Sigma 95% and 99% ROVBC209
All TMD: 1d . . . 209
All TMD: 10d . . . 210
All TMD: 21d . . . 211
All TMD: 63d . . . 212
All TMD: 126d . . . 213
All TMD: 252d . . . 214
P30D: 1d . . . 215
P30D: 10d . . . 216
P90D: 1d . . . 217
P90D: 10d . . . 218
P90D: 21d . . . 219
P365D: 1d . . . 220
P365D: 10d . . . 221
P365D: 21d . . . 222
P365D: 63d . . . 223
P365D: 126d . . . 224

Appendix 4: Bottom 25 Ticker Level Differences in VM vs. Sigma 95% and 99% ROVBC 225
All TMD: 1d . . . 225

All TMD: 10d 226
All TMD: 21d 227
All TMD: 63d 228
All TMD: 126d 229
All TMD: 252d 230
P30D: 1d 231
P30D: 10d 232
P90D: 1d 233
P90D: 10d 234
P90D: 21d 235
P365D: 1d 236
P365D: 10d 237
P365D: 21d 238
P365D: 63d 239
P365D: 126d 240

Appendix 5: Kupiec and Christoferson Tests for Sigma **241**

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.

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.

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.

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.

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

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

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.

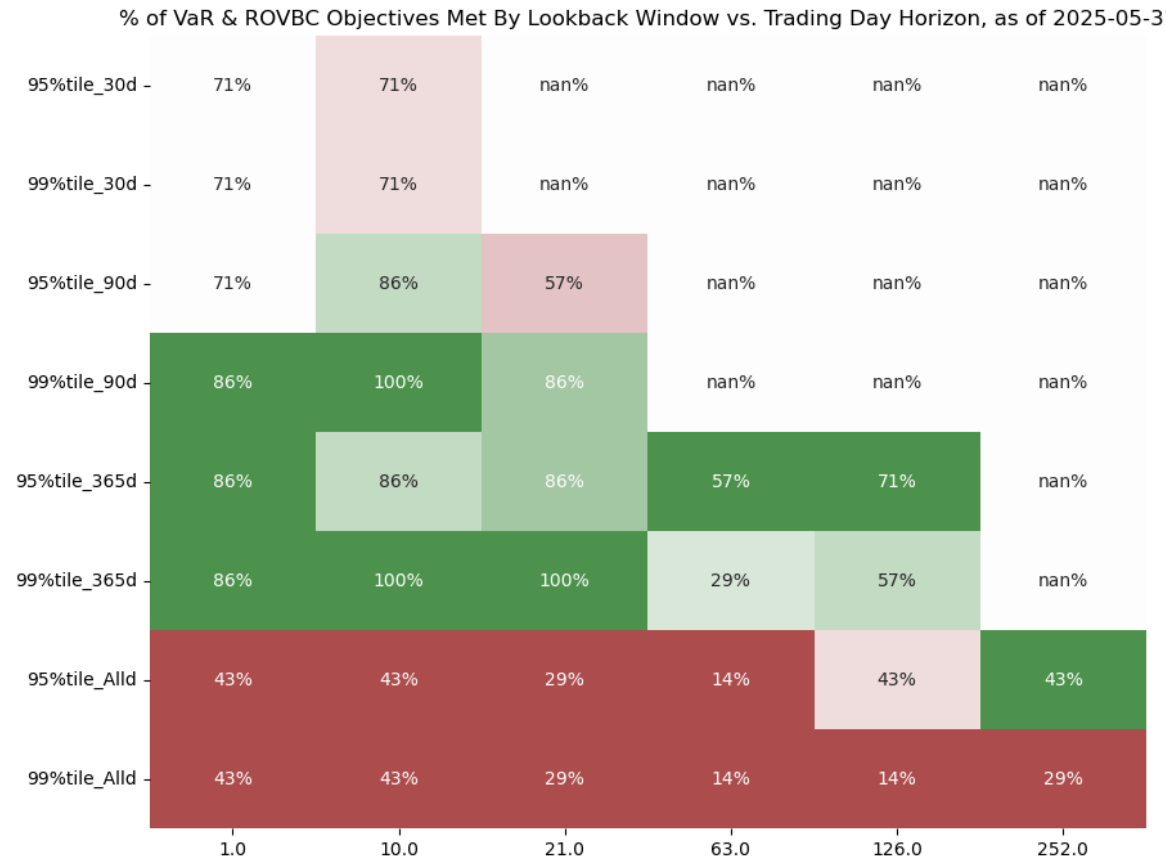
9) All analytics presented in this report assumes that prices are floored at $0.01/share.

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 2025-05-29 while 365D /90D/ 30D include the 365/90/30 days ended 2025-05-29, 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 2025-05-29. 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	0.29	0.59	15.11	0
Vector	95	10	22.93	0	0.04	0.84
Vector	95	21	2.27	0.13	0.07	0.79
Vector	95	63	2.9	0.09	0.12	0.72
Vector	95	126	0.33	0.57	0.37	0.54
Vector	95	252	0.06	0.8	nan	0
Vector	99	1	70.56	0	23.87	0
Vector	99	10	14.72	0	0.01	0.93
Vector	99	21	6.2	0.01	1.66	0.2
Vector	99	63	1.81	0.18	nan	0
Vector	99	126	0.55	0.46	nan	0
Vector	99	252	7.15	0.01	nan	0

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 2025-05-29.

VaR and ROVBC Criteria	Average Score(%)
1. Closer to Target VaR Breakage Than Sigma (i.e., smaller MAE)	65.62
2. Less Volatile VaR Breakage Across Model Dates Than Sigma	62.5
3. Less Volatile VaR Breakage Across Tickers Than Sigma	12.5
4. Higher ROVBC Than Sigma	75
5. Higher ROVBC Than Sigma, Adj. for Avg. VM-Sigma VaR Diff.	96.88
6. Alpha of ROVBC vs Sigma >0, Across Tickers and Model Dates	50
7. Alpha of ROVBC vs Sigma >0, By Ticker, Across Model Dates	56.25
Overall Comparison to Sigma Average	59.82
Kupiec Test of VaR Proximity to Target	58.3333
Christoferson Test of VaR Date Independence	50

VaR and ROVBC Criteria by Fwd Hzn	1D	10D	21D	63D	126D	252D
1. Closer to Target VaR Breakage Than Sigma	75	75	50	50	75	50
2. Less Volatile VaR Breakage Across Model Dates Than Sigma	100	75	66.67	50	0	0
3. Less Volatile VaR Breakage Across Tickers Than Sigma	0	37.5	16.67	0	0	0
4. Higher ROVBC Than Sigma	75	87.5	83.33	25	75	100
5. Higher ROVBC Than Sigma, Adj. for Avg. VM-Sigma VaR Diff.	100	100	100	75	100	100
6. Alpha of ROVBC vs Sigma >0, Across Tickers and Model Dates	62.5	75	66.67	0	25	0
7. Alpha of ROVBC vs Sigma >0, By Ticker, Across Model Dates	75	75	66.67	0	50	0
TotalScore	69.64	75	64.29	28.57	46.43	35.71

VaR and ROVBC Criteria Across Lookback Window	30D	90D	365D	AllD
1. Closer to Target VaR Breakage Than Sigma	50	66.67	90	50
2. Less Volatile VaR Breakage Across Model Dates Than Sigma	50	83.33	80	41.67
3. Less Volatile VaR Breakage Across Tickers Than Sigma	25	16.67	20	0
4. Higher ROVBC Than Sigma	100	100	90	41.67
5. Higher ROVBC Than Sigma, Adj. for Avg. VM-Sigma VaR Diff.	100	100	100	91.67
6. Alpha of ROVBC vs Sigma >0, Across Tickers and Model Dates	75	100	70	0
7. Alpha of ROVBC vs Sigma >0, By Ticker, Across Model Dates	100	100	80	0
TotalScore	71.43	80.95	75.71	32.14

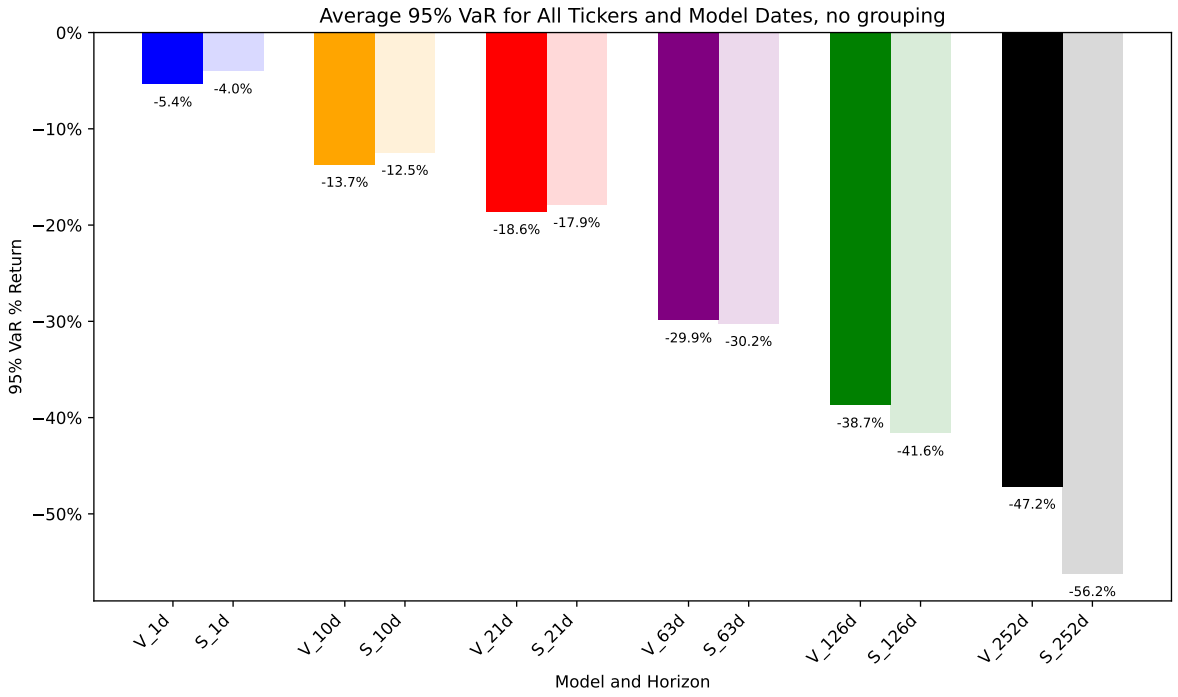
95% Value at Risk (VaR)

Historic Average Levels

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

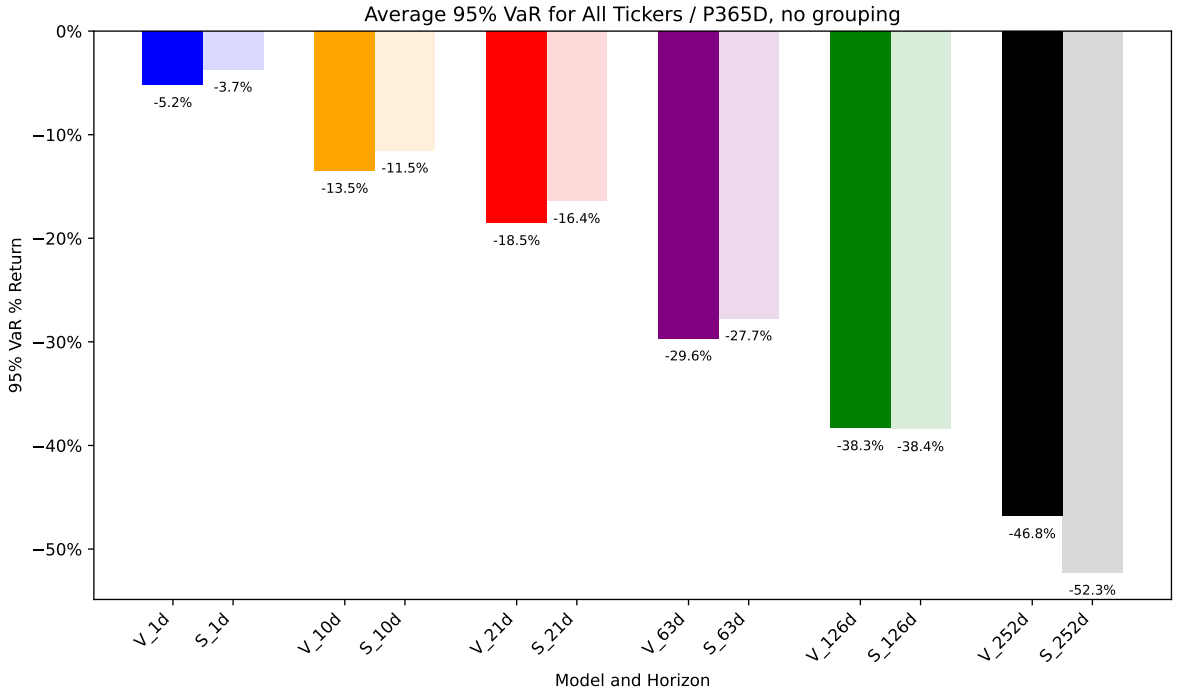
All Out of Sample Model Dates

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



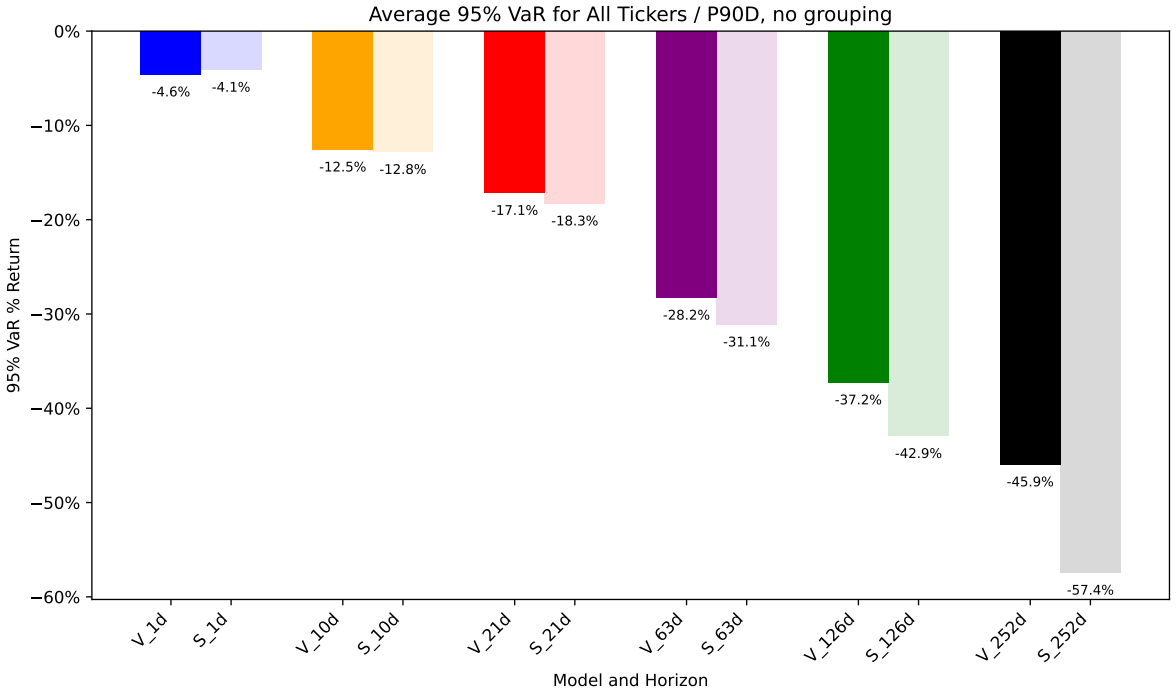
Prior 365 Calendar Days (P365D)

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



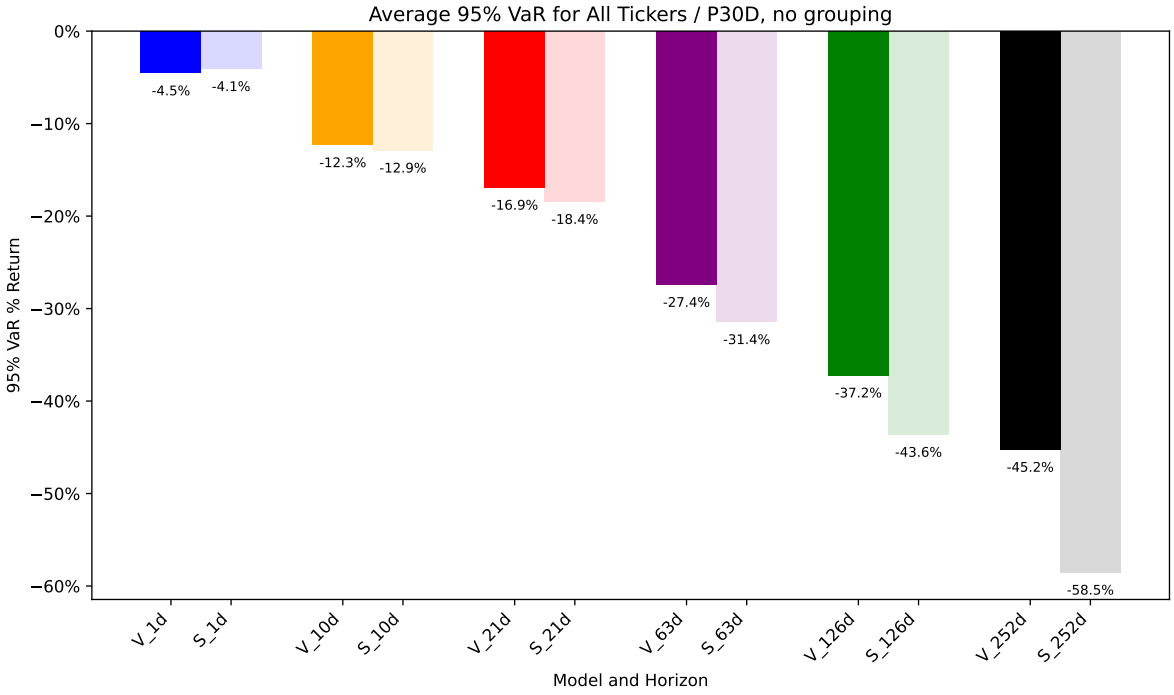
Prior 90 Calendar Days (P90D)

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



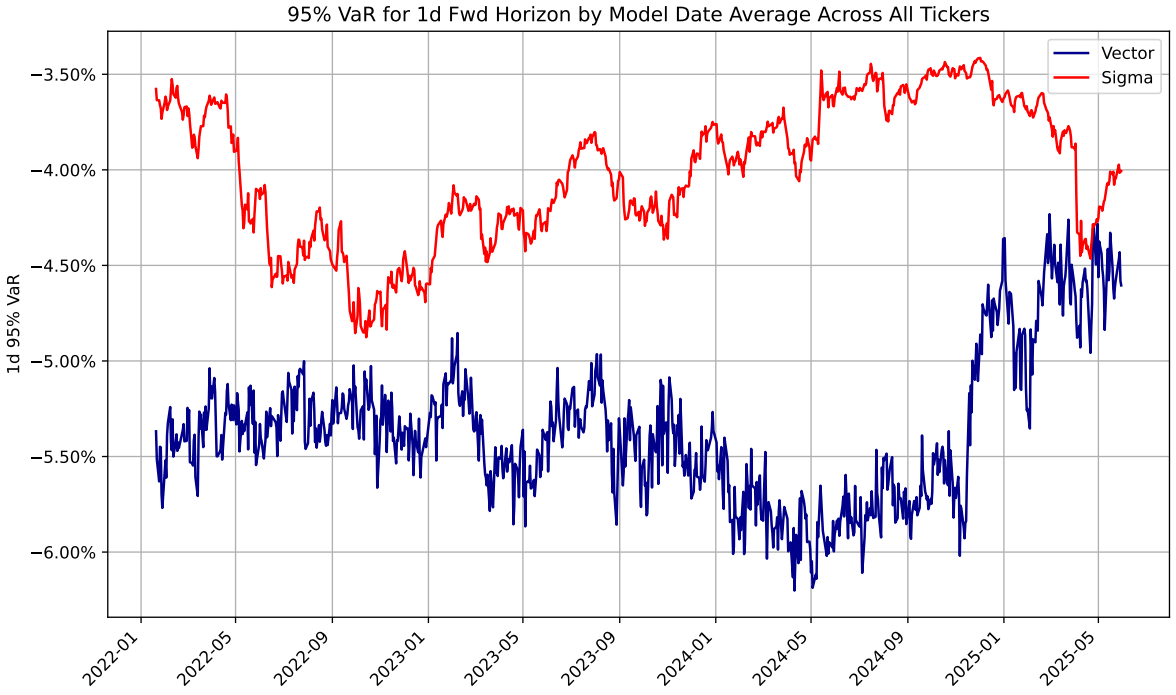
Prior 30 Calendar Days (P30D)

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

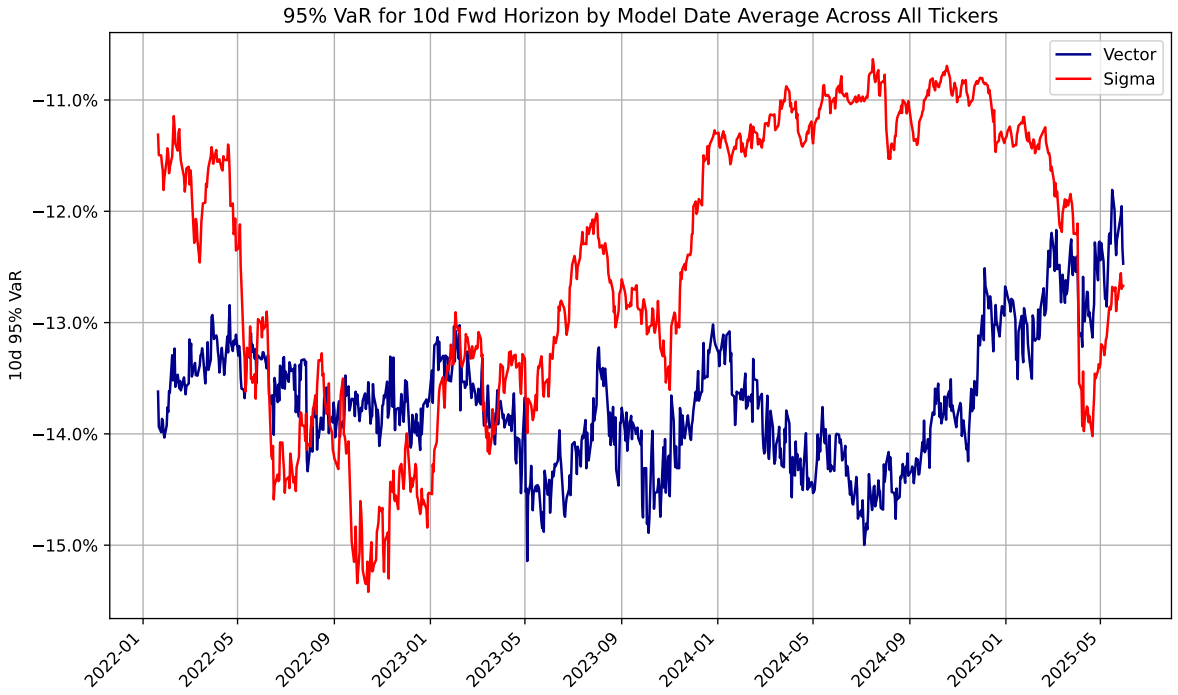


Daily Levels

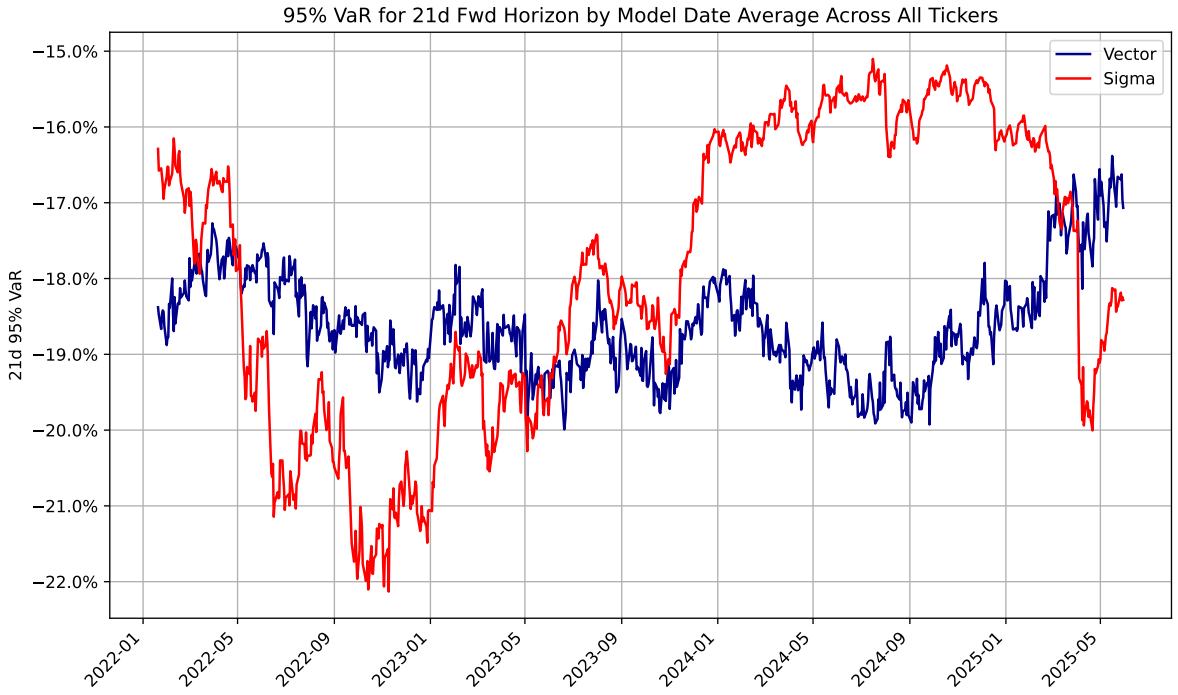
1d Horizon



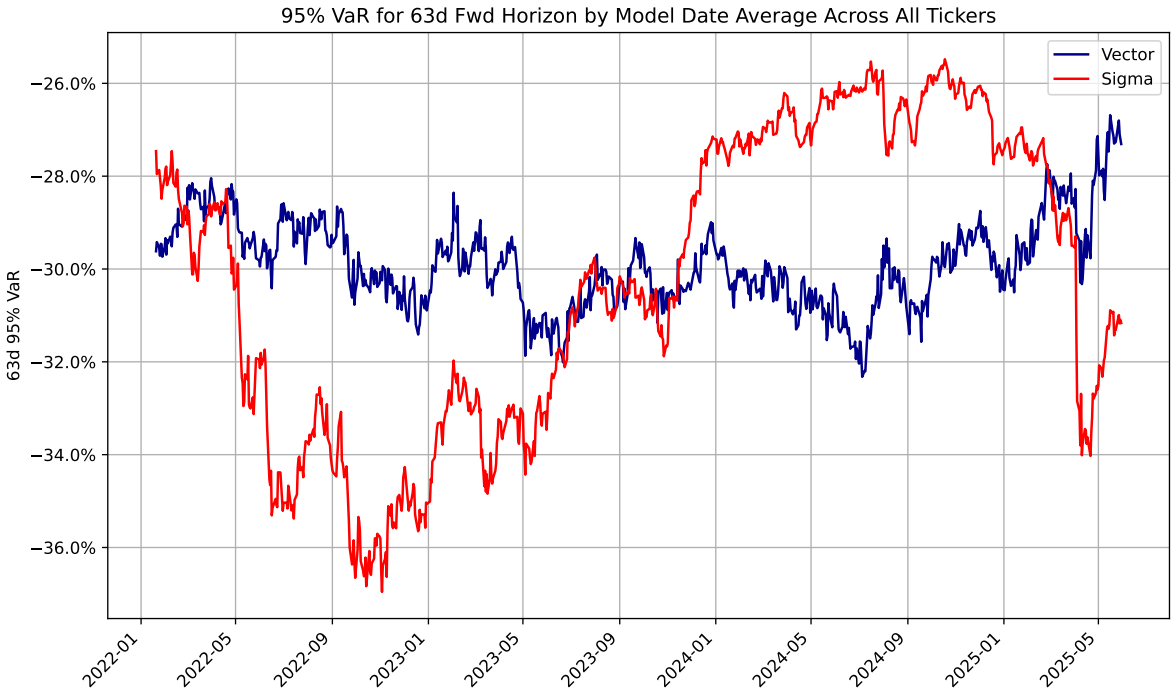
10d Horizon


95% VaR for 10d Fwd Horizon by Model Date Average Across All Tickers
Vector
Sigma
10d 95% VaR
−11.0%
−12.0%
−13.0%
−14.0%
−15.0%
2022-01
2022-05
2022-09
2023-01
2023-05
2023-09
2024-01
2024-05
2024-09
2025-01
2025-05

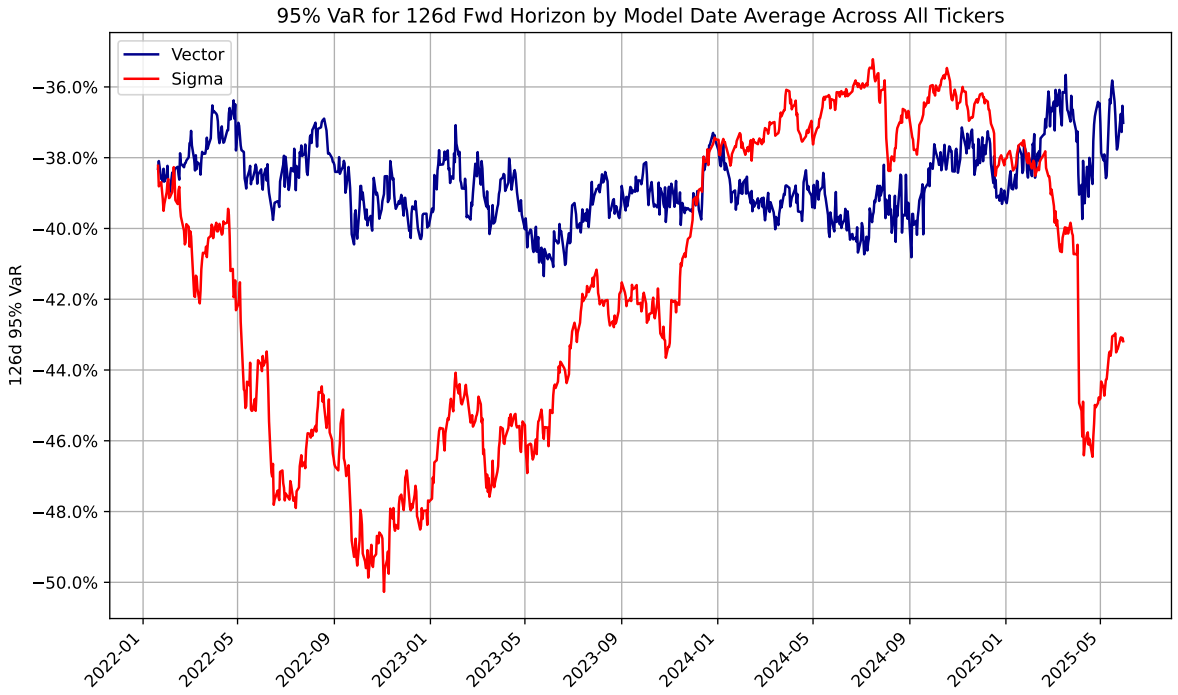
21d Horizon


95% VaR for 21d Fwd Horizon by Model Date Average Across All Tickers
21d 95% VaR
−15.0%
−16.0%
−17.0%
−18.0%
−19.0%
−20.0%
−21.0%
−22.0%
2022-01
2022-05
2022-09
2023-01
2023-05
2023-09
2024-01
2024-05
2024-09
2025-01
2025-05
Vector
Sigma

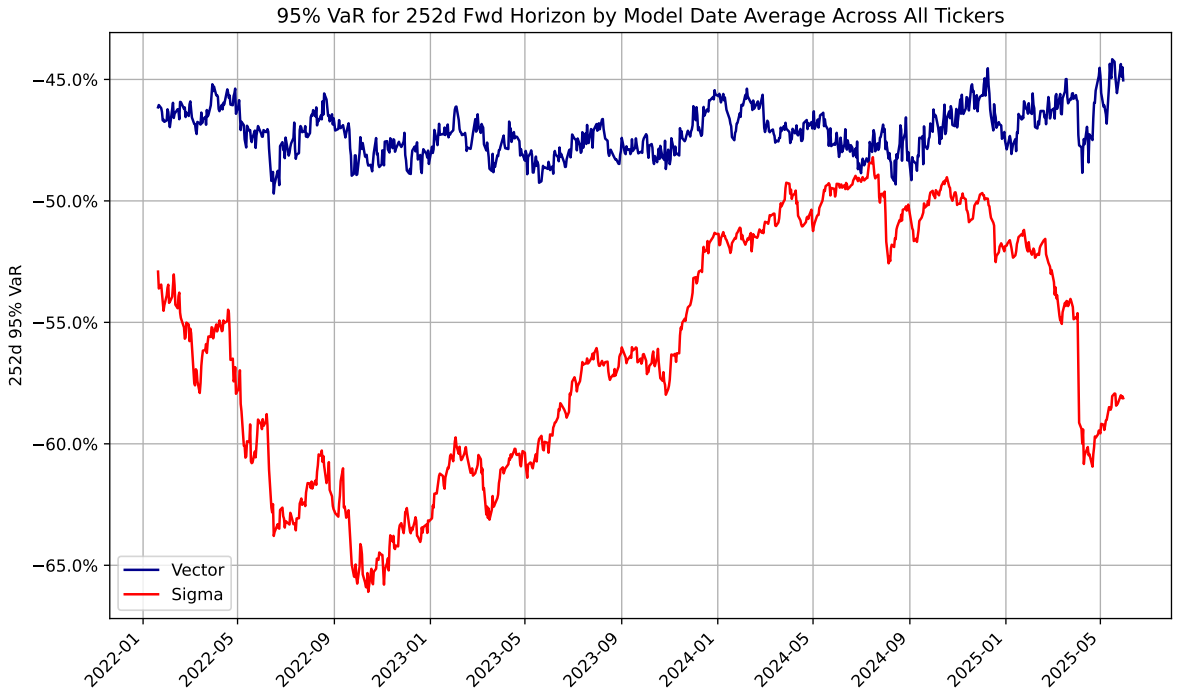
63d Horizon


95% VaR for 63d Fwd Horizon by Model Date Average Across All Tickers
Vector
Sigma
63d 95% VaR
−26.0%
−28.0%
−30.0%
−32.0%
−34.0%
−36.0%
2022-01
2022-05
2022-09
2023-01
2023-05
2023-09
2024-01
2024-05
2024-09
2025-01
2025-05

126d Horizon



252d Horizon



Performance Summary

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

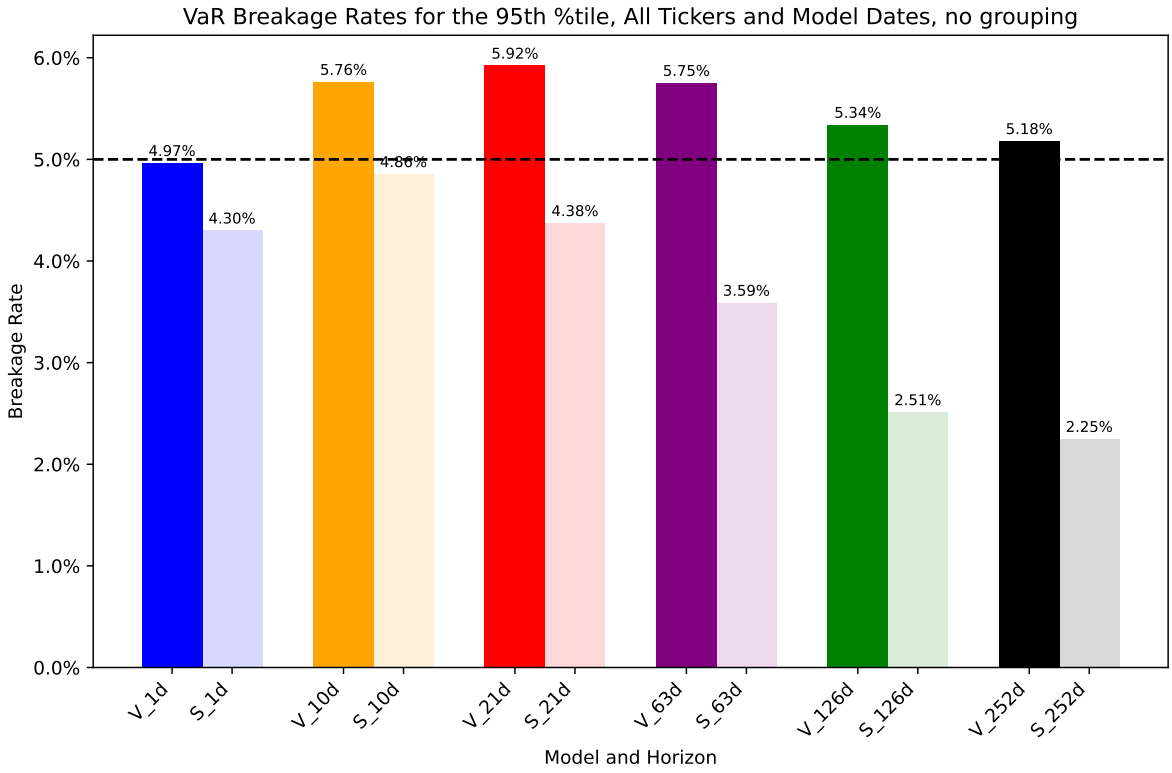
Vector Model ROVBC can be evalauated on the basis of outright levels relative to Sigma and alpha relative to Sigma ROVBC (which, as discussed previously, is assigned the underlying ticker price returns). We advise keeping proximity of VaR breakage rates to targetted levels in mind when comparing outright 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.

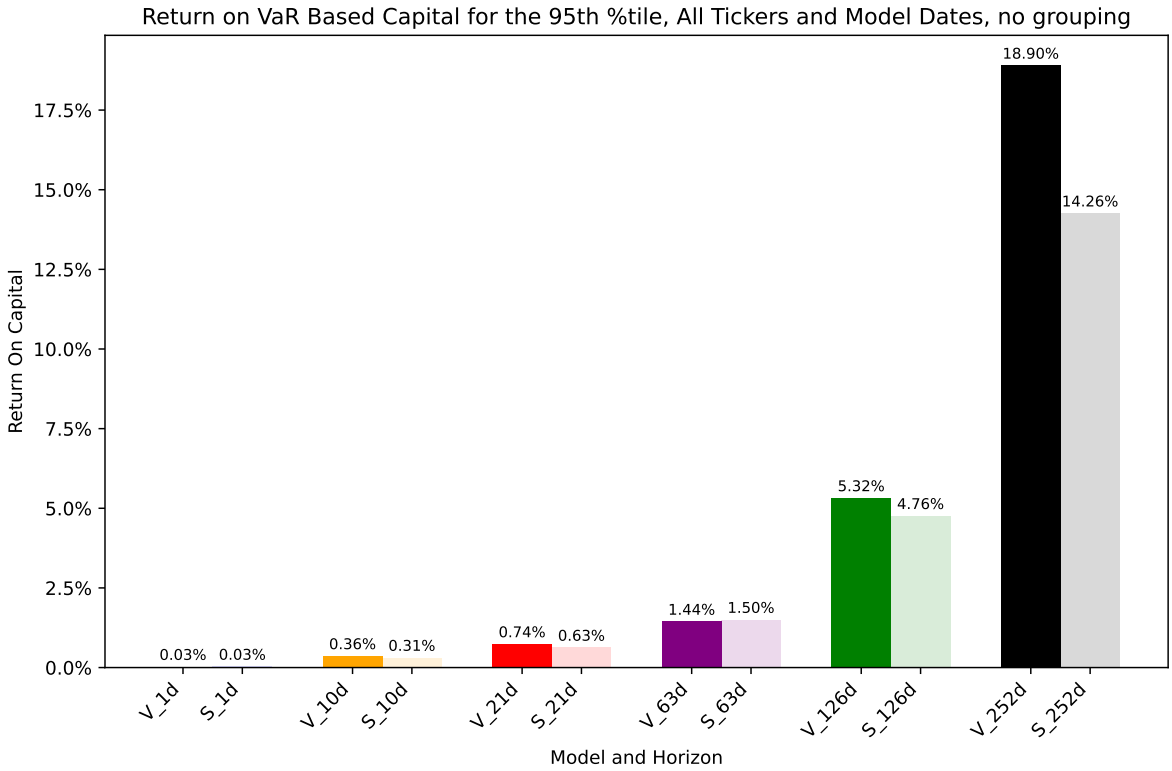
Alpha allows us to isolate ROVBC performance differences between the Vector Model and Sigma apart from any systematic difference between the ROVBC multiplier for the Vector Model and 1.00x. Alpha across TMD's could be driven by VaR differentials between tickers and / or between dates. Thus we also present 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 Mdoel 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 2025-05-29





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

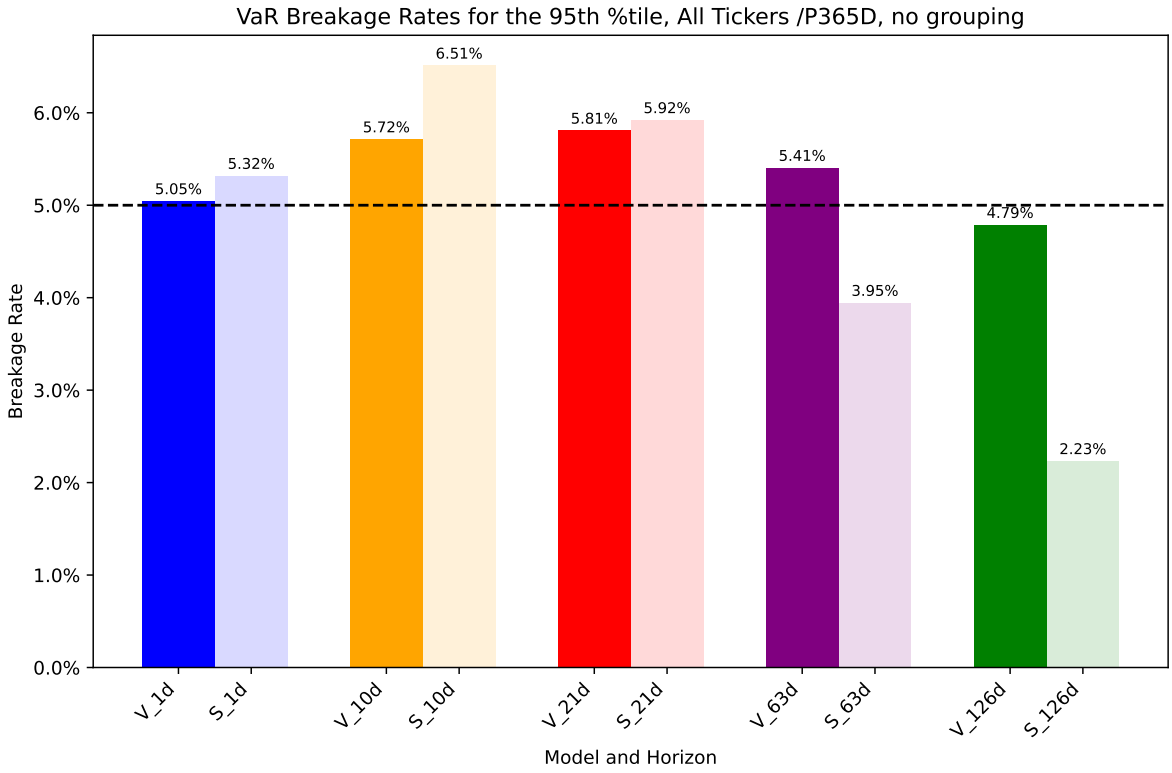
	1d	10d	21d	63d	126d	252d
intercept	-0.01%	-0.04%	-0.10%	-0.58%	-1.34%	-2.64%
intercept_p_value	6.06%	1.67%	0.01%	0.00%	0.00%	0.00%
slope	119.55%	130.48%	134.10%	134.54%	139.83%	151.04%
slope_p_value	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

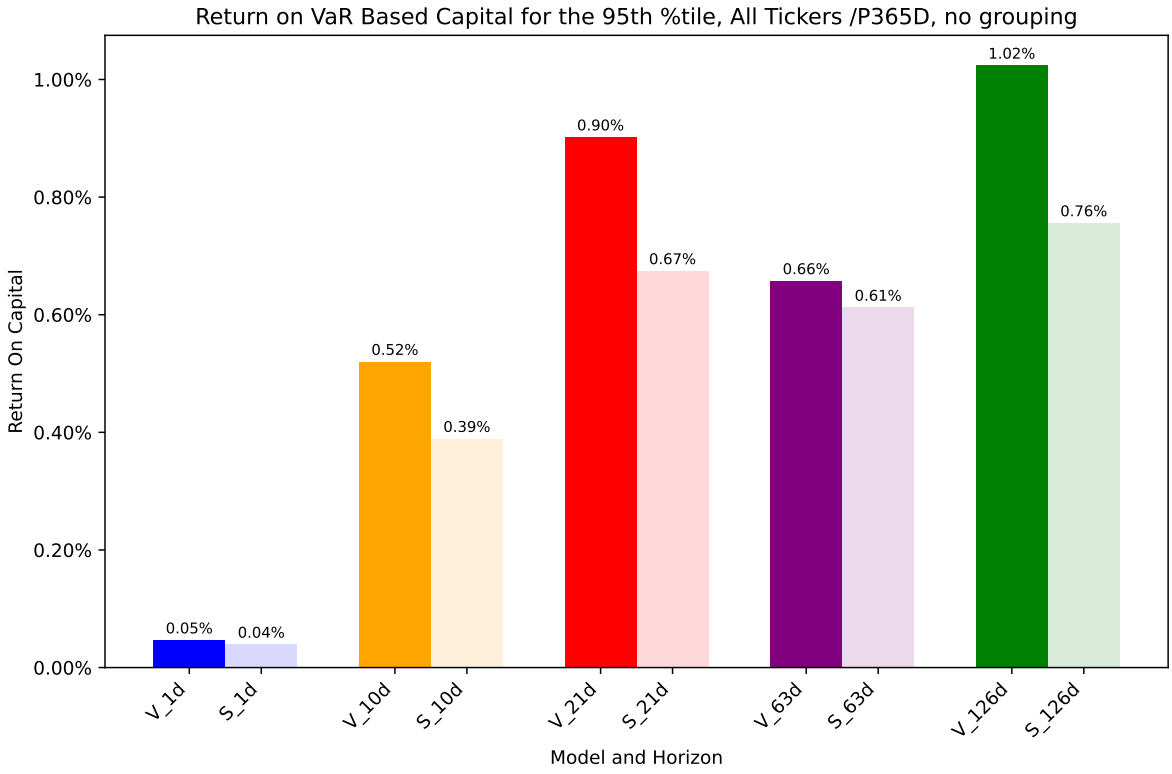
Average Alpha (intercept) and Beta (slope) of Vector Model ROVBC regressed upon corresponding actual returns, by ticker across Model Dates:

	1d	10d	21d	63d	126d	252d
intercept	-0.02%	-0.12%	-0.35%	-1.47%	-3.50%	-5.01%
intercept_p_value	0.80%	7.42%	1.69%	0.20%	0.01%	0.45%
slope	157.57%	153.05%	163.38%	175.52%	173.89%	162.67%
slope_p_value	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

Prior 365 Calendar Days (P365D)

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





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

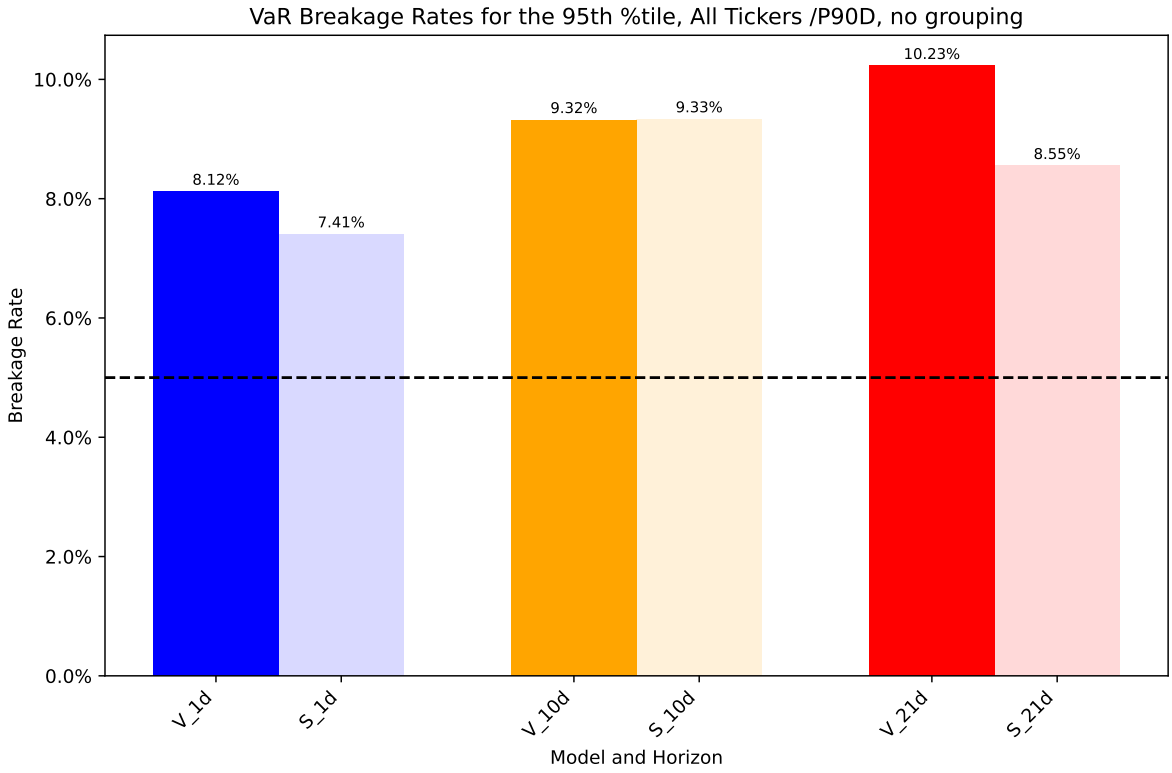
	1d	10d	21d	63d	126d
intercept	0.00%	0.10%	0.14%	-0.04%	0.13%
intercept_p_value	73.65%	0.01%	0.04%	46.55%	16.78%
slope	109.81%	107.01%	112.90%	114.21%	118.37%
slope_p_value	0.00%	0.00%	0.00%	0.00%	0.00%

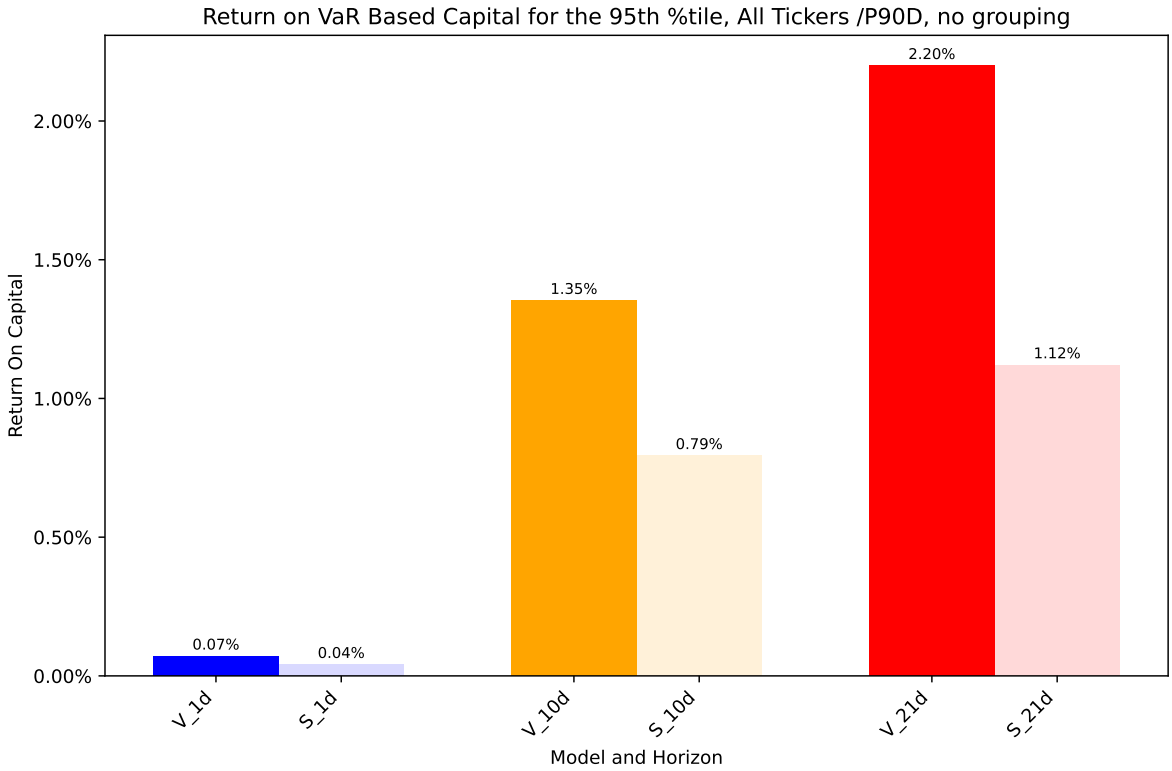
Average Alpha (intercept) and Beta (slope) of Vector Model ROVBC regressed upon corresponding actual returns, by ticker across P365D:

	1d	10d	21d	63d	126d
intercept	0.02%	0.19%	0.22%	-0.05%	0.14%
intercept_p_value	4.99%	2.13%	14.99%	88.14%	82.95%
slope	79.66%	98.38%	106.81%	115.34%	119.48%
slope_p_value	0.00%	0.00%	0.00%	0.00%	0.00%

Prior 90 Calendar Days (P90D)

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





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

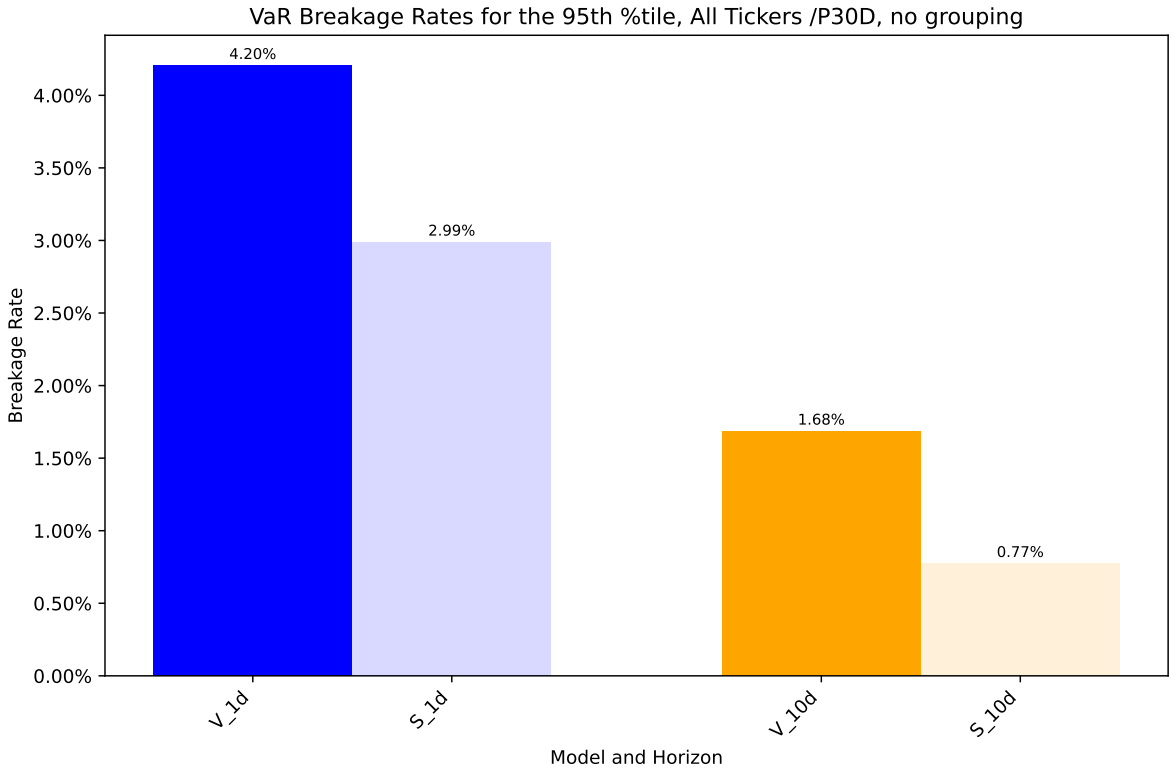
	1d	10d	21d
intercept	0.02%	0.37%	0.74%
intercept_p_value	41.27%	0.00%	0.00%
slope	123.73%	123.85%	129.92%
slope_p_value	0.00%	0.00%	0.00%

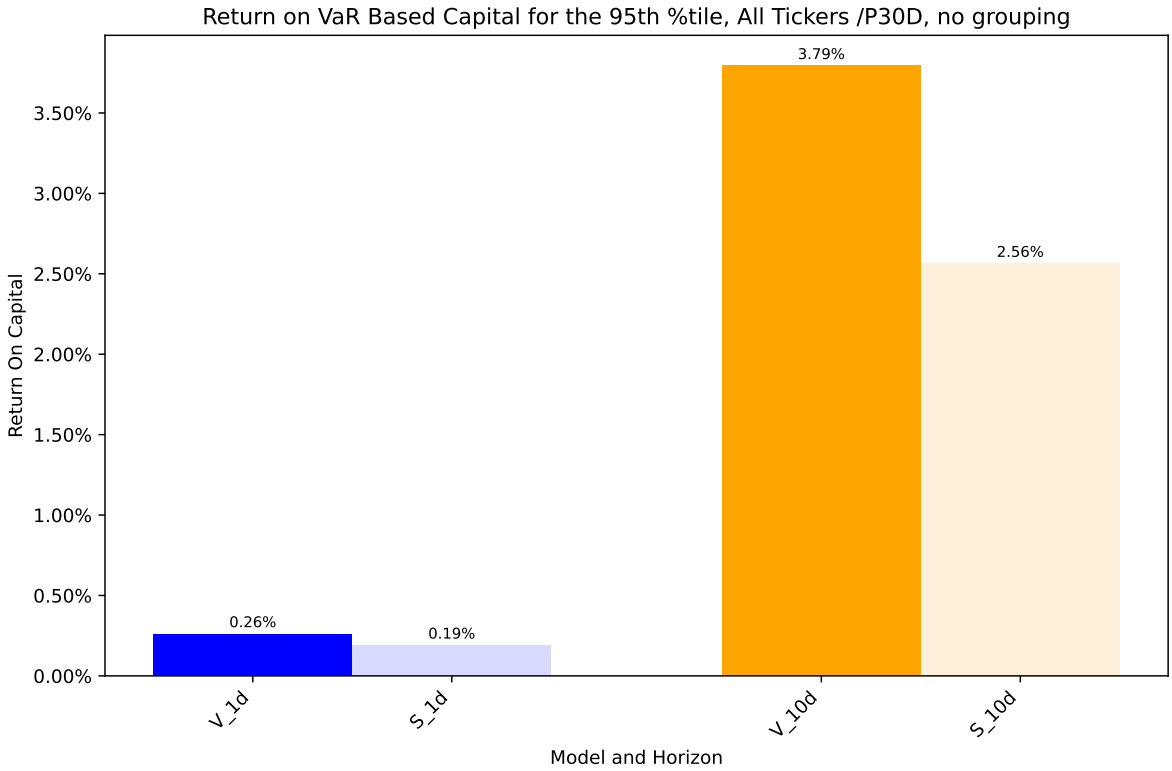
Average Alpha (intercept) and Beta (slope) of Vector Model ROVBC regressed upon corresponding actual returns, by ticker across P90D:

	1d	10d	21d
intercept	0.03%	0.50%	0.87%
intercept_p_value	16.22%	0.15%	0.93%
slope	106.58%	109.91%	118.78%
slope_p_value	0.00%	0.00%	0.00%

Prior 30 Calendar Days (P30D)

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





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

	1d	10d
intercept	-0.01%	0.27%
intercept_p_value	75.05%	10.15%
slope	144.78%	137.35%
slope_p_value	0.00%	0.00%

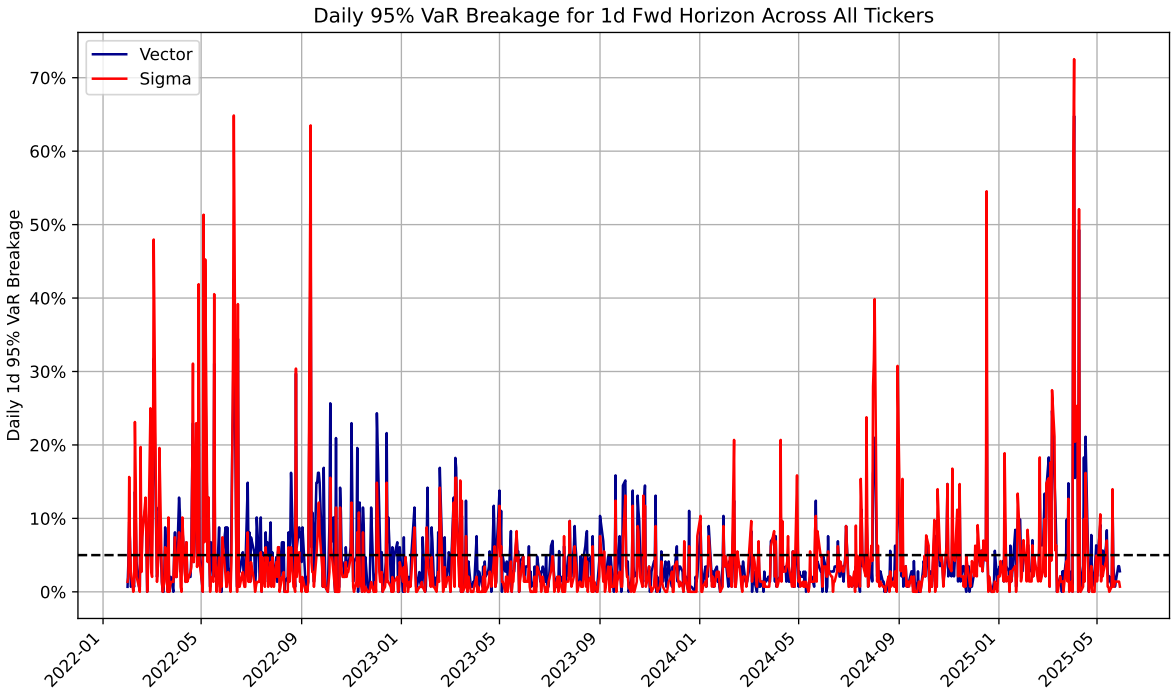
Average Alpha (intercept) and Beta (slope) of Vector Model ROVBC regressed upon corresponding actual returns, by ticker across P30D:

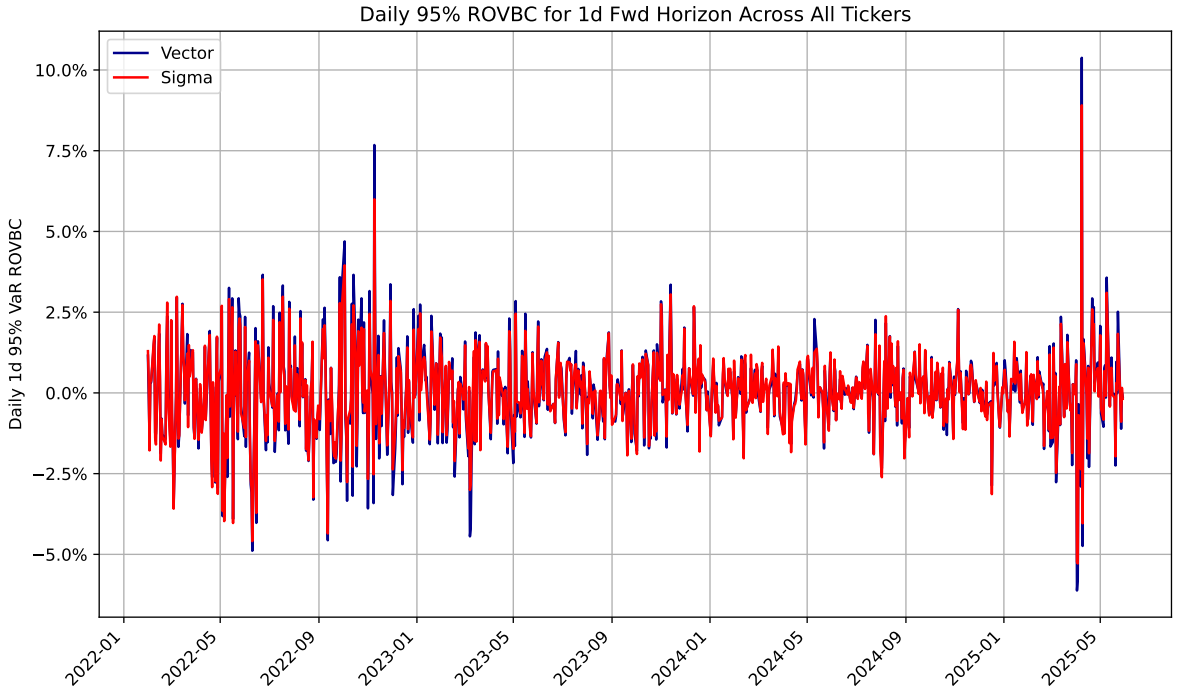
	1d	10d
intercept	0.00%	0.10%
intercept_p_value	94.77%	81.82%
slope	136.17%	144.48%
slope_p_value	0.00%	0.00%

Daily Performance

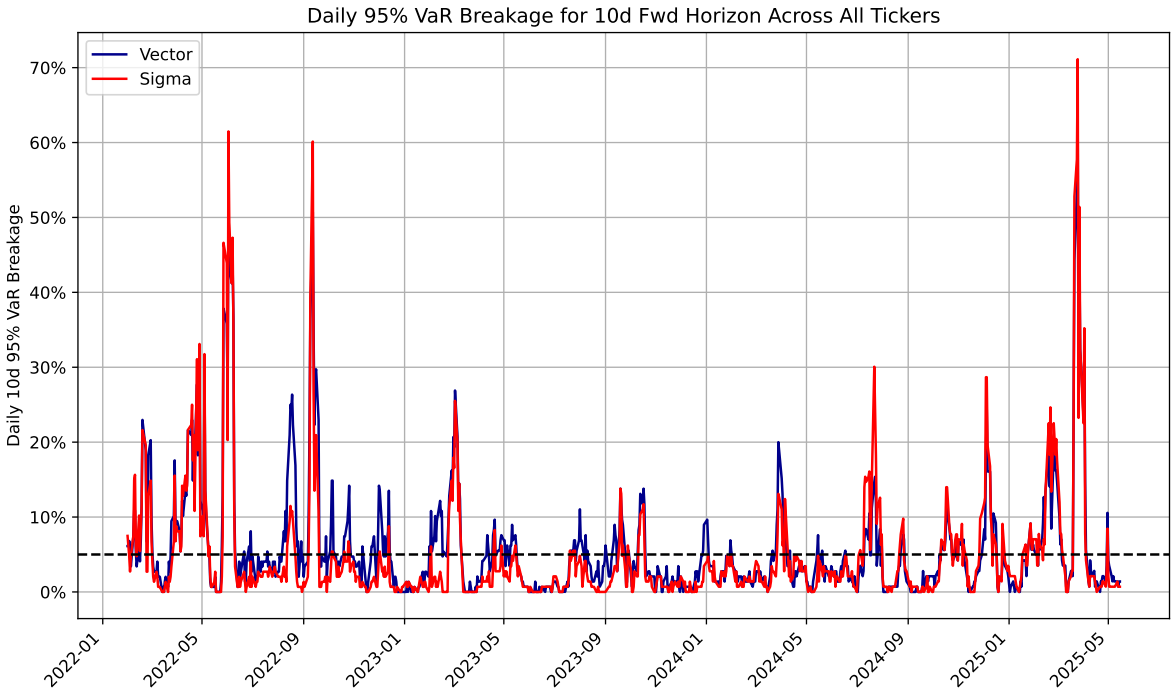
Here we look at the daily breakage and ROVBC statitics summarized in the preceding section. The daily basis of the presentation allows for observation of the magnitude, frequency and proximity of breakage and ROVBC outliers.

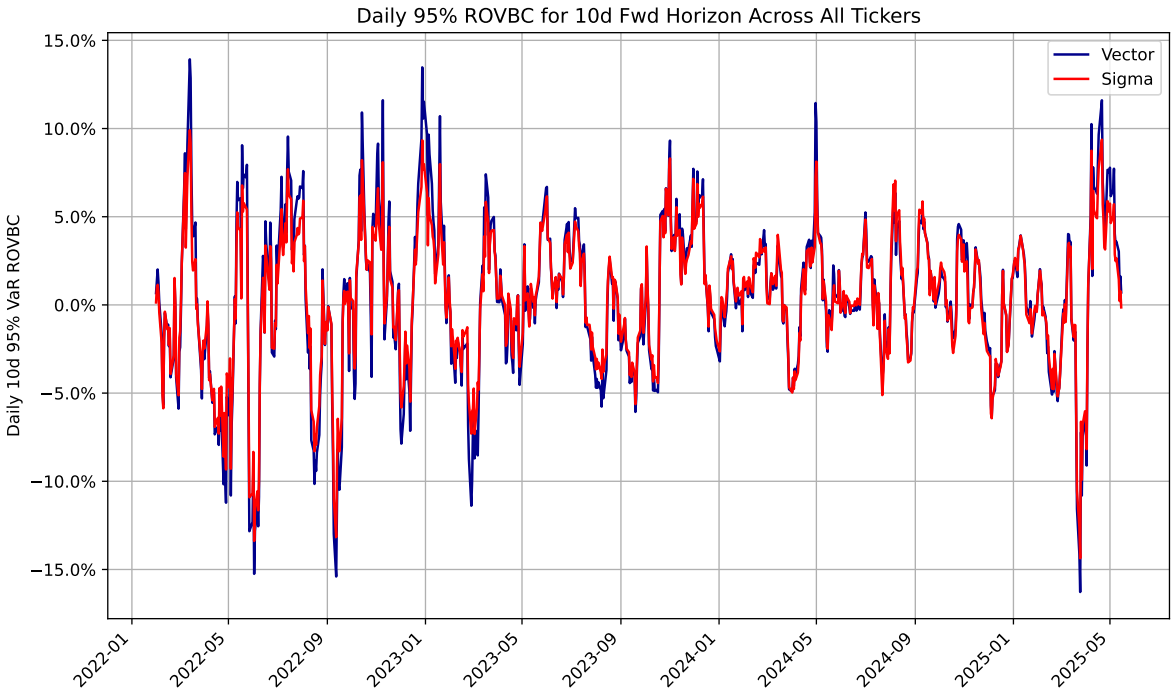
1d Horizon



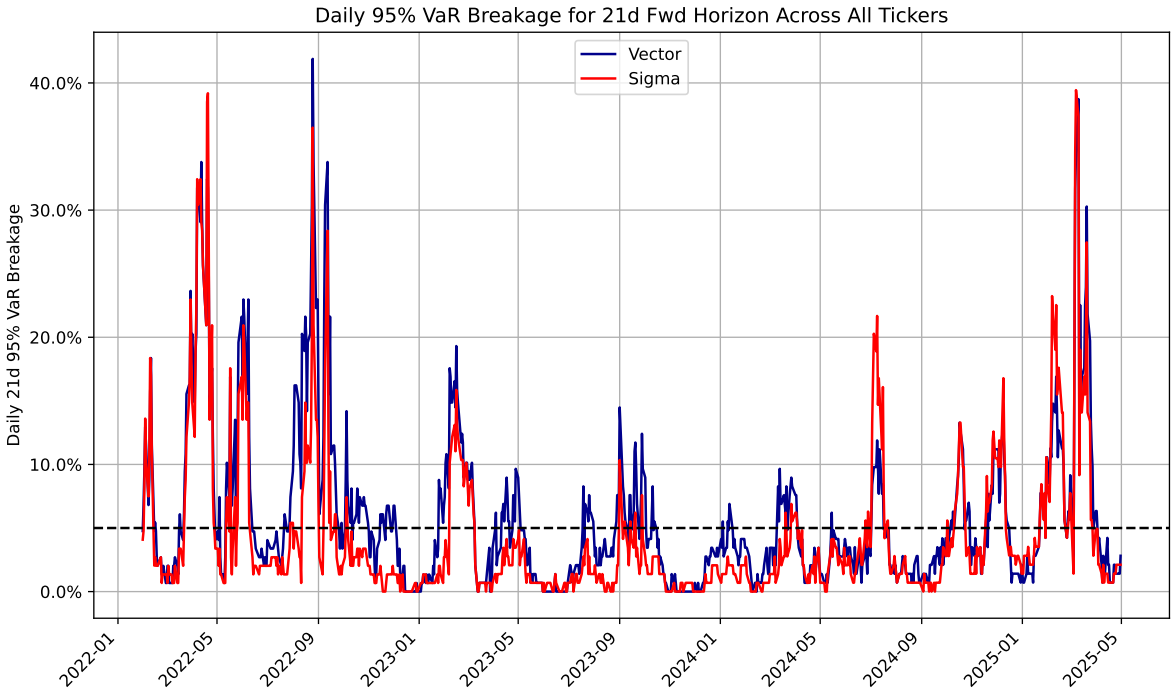

Daily 95% ROVBC for 1d Fwd Horizon Across All Tickers
Vector
Sigma
Daily 1d 95% VaR ROVBC
10.0%
7.5%
5.0%
2.5%
0.0%
−2.5%
−5.0%
2022-01
2022-05
2022-09
2023-01
2023-05
2023-09
2024-01
2024-05
2024-09
2025-01
2025-05

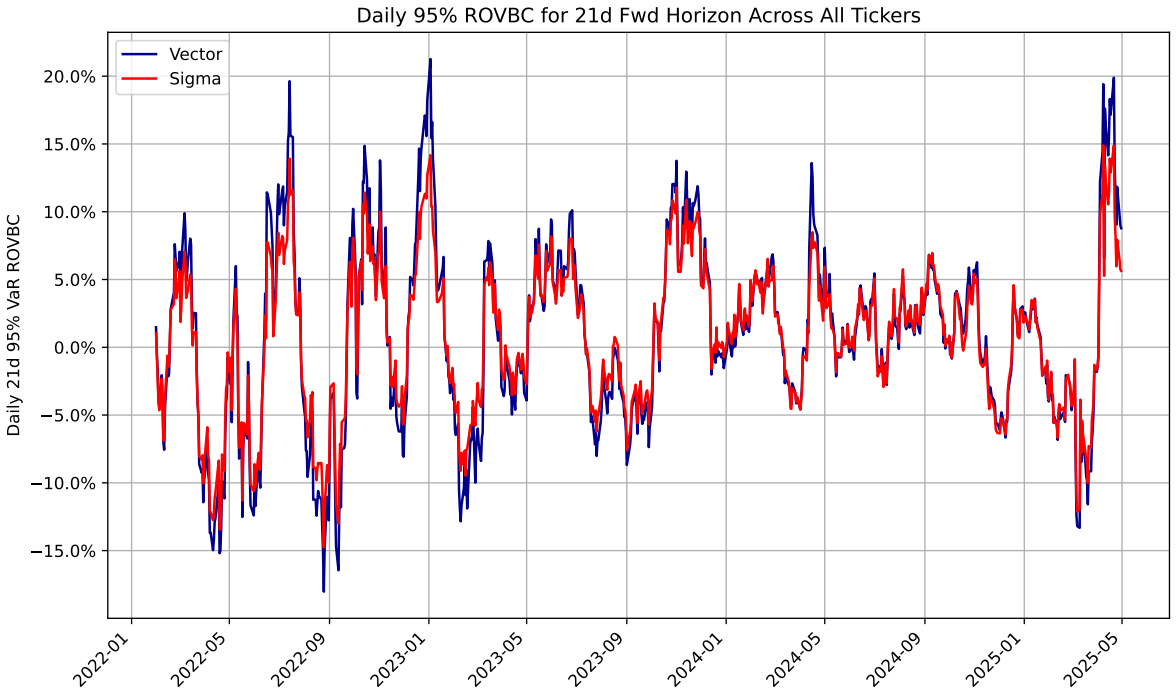
10d Horizon


Daily 95% VaR Breakage for 10d Fwd Horizon Across All Tickers
Vector
Sigma
Daily 10d 95% VaR Breakage
70%
60%
50%
40%
30%
20%
10%
0%
2022-01
2022-05
2022-09
2023-01
2023-05
2023-09
2024-01
2024-05
2024-09
2025-01
2025-05

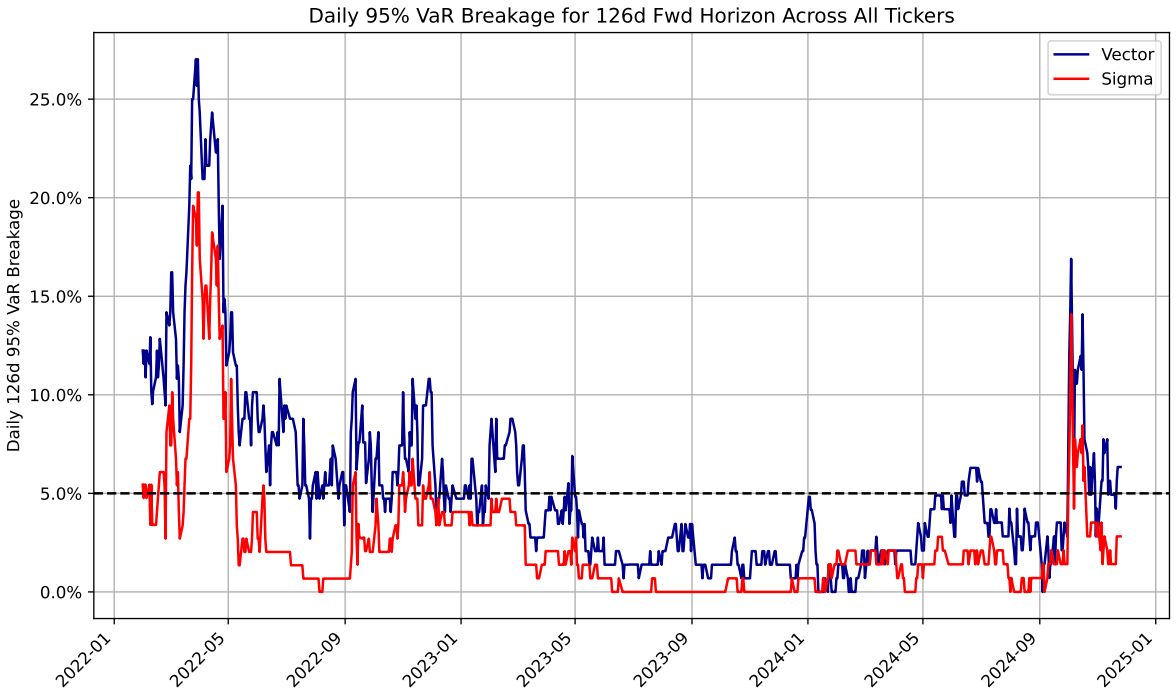

Daily 95% ROVBC for 10d Fwd Horizon Across All Tickers
Vector
Sigma
Daily 10d 95% VaR ROVBC
15.0%
10.0%
5.0%
0.0%
−5.0%
−10.0%
−15.0%
2022-01
2022-05
2022-09
2023-01
2023-05
2023-09
2024-01
2024-05
2024-09
2025-01
2025-05

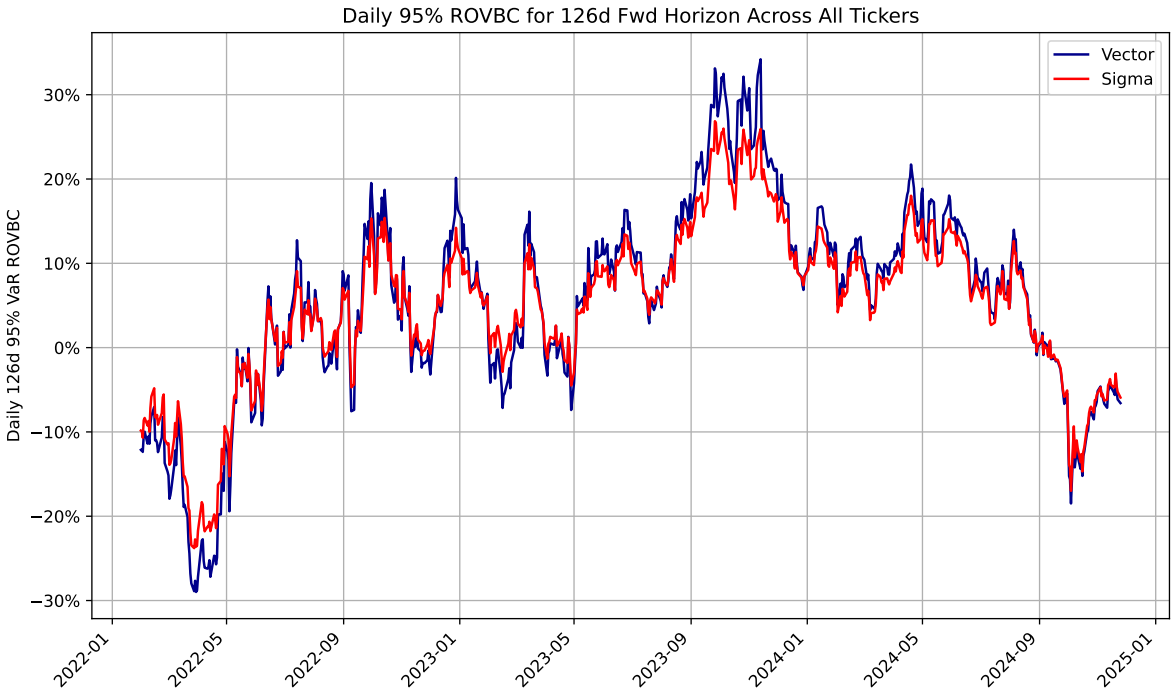
21d Horizon


Daily 95% VaR Breakage for 21d Fwd Horizon Across All Tickers
Vector
Sigma
Daily 21d 95% VaR Breakage
40.0%
30.0%
20.0%
10.0%
0.0%
2022-01
2022-05
2022-09
2023-01
2023-05
2023-09
2024-01
2024-05
2024-09
2025-01
2025-05

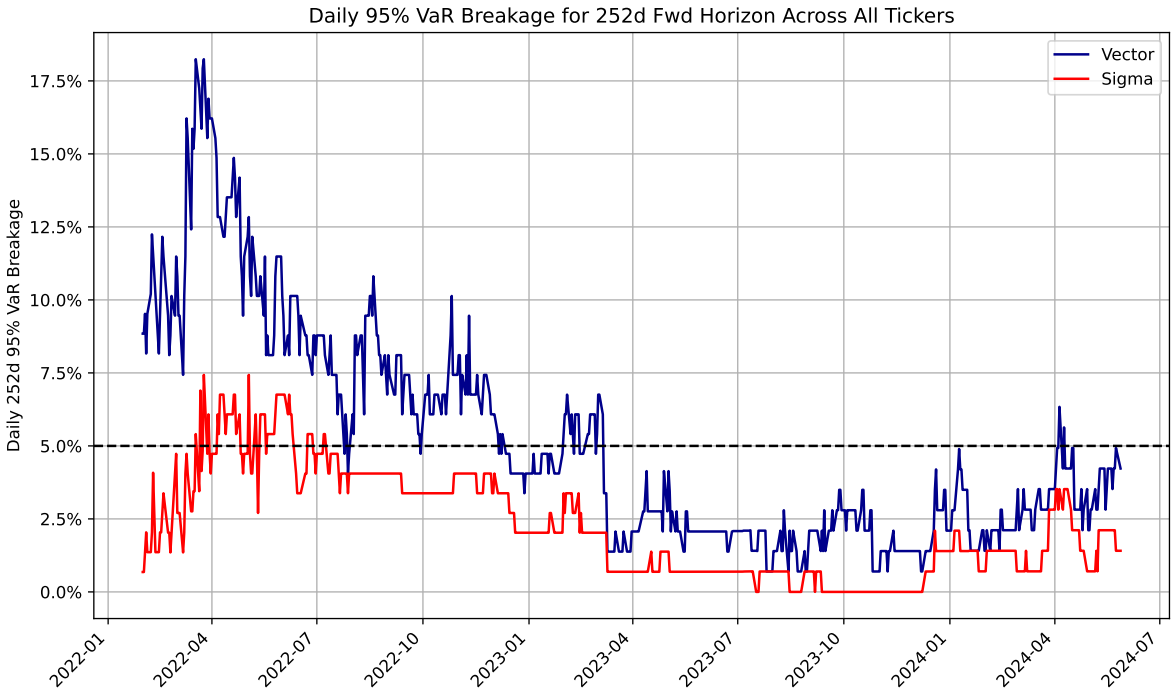

Daily 95% ROVBC for 21d Fwd Horizon Across All Tickers
Vector
Sigma
Daily 21d 95% VaR ROVBC
20.0%
15.0%
10.0%
5.0%
0.0%
−5.0%
−10.0%
−15.0%
2022-01
2022-05
2022-09
2023-01
2023-05
2023-09
2024-01
2024-05
2024-09
2025-01
2025-05

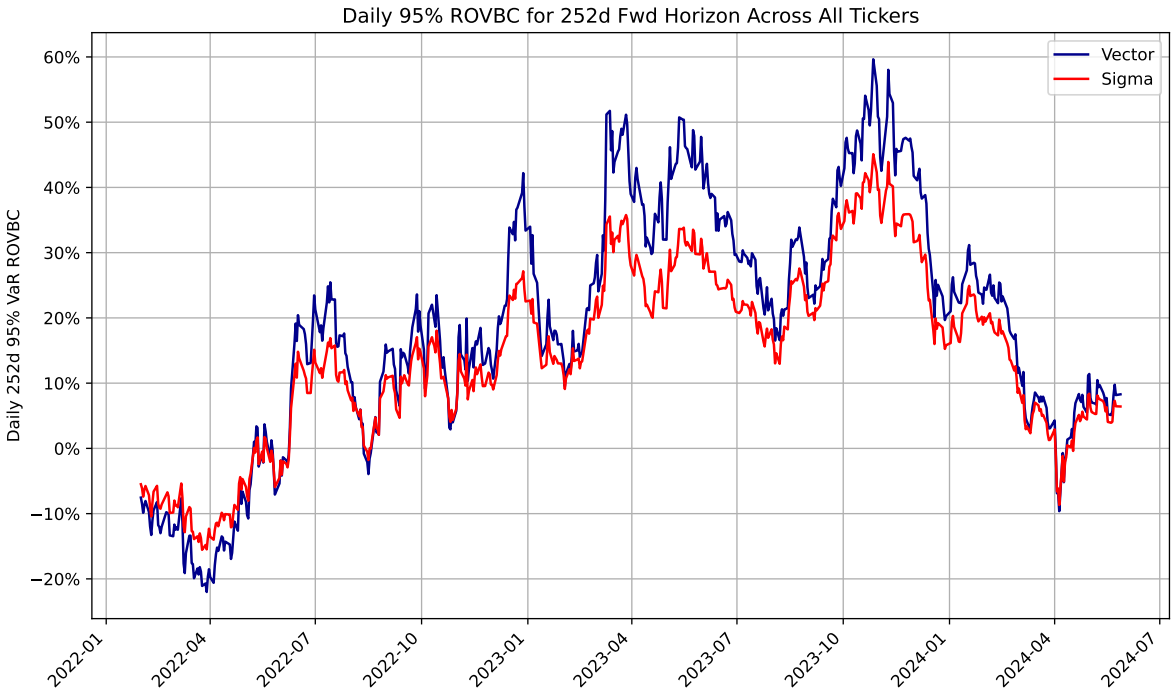
63d Horizon


Daily 95% VaR Breakage for 126d Fwd Horizon Across All Tickers
Vector
Sigma
Daily 126d 95% VaR Breakage
25.0%
20.0%
15.0%
10.0%
5.0%
0.0%
2022-01
2022-05
2022-09
2023-01
2023-05
2023-09
2024-01
2024-05
2024-09
2025-01


Daily 95% ROVBC for 126d Fwd Horizon Across All Tickers
Vector
Sigma
Daily 126d 95% VaR ROVBC
30%
20%
10%
0%
−10%
−20%
−30%
2022-01
2022-05
2022-09
2023-01
2023-05
2023-09
2024-01
2024-05
2024-09
2025-01

252d Horizon

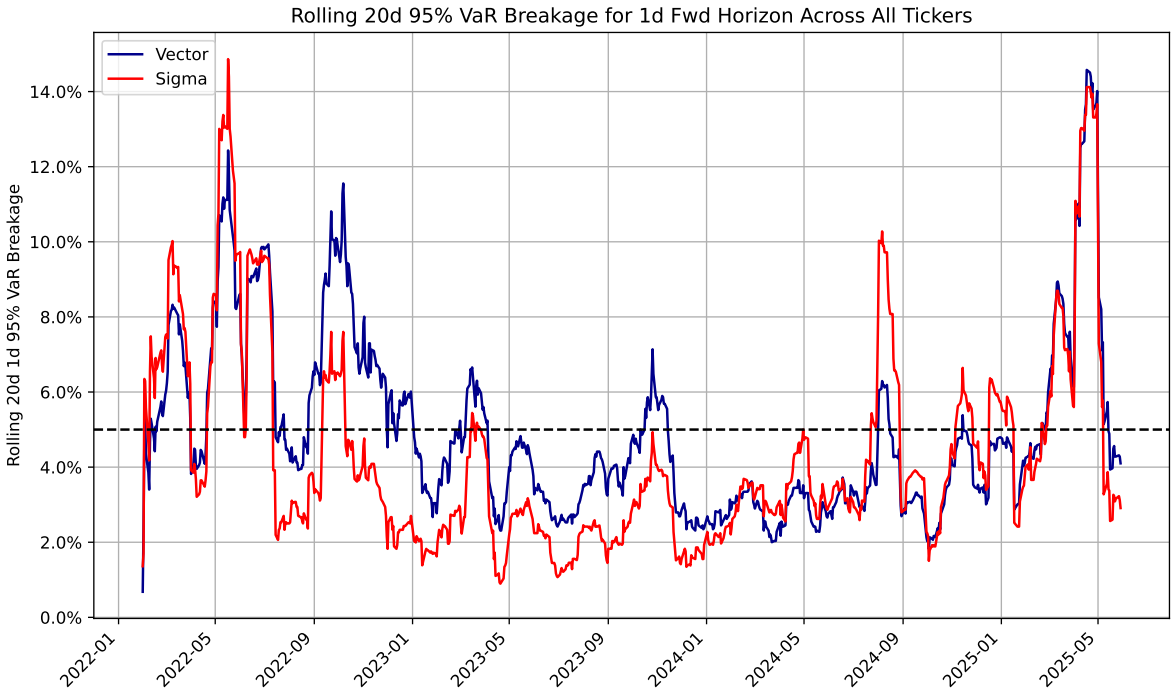


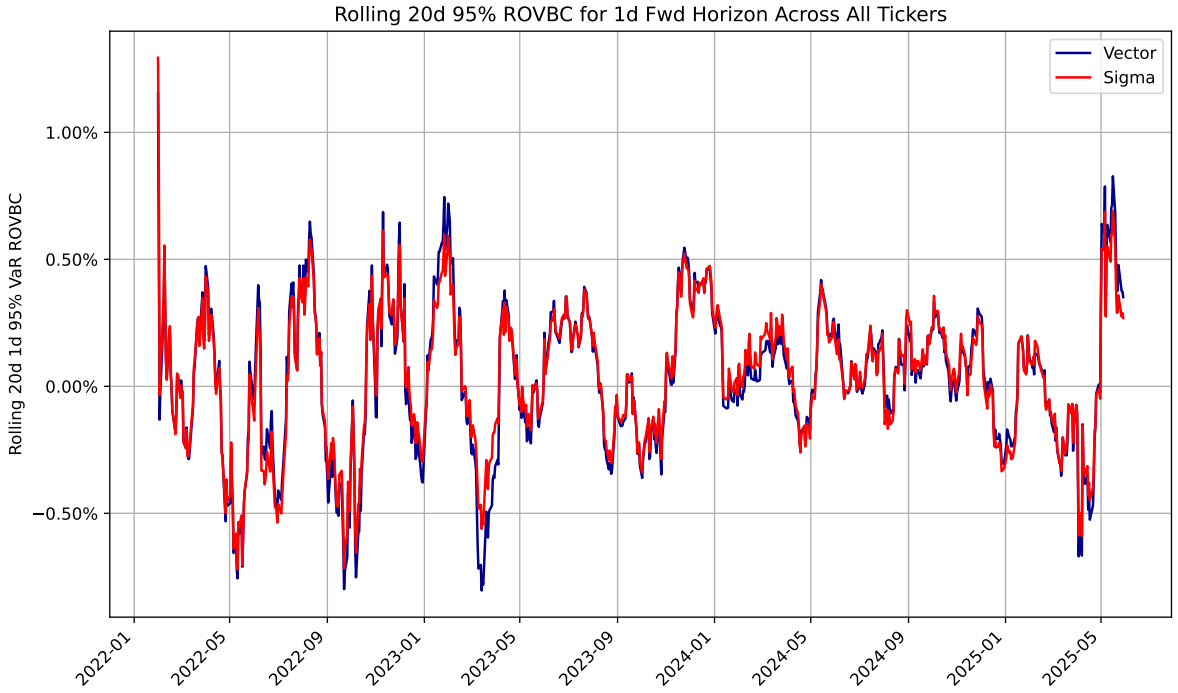


Rolling 20d Performance

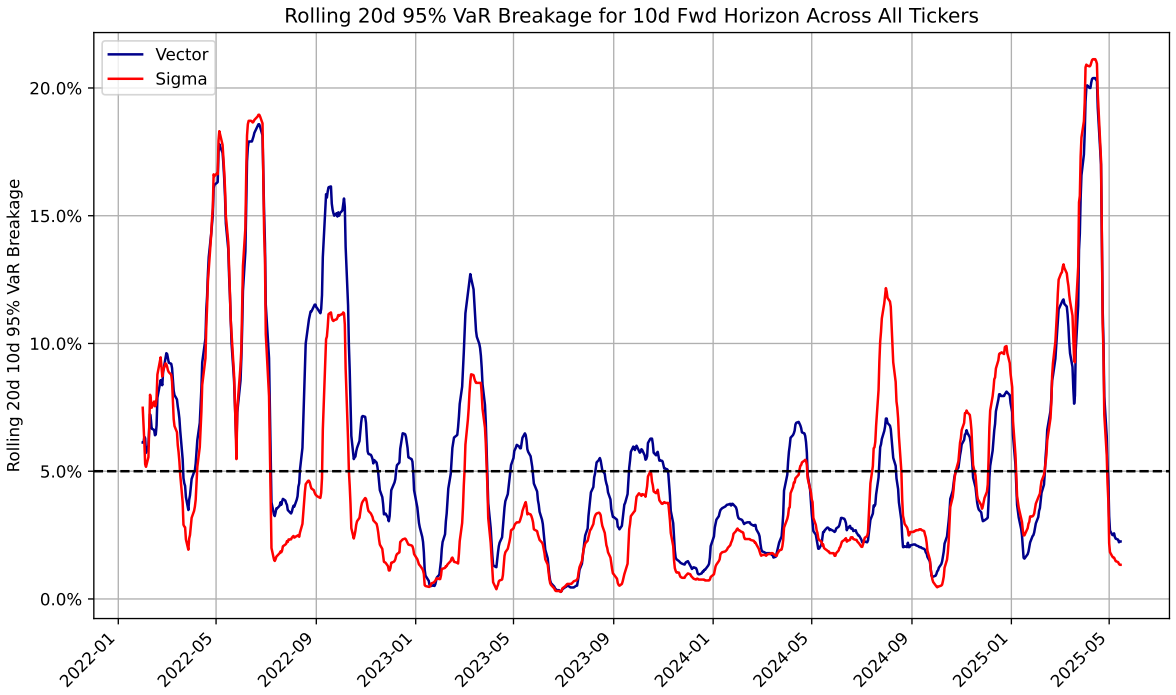
Here we look at 20 day rolling moving averages of the breakage and ROVBC statitics summarized in the preceding section. These 20day moving averages are averages of daily averages across all tickers.

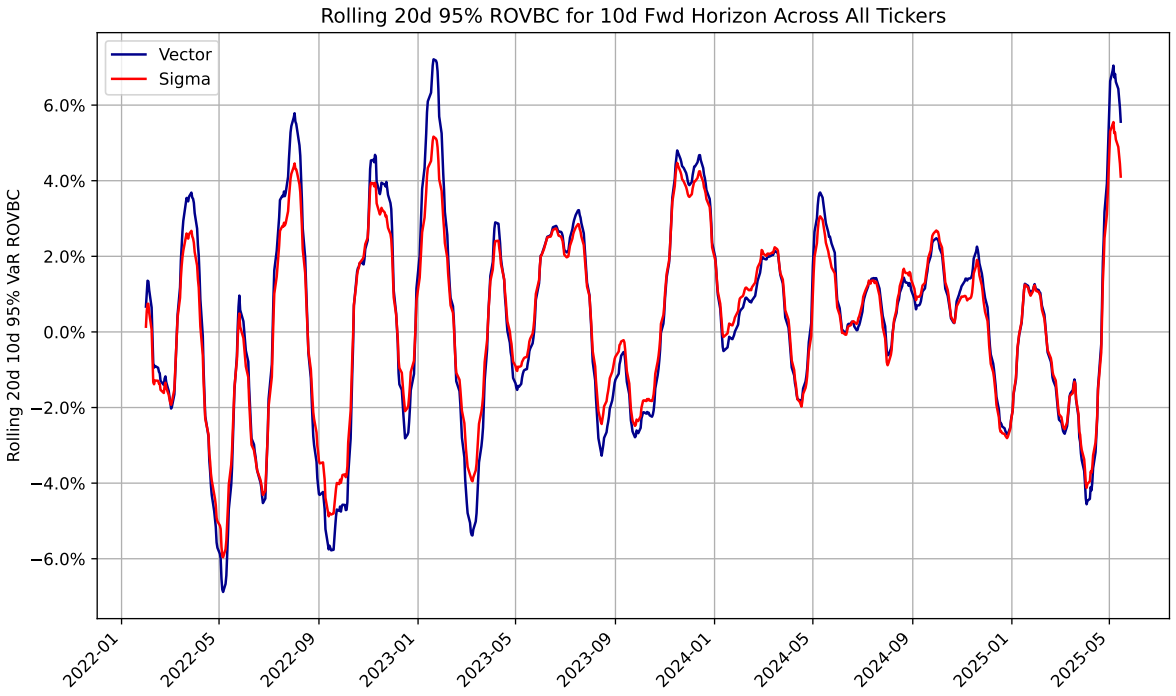
1d Horizon



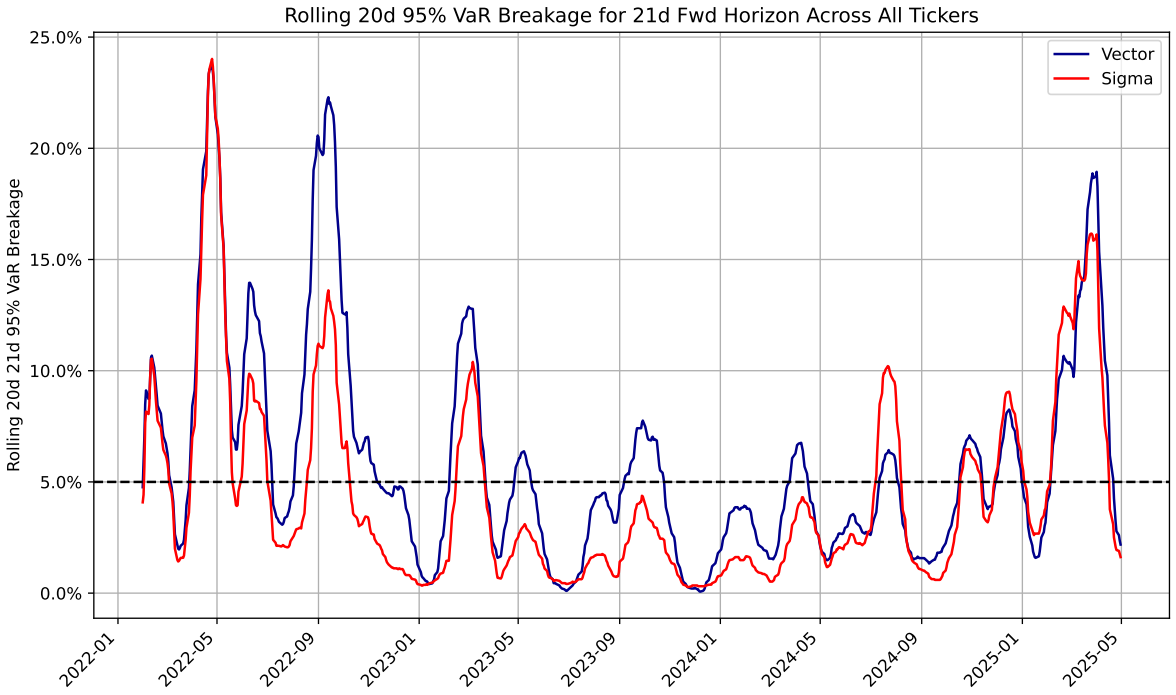

Rolling 20d 95% ROVBC for 1d Fwd Horizon Across All Tickers
Vector
Sigma
Rolling 20d 1d 95% VaR ROVBC
1.00%
0.50%
0.00%
−0.50%
2022-01
2022-05
2022-09
2023-01
2023-05
2023-09
2024-01
2024-05
2024-09
2025-01
2025-05

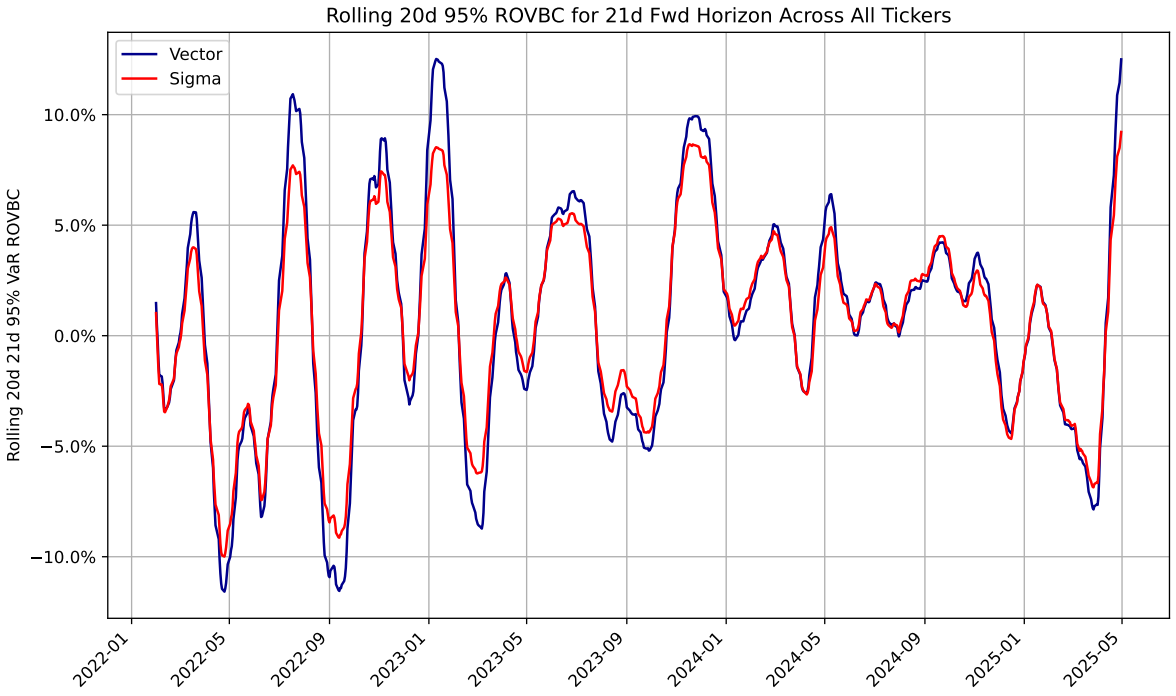
10d Horizon


Rolling 20d 95% VaR Breakage for 10d Fwd Horizon Across All Tickers
Vector
Sigma
Rolling 20d 10d 95% VaR Breakage
20.0%
15.0%
10.0%
5.0%
0.0%
2022-01
2022-05
2022-09
2023-01
2023-05
2023-09
2024-01
2024-05
2024-09
2025-01
2025-05

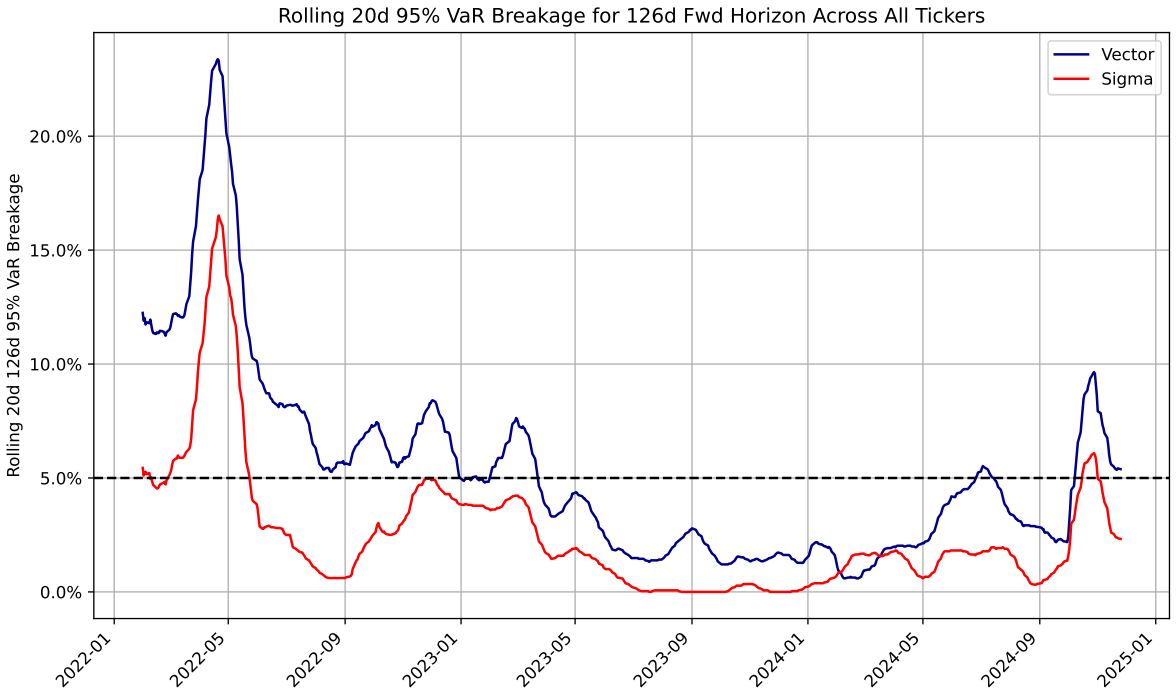

Rolling 20d 95% ROVBC for 10d Fwd Horizon Across All Tickers
Vector
Sigma
Rolling 20d 10d 95% VaR ROVBC
6.0%
4.0%
2.0%
0.0%
−2.0%
−4.0%
−6.0%
2022-01
2022-05
2022-09
2023-01
2023-05
2023-09
2024-01
2024-05
2024-09
2025-01
2025-05

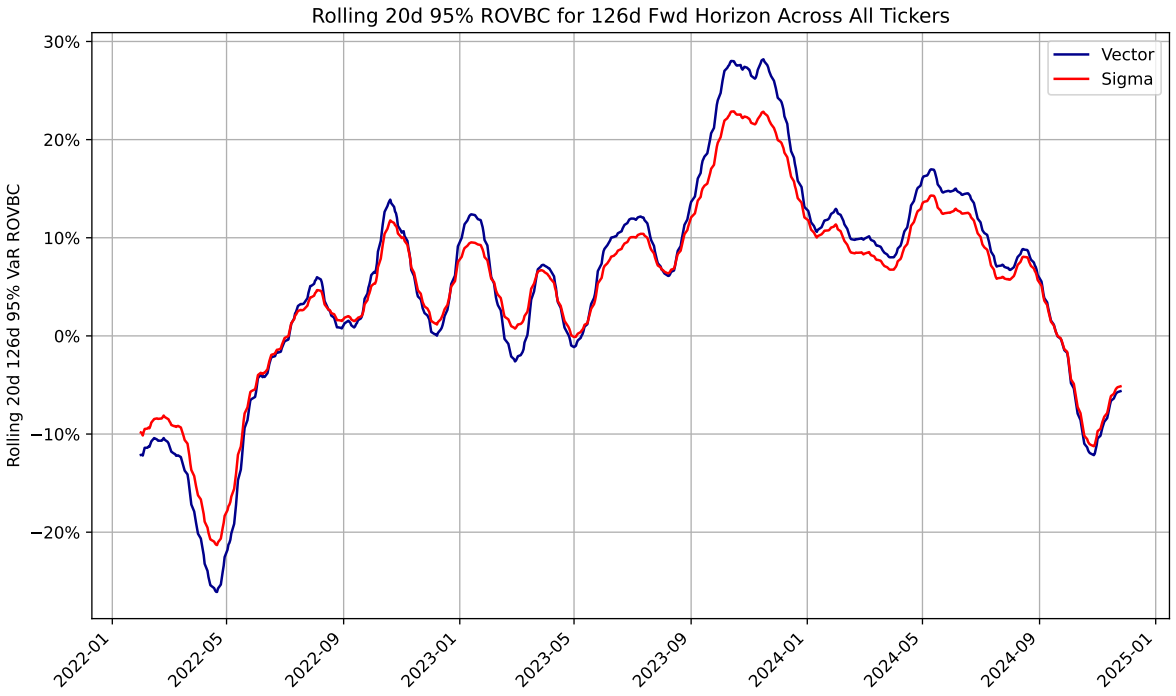
21d Horizon


Rolling 20d 95% VaR Breakage for 21d Fwd Horizon Across All Tickers
Rolling 20d 21d 95% VaR Breakage
25.0%
20.0%
15.0%
10.0%
5.0%
0.0%
Vector
Sigma
2022-01
2022-05
2022-09
2023-01
2023-05
2023-09
2024-01
2024-05
2024-09
2025-01
2025-05

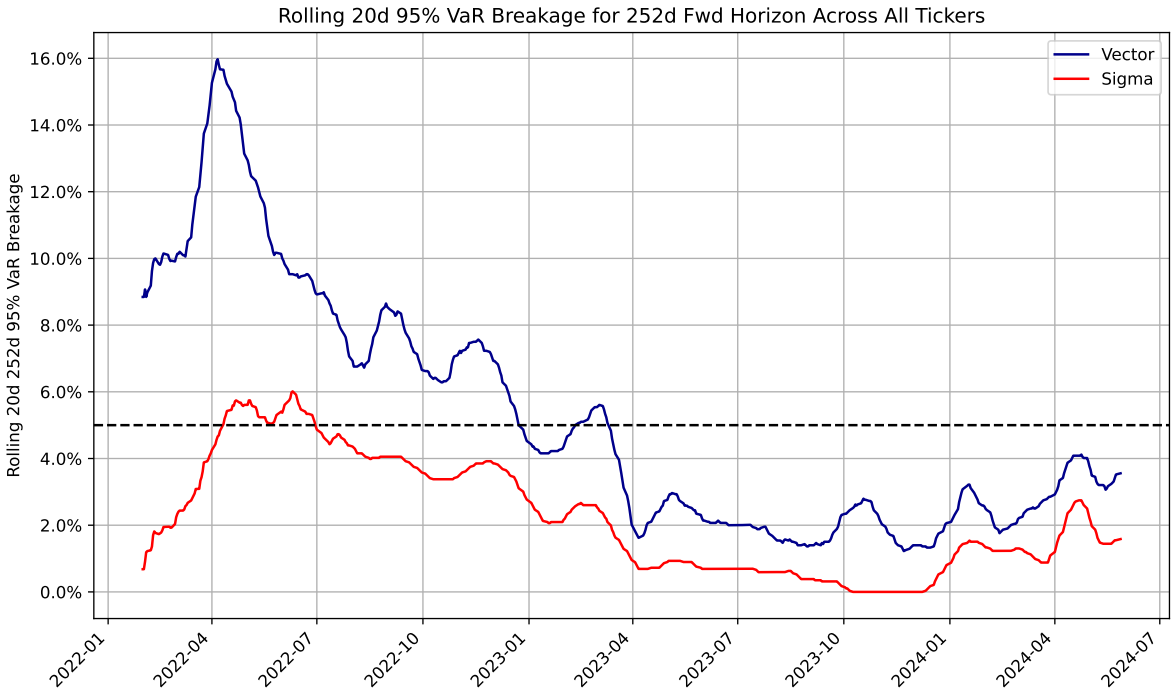

Rolling 20d 95% ROVBC for 21d Fwd Horizon Across All Tickers
Rolling 20d 21d 95% VaR ROVBC
10.0%
5.0%
0.0%
−5.0%
−10.0%
Vector
Sigma
2022-01
2022-05
2022-09
2023-01
2023-05
2023-09
2024-01
2024-05
2024-09
2025-01
2025-05

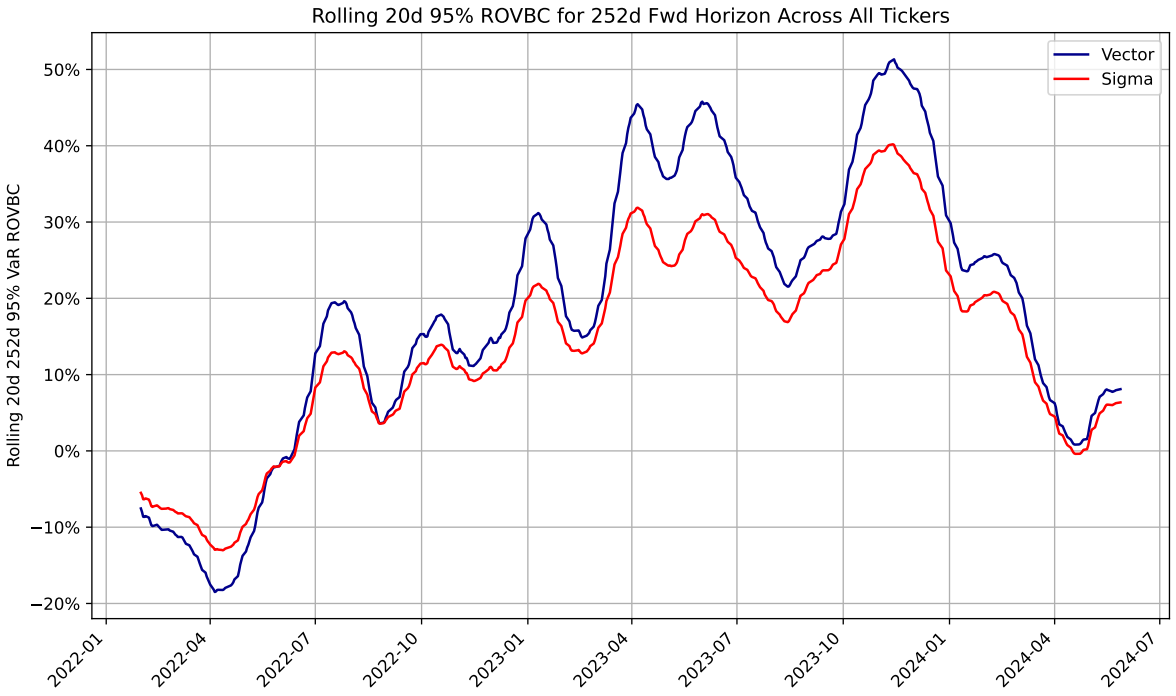
63d Horizon


Rolling 20d 95% VaR Breakage for 126d Fwd Horizon Across All Tickers
Vector
Sigma
Rolling 20d 126d 95% VaR Breakage
20.0%
15.0%
10.0%
5.0%
0.0%
2022-01
2022-05
2022-09
2023-01
2023-05
2023-09
2024-01
2024-05
2024-09
2025-01


Rolling 20d 95% ROVBC for 126d Fwd Horizon Across All Tickers
Vector
Sigma
Rolling 20d 126d 95% VaR ROVBC
30%
20%
10%
0%
−10%
−20%
2022-01
2022-05
2022-09
2023-01
2023-05
2023-09
2024-01
2024-05
2024-09
2025-01

252d Horizon





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 2025-05-29

Horizon	Ticker_V	VaRBreak_V	Ticker_S	VaRBreak_S
1.0	SBNY	30.22%	SBNY	7.91%
1.0	B	21.43%	B	7.14%
1.0	SIVBQ	19.06%	VST	6.71%
1.0	TSLA	17.72%	FRCB	6.47%
1.0	CHTR	17.6%	AAPL	6.47%
1.0	LQD	16.77%	TRGP	6.23%
1.0	FRCB	13.67%	ACGL	6.11%
1.0	GME	12.1%	PHM	6.11%
1.0	MSTR	11.74%	MUB	6.0%
1.0	AAP	11.62%	NVDA	5.99%
1.0	UAA	11.38%	GOOGL	5.87%
1.0	ZTS	10.66%	SIVBQ	5.76%
1.0	SLV	10.3%	LQD	5.75%
1.0	AMZN	10.06%	PEP	5.75%
1.0	GNRC	9.94%	AZN	5.75%
1.0	META	9.82%	GLD	5.75%
1.0	MUB	9.47%	IRM	5.75%
1.0	BALL	9.46%	ON	5.51%
1.0	VFC	9.46%	TXN	5.51%
1.0	VCSH	9.34%	QQQ	5.51%
1.0	SBUX	9.22%	VZ	5.51%
1.0	KEY	8.98%	NVS	5.39%
1.0	BUD	8.86%	CDNS	5.39%
1.0	TLT	8.74%	VCSH	5.39%
1.0	OXY	8.74%	AMD	5.39%

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 2025-05-29

Horizon	Ticker_V	VaRBreak_V	Ticker_S	VaRBreak_S
10.0	SBNY	40.44%	MUB	13.94%
10.0	SIVBQ	22.43%	SIVBQ	10.66%
10.0	AAP	20.82%	SBNY	9.93%
10.0	CHTR	20.7%	AAP	9.2%
10.0	TSLA	18.64%	FRA	8.6%
10.0	ZTS	15.38%	BAC	8.6%
10.0	LQD	15.38%	FRCB	8.46%
10.0	GME	14.41%	UNH	8.23%
10.0	AMC	14.04%	CVS	8.11%
10.0	FRCB	13.97%	BMY	7.75%
10.0	KALU	13.08%	WFC	7.63%
10.0	TLT	12.95%	AZN	7.51%
10.0	BUD	12.59%	LW	7.38%
10.0	CVS	12.47%	MS	7.38%
10.0	SLV	12.47%	NWL	7.02%
10.0	NEM	12.35%	CTLT	6.94%
10.0	JAZZ	11.99%	CLF	6.9%
10.0	VFC	11.99%	GSK	6.9%
10.0	GSK	11.86%	AA	6.9%
10.0	MSTR	11.5%	BALL	6.9%
10.0	GNRC	10.77%	CHTR	6.78%
10.0	VCSH	10.53%	EMB	6.55%
10.0	META	10.53%	BHC	6.54%
10.0	SNY	10.41%	MU	6.54%
10.0	FRA	10.17%	FITB	6.3%

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 2025-05-29

Horizon	Ticker_V	VaRBreak_V	Ticker_S	VaRBreak_S
21.0	SBNY	56.67%	MUB	14.99%
21.0	CHTR	24.29%	SIVBQ	12.96%
21.0	SIVBQ	23.33%	FRCB	11.48%
21.0	AAP	22.94%	AAP	10.92%
21.0	TSLA	18.65%	LW	9.94%
21.0	LQD	17.18%	GSK	9.45%
21.0	GSK	16.56%	SBNY	8.89%
21.0	CVS	16.07%	CVS	8.59%
21.0	BUD	15.09%	EMB	8.48%
21.0	TLT	14.97%	ABBV	7.98%
21.0	AMC	14.85%	BMY	7.98%
21.0	VCSH	14.72%	CTLT	7.73%
21.0	KALU	14.6%	AZN	7.61%
21.0	ZTS	14.48%	CHTR	7.61%
21.0	FRCB	14.44%	LQD	7.24%
21.0	NEM	14.23%	VCSH	7.24%
21.0	GNRC	13.99%	FRA	7.12%
21.0	VFC	13.87%	NWL	6.87%
21.0	PRGO	13.5%	UNH	6.75%
21.0	BXP	13.13%	FIS	6.75%
21.0	CTLT	12.57%	WDC	6.75%
21.0	JAZZ	12.02%	BAC	6.75%
21.0	BIIB	11.66%	AA	6.5%
21.0	SNY	11.29%	VFC	6.5%
21.0	BHC	11.17%	PEP	6.5%

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 2025-05-29

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	AAP	37.52%	FRCB	24.81%
63.0	CHTR	31.82%	MUB	13.21%
63.0	FRCB	29.26%	GSK	12.55%
63.0	VFC	22.25%	NEM	12.03%
63.0	BIIB	18.63%	CTLT	10.7%
63.0	GNRC	17.98%	LW	9.57%
63.0	TSLA	17.85%	CHTR	9.31%
63.0	AMC	17.85%	LQD	8.67%
63.0	KALU	17.72%	CVS	8.67%
63.0	BHC	17.34%	ZION	8.56%
63.0	TLT	16.56%	VFC	8.54%
63.0	NEM	16.17%	KEY	8.41%
63.0	GSK	16.04%	AAP	8.41%
63.0	LQD	15.52%	IEP	8.41%
63.0	AMZN	14.88%	BHC	8.41%
63.0	CTLT	14.66%	BXP	8.41%
63.0	FIS	13.58%	HCA	7.89%
63.0	BXP	13.45%	BMY	7.76%
63.0	CVS	13.32%	BALL	7.63%
63.0	CMA	12.55%	NWL	7.63%
63.0	FITB	12.42%	TLT	7.5%
63.0	VCSH	12.42%	VCSH	7.5%
63.0	KEY	11.9%	CMA	7.24%
63.0	BUD	11.64%	LEN	7.12%
63.0	META	11.0%	CYH	7.12%
63.0	ZION	10.94%	NFLX	6.99%
63.0	BMY	10.87%	EMB	6.61%
63.0	NWL	10.87%	FITB	6.47%

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 2025-05-29

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	AAP	37.46%	GSK	18.17%
126.0	CHTR	36.9%	IEP	17.89%
126.0	VFC	30.7%	AAP	17.32%
126.0	AMC	26.06%	VZ	11.41%
126.0	GSK	21.69%	CTLT	10.5%
126.0	BIIB	21.13%	CSTM	10.28%
126.0	GNRC	18.87%	INTC	10.14%
126.0	TSLA	18.73%	MRK	10.0%
126.0	TLT	18.45%	MUB	9.72%
126.0	IEP	18.03%	BHC	9.58%
126.0	ZION	16.24%	BALL	9.44%
126.0	CVS	15.92%	LEN	8.45%
126.0	BXP	15.77%	NEM	7.75%
126.0	NEM	14.51%	LW	7.46%
126.0	OXY	13.94%	EMB	7.46%
126.0	BHC	13.8%	VCSH	7.18%
126.0	CTLT	12.76%	KEY	7.04%
126.0	VCSH	12.39%	BIIB	6.76%
126.0	MRK	12.39%	LQD	6.2%
126.0	BMY	12.11%	ELAN	6.03%
126.0	BUD	11.69%	BXP	5.92%
126.0	AMZN	11.55%	LUMN	5.92%
126.0	CMA	11.41%	CHTR	5.49%
126.0	SNY	10.42%	IRM	5.49%
126.0	LQD	9.86%	CLF	5.07%
126.0	EXPE	9.72%	HYG	4.93%
126.0	KEY	9.58%	ZION	4.6%

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 2025-05-29

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	72.6%	IEP	41.61%
252.0	AMC	50.34%	AAP	23.63%
252.0	CHTR	40.92%	BMY	17.12%
252.0	IEP	39.38%	GSK	16.61%
252.0	BIIB	34.42%	LUMN	15.58%
252.0	VFC	32.19%	LW	14.9%
252.0	CMA	26.2%	MRK	10.96%
252.0	ZION	26.14%	BXP	10.62%
252.0	FIS	19.35%	VZ	8.9%
252.0	GSK	17.98%	VNO	6.51%
252.0	CVS	17.64%	INTC	5.48%
252.0	BXP	16.61%	CTLT	5.27%
252.0	BMY	14.55%	CSTM	3.77%
252.0	TLT	13.87%	CLF	3.08%
252.0	CTLT	13.79%	LNC	2.74%
252.0	VNO	13.18%	ELAN	2.63%
252.0	OXY	13.18%	CVS	2.4%
252.0	ELAN	11.91%	UNH	2.23%
252.0	BHC	11.64%	PEP	2.05%
252.0	CLF	10.62%	EMB	2.05%
252.0	NWL	9.93%	WDC	1.71%
252.0	LNC	8.56%	BALL	1.37%
252.0	EXPE	8.56%	NWL	1.2%
252.0	GNRC	8.22%	ZION	1.05%
252.0	AMZN	7.53%	OXY	0.86%
252.0	PRGO	7.53%	TLT	0.86%
252.0	MRK	7.36%	VCSH	0.68%

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 2025-05-29 through 2025-05-02

Horizon	Ticker_V	VaRBreak_V	Ticker_S	VaRBreak_S
1.0	SBUX	36.84%	BMY	15.79%
1.0	LLY	36.84%	SNY	15.79%
1.0	B	21.43%	GLD	15.79%
1.0	AAP	21.05%	MRK	15.79%
1.0	UNH	21.05%	UNH	15.79%
1.0	CNC	21.05%	ZTS	10.53%
1.0	TSLA	21.05%	AAP	10.53%
1.0	ZTS	21.05%	JAZZ	10.53%
1.0	TDG	15.79%	GSK	10.53%
1.0	JAZZ	15.79%	GILD	10.53%
1.0	MRK	15.79%	T	10.53%
1.0	CDNS	15.79%	LLY	10.53%
1.0	SNY	10.53%	CPRT	10.53%
1.0	CVS	10.53%	CNC	10.53%
1.0	QQQ	10.53%	AMGN	10.53%
1.0	GILD	10.53%	AZN	10.53%
1.0	GOOGL	10.53%	ABBV	10.53%
1.0	UAA	10.53%	B	7.14%
1.0	TLT	10.53%	BBY	5.26%
1.0	RIO	10.53%	AMAT	5.26%
1.0	GSK	10.53%	EXPE	5.26%
1.0	BMY	10.53%	KHC	5.26%
1.0	AMZN	10.53%	FIS	5.26%
1.0	ABBV	10.53%	FITB	5.26%
1.0	INTC	10.53%	TFC	5.26%
1.0	VZ	10.53%	TEVA	5.26%
1.0	NVS	10.53%	TDG	5.26%
1.0	LQD	10.53%	NEM	5.26%
1.0	AMC	10.53%	NAVI	5.26%
1.0	AMGN	10.53%	GME	5.26%

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 2025-05-29 through 2025-05-02

Horizon	Ticker_V	VaRBreak_V	Ticker_S	VaRBreak_S
10.0	UNH	70.0%	UNH	70.0%
10.0	LLY	50.0%	CPRT	40.0%
10.0	CVS	40.0%	AA	0.0%
10.0	CDNS	30.0%	NVS	0.0%
10.0	CPRT	20.0%	MU	0.0%
10.0	TLT	10.0%	MUB	0.0%
10.0	JAZZ	10.0%	NAVI	0.0%
10.0	BMY	10.0%	NEM	0.0%
10.0	NVDA	0.0%	NFLX	0.0%
10.0	MUB	0.0%	NVDA	0.0%
10.0	NAVI	0.0%	NWL	0.0%
10.0	NEM	0.0%	MSI	0.0%
10.0	NFLX	0.0%	ON	0.0%
10.0	AA	0.0%	ORCL	0.0%
10.0	NVS	0.0%	ORLY	0.0%
10.0	NWL	0.0%	OXY	0.0%
10.0	ORCL	0.0%	PCG	0.0%
10.0	ORLY	0.0%	PEP	0.0%
10.0	OXY	0.0%	MSTR	0.0%
10.0	PCG	0.0%	MSFT	0.0%
10.0	PEP	0.0%	POST	0.0%
10.0	ON	0.0%	LQD	0.0%
10.0	MU	0.0%	KALU	0.0%
10.0	POST	0.0%	KEY	0.0%
10.0	LW	0.0%	KHC	0.0%
10.0	KHC	0.0%	LEN	0.0%
10.0	LEN	0.0%	LLY	0.0%
10.0	LNC	0.0%	LNC	0.0%
10.0	LQD	0.0%	LUMN	0.0%
10.0	LUMN	0.0%	MS	0.0%

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 2025-05-29 through 2025-03-03

Horizon	Ticker_V	VaRBreak_V	Ticker_S	VaRBreak_S
1.0	SBUX	30.65%	AAPL	17.74%
1.0	ZTS	24.19%	HLT	17.74%
1.0	LLY	24.19%	BMY	16.13%
1.0	TSLA	22.58%	JAZZ	16.13%
1.0	B	21.43%	HSBC	14.52%
1.0	TXN	20.97%	LLY	12.9%
1.0	MSFT	20.97%	META	12.9%
1.0	META	20.97%	GILD	12.9%
1.0	AMZN	20.97%	CSCO	12.9%
1.0	AMGN	19.35%	SPY	12.9%
1.0	CDNS	19.35%	BAC	11.29%
1.0	LQD	17.74%	MRK	11.29%
1.0	ISRG	17.74%	MS	11.29%
1.0	INTC	16.13%	EXPE	11.29%
1.0	VZ	16.13%	QQQ	11.29%
1.0	AAPL	16.13%	SBUX	11.29%
1.0	MU	16.13%	ISRG	11.29%
1.0	NAVI	14.52%	TRGP	11.29%
1.0	JAZZ	14.52%	TXN	11.29%
1.0	VFC	14.52%	AMGN	11.29%
1.0	HON	12.9%	GOOGL	11.29%
1.0	EXPE	12.9%	VFC	11.29%
1.0	UNH	12.9%	GLD	11.29%
1.0	KEY	12.9%	ABBV	11.29%
1.0	TLT	12.9%	T	11.29%
1.0	PWR	12.9%	GS	9.68%
1.0	PEP	12.9%	HON	9.68%
1.0	QCOM	12.9%	HYG	9.68%
1.0	GOOGL	12.9%	OXY	9.68%
1.0	CVS	11.29%	KHC	9.68%

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 2025-05-29 through 2025-03-03

Horizon	Ticker_V	VaRBreak_V	Ticker_S	VaRBreak_S
10.0	JAZZ	41.51%	UNH	37.74%
10.0	UNH	39.62%	JAZZ	32.08%
10.0	SBUX	33.96%	MRK	28.3%
10.0	BMY	28.3%	AAPL	26.42%
10.0	VFC	28.3%	VFC	26.42%
10.0	LLY	28.3%	BMY	26.42%
10.0	BHC	26.42%	LLY	26.42%
10.0	KALU	26.42%	HLT	24.53%
10.0	META	24.53%	ABBV	22.64%
10.0	AA	22.64%	SBUX	22.64%
10.0	MU	22.64%	LVS	22.64%
10.0	AMGN	22.64%	BAC	20.75%
10.0	OXY	20.75%	MUB	20.75%
10.0	TXN	20.75%	BBY	20.75%
10.0	WFC	20.75%	TFC	20.75%
10.0	FITB	20.75%	FITB	20.75%
10.0	EXPE	20.75%	CSCO	18.87%
10.0	CHTR	20.75%	HSBC	18.87%
10.0	ZTS	20.75%	AA	18.87%
10.0	BBY	20.75%	FRA	18.87%
10.0	TFC	18.87%	BHC	18.87%
10.0	ELAN	18.87%	WFC	18.87%
10.0	GNRC	18.87%	AZN	18.87%
10.0	CVS	18.87%	TRGP	18.87%
10.0	WDC	18.87%	OXY	16.98%
10.0	AZN	18.87%	KALU	16.98%
10.0	KEY	18.87%	GILD	16.98%
10.0	QCOM	18.87%	XOM	16.98%
10.0	SNY	18.87%	HYG	16.98%
10.0	NAVI	18.87%	LNC	16.98%

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 2025-05-29 through 2025-03-03

Horizon	Ticker_V	VaRBreak_V	Ticker_S	VaRBreak_S
21.0	UNH	71.43%	UNH	69.05%
21.0	BHC	54.76%	BMY	52.38%
21.0	BMY	54.76%	OXY	42.86%
21.0	AMGN	52.38%	JAZZ	38.1%
21.0	VFC	50.0%	BIIB	38.1%
21.0	TXN	45.24%	VFC	35.71%
21.0	ZTS	42.86%	SBUX	33.33%
21.0	SBUX	42.86%	LVS	33.33%
21.0	OXY	40.48%	BHC	30.95%
21.0	GNRC	40.48%	ABBV	30.95%
21.0	AA	40.48%	MRK	30.95%
21.0	JAZZ	40.48%	TXN	28.57%
21.0	BIIB	38.1%	HSBC	28.57%
21.0	META	35.71%	PEP	28.57%
21.0	ELAN	33.33%	TRGP	26.19%
21.0	WDC	33.33%	MUB	26.19%
21.0	KALU	33.33%	KALU	26.19%
21.0	BBY	30.95%	AA	26.19%
21.0	MU	30.95%	AZN	26.19%
21.0	FITB	30.95%	LNC	23.81%
21.0	NAVI	30.95%	SNY	23.81%
21.0	CSTM	30.95%	MU	21.43%
21.0	SNY	28.57%	CSTM	21.43%
21.0	ON	26.19%	CSCO	21.43%
21.0	QCOM	26.19%	LLY	19.05%
21.0	AZN	26.19%	META	19.05%
21.0	MUB	23.81%	SPY	19.05%
21.0	LLY	23.81%	HLT	19.05%
21.0	MRK	19.05%	GSK	16.67%
21.0	LQD	19.05%	FRA	16.67%

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 2025-05-29 through 2024-06-03

Horizon	Ticker_V	VaRBreak_V	Ticker_S	VaRBreak_S
1.0	B	21.43%	WRK	13.64%
1.0	TSLA	20.16%	AAPL	10.48%
1.0	MSFT	14.11%	VST	9.27%
1.0	QCOM	14.11%	TRGP	9.27%
1.0	UNH	13.31%	NVDA	9.27%
1.0	INTC	12.9%	SPY	8.87%
1.0	KHC	12.5%	QQQ	8.87%
1.0	AMZN	12.5%	LLY	8.47%
1.0	SBUX	12.1%	TXN	8.47%
1.0	MU	12.1%	IRM	8.47%
1.0	CLF	12.1%	AMAT	7.66%
1.0	ZTS	11.69%	CDNS	7.66%
1.0	ON	11.69%	HCA	7.66%
1.0	AAP	11.29%	HLT	7.26%
1.0	CNC	10.89%	PHM	7.26%
1.0	CHTR	10.89%	PEP	7.26%
1.0	GSK	10.48%	TMUS	7.26%
1.0	TXN	10.48%	GOOGL	7.26%
1.0	AMGN	10.08%	CCL	7.26%
1.0	PEP	10.08%	OXY	7.26%
1.0	VFC	9.68%	BMY	7.26%
1.0	CDNS	9.68%	QCOM	7.26%
1.0	LQD	9.27%	PWR	7.26%
1.0	UAA	9.27%	AZN	7.26%
1.0	BHC	9.27%	AVGO	7.26%
1.0	KEY	9.27%	GLD	7.26%
1.0	NAVI	8.87%	B	7.14%
1.0	MSTR	8.47%	HSBC	6.85%
1.0	NFLX	8.47%	KHC	6.85%
1.0	BALL	8.47%	PCG	6.85%

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 2025-05-29 through 2024-06-03

Horizon	Ticker_V	VaRBreak_V	Ticker_S	VaRBreak_S
10.0	TSLA	25.52%	ETRN	17.65%
10.0	GSK	16.74%	UNH	15.9%
10.0	AAP	16.32%	WRK	15.38%
10.0	WDC	15.06%	MU	14.64%
10.0	ZTS	14.64%	LLY	14.64%
10.0	CVS	14.64%	MRK	13.81%
10.0	UNH	14.64%	WDC	13.81%
10.0	INTC	14.64%	AZN	13.39%
10.0	BUD	14.23%	BAC	12.97%
10.0	CLF	13.81%	WFC	12.55%
10.0	WFC	12.97%	HON	12.13%
10.0	BALL	12.97%	IRM	11.72%
10.0	CMA	12.97%	FRA	11.72%
10.0	KALU	12.97%	AA	11.72%
10.0	VFC	12.55%	AAPL	11.72%
10.0	CZR	12.55%	TRGP	11.3%
10.0	CSTM	12.55%	BALL	11.3%
10.0	LW	12.13%	CDNS	11.3%
10.0	BHC	12.13%	NVDA	10.88%
10.0	SBUX	11.72%	VST	10.46%
10.0	SLV	11.72%	CCL	10.46%
10.0	AA	11.72%	BBY	10.04%
10.0	KEY	10.46%	BHC	10.04%
10.0	JAZZ	10.46%	VFC	10.04%
10.0	BIIB	10.46%	QQQ	9.62%
10.0	NAVI	10.46%	CSTM	9.62%
10.0	GNRC	10.46%	ABBV	9.21%
10.0	CDNS	10.04%	CMG	9.21%
10.0	ELAN	9.62%	FITB	9.21%
10.0	LQD	9.62%	CVS	9.21%

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 2025-05-29 through 2024-06-03

Horizon	Ticker_V	VaRBreak_V	Ticker_S	VaRBreak_S
21.0	BUD	23.68%	UNH	21.93%
21.0	GSK	22.37%	MRK	17.11%
21.0	TSLA	20.18%	CSTM	16.23%
21.0	LW	19.74%	AZN	16.23%
21.0	CSTM	19.74%	WDC	14.91%
21.0	WDC	19.3%	VFC	14.04%
21.0	BIIB	18.86%	CDNS	13.6%
21.0	ZTS	18.42%	LVS	13.16%
21.0	INTC	18.42%	MU	13.16%
21.0	UNH	17.54%	ABBV	12.72%
21.0	VFC	17.11%	BUD	12.28%
21.0	AAP	17.11%	FRA	11.84%
21.0	ON	16.67%	LW	11.84%
21.0	AA	16.23%	IRM	11.4%
21.0	CZR	15.35%	KALU	11.4%
21.0	AMGN	15.35%	CCL	11.4%
21.0	BHC	14.91%	HLT	10.96%
21.0	GNRC	14.91%	BIIB	10.53%
21.0	CVS	14.47%	AMZN	10.09%
21.0	SBUX	14.47%	CMG	9.65%
21.0	ELAN	14.04%	AAP	9.65%
21.0	OXY	13.6%	AA	9.65%
21.0	KALU	13.16%	BMY	9.65%
21.0	CHTR	12.72%	PCG	9.65%
21.0	LQD	12.72%	TEVA	9.65%
21.0	META	12.28%	PEP	9.65%
21.0	CMA	12.28%	QQQ	9.65%
21.0	MRK	12.28%	LLY	9.21%
21.0	AZN	12.28%	NWL	9.21%
21.0	NAVI	11.84%	SPY	9.21%

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 2025-05-29 through 2024-06-03

Horizon	Ticker_V	VaRBreak_V	Ticker_S	VaRBreak_S
63.0	AAP	41.4%	LEN	29.57%
63.0	BIIB	36.02%	PCG	26.34%
63.0	ON	28.49%	WDC	24.73%
63.0	GNRC	28.49%	VFC	21.51%
63.0	VFC	27.96%	BUD	20.97%
63.0	BUD	25.81%	IRM	20.43%
63.0	WDC	25.27%	UNH	18.28%
63.0	NWL	22.58%	AZN	17.2%
63.0	CSTM	22.04%	HCA	16.67%
63.0	OXY	22.04%	NWL	16.67%
63.0	GSK	20.97%	NEM	15.05%
63.0	BHC	19.35%	NVS	15.05%
63.0	PEP	19.35%	GSK	14.52%
63.0	GOOGL	18.82%	CCL	13.98%
63.0	NEM	17.74%	TEVA	13.44%
63.0	PCG	16.67%	CSTM	12.37%
63.0	KHC	16.67%	DHI	11.83%
63.0	KALU	16.67%	CYH	9.68%
63.0	UNH	16.13%	ACGL	9.68%
63.0	CNC	15.05%	CNC	9.14%
63.0	HCA	13.98%	MU	9.14%
63.0	AMGN	13.44%	PEP	8.6%
63.0	LW	13.44%	CMCSA	8.06%
63.0	CLF	13.44%	MSI	8.06%
63.0	SBUX	12.9%	PHM	8.06%
63.0	BMY	12.37%	LVS	8.06%
63.0	CMA	12.37%	FIS	7.53%
63.0	FITB	11.83%	PWR	7.53%
63.0	MRK	11.29%	MRK	7.53%
63.0	CVS	11.29%	FRA	7.53%

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 2025-05-29 through 2024-06-03

Horizon	Ticker_V	VaRBreak_V	Ticker_S	VaRBreak_S
126.0	BIIB	76.42%	LEN	48.78%
126.0	MRK	59.35%	MRK	41.46%
126.0	BUD	40.65%	BIIB	39.02%
126.0	OXY	39.02%	CSTM	35.77%
126.0	CLF	34.15%	IRM	31.71%
126.0	GNRC	32.52%	UNH	17.89%
126.0	CSTM	29.27%	PEP	17.89%
126.0	UAA	26.02%	WDC	12.2%
126.0	AAP	24.39%	DHI	11.38%
126.0	PEP	24.39%	BBY	9.76%
126.0	WDC	21.95%	PHM	9.76%
126.0	VFC	21.14%	LVS	8.94%
126.0	CZR	21.14%	PCG	4.07%
126.0	BHC	18.7%	BALL	3.25%
126.0	CNC	17.89%	MUB	3.25%
126.0	DHI	17.07%	OXY	3.25%
126.0	KHC	15.45%	CYH	2.44%
126.0	INTC	11.38%	FCX	2.44%
126.0	NAVI	10.57%	ACGL	2.44%
126.0	UNH	10.57%	WYNN	1.63%
126.0	ON	9.76%	BHP	1.63%
126.0	BMY	8.94%	BUD	1.63%
126.0	ELAN	8.94%	FRA	1.63%
126.0	MU	8.94%	BHC	1.63%
126.0	CVS	8.94%	TRGP	1.63%
126.0	GSK	8.13%	TXN	0.81%
126.0	CYH	8.13%	VFC	0.81%
126.0	AMD	7.32%	AMD	0.81%
126.0	LEN	7.32%	NWL	0.0%
126.0	WYNN	7.32%	NVDA	0.0%

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 2025-05-29

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
1.0	MSTR	0.73%	MSTR	0.47%
1.0	GME	0.52%	VST	0.29%
1.0	B	0.4%	NVDA	0.27%
1.0	NFLX	0.31%	GME	0.23%
1.0	META	0.26%	GBTC	0.22%
1.0	INTU	0.19%	AVGO	0.21%
1.0	AVGO	0.19%	PWR	0.17%
1.0	ORCL	0.16%	NFLX	0.17%
1.0	GWW	0.16%	X	0.17%
1.0	PWR	0.15%	GE	0.17%
1.0	AAPL	0.15%	LLY	0.15%
1.0	NVDA	0.14%	THC	0.14%
1.0	CDNS	0.12%	CAH	0.14%
1.0	XOM	0.12%	TRGP	0.14%
1.0	AMZN	0.12%	META	0.13%
1.0	X	0.12%	TEVA	0.12%
1.0	VST	0.11%	TDG	0.12%
1.0	THC	0.11%	ETRN	0.12%
1.0	TDG	0.11%	IRM	0.11%
1.0	GBTC	0.1%	ORCL	0.11%
1.0	ORLY	0.1%	TMUS	0.11%
1.0	HD	0.1%	GWW	0.11%
1.0	WDC	0.1%	ISRG	0.1%
1.0	CAH	0.1%	CDNS	0.1%
1.0	GE	0.1%	ACGL	0.1%
1.0	ISRG	0.1%	ORLY	0.1%
1.0	AZO	0.09%	PHM	0.1%
1.0	ZTS	0.09%	COST	0.1%
1.0	MSI	0.09%	TSLA	0.09%
1.0	HCA	0.09%	CCL	0.09%

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 2025-05-29

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
10.0	MSTR	8.82%	MSTR	4.85%
10.0	B	8.71%	B	4.18%
10.0	GME	6.82%	VST	2.9%
10.0	META	2.81%	NVDA	2.66%
10.0	NFLX	2.74%	GBTC	2.14%
10.0	TEVA	2.03%	AVGO	2.03%
10.0	AVGO	2.01%	GME	1.99%
10.0	VST	1.94%	NFLX	1.77%
10.0	NVDA	1.83%	PWR	1.67%
10.0	GBTC	1.55%	GE	1.6%
10.0	ORCL	1.52%	LLY	1.55%
10.0	GWW	1.48%	META	1.54%
10.0	GE	1.44%	X	1.43%
10.0	SLV	1.37%	CAH	1.43%
10.0	CAH	1.36%	ETRN	1.41%
10.0	PWR	1.29%	TRGP	1.38%
10.0	MU	1.27%	THC	1.33%
10.0	ETRN	1.23%	TEVA	1.32%
10.0	CDNS	1.16%	TDG	1.14%
10.0	INTU	1.15%	IRM	1.12%
10.0	THC	1.14%	CDNS	1.12%
10.0	AAPL	1.09%	GWW	1.11%
10.0	CTLT	1.08%	TSLA	1.06%
10.0	GS	1.07%	ORCL	1.04%
10.0	X	1.05%	PHM	1.03%
10.0	TMUS	1.05%	ISRG	1.01%
10.0	OXY	1.04%	ORLY	1.0%
10.0	HCA	1.04%	TMUS	0.94%
10.0	MSI	0.96%	COST	0.94%
10.0	LLY	0.96%	ACGL	0.93%

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 2025-05-29

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
21.0	MSTR	22.14%	MSTR	10.93%
21.0	GME	10.78%	VST	6.17%
21.0	META	7.75%	NVDA	5.64%
21.0	NFLX	6.52%	GBTC	4.6%
21.0	TEVA	5.12%	AVGO	4.17%
21.0	GBTC	4.72%	NFLX	3.86%
21.0	VST	4.45%	PWR	3.53%
21.0	AVGO	4.43%	ETRN	3.5%
21.0	NVDA	4.16%	META	3.43%
21.0	ORCL	3.6%	GE	3.37%
21.0	ETRN	3.51%	LLY	3.31%
21.0	GWW	3.27%	GME	3.14%
21.0	GE	3.17%	CAH	2.99%
21.0	PWR	3.0%	TRGP	2.89%
21.0	CAH	2.92%	TEVA	2.85%
21.0	CTLT	2.65%	X	2.81%
21.0	THC	2.52%	THC	2.7%
21.0	AMZN	2.37%	GWW	2.4%
21.0	GILD	2.36%	IRM	2.36%
21.0	LLY	2.35%	TSLA	2.36%
21.0	GS	2.3%	CDNS	2.35%
21.0	SLV	2.26%	TDG	2.34%
21.0	TRGP	2.25%	PHM	2.29%
21.0	INTU	2.16%	ORCL	2.26%
21.0	TMUS	2.14%	ISRG	2.19%
21.0	HCA	2.04%	ORLY	2.09%
21.0	MSI	1.97%	COST	2.04%
21.0	XOM	1.97%	ACGL	2.0%
21.0	HLT	1.92%	TMUS	1.96%
21.0	CDNS	1.9%	CPRT	1.94%

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 2025-05-29

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
63.0	MSTR	52.4%	MSTR	30.76%
63.0	META	25.83%	VST	18.67%
63.0	NFLX	23.27%	NVDA	18.34%
63.0	VST	16.31%	GBTC	14.7%
63.0	NVDA	13.44%	NFLX	12.13%
63.0	GBTC	12.94%	META	11.72%
63.0	AVGO	12.53%	AVGO	11.61%
63.0	ETRN	11.21%	ETRN	10.28%
63.0	CTLT	11.11%	LLY	10.14%
63.0	GE	10.21%	GE	10.08%
63.0	GME	9.89%	TRGP	8.84%
63.0	TEVA	9.77%	PWR	8.34%
63.0	ORCL	9.61%	CAH	8.18%
63.0	LLY	8.77%	PHM	8.15%
63.0	CAH	8.62%	THC	7.17%
63.0	GWW	8.37%	TDG	7.0%
63.0	GILD	8.02%	TEVA	6.77%
63.0	ISRG	7.78%	GWW	6.61%
63.0	MSI	7.32%	ISRG	6.46%
63.0	TDG	7.2%	ACGL	6.31%
63.0	TRGP	7.15%	ORLY	6.19%
63.0	TMUS	6.44%	TMUS	6.17%
63.0	THC	6.25%	ORCL	6.17%
63.0	INTU	6.02%	CPRT	5.79%
63.0	PHM	5.73%	IRM	5.7%
63.0	SLV	5.73%	CDNS	5.67%
63.0	AZO	5.66%	MSI	5.56%
63.0	XOM	5.52%	CMG	5.47%
63.0	LEN	5.16%	GILD	5.45%
63.0	ORLY	5.13%	X	5.36%

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 2025-05-29

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
126.0	MSTR	147.79%	MSTR	75.99%
126.0	META	71.19%	NVDA	50.54%
126.0	NFLX	59.47%	VST	44.6%
126.0	NVDA	47.92%	GBTC	41.36%
126.0	VST	44.39%	META	30.18%
126.0	GBTC	41.17%	NFLX	29.96%
126.0	AVGO	36.87%	AVGO	27.93%
126.0	ORCL	26.37%	GE	24.67%
126.0	LLY	25.15%	LLY	21.72%
126.0	GE	24.33%	TRGP	21.33%
126.0	TEVA	23.97%	PHM	20.21%
126.0	ISRG	22.42%	THC	18.94%
126.0	CAH	20.25%	ETRN	18.49%
126.0	TDG	18.78%	PWR	18.48%
126.0	GILD	18.72%	CAH	17.11%
126.0	GWW	17.53%	ISRG	16.57%
126.0	MSI	17.37%	TEVA	16.51%
126.0	ETRN	16.95%	TDG	16.26%
126.0	TRGP	16.84%	ORCL	16.03%
126.0	LEN	16.61%	GWW	15.46%
126.0	AMZN	16.58%	ACGL	14.63%
126.0	TMUS	16.43%	IRM	14.54%
126.0	INTU	16.18%	CCL	14.21%
126.0	AMD	15.61%	CMG	13.84%
126.0	ORLY	15.06%	MSI	13.83%
126.0	THC	14.83%	CPRT	13.68%
126.0	CDNS	13.94%	ORLY	13.42%
126.0	GME	13.71%	JPM	13.35%
126.0	GOOGL	13.56%	DHI	13.15%
126.0	ACGL	13.55%	COST	12.92%

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 2025-05-29

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
252.0	MSTR	441.58%	MSTR	229.44%
252.0	META	188.94%	NVDA	151.19%
252.0	VST	157.3%	VST	127.47%
252.0	NVDA	150.62%	GBTC	123.01%
252.0	NFLX	138.76%	META	82.56%
252.0	GBTC	130.9%	AVGO	73.31%
252.0	AVGO	112.03%	NFLX	67.91%
252.0	LLY	77.79%	GE	61.52%
252.0	ORCL	70.45%	PHM	58.63%
252.0	ISRG	68.58%	LLY	56.85%
252.0	AMZN	67.57%	THC	53.06%
252.0	GE	66.41%	TRGP	50.73%
252.0	TEVA	65.61%	PWR	42.43%
252.0	THC	63.9%	TDG	41.72%
252.0	TDG	57.69%	TEVA	40.35%
252.0	INTU	54.17%	ISRG	40.16%
252.0	AMD	51.89%	IRM	38.04%
252.0	LEN	51.17%	ORCL	37.69%
252.0	TRGP	50.83%	DHI	36.88%
252.0	MSI	49.33%	ACGL	36.16%
252.0	PHM	44.84%	ETRN	35.78%
252.0	GOOGL	44.46%	CCL	35.77%
252.0	GWW	44.43%	GWW	35.03%
252.0	DHI	43.83%	CMG	34.46%
252.0	WDC	43.63%	CPRT	32.34%
252.0	AMAT	43.06%	LEN	32.07%
252.0	CAH	42.61%	COST	31.98%
252.0	ACGL	42.39%	CAH	31.6%
252.0	COST	39.88%	MSI	31.23%
252.0	ETRN	38.77%	AMAT	31.14%

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 2025-05-29 through 2025-05-02

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
1.0	AAP	7.13%	AAP	2.61%
1.0	AMC	5.18%	ELAN	1.87%
1.0	TSLA	2.79%	CYH	1.79%
1.0	MU	1.99%	AMC	1.73%
1.0	AMZN	1.45%	X	1.18%
1.0	ELAN	1.4%	TSLA	1.04%
1.0	AVGO	1.29%	INTU	0.97%
1.0	WDC	1.26%	CCL	0.95%
1.0	META	1.21%	AVGO	0.93%
1.0	INTU	0.95%	MOS	0.91%
1.0	ADBE	0.92%	NVDA	0.9%
1.0	TXN	0.89%	GE	0.9%
1.0	GME	0.85%	MU	0.86%
1.0	LW	0.83%	VST	0.8%
1.0	AMD	0.78%	WDC	0.78%
1.0	QQQ	0.78%	THC	0.71%
1.0	AMGN	0.77%	UAA	0.64%
1.0	CSTM	0.76%	AMD	0.63%
1.0	CYH	0.74%	BA	0.6%
1.0	GE	0.73%	TXN	0.59%
1.0	AA	0.71%	GME	0.53%
1.0	HCA	0.67%	WYNN	0.52%
1.0	GOOGL	0.62%	ORCL	0.51%
1.0	X	0.62%	HCA	0.49%
1.0	GNRC	0.58%	CSTM	0.49%
1.0	ORCL	0.56%	ADBE	0.46%
1.0	BAC	0.55%	META	0.45%
1.0	EXPE	0.52%	LW	0.44%
1.0	BA	0.49%	LVS	0.43%
1.0	CCL	0.49%	AMZN	0.43%

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 2025-05-29 through 2025-05-02

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
10.0	AMC	61.11%	AAP	32.99%
10.0	AAP	46.19%	AMC	20.37%
10.0	TSLA	44.15%	CYH	16.7%
10.0	MU	30.35%	TSLA	14.9%
10.0	WDC	25.86%	ELAN	13.57%
10.0	GME	18.0%	X	12.81%
10.0	GE	17.71%	NVDA	11.23%
10.0	ELAN	16.72%	UAA	11.14%
10.0	AA	16.07%	MU	10.79%
10.0	X	13.43%	WDC	10.46%
10.0	UAA	13.42%	GME	10.26%
10.0	AVGO	12.06%	MOS	10.17%
10.0	TXN	12.0%	GE	10.09%
10.0	QQQ	11.6%	CCL	9.87%
10.0	CYH	11.26%	AVGO	9.45%
10.0	GOOGL	11.1%	VST	9.43%
10.0	ZTS	10.01%	INTU	8.4%
10.0	ADBE	9.53%	THC	7.83%
10.0	GILD	9.21%	GILD	7.6%
10.0	B	8.71%	AMD	7.46%
10.0	LW	8.59%	GBTC	7.31%
10.0	INTU	8.5%	ADBE	6.66%
10.0	AMD	8.12%	AA	6.57%
10.0	BUD	8.03%	TXN	6.54%
10.0	HCA	7.85%	BIIB	6.34%
10.0	NVDA	7.59%	GOOGL	6.3%
10.0	CCL	7.37%	HCA	5.8%
10.0	AMZN	7.24%	BA	5.47%
10.0	MSFT	6.91%	CSTM	5.18%
10.0	META	6.89%	GS	4.93%

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 2025-05-29 through 2025-03-03

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
1.0	AAP	2.09%	MSTR	0.82%
1.0	PWR	1.21%	AAP	0.75%
1.0	GME	1.06%	MOS	0.74%
1.0	AMC	0.99%	X	0.61%
1.0	MSTR	0.87%	THC	0.55%
1.0	ELAN	0.77%	PWR	0.55%
1.0	BA	0.75%	VST	0.53%
1.0	WDC	0.69%	AVGO	0.49%
1.0	MU	0.62%	GT	0.49%
1.0	CDNS	0.61%	TSLA	0.47%
1.0	INTU	0.6%	CYH	0.47%
1.0	ORCL	0.51%	GME	0.45%
1.0	NFLX	0.48%	INTU	0.4%
1.0	AVGO	0.47%	NEM	0.39%
1.0	THC	0.44%	ELAN	0.39%
1.0	TEVA	0.43%	NFLX	0.38%
1.0	HCA	0.42%	BA	0.38%
1.0	B	0.4%	GBTC	0.36%
1.0	X	0.37%	GE	0.36%
1.0	AMZN	0.37%	NVDA	0.35%
1.0	QQQ	0.37%	HCA	0.35%
1.0	LW	0.37%	AMC	0.34%
1.0	QCOM	0.35%	CDNS	0.33%
1.0	MOS	0.34%	CAH	0.3%
1.0	ADBE	0.33%	CSTM	0.3%
1.0	NEM	0.32%	MSFT	0.3%
1.0	META	0.32%	AMD	0.29%
1.0	GWW	0.31%	BUD	0.25%
1.0	CMCSA	0.28%	MNST	0.25%
1.0	HON	0.28%	WDC	0.24%

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 2025-05-29 through 2025-03-03

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
10.0	MU	12.59%	MSTR	7.98%
10.0	GME	12.36%	CYH	7.91%
10.0	ELAN	11.77%	MOS	7.69%
10.0	MSTR	11.0%	TSLA	6.89%
10.0	PWR	10.16%	PWR	6.47%
10.0	TSLA	10.13%	VST	6.26%
10.0	WDC	9.08%	THC	6.08%
10.0	B	8.71%	BA	5.58%
10.0	CDNS	7.51%	NFLX	5.37%
10.0	AMC	6.54%	GME	5.37%
10.0	TEVA	6.34%	ELAN	5.18%
10.0	BA	6.14%	CDNS	5.14%
10.0	AAP	6.13%	X	4.83%
10.0	AVGO	5.99%	GBTC	4.74%
10.0	THC	5.78%	AVGO	4.69%
10.0	NEM	5.68%	AAP	4.62%
10.0	GE	5.21%	WDC	4.29%
10.0	MSFT	5.04%	B	4.18%
10.0	X	4.79%	GE	4.1%
10.0	MOS	4.78%	GT	3.95%
10.0	AMD	4.65%	CAH	3.85%
10.0	CYH	4.53%	NVDA	3.77%
10.0	META	4.43%	NEM	3.72%
10.0	VST	4.29%	HCA	3.45%
10.0	ORCL	4.14%	MSFT	3.37%
10.0	HCA	4.12%	INTU	3.24%
10.0	GS	3.96%	AMD	3.2%
10.0	NFLX	3.91%	CCL	2.79%
10.0	QQQ	3.82%	IRM	2.77%
10.0	IRM	3.38%	MNST	2.69%

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 2025-05-29 through 2025-03-03

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
21.0	ELAN	30.45%	CYH	17.82%
21.0	PWR	27.86%	MSTR	17.78%
21.0	MSTR	26.0%	MOS	14.72%
21.0	GME	23.16%	PWR	14.7%
21.0	MU	22.65%	TSLA	13.66%
21.0	TSLA	21.71%	THC	12.97%
21.0	WDC	18.67%	VST	12.53%
21.0	THC	16.88%	NFLX	12.0%
21.0	AVGO	14.78%	CDNS	11.67%
21.0	BA	14.67%	AVGO	10.89%
21.0	META	14.48%	GBTC	10.58%
21.0	TEVA	14.38%	ELAN	10.53%
21.0	KALU	14.36%	GME	10.49%
21.0	CYH	12.51%	BA	10.23%
21.0	NFLX	11.11%	GT	10.14%
21.0	VST	10.52%	WDC	8.6%
21.0	CDNS	10.45%	MSFT	8.13%
21.0	NEM	10.12%	CAH	8.06%
21.0	ORCL	10.0%	NEM	7.08%
21.0	MSFT	9.28%	GE	6.97%
21.0	GE	9.21%	IRM	6.51%
21.0	CHTR	8.85%	NVDA	6.47%
21.0	MOS	8.76%	HCA	6.3%
21.0	GS	8.58%	CSTM	6.16%
21.0	IRM	8.07%	CHTR	6.16%
21.0	NVDA	7.79%	X	6.16%
21.0	AMAT	7.02%	INTU	5.9%
21.0	GWW	6.99%	CPRT	5.39%
21.0	GBTC	6.98%	GLD	4.99%
21.0	X	6.84%	TEVA	4.9%

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 2025-05-29 through 2024-06-03

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
1.0	MSTR	0.85%	MSTR	0.52%
1.0	GME	0.48%	TSLA	0.38%
1.0	NWL	0.44%	LUMN	0.35%
1.0	B	0.4%	VST	0.33%
1.0	CHTR	0.39%	AVGO	0.32%
1.0	TSLA	0.37%	NFLX	0.28%
1.0	PRGO	0.33%	GILD	0.24%
1.0	VFC	0.31%	GME	0.21%
1.0	PWR	0.31%	VNO	0.21%
1.0	AMZN	0.3%	CCL	0.2%
1.0	META	0.27%	GE	0.19%
1.0	ORCL	0.27%	X	0.19%
1.0	NFLX	0.24%	EXPE	0.19%
1.0	GILD	0.23%	CAH	0.19%
1.0	EXPE	0.21%	T	0.19%
1.0	GBTC	0.18%	GBTC	0.18%
1.0	BA	0.16%	ORCL	0.17%
1.0	SLV	0.16%	CHTR	0.16%
1.0	NEM	0.16%	ORLY	0.15%
1.0	X	0.15%	TMUS	0.15%
1.0	AZO	0.15%	META	0.15%
1.0	LNC	0.15%	ISRG	0.15%
1.0	ABBV	0.15%	TRGP	0.15%
1.0	INTU	0.14%	GLD	0.14%
1.0	ORLY	0.14%	INTU	0.14%
1.0	GE	0.14%	GS	0.14%
1.0	AAP	0.14%	NVDA	0.13%
1.0	GWW	0.14%	MS	0.13%
1.0	GS	0.14%	CSCO	0.13%
1.0	JPM	0.12%	THC	0.13%

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 2025-05-29 through 2024-06-03

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
10.0	MSTR	10.2%	MSTR	5.41%
10.0	B	8.71%	LUMN	5.05%
10.0	TSLA	3.48%	B	4.18%
10.0	CHTR	3.37%	TSLA	3.96%
10.0	GILD	3.06%	VST	3.48%
10.0	META	2.94%	NFLX	2.83%
10.0	MU	2.88%	AVGO	2.68%
10.0	GME	2.79%	GILD	2.31%
10.0	EXPE	2.73%	VNO	2.12%
10.0	LUMN	2.61%	CAH	1.95%
10.0	VFC	2.58%	CHTR	1.93%
10.0	AVGO	2.47%	CCL	1.92%
10.0	NEM	2.08%	GBTC	1.9%
10.0	PWR	2.07%	T	1.88%
10.0	NFLX	2.0%	GE	1.88%
10.0	GE	1.91%	EXPE	1.64%
10.0	GS	1.88%	TRGP	1.57%
10.0	ABBV	1.83%	GLD	1.49%
10.0	NWL	1.79%	ORLY	1.46%
10.0	UAA	1.78%	GS	1.45%
10.0	AMZN	1.76%	MS	1.45%
10.0	ORCL	1.75%	CSCO	1.44%
10.0	VST	1.71%	TMUS	1.42%
10.0	GBTC	1.69%	JPM	1.38%
10.0	GWW	1.65%	HSBC	1.38%
10.0	SLV	1.55%	CYH	1.36%
10.0	CAH	1.54%	AZO	1.34%
10.0	CCL	1.52%	X	1.34%
10.0	VNO	1.49%	META	1.34%
10.0	TEVA	1.42%	ISRG	1.32%

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 2025-05-29 through 2024-06-03

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
21.0	MSTR	26.14%	MSTR	12.63%
21.0	TSLA	9.7%	LUMN	11.92%
21.0	LUMN	8.76%	TSLA	7.74%
21.0	CHTR	7.81%	VST	7.34%
21.0	GME	6.33%	NFLX	5.8%
21.0	GILD	6.15%	AVGO	4.61%
21.0	META	5.82%	VNO	4.46%
21.0	EXPE	5.57%	GILD	4.45%
21.0	AVGO	5.07%	GBTC	4.22%
21.0	PWR	5.04%	CAH	4.05%
21.0	VFC	4.9%	T	3.97%
21.0	NFLX	4.3%	CHTR	3.9%
21.0	GBTC	4.21%	GE	3.57%
21.0	UAA	3.94%	CCL	3.52%
21.0	NEM	3.91%	GLD	3.26%
21.0	GS	3.74%	TMUS	3.25%
21.0	GE	3.72%	EXPE	3.24%
21.0	VST	3.58%	CYH	3.07%
21.0	VNO	3.54%	TRGP	3.05%
21.0	AMZN	3.3%	MS	2.9%
21.0	GWW	3.22%	GS	2.86%
21.0	CAH	3.17%	HSBC	2.81%
21.0	CCL	3.15%	ORLY	2.81%
21.0	BXP	3.13%	CSCO	2.81%
21.0	MU	3.06%	JPM	2.79%
21.0	TEVA	3.03%	NEM	2.73%
21.0	ORCL	3.02%	WFC	2.73%
21.0	BA	2.71%	PWR	2.65%
21.0	JPM	2.61%	META	2.63%
21.0	AZO	2.59%	ISRG	2.6%

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 2025-05-29 through 2024-06-03

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
63.0	MSTR	71.19%	MSTR	46.67%
63.0	TSLA	32.92%	LUMN	25.22%
63.0	LUMN	25.97%	VST	22.51%
63.0	GILD	20.15%	TSLA	17.74%
63.0	EXPE	14.93%	NFLX	16.68%
63.0	VST	14.82%	GILD	15.17%
63.0	CVS	14.58%	GBTC	14.79%
63.0	NFLX	13.65%	T	13.35%
63.0	GBTC	11.83%	VNO	11.85%
63.0	CHTR	11.46%	TMUS	11.8%
63.0	CCL	11.06%	TRGP	11.77%
63.0	UAA	11.01%	CAH	11.38%
63.0	BXP	10.58%	EXPE	10.53%
63.0	NEM	10.05%	CCL	10.42%
63.0	CAH	9.88%	GLD	9.84%
63.0	GE	9.64%	HSBC	9.58%
63.0	BUD	9.12%	AVGO	8.92%
63.0	AZO	8.87%	ORLY	8.86%
63.0	GME	8.8%	CSCO	8.73%
63.0	META	8.79%	WFC	8.39%
63.0	T	8.05%	GE	7.96%
63.0	WFC	7.62%	AZO	7.27%
63.0	TMUS	7.46%	MS	7.1%
63.0	GLD	7.33%	BMY	7.1%
63.0	TRGP	7.3%	MNST	6.67%
63.0	BMY	7.01%	JPM	6.31%
63.0	HSBC	6.81%	META	6.22%
63.0	AVGO	6.71%	GS	5.85%
63.0	ABBV	6.66%	CHTR	5.73%
63.0	VFC	6.57%	CVS	5.53%

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 2025-05-29 through 2024-06-03

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
126.0	MSTR	170.47%	MSTR	101.1%
126.0	TSLA	86.15%	VST	51.44%
126.0	GILD	47.15%	TSLA	47.03%
126.0	VST	46.47%	NFLX	41.0%
126.0	NFLX	43.97%	GBTC	39.07%
126.0	EXPE	38.61%	GILD	30.43%
126.0	GBTC	30.65%	TRGP	27.94%
126.0	CCL	27.68%	CCL	27.04%
126.0	CHTR	27.55%	AVGO	26.61%
126.0	META	24.95%	EXPE	26.58%
126.0	AVGO	24.84%	T	25.56%
126.0	GME	24.65%	LUMN	23.18%
126.0	AZO	24.49%	TMUS	22.99%
126.0	CAH	21.35%	WFC	22.88%
126.0	HSBC	20.1%	CAH	22.49%
126.0	GS	19.35%	HSBC	22.32%
126.0	LUMN	19.22%	VNO	21.33%
126.0	CTLT	17.6%	CSCO	19.91%
126.0	TMUS	17.37%	MS	18.66%
126.0	VNO	17.28%	ORLY	17.83%
126.0	T	16.27%	GLD	17.14%
126.0	ORLY	16.25%	JPM	17.02%
126.0	VFC	16.11%	GS	16.89%
126.0	GLD	15.94%	META	16.72%
126.0	BMY	15.49%	BMY	15.54%
126.0	TRGP	14.85%	GME	15.31%
126.0	WFC	14.73%	AZO	14.73%
126.0	GE	14.65%	ISRG	14.38%
126.0	CMA	12.37%	VFC	14.01%
126.0	AMZN	11.04%	GE	13.6%

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 2025-05-29

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	LUMN	-0.19%	IEP	-0.18%
1.0	IEP	-0.19%	VFC	-0.13%
1.0	CYH	-0.17%	AMC	-0.13%
1.0	BHC	-0.13%	AAP	-0.13%
1.0	AAP	-0.12%	NWL	-0.12%
1.0	FIS	-0.12%	BHC	-0.11%
1.0	ELAN	-0.1%	LUMN	-0.1%
1.0	CHTR	-0.09%	B	-0.08%
1.0	VFC	-0.09%	CLF	-0.07%
1.0	CSTM	-0.09%	CZR	-0.07%
1.0	AMC	-0.09%	UAA	-0.07%
1.0	GSK	-0.08%	INTC	-0.06%
1.0	CVS	-0.08%	TLT	-0.05%
1.0	BXP	-0.08%	BALL	-0.05%
1.0	T	-0.07%	BIIB	-0.04%
1.0	TLT	-0.07%	LNC	-0.04%
1.0	KEY	-0.06%	CVS	-0.04%
1.0	USB	-0.05%	GNRC	-0.04%
1.0	EMB	-0.05%	BXP	-0.04%
1.0	PEP	-0.05%	UNH	-0.03%
1.0	TSLA	-0.05%	ELAN	-0.03%
1.0	VZ	-0.05%	TFC	-0.03%
1.0	CLF	-0.04%	CMCSA	-0.03%
1.0	INTC	-0.04%	AA	-0.03%
1.0	BMY	-0.03%	PEP	-0.03%
1.0	LNC	-0.03%	KHC	-0.03%
1.0	CTLT	-0.03%	GSK	-0.03%

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 2025-05-29

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	FRCB	-3.12%	FRCB	-2.19%
10.0	AMC	-3.1%	IEP	-1.67%
10.0	AAP	-2.59%	AMC	-1.53%
10.0	IEP	-1.92%	AAP	-1.45%
10.0	VFC	-1.61%	VFC	-1.33%
10.0	BHC	-1.18%	NWL	-1.17%
10.0	LUMN	-1.09%	BHC	-0.98%
10.0	GSK	-1.06%	CZR	-0.8%
10.0	NWL	-0.93%	LUMN	-0.79%
10.0	TLT	-0.9%	UAA	-0.79%
10.0	BIIB	-0.87%	CLF	-0.65%
10.0	CHTR	-0.84%	INTC	-0.57%
10.0	BXP	-0.81%	TLT	-0.54%
10.0	FIS	-0.79%	LNC	-0.49%
10.0	ZION	-0.63%	BALL	-0.49%
10.0	CVS	-0.62%	BIIB	-0.49%
10.0	CYH	-0.62%	GNRC	-0.44%
10.0	PRGO	-0.6%	CVS	-0.44%
10.0	ELAN	-0.55%	BXP	-0.44%
10.0	GT	-0.52%	ELAN	-0.41%
10.0	BMY	-0.51%	ZION	-0.41%
10.0	LNC	-0.46%	AA	-0.39%
10.0	VZ	-0.45%	UNH	-0.35%
10.0	BALL	-0.44%	TFC	-0.33%
10.0	CLF	-0.39%	CMCSA	-0.3%
10.0	LQD	-0.35%	GSK	-0.3%
10.0	PEP	-0.29%	BMY	-0.29%
10.0	EMB	-0.22%	CMA	-0.28%

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 2025-05-29

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	-7.56%	AMC	-3.99%
21.0	AAP	-6.26%	IEP	-3.56%
21.0	VFC	-3.62%	AAP	-3.39%
21.0	IEP	-3.42%	VFC	-2.78%
21.0	NWL	-3.01%	NWL	-2.61%
21.0	BHC	-2.73%	BHC	-2.3%
21.0	GSK	-2.13%	CZR	-1.76%
21.0	LUMN	-1.79%	UAA	-1.66%
21.0	TLT	-1.71%	LUMN	-1.36%
21.0	BIIB	-1.63%	INTC	-1.28%
21.0	LNC	-1.6%	CLF	-1.27%
21.0	BXP	-1.44%	AA	-1.22%
21.0	ELAN	-1.34%	LNC	-1.14%
21.0	FIS	-1.28%	TLT	-1.1%
21.0	CVS	-1.27%	BALL	-1.06%
21.0	BMY	-1.16%	GNRC	-1.05%
21.0	PRGO	-1.13%	BIIB	-1.04%
21.0	CHTR	-1.12%	BXP	-1.01%
21.0	ZION	-1.1%	ELAN	-0.91%
21.0	CYH	-1.08%	CVS	-0.84%
21.0	ON	-1.0%	TFC	-0.68%
21.0	BALL	-0.73%	ZION	-0.67%
21.0	LW	-0.72%	BMY	-0.64%
21.0	CSTM	-0.66%	CMCSA	-0.6%
21.0	LQD	-0.6%	GSK	-0.58%
21.0	GT	-0.59%	CMA	-0.58%
21.0	VZ	-0.55%	CNC	-0.55%

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 2025-05-29

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	-33.32%	AMC	-16.03%
63.0	AAP	-19.82%	IEP	-11.93%
63.0	VFC	-14.03%	AAP	-11.2%
63.0	IEP	-11.85%	NWL	-8.22%
63.0	NWL	-8.84%	VFC	-8.1%
63.0	ELAN	-8.25%	CLF	-6.35%
63.0	BHC	-7.98%	CZR	-6.18%
63.0	ON	-6.29%	BHC	-5.97%
63.0	CLF	-5.97%	AA	-5.26%
63.0	MOS	-4.89%	UAA	-4.96%
63.0	LNC	-4.66%	MOS	-4.6%
63.0	TLT	-4.65%	ELAN	-4.56%
63.0	GSK	-4.46%	INTC	-4.47%
63.0	BIIB	-4.39%	LUMN	-3.73%
63.0	CHTR	-4.23%	LNC	-3.48%
63.0	AA	-4.22%	BALL	-3.46%
63.0	CZR	-3.72%	GNRC	-3.4%
63.0	BALL	-3.65%	BXP	-3.35%
63.0	FIS	-3.45%	BIIB	-2.91%
63.0	INTC	-3.19%	TLT	-2.9%
63.0	JAZZ	-3.03%	CVS	-2.72%
63.0	CNC	-2.79%	CSTM	-2.54%
63.0	LUMN	-2.51%	BHP	-2.29%
63.0	BXP	-2.41%	CNC	-2.17%
63.0	PRGO	-2.39%	PRGO	-2.07%
63.0	CSTM	-2.12%	KHC	-1.92%
63.0	CYH	-2.12%	TFC	-1.84%

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 2025-05-29

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	-55.89%	AMC	-29.5%
126.0	AAP	-34.39%	IEP	-22.97%
126.0	VFC	-26.86%	AAP	-20.71%
126.0	IEP	-26.33%	NWL	-14.99%
126.0	NWL	-16.74%	VFC	-12.34%
126.0	BHC	-13.55%	MOS	-10.95%
126.0	MOS	-13.22%	CLF	-10.34%
126.0	ELAN	-13.19%	CZR	-8.53%
126.0	CLF	-9.88%	CVS	-7.73%
126.0	CVS	-9.73%	INTC	-7.63%
126.0	AA	-9.52%	ELAN	-7.6%
126.0	TLT	-8.3%	AA	-7.4%
126.0	PRGO	-8.29%	BHC	-6.78%
126.0	LNC	-8.2%	UAA	-5.96%
126.0	GSK	-8.08%	PRGO	-5.84%
126.0	CZR	-7.84%	CTLT	-5.69%
126.0	CHTR	-7.15%	LNC	-5.57%
126.0	JAZZ	-6.84%	TLT	-5.31%
126.0	BIIB	-6.67%	BXP	-5.17%
126.0	INTC	-5.97%	GNRC	-5.05%
126.0	CNC	-5.59%	BALL	-4.95%
126.0	BALL	-4.95%	CNC	-4.87%
126.0	UAA	-4.86%	LUMN	-4.73%
126.0	KHC	-4.47%	BIIB	-4.68%
126.0	OXY	-4.27%	GSK	-4.49%
126.0	BXP	-4.24%	KHC	-4.16%
126.0	BMY	-3.89%	BHP	-3.78%

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 2025-05-29

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	-108.24%	AMC	-57.69%
252.0	AAP	-81.58%	IEP	-44.46%
252.0	IEP	-57.37%	AAP	-42.7%
252.0	VFC	-44.52%	NWL	-28.77%
252.0	NWL	-38.64%	VFC	-24.43%
252.0	MOS	-32.25%	MOS	-23.75%
252.0	CVS	-26.85%	CVS	-18.88%
252.0	AA	-24.52%	CLF	-15.69%
252.0	BIIB	-22.62%	CZR	-13.51%
252.0	UAA	-22.2%	PRGO	-13.33%
252.0	PRGO	-21.3%	BMY	-12.43%
252.0	CLF	-21.22%	UAA	-12.41%
252.0	BHC	-18.31%	AA	-11.09%
252.0	CHTR	-18.03%	JAZZ	-10.13%
252.0	CZR	-17.75%	LUMN	-9.96%
252.0	JAZZ	-16.52%	INTC	-9.66%
252.0	OXY	-16.32%	CNC	-9.39%
252.0	TLT	-14.98%	BHC	-9.18%
252.0	BMY	-12.43%	BIIB	-8.8%
252.0	CNC	-9.79%	TLT	-8.52%
252.0	KHC	-9.67%	GT	-7.69%
252.0	LNC	-9.25%	KHC	-7.44%
252.0	BHP	-8.48%	CHTR	-6.65%
252.0	BXP	-8.29%	OXY	-6.27%
252.0	ELAN	-7.61%	CTLT	-6.24%
252.0	GT	-7.57%	LNC	-5.72%
252.0	LUMN	-7.29%	BHP	-5.37%

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 2025-05-29 through 2025-05-02

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
1.0	LLY	-1.55%	CLF	-2.08%
1.0	CLF	-1.47%	UNH	-1.31%
1.0	UNH	-1.37%	BHC	-0.9%
1.0	CDNS	-1.22%	CPRT	-0.86%
1.0	BHC	-0.73%	SNY	-0.59%
1.0	CNC	-0.7%	LLY	-0.55%
1.0	CVS	-0.67%	JAZZ	-0.5%
1.0	CPRT	-0.62%	MRK	-0.39%
1.0	INTC	-0.49%	DHI	-0.38%
1.0	JAZZ	-0.44%	KHC	-0.35%
1.0	SNY	-0.38%	FSUGY	-0.34%
1.0	FSUGY	-0.37%	IEP	-0.34%
1.0	KHC	-0.37%	CDNS	-0.34%
1.0	DHI	-0.35%	ABBV	-0.32%
1.0	MRK	-0.32%	PHM	-0.31%
1.0	VFC	-0.29%	MSTR	-0.31%
1.0	ABBV	-0.28%	CNC	-0.3%
1.0	BMY	-0.28%	INTC	-0.26%
1.0	AMAT	-0.24%	CVS	-0.25%
1.0	CMG	-0.23%	BMY	-0.21%
1.0	MSTR	-0.23%	XOM	-0.19%
1.0	AAPL	-0.2%	LEN	-0.18%
1.0	BBY	-0.19%	CZR	-0.14%
1.0	LEN	-0.17%	ORLY	-0.14%
1.0	ORLY	-0.14%	CMG	-0.14%
1.0	PEP	-0.14%	TMUS	-0.14%
1.0	KEY	-0.13%	TRGP	-0.12%
1.0	PHM	-0.1%	BBY	-0.1%
1.0	TMUS	-0.1%	POST	-0.1%
1.0	CZR	-0.1%	AAPL	-0.1%

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 2025-05-29 through 2025-05-02

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
10.0	UNH	-21.29%	UNH	-15.49%
10.0	CLF	-10.66%	CLF	-15.07%
10.0	LLY	-9.11%	LUMN	-7.13%
10.0	CVS	-8.29%	CPRT	-6.14%
10.0	BHC	-5.34%	LLY	-4.01%
10.0	VFC	-4.83%	BHC	-3.99%
10.0	LUMN	-4.34%	KHC	-3.82%
10.0	MSTR	-4.33%	IEP	-3.67%
10.0	DHI	-3.27%	CVS	-3.66%
10.0	CNC	-3.23%	CNC	-3.56%
10.0	IEP	-2.92%	PHM	-3.3%
10.0	INTC	-2.86%	DHI	-2.87%
10.0	KHC	-2.83%	FSUGY	-2.84%
10.0	CPRT	-2.76%	MSTR	-2.83%
10.0	FSUGY	-2.49%	XOM	-2.56%
10.0	XOM	-2.2%	VFC	-2.29%
10.0	CDNS	-2.19%	INTC	-1.94%
10.0	TLT	-2.06%	LEN	-1.88%
10.0	PHM	-1.67%	ABBV	-1.74%
10.0	LEN	-1.49%	LNC	-1.6%
10.0	POST	-1.36%	TLT	-1.56%
10.0	ABBV	-1.3%	VNO	-1.47%
10.0	LNC	-1.29%	MRK	-1.44%
10.0	AAPL	-1.26%	TMUS	-1.16%
10.0	VNO	-1.08%	POST	-1.12%
10.0	EXPE	-1.01%	TRGP	-0.97%
10.0	TMUS	-0.92%	EXPE	-0.92%
10.0	MRK	-0.9%	CZR	-0.87%
10.0	FRA	-0.62%	CDNS	-0.44%
10.0	BBY	-0.52%	FRA	-0.4%

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 2025-05-29 through 2025-03-03

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
1.0	VFC	-1.01%	VFC	-0.82%
1.0	CLF	-0.83%	CLF	-0.73%
1.0	BHC	-0.79%	BHC	-0.66%
1.0	INTC	-0.77%	UNH	-0.59%
1.0	SBUX	-0.69%	SBUX	-0.46%
1.0	BBY	-0.54%	JAZZ	-0.37%
1.0	LLY	-0.52%	BBY	-0.34%
1.0	UNH	-0.51%	BMY	-0.32%
1.0	NAVI	-0.51%	LLY	-0.32%
1.0	CMA	-0.47%	TRGP	-0.29%
1.0	CVS	-0.41%	MRK	-0.29%
1.0	TSLA	-0.36%	PEP	-0.27%
1.0	PEP	-0.36%	IEP	-0.26%
1.0	ISRG	-0.36%	KHC	-0.24%
1.0	KHC	-0.35%	AAPL	-0.22%
1.0	BMY	-0.33%	LUMN	-0.21%
1.0	KEY	-0.27%	SNY	-0.2%
1.0	CYH	-0.27%	TFC	-0.19%
1.0	JAZZ	-0.26%	ABBV	-0.18%
1.0	EXPE	-0.23%	CZR	-0.18%
1.0	AAPL	-0.23%	EXPE	-0.17%
1.0	UAA	-0.2%	NWL	-0.17%
1.0	MRK	-0.2%	AA	-0.17%
1.0	CMG	-0.19%	TMUS	-0.17%
1.0	CZR	-0.15%	FITB	-0.16%
1.0	TFC	-0.13%	OXY	-0.16%
1.0	TLT	-0.12%	LNC	-0.15%
1.0	FITB	-0.12%	LEN	-0.15%
1.0	USB	-0.12%	INTC	-0.14%
1.0	SNY	-0.12%	ZION	-0.13%

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 2025-05-29 through 2025-03-03

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
10.0	BHC	-8.76%	UNH	-7.18%
10.0	VFC	-7.22%	BHC	-6.72%
10.0	SBUX	-6.51%	CLF	-5.99%
10.0	BMY	-5.79%	VFC	-4.95%
10.0	UNH	-4.94%	BMY	-4.33%
10.0	CLF	-4.16%	JAZZ	-3.74%
10.0	AMGN	-3.5%	SBUX	-3.59%
10.0	LLY	-3.27%	MRK	-3.49%
10.0	MRK	-2.98%	LUMN	-2.89%
10.0	PEP	-2.66%	PEP	-2.79%
10.0	CVS	-2.43%	LLY	-2.56%
10.0	JAZZ	-2.31%	KHC	-2.56%
10.0	IEP	-2.24%	AMGN	-2.44%
10.0	SNY	-2.2%	ABBV	-2.32%
10.0	KHC	-2.14%	TRGP	-2.2%
10.0	BIIB	-2.11%	NWL	-2.12%
10.0	LUMN	-1.6%	LEN	-2.11%
10.0	DHI	-1.41%	SNY	-1.97%
10.0	AZN	-1.32%	BIIB	-1.85%
10.0	TLT	-1.3%	AAPL	-1.74%
10.0	GNRC	-1.26%	AA	-1.53%
10.0	LEN	-1.21%	IEP	-1.51%
10.0	AAPL	-1.17%	TMUS	-1.46%
10.0	RIO	-1.12%	AZN	-1.46%
10.0	POST	-1.06%	OXY	-1.4%
10.0	NWL	-0.97%	DHI	-1.26%
10.0	TMUS	-0.86%	TLT	-1.11%
10.0	GILD	-0.84%	GILD	-1.06%
10.0	BBY	-0.78%	BBY	-0.94%
10.0	TRGP	-0.74%	EXPE	-0.93%

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 2025-05-29 through 2025-03-03

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
21.0	BHC	-25.81%	BHC	-17.05%
21.0	BMY	-16.29%	UNH	-15.53%
21.0	UNH	-16.11%	CLF	-11.1%
21.0	AMGN	-10.67%	BMY	-11.05%
21.0	CLF	-9.98%	JAZZ	-10.15%
21.0	JAZZ	-9.45%	VFC	-8.77%
21.0	VFC	-9.24%	TRGP	-8.17%
21.0	SBUX	-8.64%	SBUX	-8.11%
21.0	LLY	-7.31%	MRK	-8.1%
21.0	GNRC	-7.23%	AA	-7.01%
21.0	AA	-6.43%	PEP	-6.49%
21.0	MRK	-6.05%	AMGN	-6.38%
21.0	PEP	-5.99%	NWL	-6.19%
21.0	BIIB	-5.61%	BIIB	-5.9%
21.0	INTC	-5.6%	LLY	-5.61%
21.0	CVS	-5.43%	OXY	-5.51%
21.0	NWL	-5.39%	ABBV	-5.42%
21.0	SNY	-5.25%	KHC	-4.74%
21.0	IEP	-4.85%	SNY	-4.61%
21.0	KHC	-4.24%	LEN	-4.37%
21.0	AAPL	-3.66%	LUMN	-4.34%
21.0	GILD	-3.59%	AAPL	-3.84%
21.0	OXY	-3.49%	AZN	-3.78%
21.0	AZN	-3.45%	INTC	-3.6%
21.0	DHI	-3.39%	GILD	-3.56%
21.0	TRGP	-3.33%	TMUS	-3.46%
21.0	TLT	-2.96%	IEP	-3.16%
21.0	BBY	-2.91%	XOM	-3.09%
21.0	PRGO	-2.86%	LNC	-2.97%
21.0	LUMN	-2.78%	DHI	-2.51%

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 2025-05-29 through 2024-06-03

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
1.0	CLF	-0.44%	CLF	-0.35%
1.0	CSTM	-0.4%	ETRN	-0.33%
1.0	ON	-0.24%	WRK	-0.26%
1.0	CYH	-0.2%	IEP	-0.23%
1.0	IEP	-0.18%	BIIB	-0.21%
1.0	PEP	-0.17%	MRK	-0.19%
1.0	NAVI	-0.15%	CSTM	-0.17%
1.0	WRK	-0.14%	FSUGY	-0.17%
1.0	AA	-0.14%	UNH	-0.16%
1.0	BIIB	-0.13%	ON	-0.16%
1.0	AMC	-0.12%	AA	-0.15%
1.0	LW	-0.12%	LEN	-0.15%
1.0	BALL	-0.12%	OXY	-0.14%
1.0	KHC	-0.12%	LW	-0.13%
1.0	INTC	-0.12%	QCOM	-0.1%
1.0	MRK	-0.12%	AMD	-0.1%
1.0	AMD	-0.11%	KHC	-0.1%
1.0	UNH	-0.11%	PEP	-0.1%
1.0	CZR	-0.11%	INTC	-0.1%
1.0	ETRN	-0.11%	BALL	-0.09%
1.0	BBY	-0.1%	B	-0.08%
1.0	OXY	-0.09%	WDC	-0.08%
1.0	UAA	-0.09%	FCX	-0.08%
1.0	KALU	-0.09%	AMAT	-0.08%
1.0	LEN	-0.09%	KALU	-0.07%
1.0	DHI	-0.08%	BBY	-0.07%
1.0	CMA	-0.07%	CNC	-0.07%
1.0	CMG	-0.07%	BHC	-0.07%
1.0	VST	-0.06%	CZR	-0.07%
1.0	FSUGY	-0.06%	DHI	-0.07%

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 2025-05-29 through 2024-06-03

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
10.0	CLF	-3.87%	ETRN	-5.36%
10.0	BIIB	-3.27%	CLF	-2.92%
10.0	AMC	-3.14%	BIIB	-2.29%
10.0	ON	-2.76%	WRK	-2.2%
10.0	AAP	-2.49%	IEP	-2.13%
10.0	ETRN	-2.44%	MRK	-2.03%
10.0	LW	-2.31%	ON	-1.82%
10.0	CSTM	-2.14%	LW	-1.63%
10.0	IEP	-1.64%	UNH	-1.58%
10.0	BALL	-1.44%	CSTM	-1.5%
10.0	MRK	-1.39%	FSUGY	-1.48%
10.0	WRK	-1.27%	AMC	-1.41%
10.0	KHC	-1.16%	LEN	-1.36%
10.0	PEP	-1.03%	OXY	-1.3%
10.0	CZR	-0.98%	QCOM	-1.21%
10.0	OXY	-0.92%	AMAT	-1.05%
10.0	KALU	-0.85%	AMD	-1.03%
10.0	GSK	-0.77%	PEP	-0.98%
10.0	FSUGY	-0.76%	AAP	-0.98%
10.0	LEN	-0.74%	AA	-0.95%
10.0	RIO	-0.68%	WDC	-0.91%
10.0	QCOM	-0.66%	BALL	-0.88%
10.0	LLY	-0.65%	KHC	-0.88%
10.0	CMG	-0.63%	ELAN	-0.76%
10.0	UNH	-0.6%	CMG	-0.76%
10.0	AMD	-0.59%	INTC	-0.73%
10.0	CNC	-0.5%	CZR	-0.71%
10.0	DHI	-0.5%	FCX	-0.67%
10.0	FCX	-0.43%	BBY	-0.62%
10.0	AA	-0.4%	MU	-0.6%

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 2025-05-29 through 2024-06-03

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
21.0	AAP	-7.99%	ETRN	-9.38%
21.0	ON	-7.93%	WRK	-6.87%
21.0	CLF	-7.45%	CLF	-5.77%
21.0	BIIB	-7.27%	BIIB	-5.25%
21.0	LW	-6.97%	IEP	-4.52%
21.0	CSTM	-5.47%	MRK	-4.39%
21.0	ETRN	-5.43%	ON	-4.08%
21.0	WRK	-4.91%	AMC	-4.01%
21.0	AMC	-4.85%	AAP	-3.67%
21.0	MRK	-3.46%	LW	-3.55%
21.0	CZR	-3.31%	CSTM	-3.26%
21.0	IEP	-3.13%	OXY	-3.22%
21.0	OXY	-3.07%	FSUGY	-2.87%
21.0	AMD	-2.82%	AMD	-2.83%
21.0	AA	-2.51%	QCOM	-2.81%
21.0	QCOM	-2.2%	AMAT	-2.75%
21.0	KHC	-2.2%	WDC	-2.7%
21.0	PEP	-2.01%	LEN	-2.68%
21.0	UNH	-1.78%	UNH	-2.47%
21.0	GSK	-1.64%	MU	-2.46%
21.0	FSUGY	-1.61%	AA	-2.39%
21.0	BALL	-1.51%	PEP	-2.1%
21.0	LLY	-1.42%	INTC	-2.06%
21.0	LEN	-1.33%	ELAN	-1.9%
21.0	CMG	-1.22%	FCX	-1.79%
21.0	RIO	-1.16%	CMG	-1.74%
21.0	ADBE	-1.09%	CZR	-1.71%
21.0	BBY	-1.08%	BALL	-1.62%
21.0	FCX	-1.08%	KHC	-1.54%
21.0	BHP	-1.04%	BBY	-1.48%

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 2025-05-29 through 2024-06-03

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
63.0	ON	-34.17%	IEP	-17.91%
63.0	AAP	-28.98%	CLF	-17.44%
63.0	CLF	-24.37%	ON	-16.62%
63.0	BIIB	-20.99%	BIIB	-16.24%
63.0	CSTM	-16.64%	AMC	-16.23%
63.0	AMC	-15.82%	CSTM	-15.2%
63.0	ELAN	-15.8%	WDC	-13.49%
63.0	OXY	-13.52%	AAP	-13.01%
63.0	AMD	-13.23%	AMD	-12.47%
63.0	WDC	-12.95%	MRK	-12.12%
63.0	IEP	-12.84%	AMAT	-11.16%
63.0	MRK	-12.02%	LEN	-10.63%
63.0	LW	-10.52%	OXY	-10.36%
63.0	KALU	-10.2%	ELAN	-9.93%
63.0	ADBE	-9.14%	ADBE	-9.73%
63.0	CZR	-8.41%	FSUGY	-9.47%
63.0	QCOM	-8.13%	MU	-8.79%
63.0	MU	-7.55%	CZR	-8.35%
63.0	INTC	-7.44%	QCOM	-7.56%
63.0	UNH	-6.97%	LW	-7.49%
63.0	BALL	-6.96%	KALU	-7.0%
63.0	CNC	-6.61%	FCX	-6.9%
63.0	TXN	-6.56%	BALL	-6.45%
63.0	FSUGY	-6.51%	INTC	-6.45%
63.0	PEP	-6.34%	DHI	-6.37%
63.0	BBY	-6.27%	BBY	-6.19%
63.0	AMAT	-6.13%	PEP	-5.83%
63.0	NAVI	-5.89%	UNH	-5.36%
63.0	FCX	-5.66%	NAVI	-5.08%
63.0	KHC	-5.63%	CNC	-4.99%

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 2025-05-29 through 2024-06-03

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
126.0	BIIB	-45.67%	IEP	-35.41%
126.0	CLF	-45.45%	CSTM	-32.05%
126.0	AAP	-37.15%	BIIB	-31.53%
126.0	ON	-32.55%	CLF	-31.13%
126.0	IEP	-32.0%	ON	-30.97%
126.0	ELAN	-30.78%	AMC	-30.46%
126.0	AMC	-30.32%	CYH	-28.48%
126.0	CYH	-29.56%	AMD	-27.56%
126.0	CSTM	-29.25%	LEN	-26.49%
126.0	CZR	-28.89%	MRK	-22.47%
126.0	AMD	-28.57%	WDC	-21.77%
126.0	OXY	-27.04%	ELAN	-20.97%
126.0	MRK	-25.68%	DHI	-20.73%
126.0	WDC	-24.48%	AMAT	-19.35%
126.0	LW	-22.52%	ADBE	-19.24%
126.0	DHI	-17.82%	CZR	-18.65%
126.0	LEN	-17.64%	LW	-18.38%
126.0	FCX	-17.07%	OXY	-17.7%
126.0	GNRC	-17.03%	FCX	-17.49%
126.0	KALU	-16.74%	AAP	-16.98%
126.0	INTC	-16.73%	BALL	-16.95%
126.0	BALL	-16.62%	FSUGY	-16.36%
126.0	KHC	-16.5%	PHM	-15.0%
126.0	NAVI	-16.15%	MU	-14.94%
126.0	CNC	-15.28%	PEP	-14.07%
126.0	PEP	-14.83%	BBY	-13.23%
126.0	QCOM	-14.36%	UNH	-12.96%
126.0	MU	-13.76%	KHC	-12.89%
126.0	FSUGY	-13.23%	INTC	-12.81%
126.0	AMAT	-12.39%	CNC	-12.75%

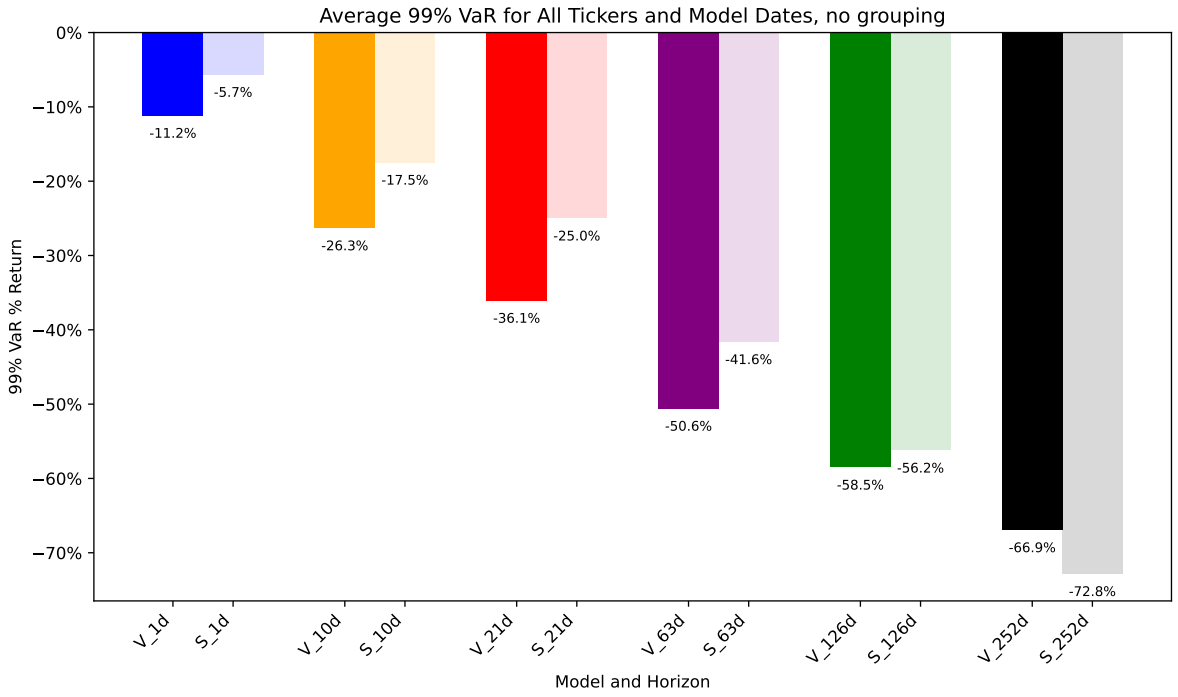
99% Value at Risk (VaR)

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.

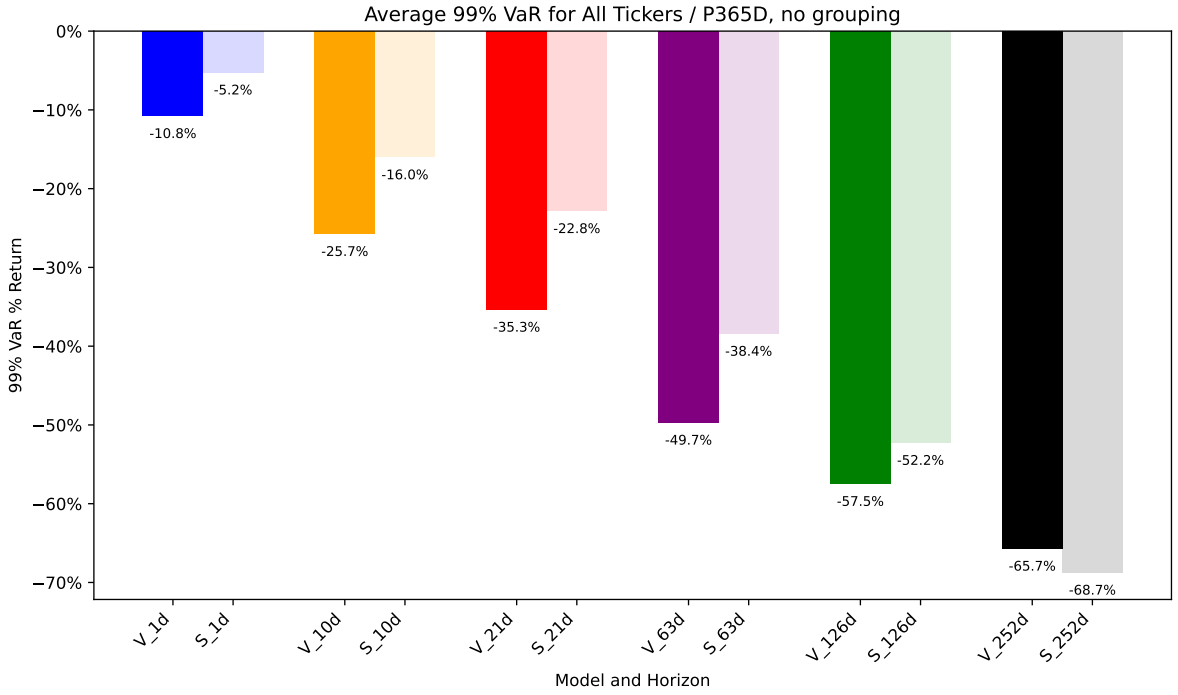
All Out of Sample Model Dates

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



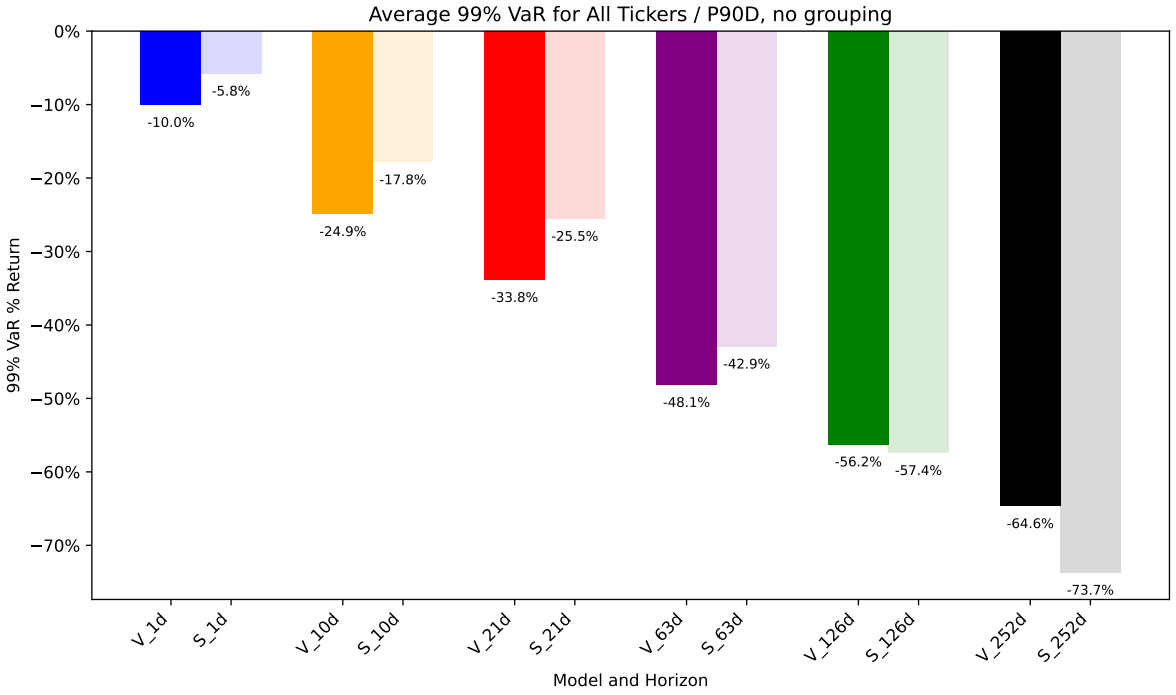
Prior 365 Calendar Days (P365D)

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



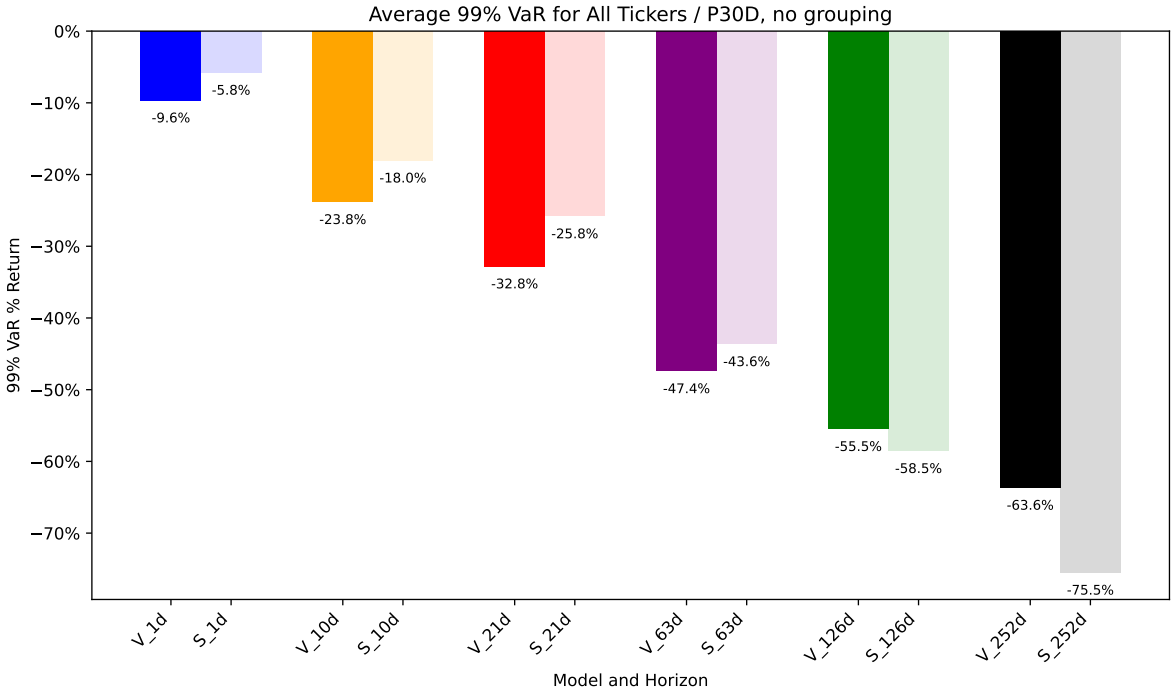
Prior 90 Calendar Days (P90D)

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



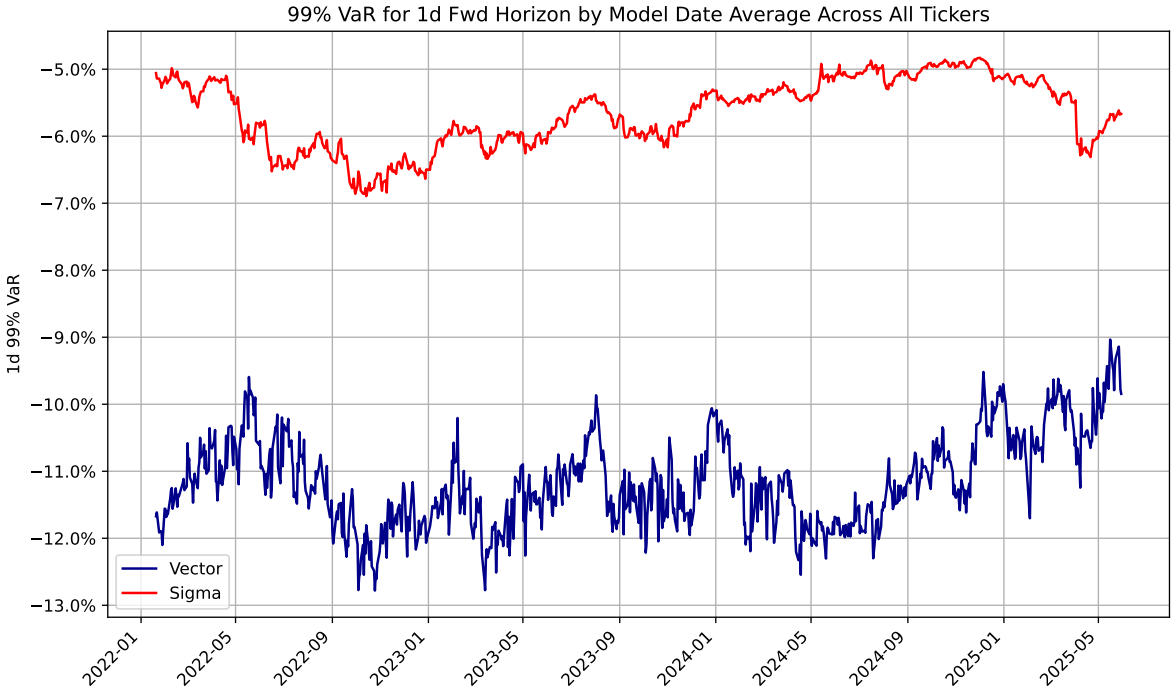
Prior 30 Calendar Days (P30D)

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

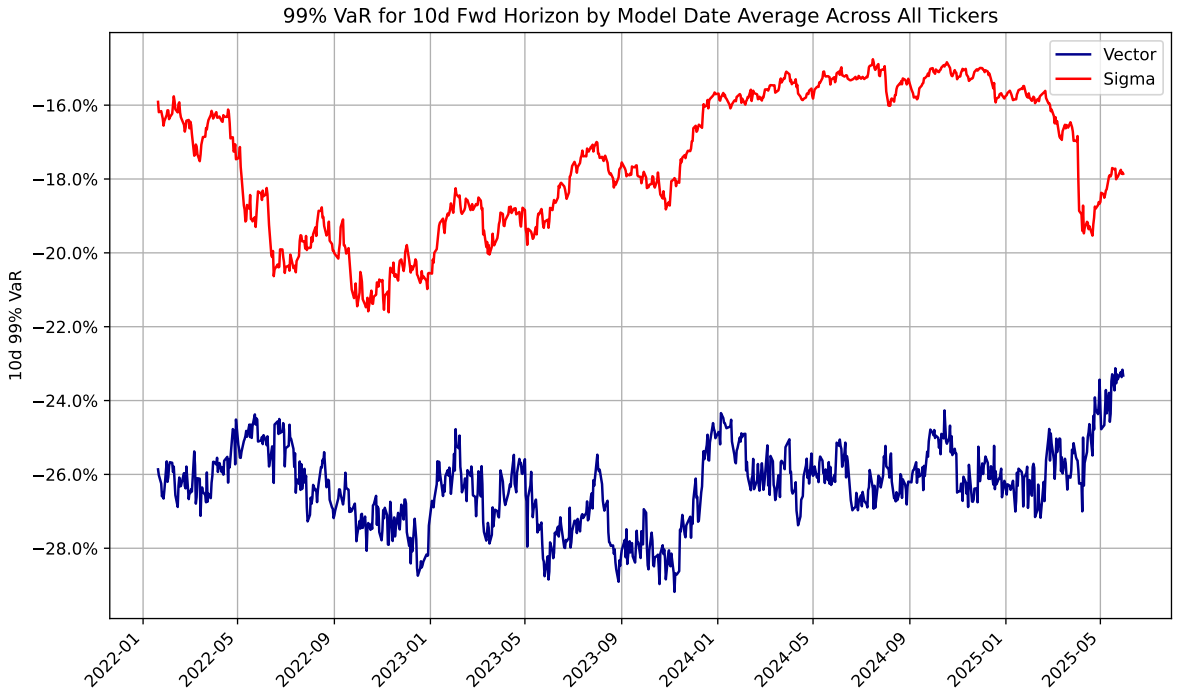


Daily Levels

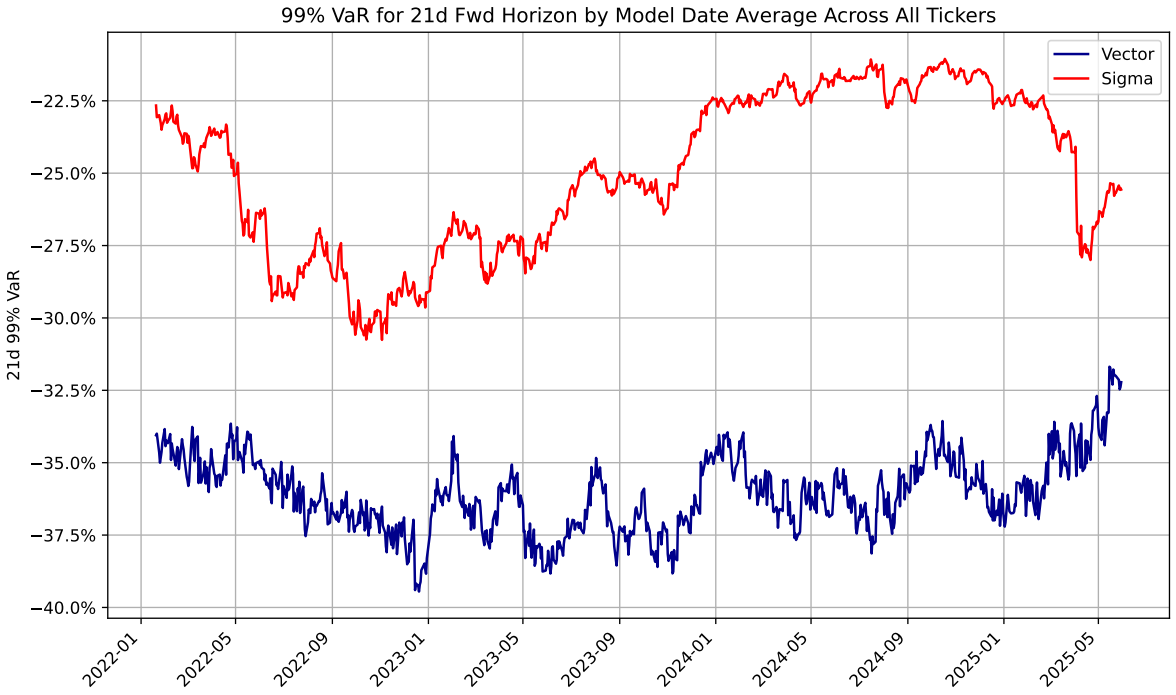
1d Horizon



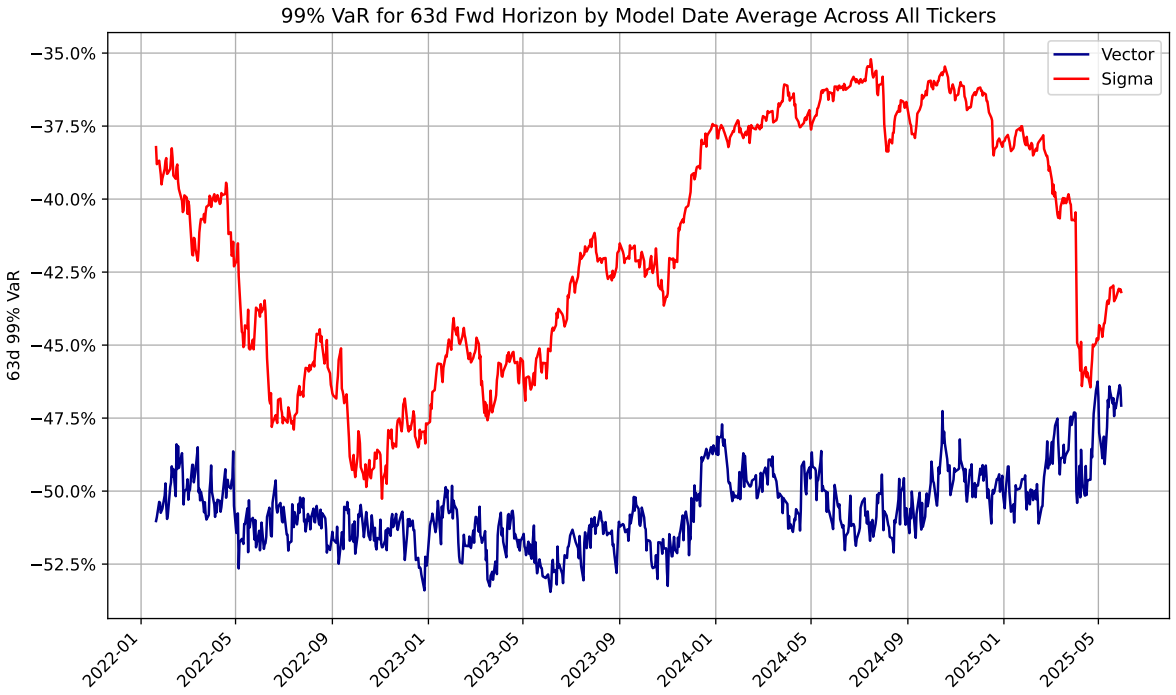
10d Horizon


99% VaR for 10d Fwd Horizon by Model Date Average Across All Tickers
Vector
Sigma
10d 99% VaR
−16.0%
−18.0%
−20.0%
−22.0%
−24.0%
−26.0%
−28.0%
2022-01
2022-05
2022-09
2023-01
2023-05
2023-09
2024-01
2024-05
2024-09
2025-01
2025-05

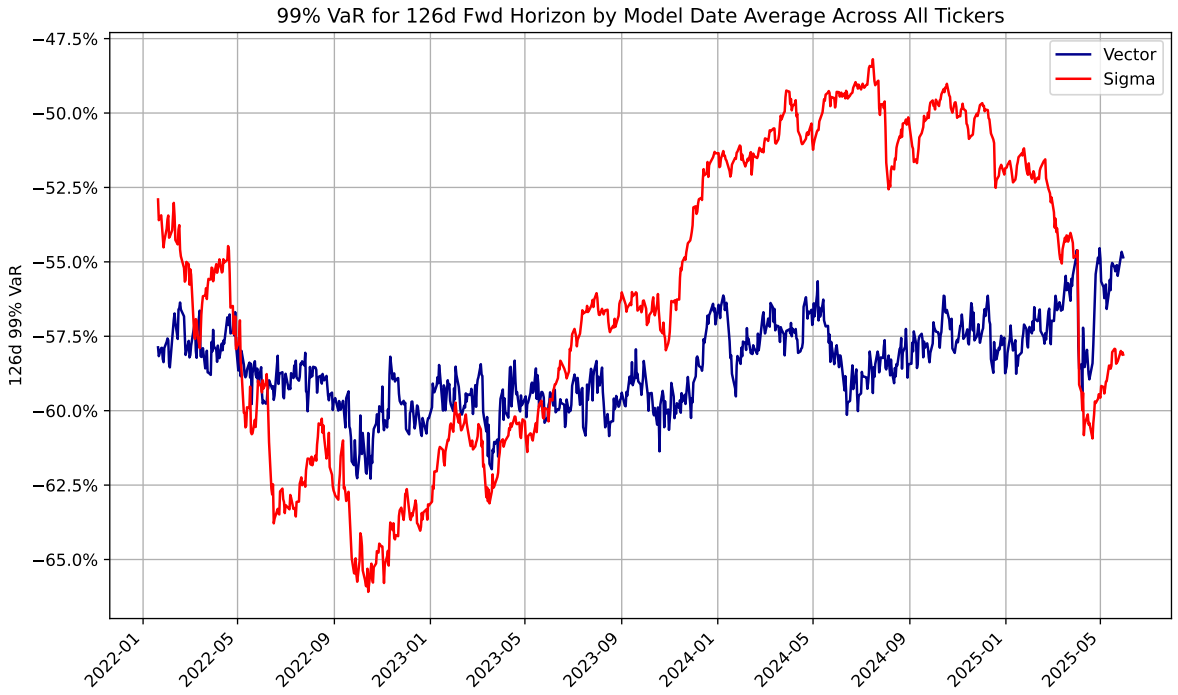
21d Horizon


99% VaR for 21d Fwd Horizon by Model Date Average Across All Tickers
Vector
Sigma
21d 99% VaR
−22.5%
−25.0%
−27.5%
−30.0%
−32.5%
−35.0%
−37.5%
−40.0%
2022-01
2022-05
2022-09
2023-01
2023-05
2023-09
2024-01
2024-05
2024-09
2025-01
2025-05

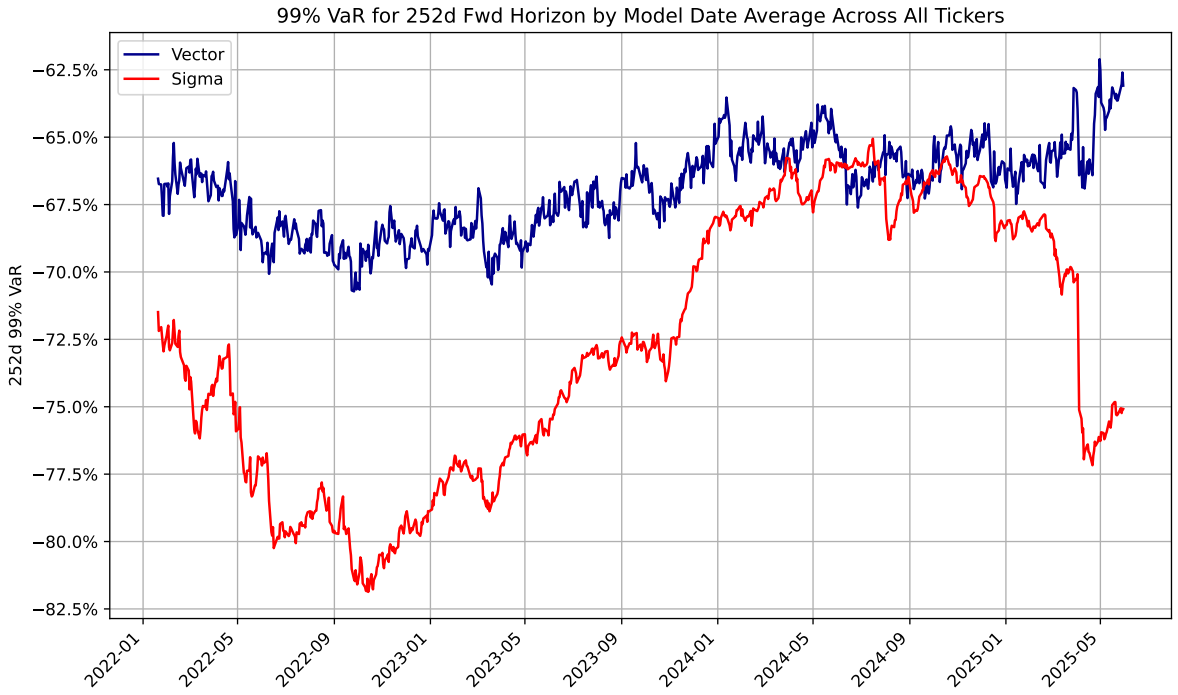
63d Horizon


99% VaR for 63d Fwd Horizon by Model Date Average Across All Tickers
63d 99% VaR
−35.0%
−37.5%
−40.0%
−42.5%
−45.0%
−47.5%
−50.0%
−52.5%
2022-01
2022-05
2022-09
2023-01
2023-05
2023-09
2024-01
2024-05
2024-09
2025-01
2025-05
Vector
Sigma

126d Horizon



252d Horizon



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

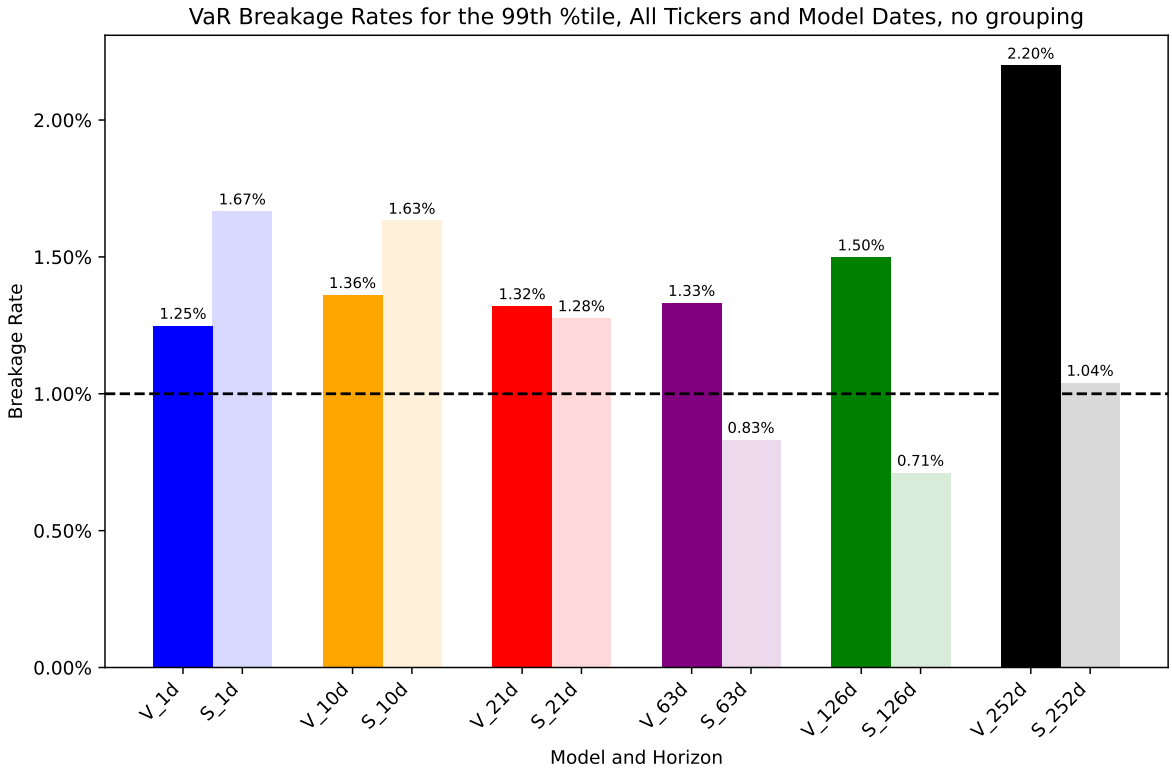
Vector Model ROVBC can be evalauated on the basis of outright levels relative to Sigma and alpha relative to Sigma ROVBC (which, as discussed previously, is assigned the underlying ticker price returns). We advise keeping proximity of VaR breakage rates to targetted levels in mind when comparing outright 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.

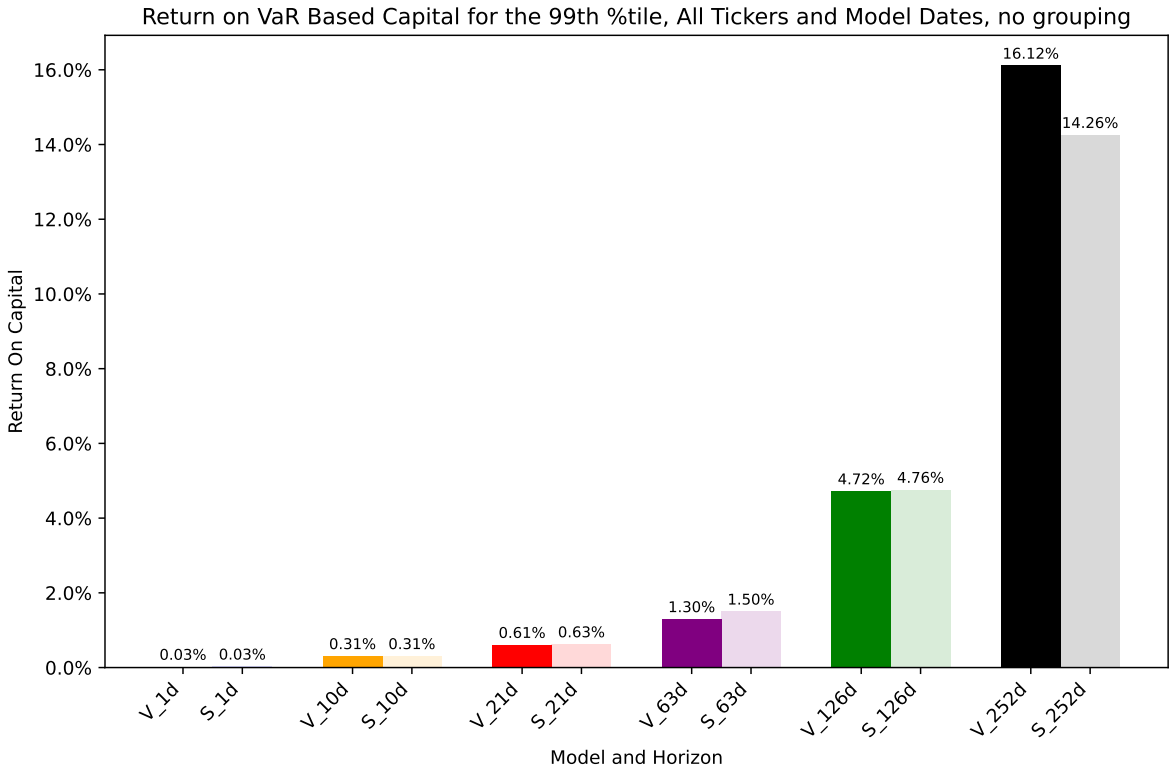
Alpha allows us to isolate ROVBC performance differences between the Vector Model and Sigma apart from any systematic difference between the ROVBC multiplier for the Vector Model and 1.00x. Alpha across TMD's could be driven by VaR differentials between tickers and / or between dates. Thus we also present 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 Mdoel 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 2025-05-29





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

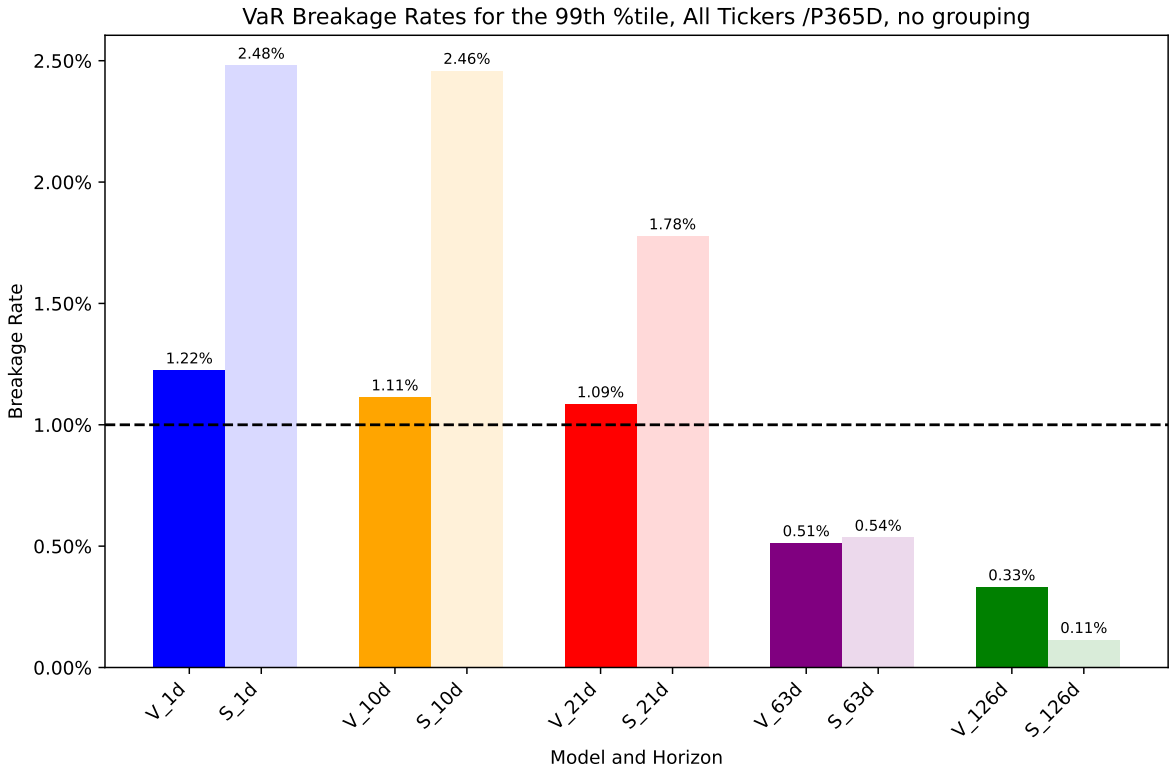
	1d	10d	21d	63d	126d	252d
intercept	-0.00%	-0.02%	-0.07%	-0.35%	-0.90%	-0.94%
intercept_p_value	55.70%	29.10%	0.31%	0.00%	0.00%	0.00%
slope	90.31%	105.46%	108.67%	109.60%	118.06%	119.62%
slope_p_value	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

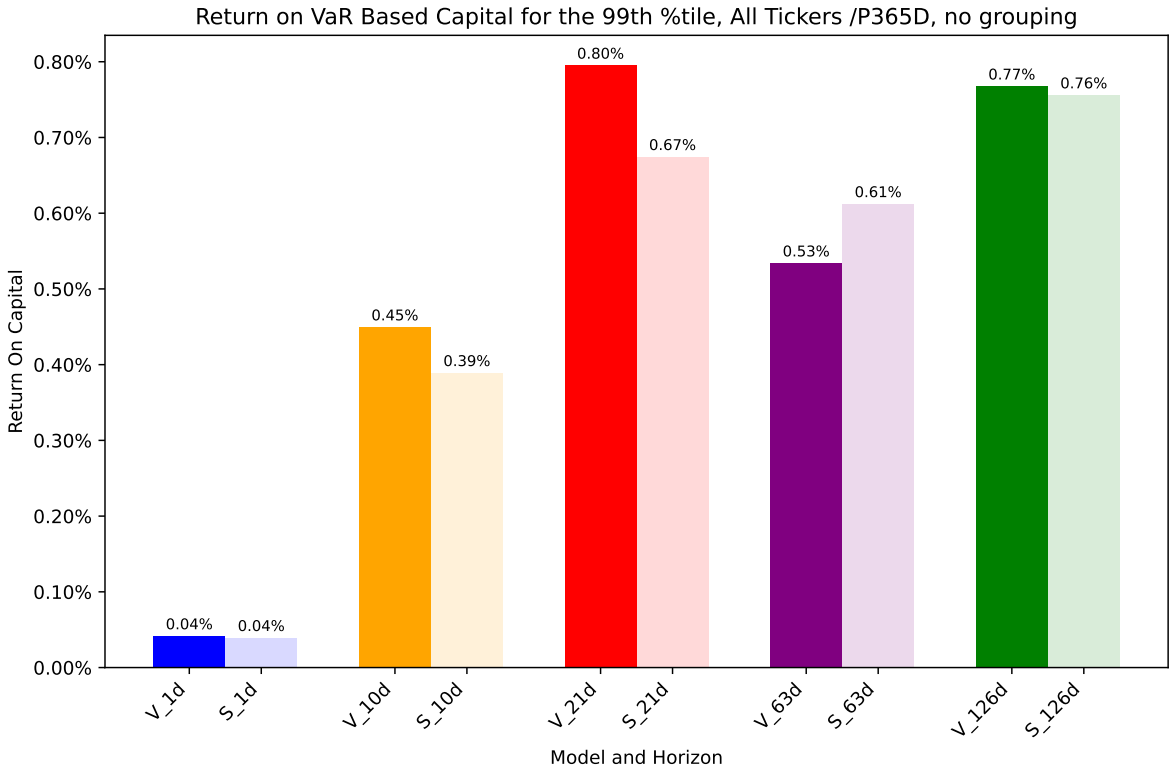
Average Alpha (intercept) and Beta (slope) of Vector Model ROVBC regressed upon corresponding actual returns, by ticker across Model Dates:

	1d	10d	21d	63d	126d	252d
intercept	-0.02%	-0.12%	-0.35%	-1.47%	-3.50%	-5.01%
intercept_p_value	0.80%	7.42%	1.69%	0.20%	0.01%	0.45%
slope	157.57%	153.05%	163.38%	175.52%	173.89%	162.67%
slope_p_value	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

Prior 365 Calendar Days (P365D)

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





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

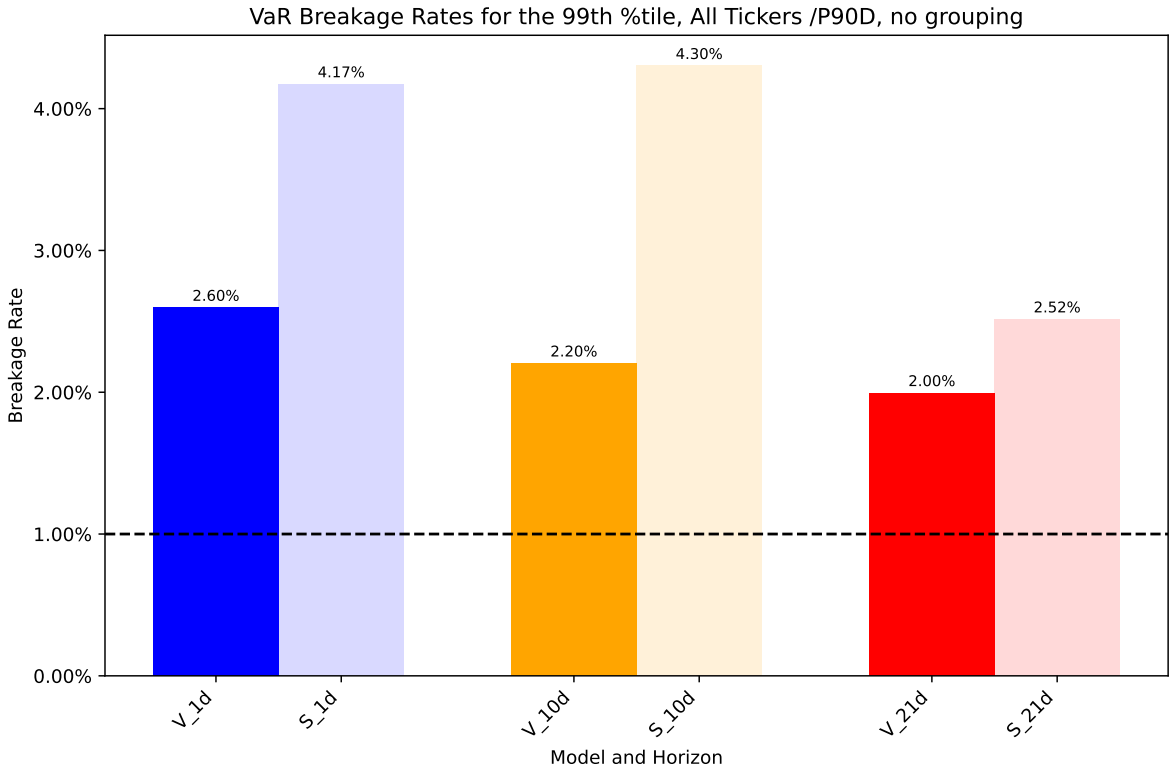
	1d	10d	21d	63d	126d
intercept	0.01%	0.13%	0.19%	-0.02%	-0.00%
intercept_p_value	11.92%	0.00%	0.00%	59.77%	95.26%
slope	75.83%	81.63%	89.98%	90.60%	102.03%
slope_p_value	0.00%	0.00%	0.00%	0.00%	0.00%

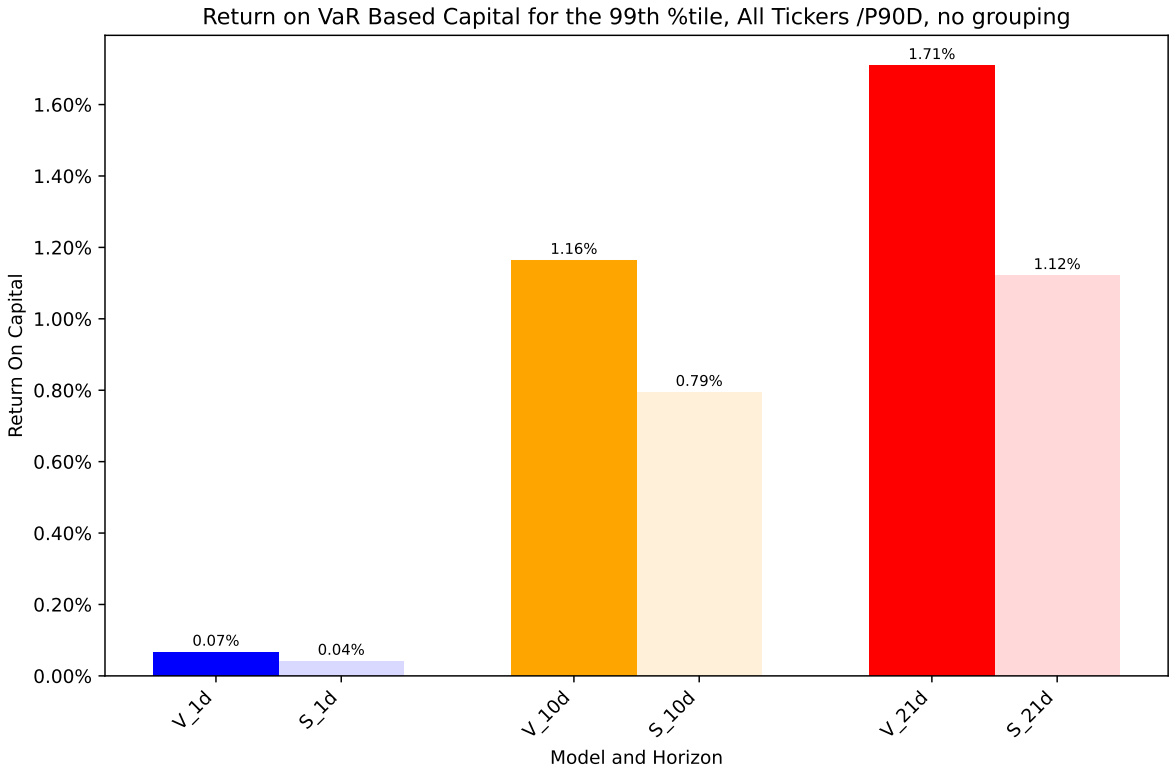
Average Alpha (intercept) and Beta (slope) of Vector Model ROVBC regressed upon corresponding actual returns, by ticker across P365D:

	1d	10d	21d	63d	126d
intercept	0.02%	0.19%	0.22%	-0.05%	0.14%
intercept_p_value	4.99%	2.13%	14.99%	88.14%	82.95%
slope	79.66%	98.38%	106.81%	115.34%	119.48%
slope_p_value	0.00%	0.00%	0.00%	0.00%	0.00%

Prior 90 Calendar Days (P90D)

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





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

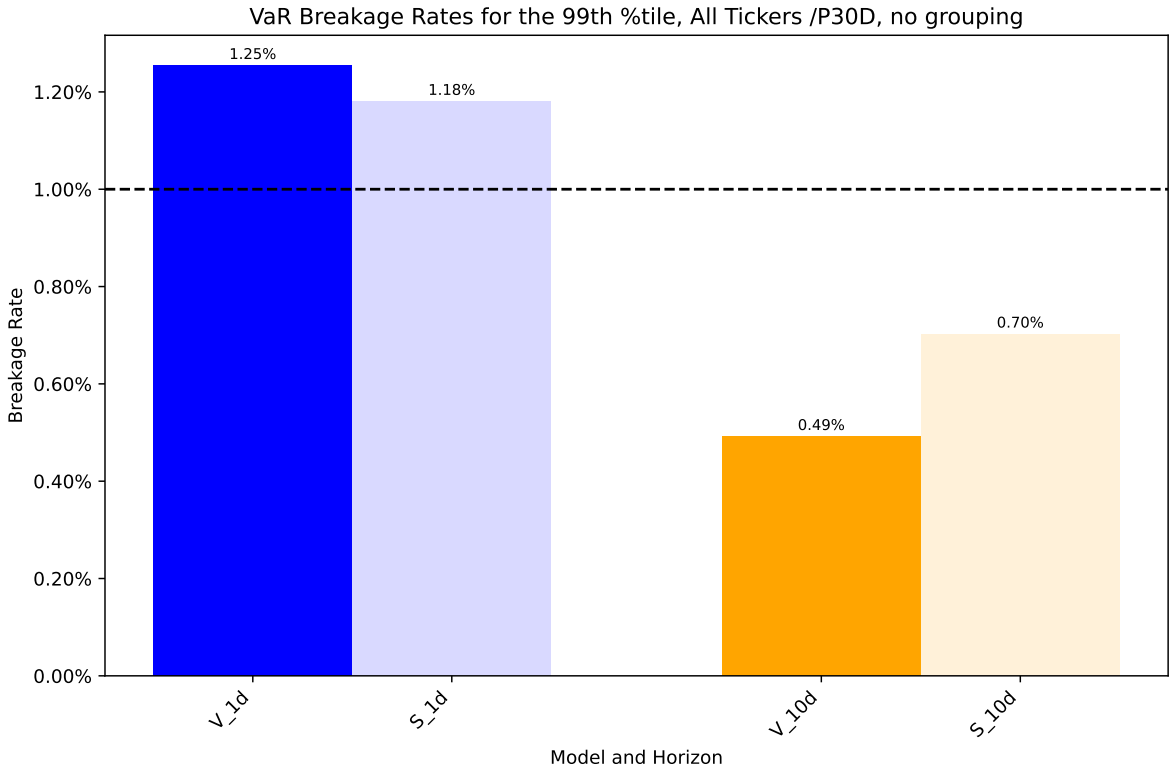
	1d	10d	21d
intercept	0.03%	0.44%	0.63%
intercept_p_value	10.19%	0.00%	0.00%
slope	81.63%	90.84%	95.84%
slope_p_value	0.00%	0.00%	0.00%

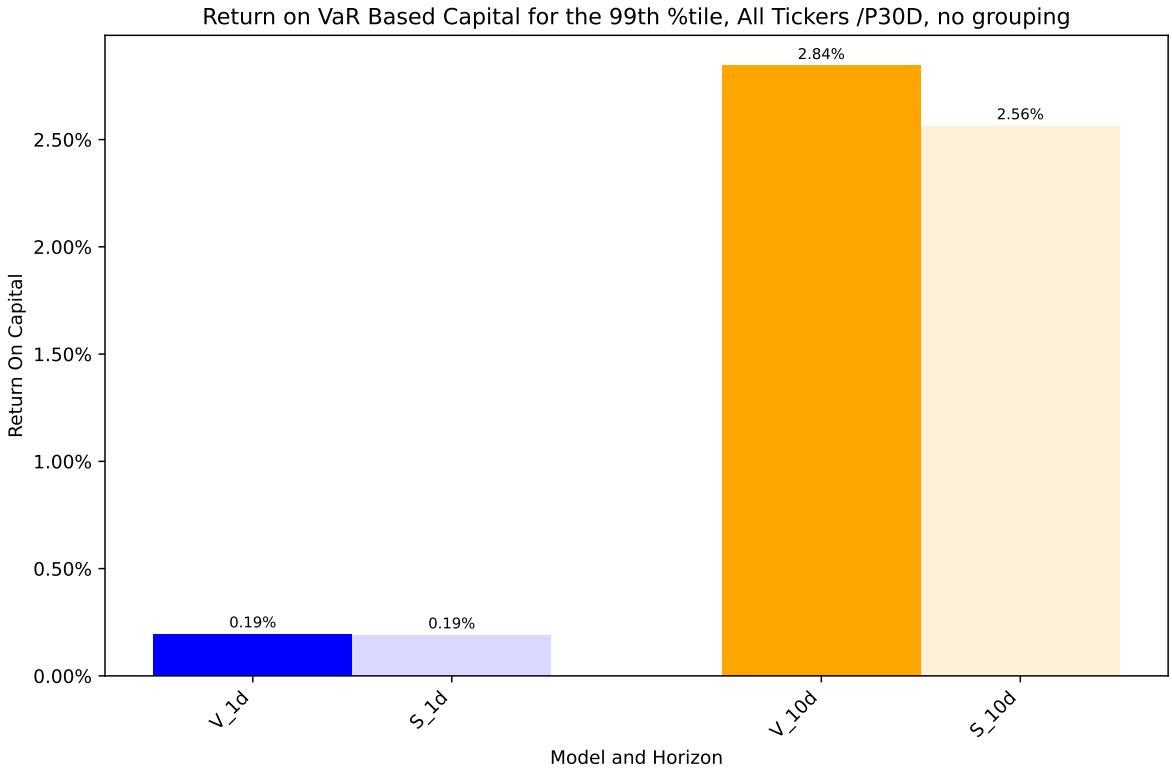
Average Alpha (intercept) and Beta (slope) of Vector Model ROVBC regressed upon corresponding actual returns, by ticker across P90D:

	1d	10d	21d
intercept	0.03%	0.50%	0.87%
intercept_p_value	16.22%	0.15%	0.93%
slope	106.58%	109.91%	118.78%
slope_p_value	0.00%	0.00%	0.00%

Prior 30 Calendar Days (P30D)

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





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

	1d	10d
intercept	0.03%	0.23%
intercept_p_value	46.58%	13.58%
slope	87.87%	101.96%
slope_p_value	0.00%	0.00%

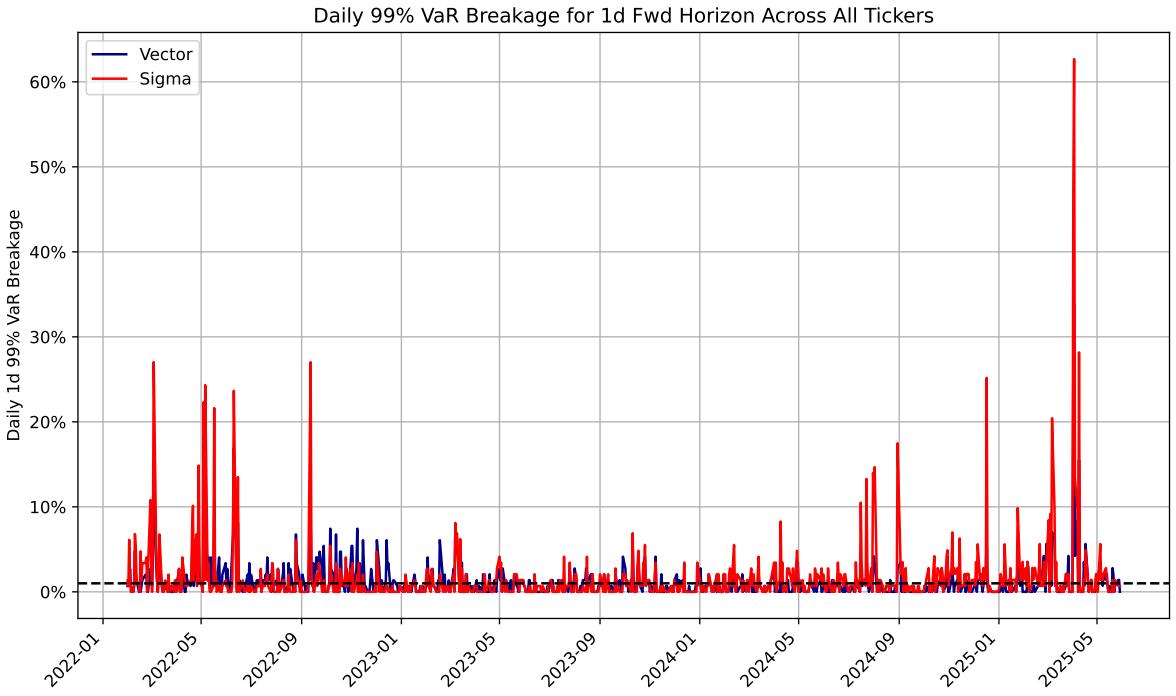
Average Alpha (intercept) and Beta (slope) of Vector Model ROVBC regressed upon corresponding actual returns, by ticker across P30D:

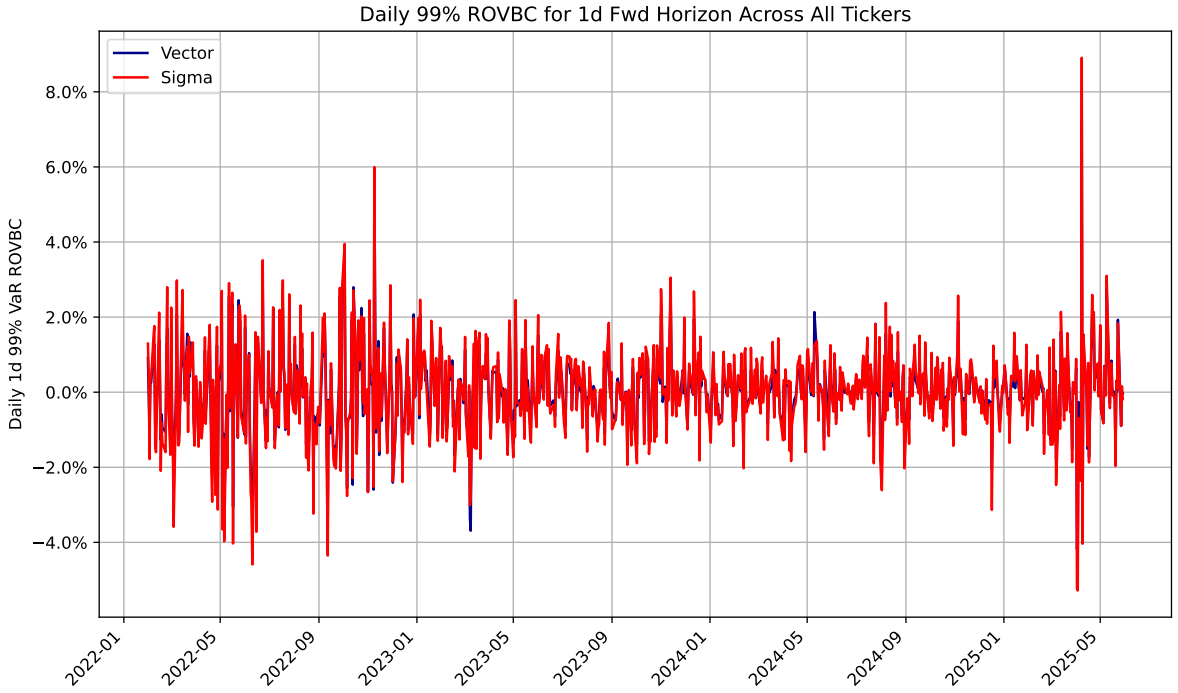
	1d	10d
intercept	0.00%	0.10%
intercept_p_value	94.77%	81.82%
slope	136.17%	144.48%
slope_p_value	0.00%	0.00%

Daily Performance

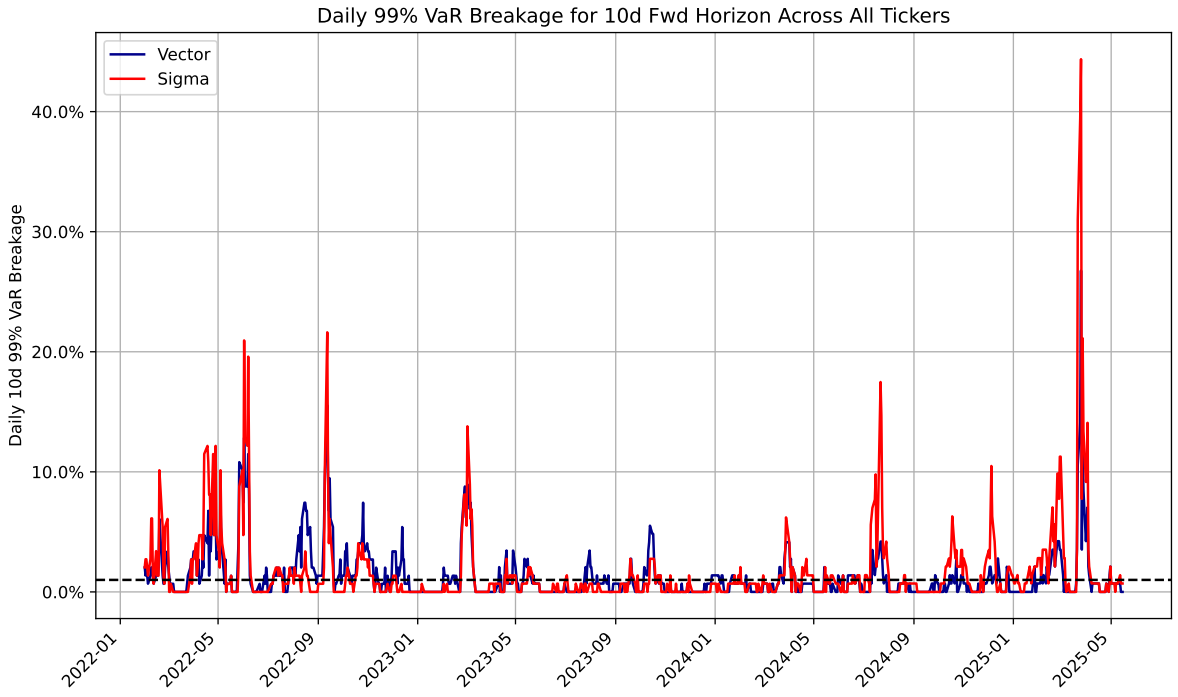
Here we look at the daily breakage and ROVBC statitics summarized in the preceding section. The daily basis of the presentation allows for observation of the magnitude, frequency and proximity of breakage and ROVBC outliers.

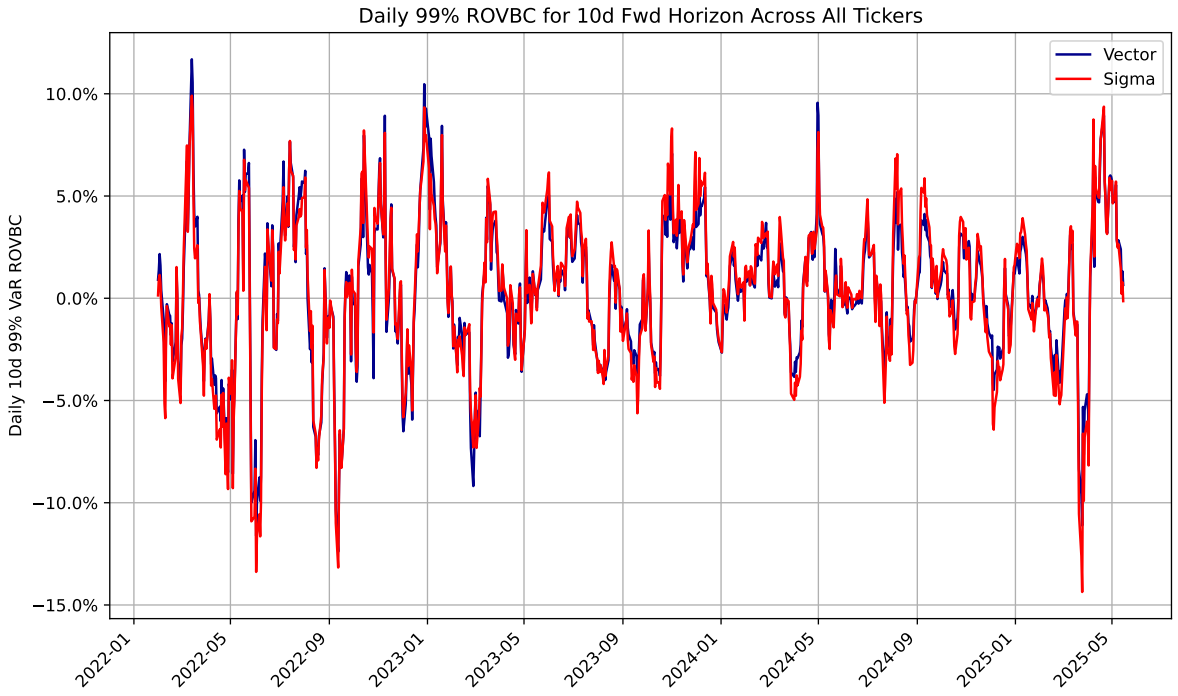
1d Horizon



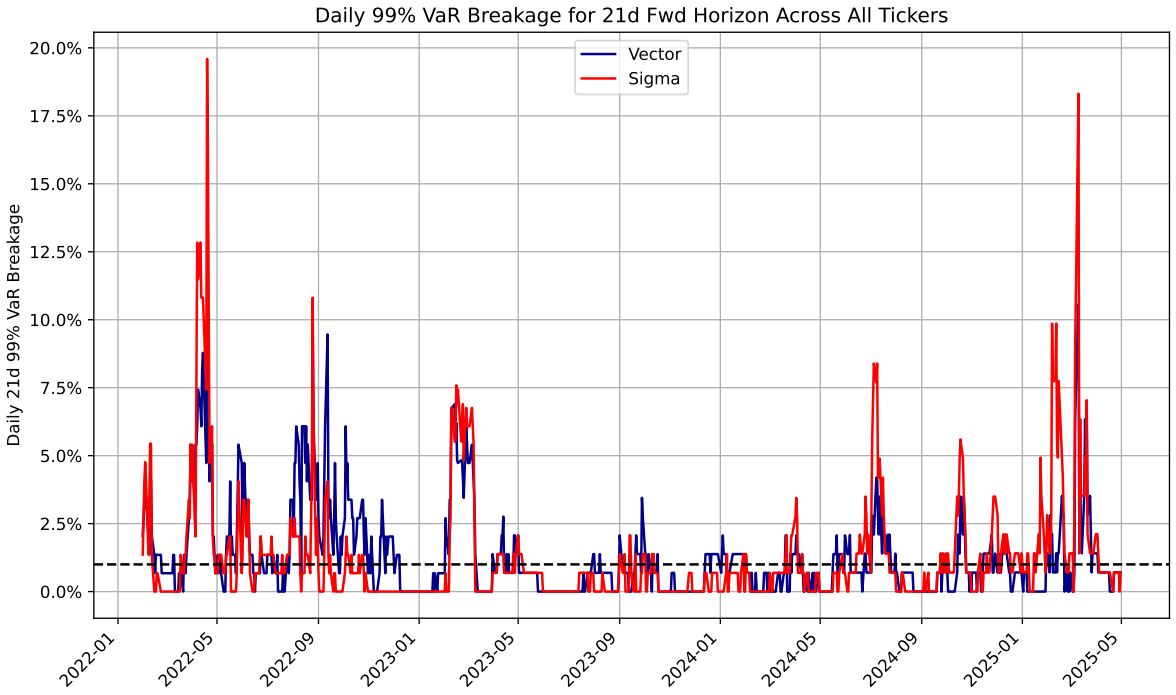

Daily 99% ROVBC for 1d Fwd Horizon Across All Tickers
Vector
Sigma
Daily 1d 99% VaR ROVBC
8.0%
6.0%
4.0%
2.0%
0.0%
−2.0%
−4.0%
2022-01
2022-05
2022-09
2023-01
2023-05
2023-09
2024-01
2024-05
2024-09
2025-01
2025-05

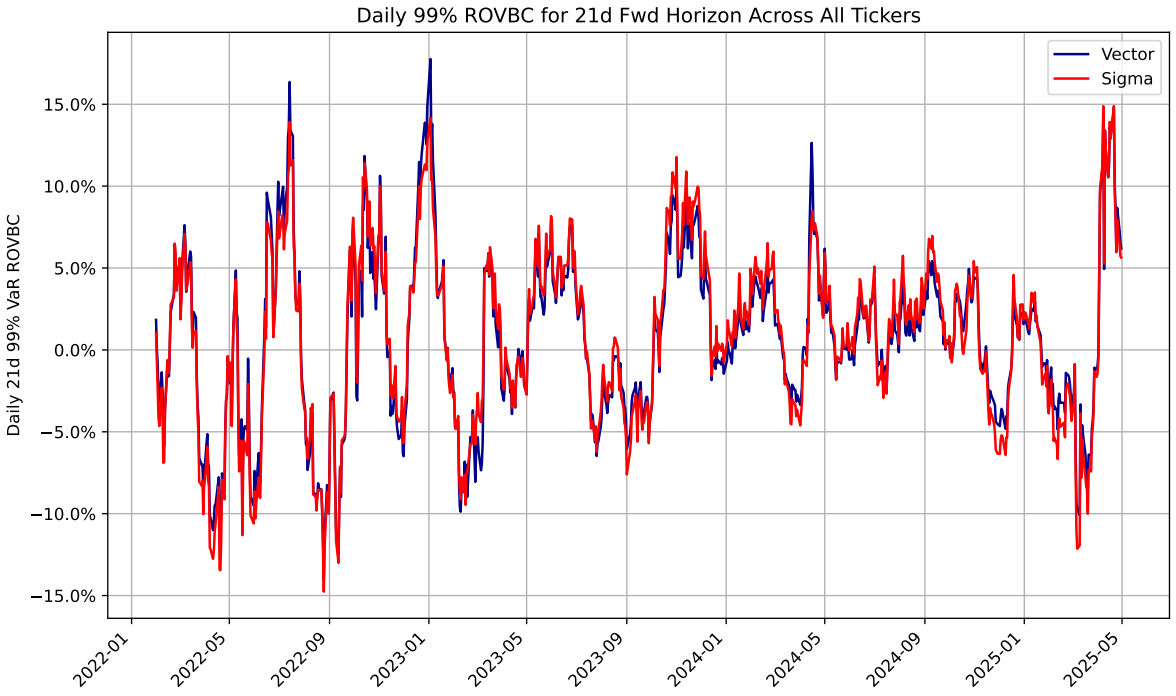
10d Horizon


Daily 99% VaR Breakage for 10d Fwd Horizon Across All Tickers
Vector
Sigma
Daily 10d 99% VaR Breakage
40.0%
30.0%
20.0%
10.0%
0.0%
2022-01
2022-05
2022-09
2023-01
2023-05
2023-09
2024-01
2024-05
2024-09
2025-01
2025-05

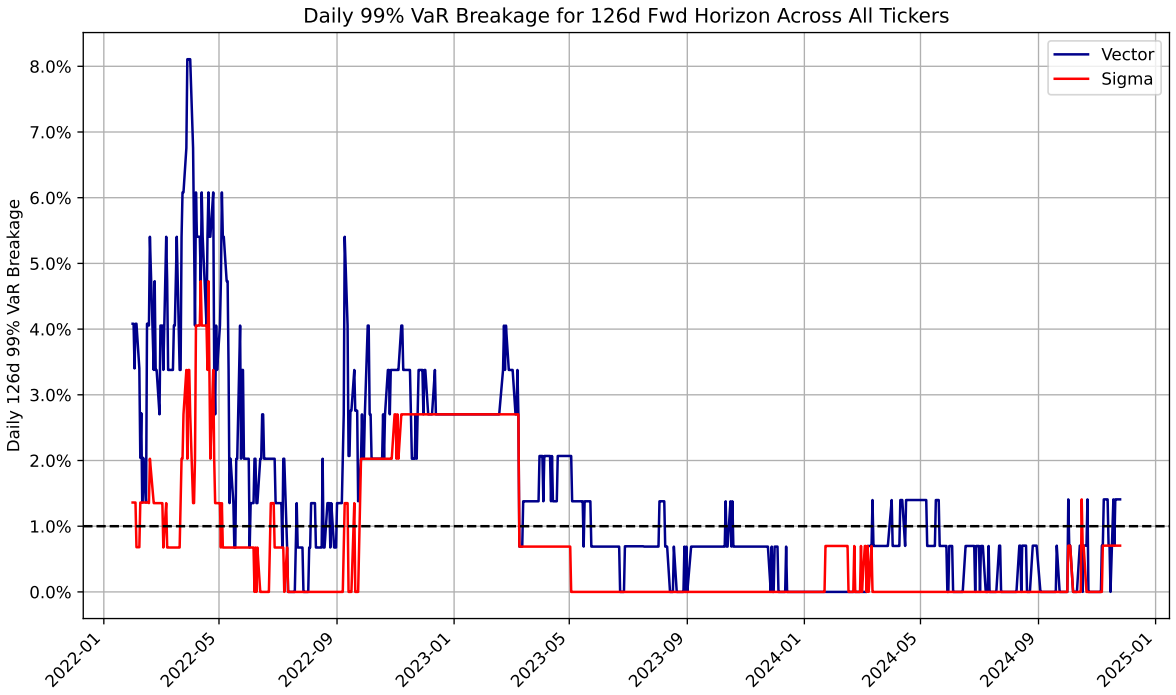

Daily 99% ROVBC for 10d Fwd Horizon Across All Tickers
Vector
Sigma
Daily 10d 99% VaR ROVBC
10.0%
5.0%
0.0%
−5.0%
−10.0%
−15.0%
2022-01
2022-05
2022-09
2023-01
2023-05
2023-09
2024-01
2024-05
2024-09
2025-01
2025-05

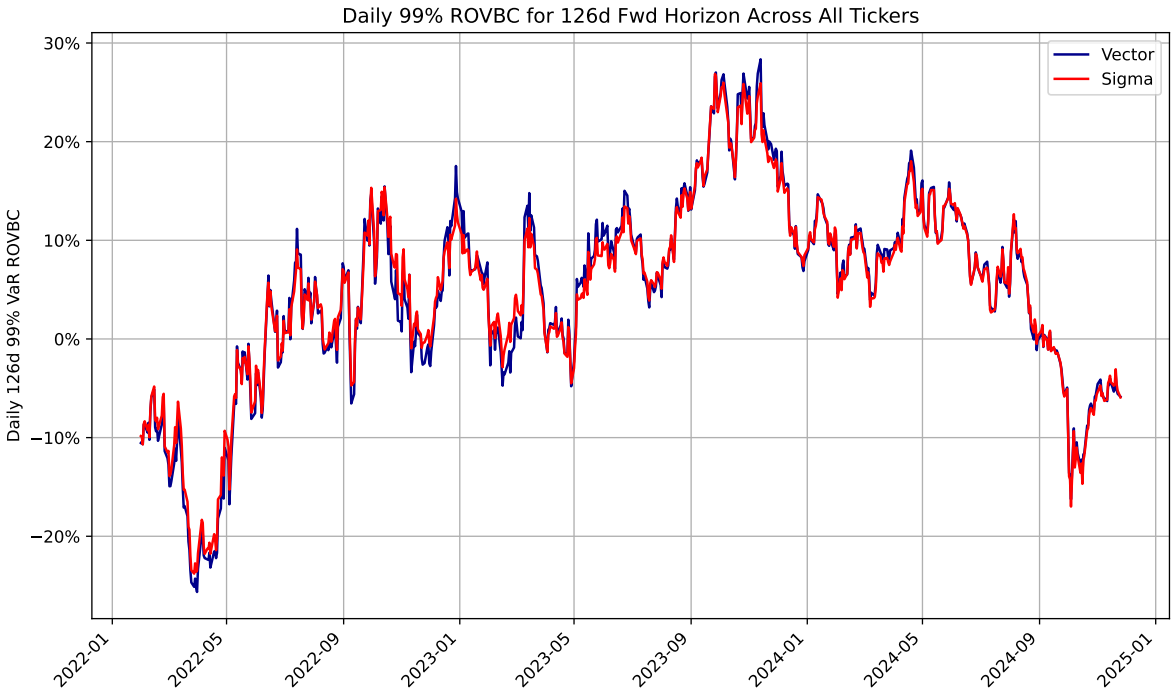
21d Horizon


Daily 99% VaR Breakage for 21d Fwd Horizon Across All Tickers
Vector
Sigma
Daily 21d 99% VaR Breakage
20.0%
17.5%
15.0%
12.5%
10.0%
7.5%
5.0%
2.5%
0.0%
2022-01
2022-05
2022-09
2023-01
2023-05
2023-09
2024-01
2024-05
2024-09
2025-01
2025-05

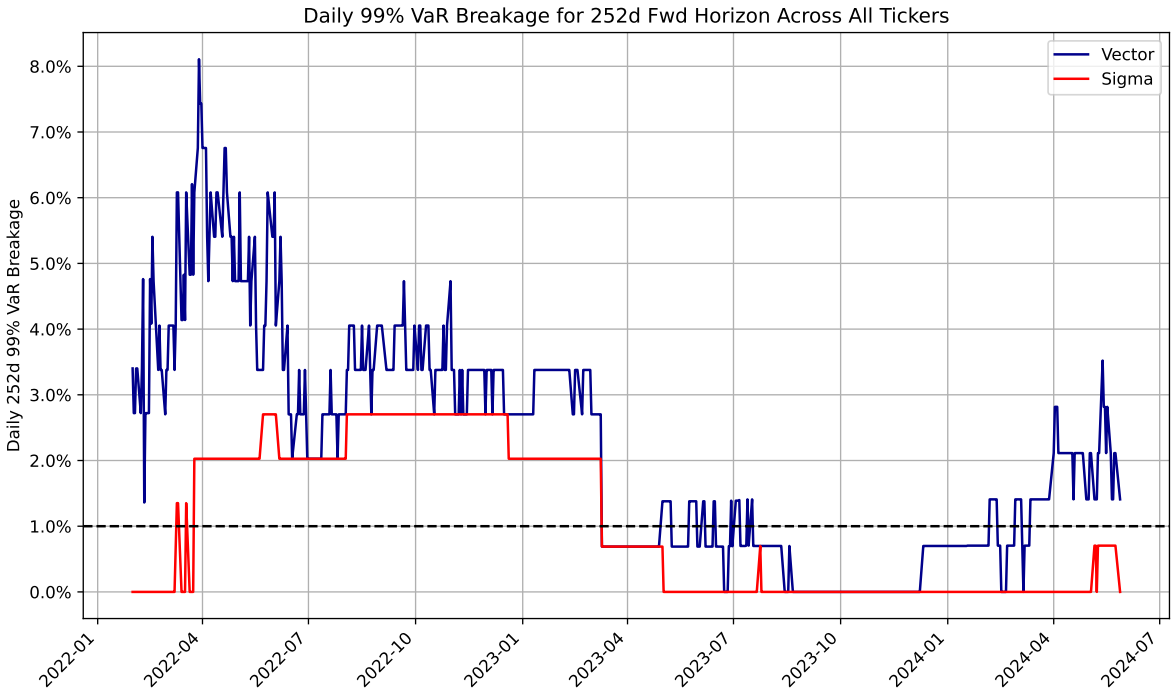

Daily 99% ROVBC for 21d Fwd Horizon Across All Tickers
Vector
Sigma
Daily 21d 99% VaR ROVBC
15.0%
10.0%
5.0%
0.0%
−5.0%
−10.0%
−15.0%
2022-01
2022-05
2022-09
2023-01
2023-05
2023-09
2024-01
2024-05
2024-09
2025-01
2025-05

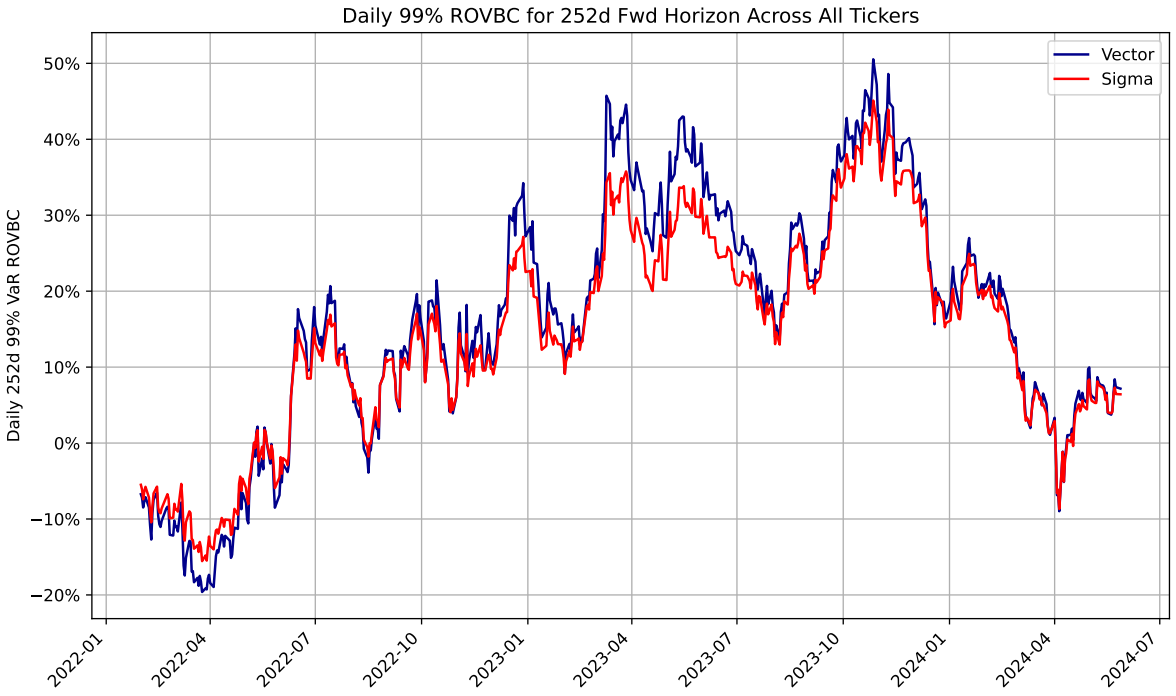
63d Horizon


Daily 99% VaR Breakage for 126d Fwd Horizon Across All Tickers
Daily 126d 99% VaR Breakage
8.0%
7.0%
6.0%
5.0%
4.0%
3.0%
2.0%
1.0%
0.0%
Vector
Sigma
2022-01
2022-05
2022-09
2023-01
2023-05
2023-09
2024-01
2024-05
2024-09
2025-01


Daily 99% ROVBC for 126d Fwd Horizon Across All Tickers
Daily 126d 99% VaR ROVBC
30%
20%
10%
0%
−10%
−20%
Vector
Sigma
2022-01
2022-05
2022-09
2023-01
2023-05
2023-09
2024-01
2024-05
2024-09
2025-01

252d Horizon

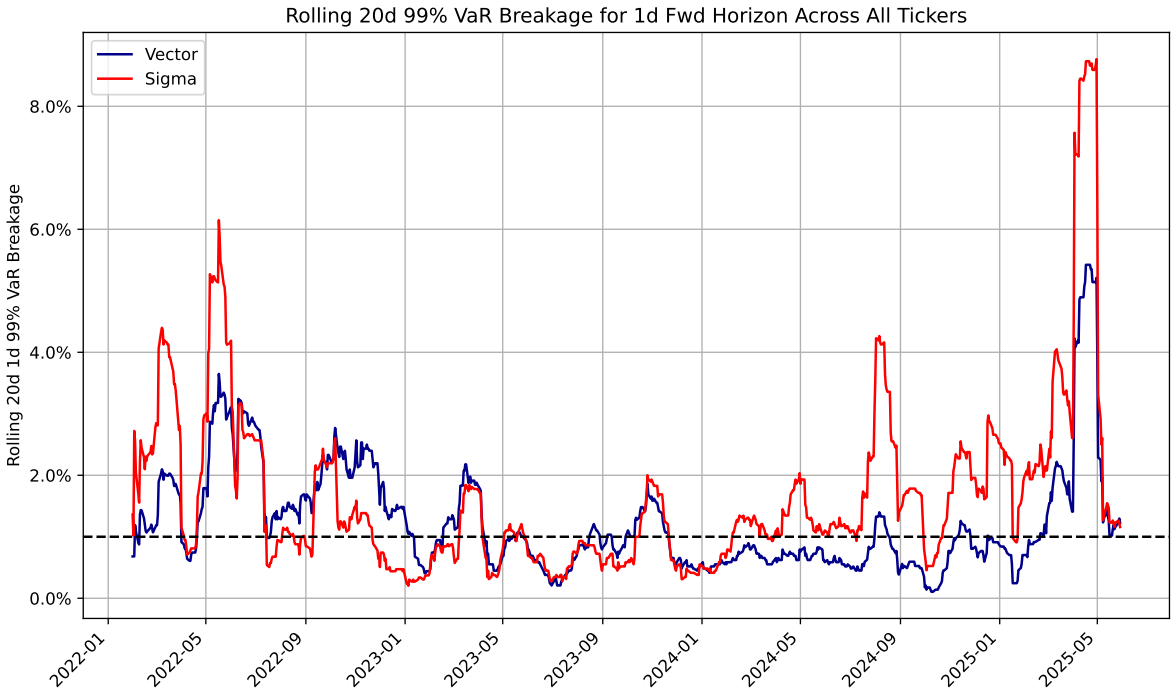


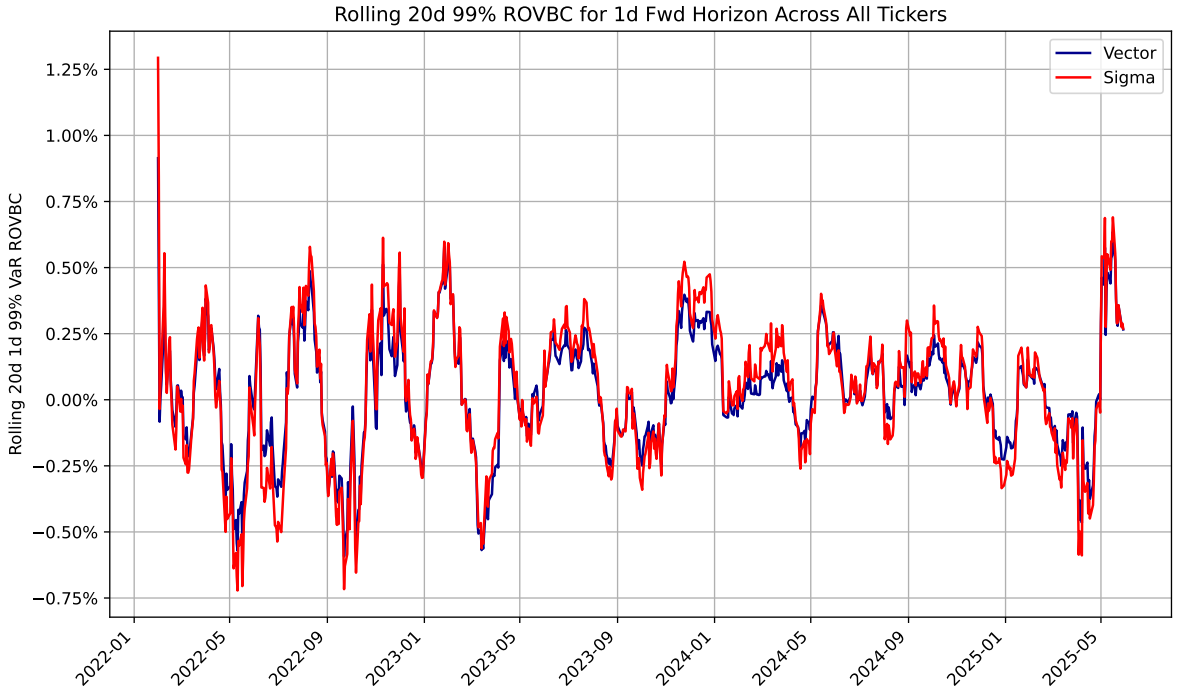


Rolling 20d Performance

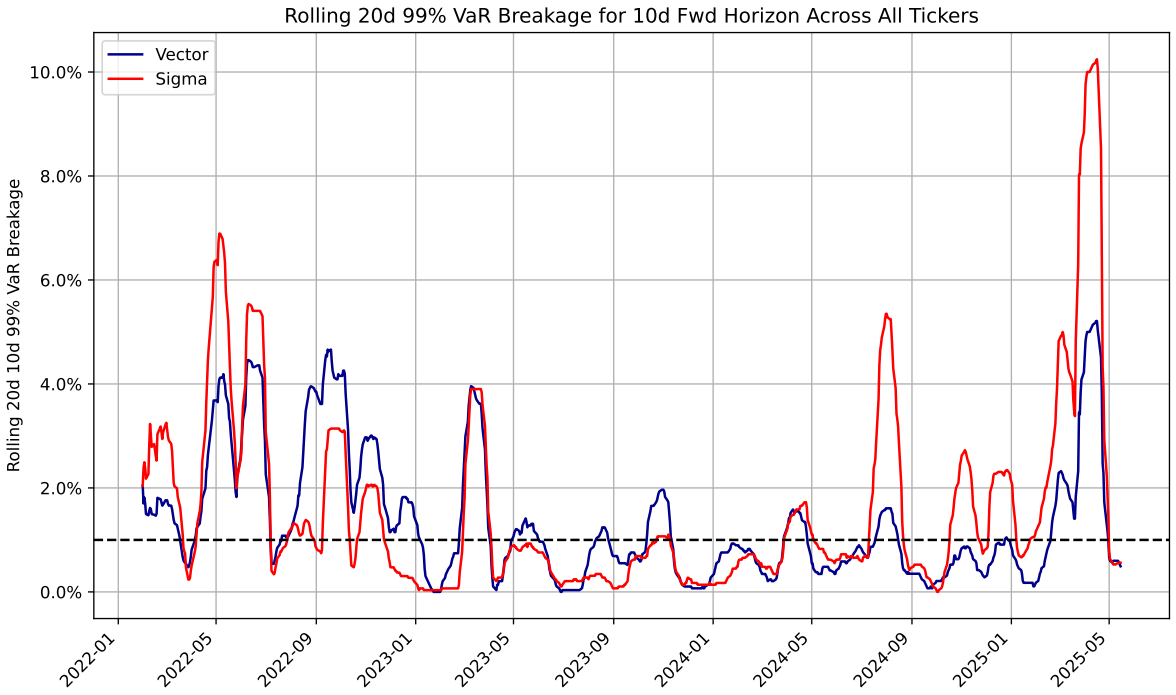
Here we look at 20 day rolling moving averages of the breakage and ROVBC statitics summarized in the preceding section. These 20day moving averages are averages of daily averages across all tickers.

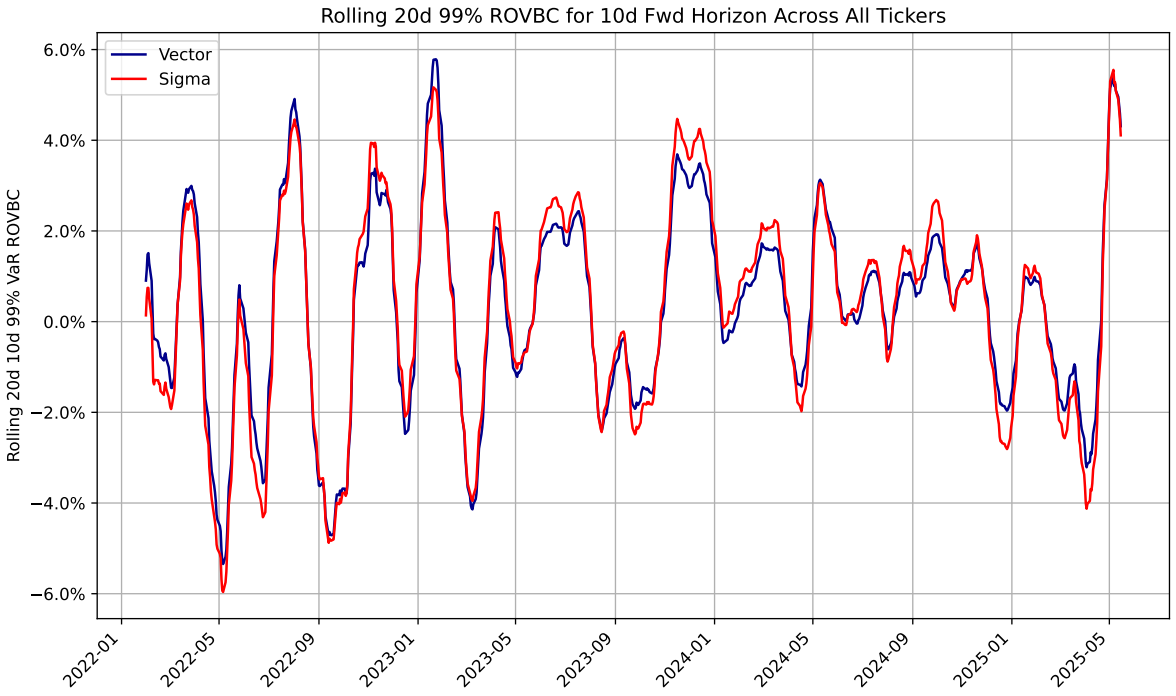
1d Horizon



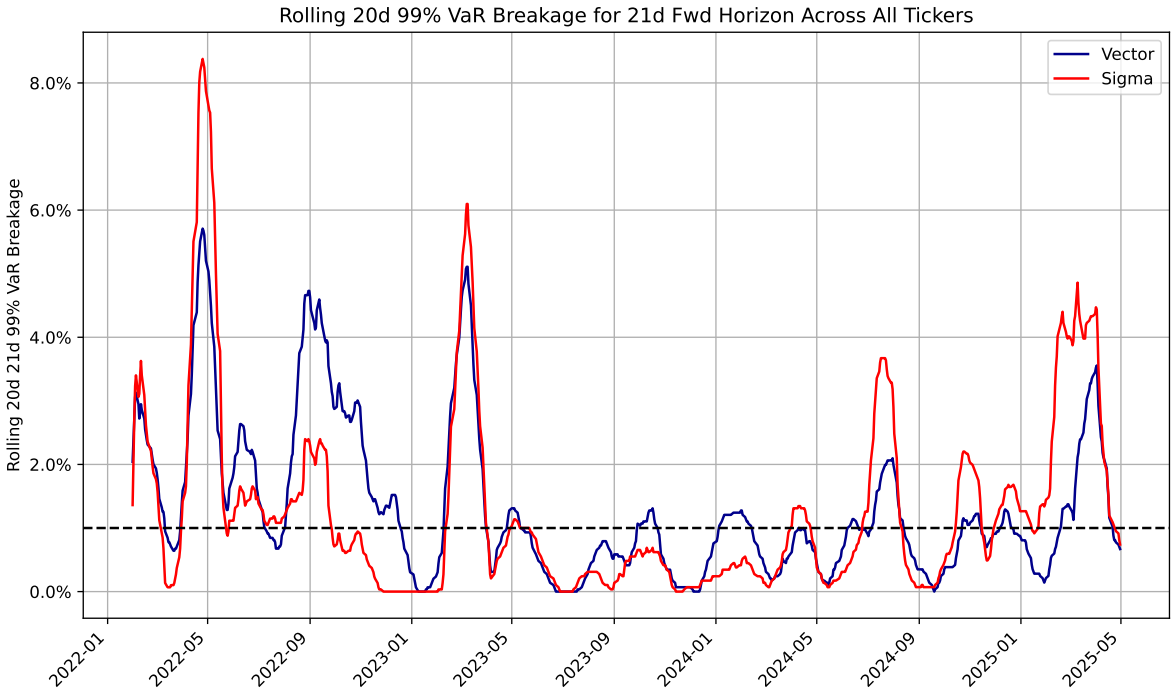

Rolling 20d 99% ROVBC for 1d Fwd Horizon Across All Tickers
Vector
Sigma
Rolling 20d 1d 99% VaR ROVBC
1.25%
1.00%
0.75%
0.50%
0.25%
0.00%
−0.25%
−0.50%
−0.75%
2022-01
2022-05
2022-09
2023-01
2023-05
2023-09
2024-01
2024-05
2024-09
2025-01
2025-05

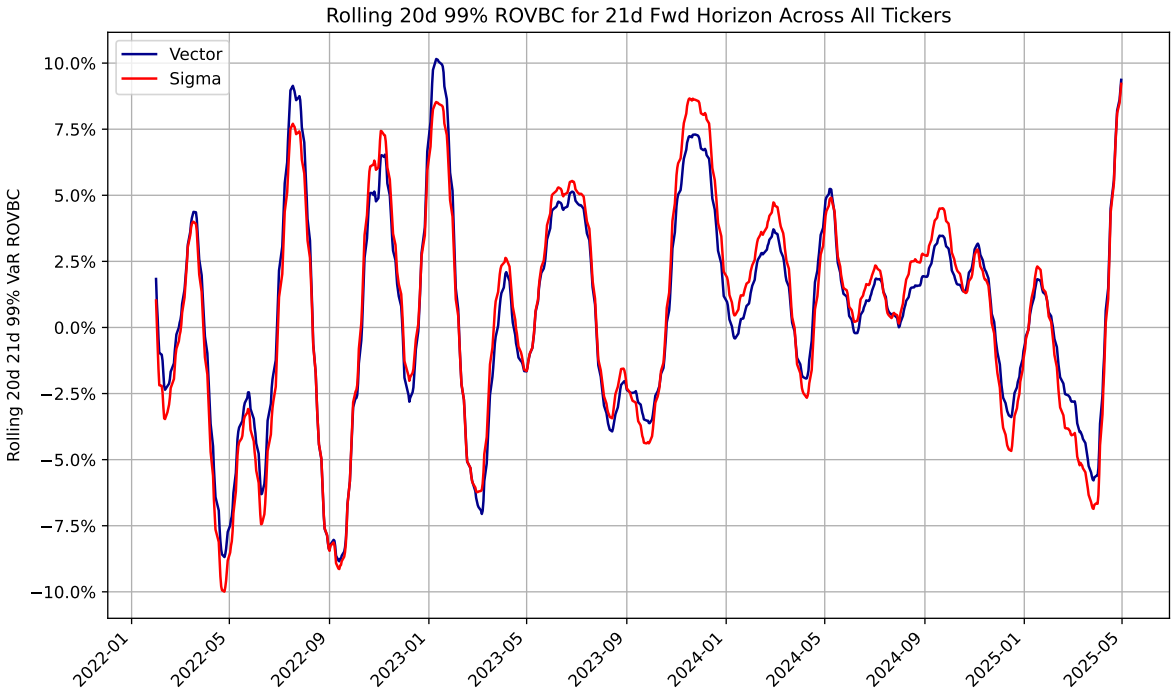
10d Horizon


Rolling 20d 99% VaR Breakage for 10d Fwd Horizon Across All Tickers
Vector
Sigma
Rolling 20d 10d 99% VaR Breakage
10.0%
8.0%
6.0%
4.0%
2.0%
0.0%
2022-01
2022-05
2022-09
2023-01
2023-05
2023-09
2024-01
2024-05
2024-09
2025-01
2025-05

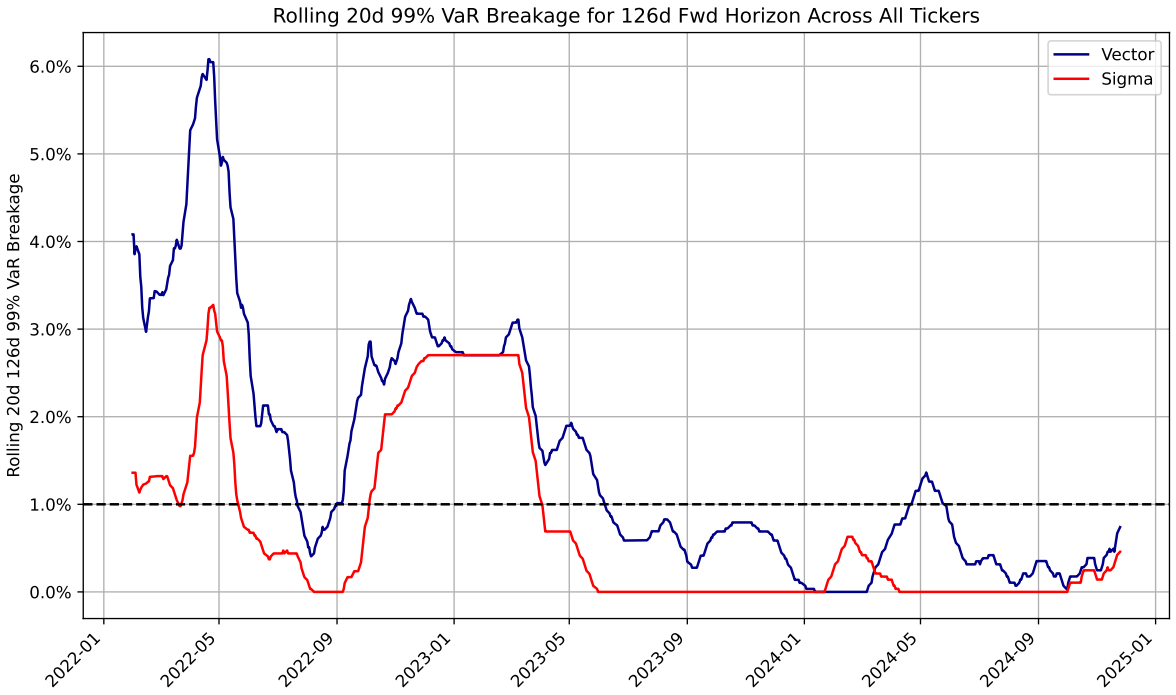

Rolling 20d 99% ROVBC for 10d Fwd Horizon Across All Tickers
Vector
Sigma
Rolling 20d 10d 99% VaR ROVBC
6.0%
4.0%
2.0%
0.0%
−2.0%
−4.0%
−6.0%
2022-01
2022-05
2022-09
2023-01
2023-05
2023-09
2024-01
2024-05
2024-09
2025-01
2025-05

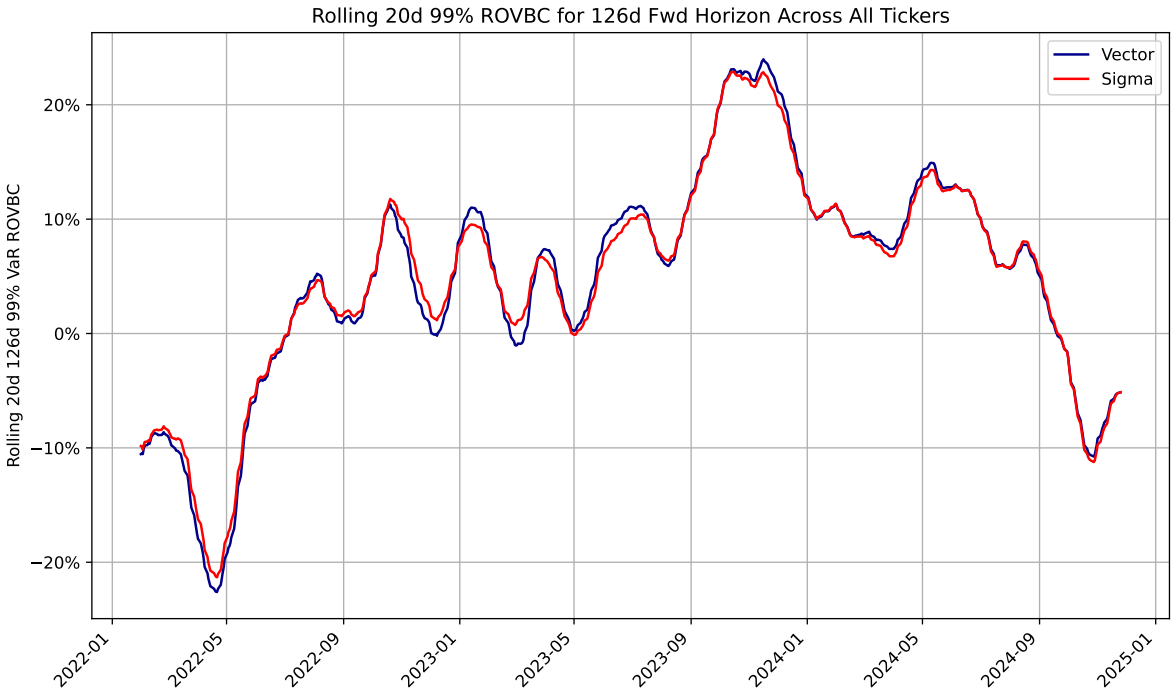
21d Horizon


Rolling 20d 99% VaR Breakage for 21d Fwd Horizon Across All Tickers
Vector
Sigma
Rolling 20d 21d 99% VaR Breakage
8.0%
6.0%
4.0%
2.0%
0.0%
2022-01
2022-05
2022-09
2023-01
2023-05
2023-09
2024-01
2024-05
2024-09
2025-01
2025-05

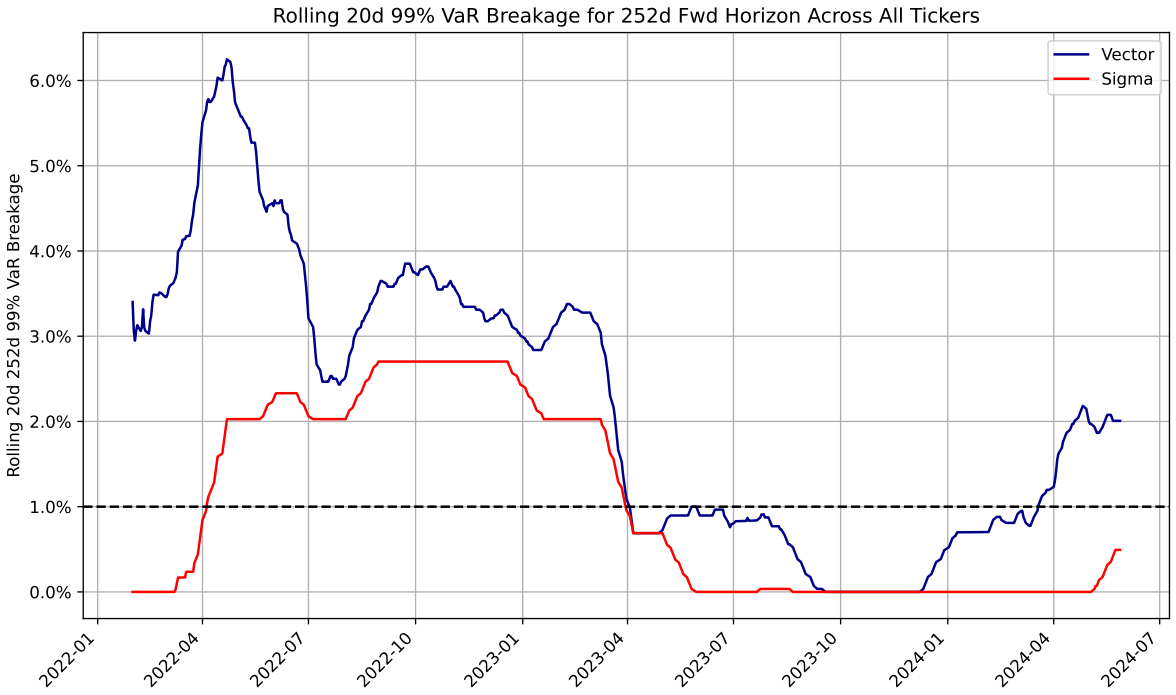

Rolling 20d 99% ROVBC for 21d Fwd Horizon Across All Tickers
Vector
Sigma
Rolling 20d 21d 99% VaR ROVBC
10.0%
7.5%
5.0%
2.5%
0.0%
−2.5%
−5.0%
−7.5%
−10.0%
2022-01
2022-05
2022-09
2023-01
2023-05
2023-09
2024-01
2024-05
2024-09
2025-01
2025-05

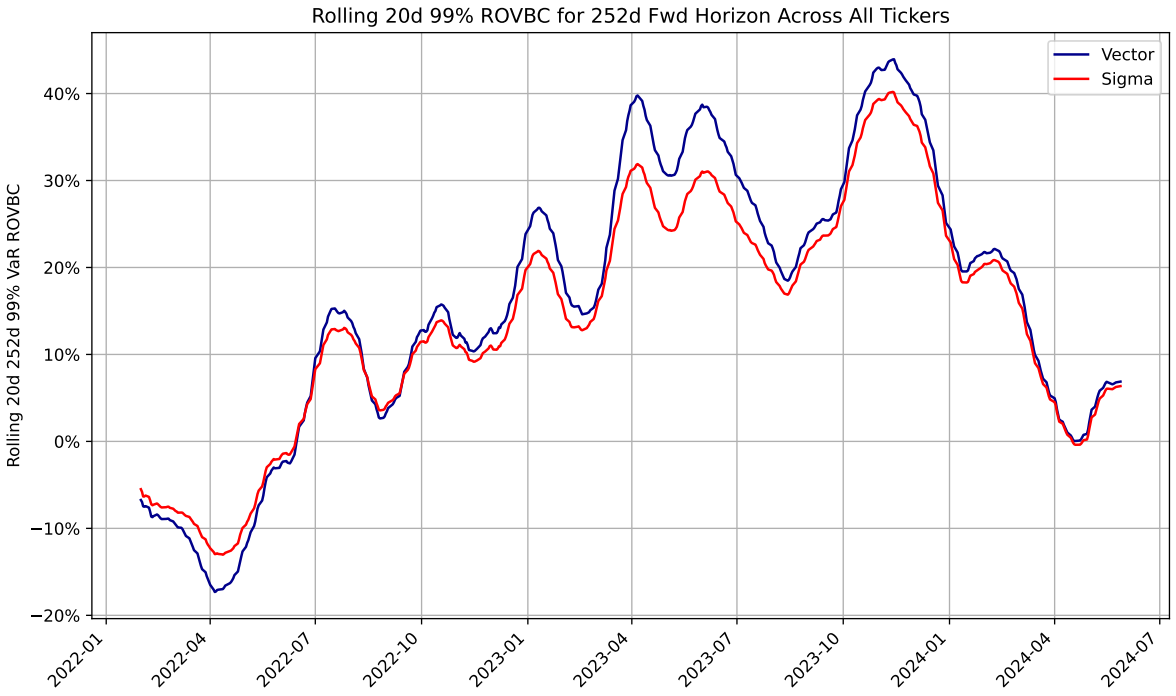
63d Horizon


Rolling 20d 99% VaR Breakage for 126d Fwd Horizon Across All Tickers
Vector
Sigma
Rolling 20d 126d 99% VaR Breakage
6.0%
5.0%
4.0%
3.0%
2.0%
1.0%
0.0%
2022-01
2022-05
2022-09
2023-01
2023-05
2023-09
2024-01
2024-05
2024-09
2025-01


Rolling 20d 99% ROVBC for 126d Fwd Horizon Across All Tickers
Vector
Sigma
Rolling 20d 126d 99% VaR ROVBC
20%
10%
0%
−10%
−20%
2022-01
2022-05
2022-09
2023-01
2023-05
2023-09
2024-01
2024-05
2024-09
2025-01

252d Horizon





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 2025-05-29

Horizon	Ticker_V	VaRBreak_V	Ticker_S	VaRBreak_S
1.0	SBNY	15.47%	B	7.14%
1.0	SIVBQ	10.43%	SBNY	3.6%
1.0	TSLA	7.9%	SIVBQ	2.88%
1.0	B	7.14%	TRGP	2.87%
1.0	LQD	6.95%	QCOM	2.75%
1.0	FRCB	5.76%	UNH	2.63%
1.0	ZTS	4.91%	IRM	2.63%
1.0	GME	4.91%	SPY	2.63%
1.0	JAZZ	3.95%	VST	2.51%
1.0	MSTR	3.83%	GOOGL	2.51%
1.0	CHTR	3.59%	QQQ	2.51%
1.0	AAP	3.47%	PEP	2.51%
1.0	ISRG	3.35%	ACGL	2.51%
1.0	FRA	3.23%	HSBC	2.4%
1.0	BUD	3.23%	NVDA	2.4%
1.0	GNRC	3.11%	WFC	2.4%
1.0	CDNS	2.99%	VZ	2.28%
1.0	AMC	2.87%	ABBV	2.28%
1.0	EXPE	2.75%	PWR	2.28%
1.0	SLV	2.75%	NVS	2.28%
1.0	VZ	2.51%	GS	2.28%
1.0	KALU	2.51%	CMG	2.28%
1.0	QCOM	2.4%	KHC	2.28%
1.0	BXP	2.16%	FRCB	2.16%
1.0	GSK	2.16%	PCG	2.16%
1.0	META	2.04%	LEN	2.16%
1.0	PRGO	1.92%	TMUS	2.16%
1.0	OXY	1.92%	MSFT	2.16%
1.0	TLT	1.92%	TXN	2.16%
1.0	ELAN	1.82%	INTU	2.16%

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 2025-05-29

Horizon	Ticker_V	VaRBreak_V	Ticker_S	VaRBreak_S
10.0	SBNY	17.65%	SIVBQ	5.51%
10.0	SIVBQ	12.87%	MUB	5.21%
10.0	TSLA	8.96%	CTLT	4.08%
10.0	AAP	8.96%	AAP	4.0%
10.0	CHTR	8.84%	UNH	3.63%
10.0	AMC	7.99%	LW	3.63%
10.0	LQD	6.66%	FIS	3.39%
10.0	CVS	4.84%	BAC	3.39%
10.0	KALU	4.72%	SBNY	3.31%
10.0	MSTR	4.36%	FRCB	3.31%
10.0	ZTS	4.24%	ABBV	3.27%
10.0	GNRC	4.24%	WDC	3.27%
10.0	ISRG	3.87%	CHTR	3.27%
10.0	VCSH	3.75%	GSK	3.15%
10.0	CTLT	3.67%	PCG	3.15%
10.0	GSK	3.63%	FRA	3.03%
10.0	GME	3.63%	IEP	3.03%
10.0	BHC	3.63%	CVS	3.03%
10.0	SNY	3.63%	BHC	2.91%
10.0	FRCB	3.31%	TRGP	2.91%
10.0	EXPE	3.27%	EMB	2.67%
10.0	NEM	3.03%	BALL	2.66%
10.0	EMB	2.79%	AZN	2.66%
10.0	LW	2.78%	COST	2.66%
10.0	META	2.66%	WFC	2.66%
10.0	OXY	2.66%	EXPE	2.54%
10.0	BIIB	2.54%	SBUX	2.54%
10.0	CMA	2.54%	FITB	2.54%
10.0	JAZZ	2.54%	VFC	2.42%
10.0	UNH	2.54%	JPM	2.42%

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 2025-05-29

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	12.76%	SBNY	5.56%
21.0	AMC	9.57%	LW	5.52%
21.0	VCSH	8.83%	GSK	5.4%
21.0	TSLA	8.59%	MUB	5.16%
21.0	FRCB	6.67%	CTLT	3.59%
21.0	AAP	5.89%	WDC	3.56%
21.0	GNRC	5.64%	SNY	3.31%
21.0	LQD	5.4%	AAP	3.31%
21.0	BIIB	4.54%	IEP	3.19%
21.0	BHC	4.54%	NEM	3.19%
21.0	GSK	4.42%	UNH	3.19%
21.0	KALU	4.29%	INTC	2.94%
21.0	NEM	4.05%	BHC	2.82%
21.0	CMA	3.8%	CHTR	2.82%
21.0	BUD	3.8%	VFC	2.82%
21.0	CTLT	3.59%	COST	2.82%
21.0	KEY	3.44%	EMB	2.7%
21.0	ZTS	3.44%	FRA	2.7%
21.0	META	3.19%	AMZN	2.7%
21.0	CVS	3.19%	PCG	2.58%
21.0	ZION	3.12%	NFLX	2.58%
21.0	EMB	2.95%	ZION	2.5%
21.0	AMZN	2.82%	VCSH	2.45%
21.0	FIS	2.82%	AZN	2.45%
21.0	BMY	2.7%	TFC	2.45%
21.0	UNH	2.7%	CMA	2.45%
21.0	IEP	2.58%	KEY	2.33%
21.0	MSTR	2.45%	USB	2.33%

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 2025-05-29

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	18.63%	IEP	8.15%
63.0	AMC	12.68%	GSK	8.02%
63.0	AAP	10.48%	BHC	7.89%
63.0	VCSH	9.44%	MUB	5.05%
63.0	ZION	7.38%	CTLT	4.25%
63.0	LQD	7.24%	PCG	4.01%
63.0	GNRC	6.6%	EMB	3.5%
63.0	GSK	5.69%	NEM	3.36%
63.0	MSTR	4.92%	KEY	3.36%
63.0	BUD	4.92%	USB	3.1%
63.0	BHC	4.79%	BUD	2.85%
63.0	CMA	4.53%	VZ	2.85%
63.0	BMY	4.14%	CMA	2.85%
63.0	TLT	4.01%	VCSH	2.85%
63.0	KEY	3.88%	ZION	2.77%
63.0	META	3.49%	HCA	2.33%
63.0	ON	3.49%	VFC	2.33%
63.0	EMB	2.98%	X	2.2%
63.0	BIIB	2.85%	TFC	1.94%
63.0	BXP	2.85%	AZN	1.94%
63.0	NEM	2.85%	LQD	1.81%
63.0	VNO	2.72%	SNY	1.81%
63.0	CTLT	2.64%	UNH	1.68%
63.0	FRA	2.2%	WDC	1.68%
63.0	NWL	2.2%	CLF	1.68%
63.0	NFLX	2.07%	AA	1.68%
63.0	FCX	1.94%	NFLX	1.42%

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 2025-05-29

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	AAP	24.65%	IEP	17.46%
126.0	CHTR	20.85%	GSK	13.24%
126.0	AMC	20.42%	BHC	3.8%
126.0	GSK	10.42%	BALL	3.38%
126.0	BXP	8.31%	LW	2.96%
126.0	VCSH	8.17%	EMB	2.54%
126.0	VFC	7.89%	NEM	2.54%
126.0	CTLT	6.14%	UNH	1.83%
126.0	GNRC	5.63%	VZ	1.69%
126.0	TLT	4.93%	VCSH	1.41%
126.0	BHC	4.93%	IRM	0.85%
126.0	CMA	4.79%	MUB	0.85%
126.0	OXY	4.08%	CHTR	0.7%
126.0	ZION	3.59%	CTLT	0.48%
126.0	VNO	2.54%	INTC	0.42%
126.0	NEM	2.25%	LEN	0.14%
126.0	LQD	2.25%	HYG	0.14%
126.0	SNY	1.97%	ON	0.0%
126.0	META	1.83%	ORCL	0.0%
126.0	BIIB	1.69%	NWL	0.0%
126.0	ON	1.55%	NVS	0.0%
126.0	EMB	1.41%	NVDA	0.0%
126.0	UNH	1.13%	ORLY	0.0%
126.0	FIS	1.13%	OXY	0.0%
126.0	HYG	0.99%	PCG	0.0%
126.0	CLF	0.85%	NFLX	0.0%
126.0	MSTR	0.7%	MSI	0.0%

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 2025-05-29

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	37.67%	IEP	33.56%
252.0	AAP	36.47%	MRK	2.4%
252.0	BIIB	16.44%	LW	0.17%
252.0	CHTR	15.07%	AA	0.0%
252.0	BXP	14.38%	NWL	0.0%
252.0	VFC	13.36%	NEM	0.0%
252.0	CMA	8.9%	NFLX	0.0%
252.0	VNO	7.02%	NVDA	0.0%
252.0	OXY	6.85%	NVS	0.0%
252.0	ZION	6.49%	ON	0.0%
252.0	MRK	4.11%	MUB	0.0%
252.0	CTLT	3.85%	ORCL	0.0%
252.0	BHC	3.77%	ORLY	0.0%
252.0	KEY	3.25%	OXY	0.0%
252.0	GNRC	3.08%	PCG	0.0%
252.0	VCSH	2.57%	PEP	0.0%
252.0	BMY	2.57%	NAVI	0.0%
252.0	FIS	1.54%	MSTR	0.0%
252.0	EMB	1.54%	MU	0.0%
252.0	GSK	1.2%	LUMN	0.0%
252.0	ELAN	1.05%	KEY	0.0%
252.0	TLT	1.03%	KHC	0.0%
252.0	FITB	0.68%	LEN	0.0%
252.0	NEM	0.34%	LLY	0.0%
252.0	CVS	0.17%	LNC	0.0%
252.0	UNH	0.17%	LQD	0.0%
252.0	ORLY	0.0%	LVS	0.0%

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 2025-05-29 through 2025-05-02

Horizon	Ticker_V	VaRBreak_V	Ticker_S	VaRBreak_S
1.0	UNH	21.05%	SNY	10.53%
1.0	LLY	15.79%	MRK	10.53%
1.0	SBUX	15.79%	BMY	10.53%
1.0	AMC	10.53%	JAZZ	10.53%
1.0	ZTS	10.53%	UNH	10.53%
1.0	B	7.14%	ABBV	10.53%
1.0	CYH	5.26%	B	7.14%
1.0	ABBV	5.26%	KHC	5.26%
1.0	EXPE	5.26%	NEM	5.26%
1.0	GOOGL	5.26%	GOOGL	5.26%
1.0	LQD	5.26%	GLD	5.26%
1.0	NEM	5.26%	LLY	5.26%
1.0	CPRT	5.26%	EXPE	5.26%
1.0	TDG	5.26%	CVS	5.26%
1.0	CNC	5.26%	TDG	5.26%
1.0	TXN	5.26%	CPRT	5.26%
1.0	BUD	5.26%	CNC	5.26%
1.0	BMY	5.26%	CLF	5.26%
1.0	CDNS	5.26%	CDNS	5.26%
1.0	AZN	5.26%	CAH	5.26%
1.0	JAZZ	5.26%	GILD	5.26%
1.0	AAP	5.26%	ZTS	5.26%
1.0	AMGN	5.26%	AZN	5.26%
1.0	VZ	5.26%	AZO	5.26%
1.0	VFC	5.26%	BBY	5.26%
1.0	ORLY	0.0%	VFC	5.26%
1.0	ORCL	0.0%	NVDA	0.0%
1.0	LUMN	0.0%	MUB	0.0%
1.0	LW	0.0%	NAVI	0.0%
1.0	LVS	0.0%	WFC	0.0%

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 2025-05-29 through 2025-05-02

Horizon	Ticker_V	VaRBreak_V	Ticker_S	VaRBreak_S
10.0	UNH	70.0%	UNH	60.0%
10.0	AA	0.0%	CPRT	40.0%
10.0	MSI	0.0%	AA	0.0%
10.0	MU	0.0%	NVS	0.0%
10.0	MUB	0.0%	MU	0.0%
10.0	NAVI	0.0%	MUB	0.0%
10.0	NEM	0.0%	NAVI	0.0%
10.0	NFLX	0.0%	NEM	0.0%
10.0	NVDA	0.0%	NFLX	0.0%
10.0	NVS	0.0%	NVDA	0.0%
10.0	NWL	0.0%	NWL	0.0%
10.0	ON	0.0%	MSI	0.0%
10.0	ORCL	0.0%	ON	0.0%
10.0	ORLY	0.0%	ORCL	0.0%
10.0	OXY	0.0%	ORLY	0.0%
10.0	PCG	0.0%	OXY	0.0%
10.0	PEP	0.0%	PCG	0.0%
10.0	MSTR	0.0%	PEP	0.0%
10.0	MSFT	0.0%	MSTR	0.0%
10.0	POST	0.0%	MSFT	0.0%
10.0	LQD	0.0%	POST	0.0%
10.0	KALU	0.0%	LQD	0.0%
10.0	KEY	0.0%	KALU	0.0%
10.0	KHC	0.0%	KEY	0.0%
10.0	LEN	0.0%	KHC	0.0%
10.0	LLY	0.0%	LEN	0.0%
10.0	LNC	0.0%	LLY	0.0%
10.0	LUMN	0.0%	LNC	0.0%
10.0	MS	0.0%	LUMN	0.0%
10.0	LVS	0.0%	MS	0.0%

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 2025-05-29 through 2025-03-03

Horizon	Ticker_V	VaRBreak_V	Ticker_S	VaRBreak_S
1.0	VZ	12.9%	HLT	11.29%
1.0	SBUX	11.29%	GS	9.68%
1.0	MU	11.29%	JAZZ	9.68%
1.0	UNH	11.29%	TXN	9.68%
1.0	TXN	11.29%	META	9.68%
1.0	LQD	11.29%	ISRG	8.06%
1.0	QCOM	11.29%	QQQ	8.06%
1.0	ZTS	9.68%	HSBC	8.06%
1.0	EXPE	9.68%	CCL	8.06%
1.0	AMGN	9.68%	LLY	8.06%
1.0	LLY	9.68%	MRK	8.06%
1.0	NAVI	8.06%	BBY	8.06%
1.0	GNRC	8.06%	EXPE	8.06%
1.0	META	8.06%	COST	8.06%
1.0	TSLA	8.06%	SPY	8.06%
1.0	B	7.14%	WFC	8.06%
1.0	HCA	6.45%	ABBV	8.06%
1.0	AMC	6.45%	VFC	8.06%
1.0	MSTR	6.45%	TMUS	8.06%
1.0	GOOGL	4.84%	SBUX	8.06%
1.0	FITB	4.84%	B	7.14%
1.0	PWR	4.84%	UNH	6.45%
1.0	MSFT	4.84%	GLD	6.45%
1.0	ORCL	4.84%	HYG	6.45%
1.0	OXY	4.84%	USB	6.45%
1.0	CMCSA	4.84%	JPM	6.45%
1.0	TDG	4.84%	TRGP	6.45%
1.0	TFC	4.84%	KHC	6.45%
1.0	VFC	4.84%	LNC	6.45%
1.0	WFC	4.84%	TFC	6.45%

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 2025-05-29 through 2025-03-03

Horizon	Ticker_V	VaRBreak_V	Ticker_S	VaRBreak_S
10.0	UNH	35.85%	UNH	35.85%
10.0	ZTS	18.87%	JAZZ	20.75%
10.0	BMY	13.21%	XOM	16.98%
10.0	BHC	13.21%	HSBC	16.98%
10.0	GNRC	13.21%	OXY	16.98%
10.0	KALU	13.21%	TRGP	16.98%
10.0	NAVI	13.21%	BAC	15.09%
10.0	MU	13.21%	LNC	15.09%
10.0	TXN	11.32%	ABBV	15.09%
10.0	OXY	11.32%	VFC	15.09%
10.0	CHTR	9.43%	BHC	15.09%
10.0	FITB	9.43%	SBUX	13.21%
10.0	JAZZ	9.43%	BBY	13.21%
10.0	LLY	9.43%	FRA	13.21%
10.0	AMC	9.43%	TXN	13.21%
10.0	QCOM	7.55%	AAPL	11.32%
10.0	GE	7.55%	FITB	11.32%
10.0	WFC	7.55%	MUB	11.32%
10.0	EXPE	7.55%	FCX	11.32%
10.0	BHP	5.66%	BMY	11.32%
10.0	MS	3.77%	RIO	9.43%
10.0	SBUX	3.77%	LVS	9.43%
10.0	SNY	3.77%	HYG	9.43%
10.0	FRA	3.77%	SPY	9.43%
10.0	WYNN	3.77%	BIIB	9.43%
10.0	FCX	3.77%	HON	9.43%
10.0	ELAN	3.77%	TFC	9.43%
10.0	CSTM	3.77%	HLT	9.43%
10.0	AA	3.77%	KALU	7.55%
10.0	AMGN	3.77%	CSCO	7.55%

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 2025-05-29 through 2025-03-03

Horizon	Ticker_V	VaRBreak_V	Ticker_S	VaRBreak_S
21.0	UNH	52.38%	UNH	47.62%
21.0	BMY	38.1%	JAZZ	33.33%
21.0	GNRC	33.33%	LVS	26.19%
21.0	BHC	26.19%	OXY	26.19%
21.0	ZTS	19.05%	BMY	23.81%
21.0	KALU	19.05%	ABBV	19.05%
21.0	AMGN	16.67%	MRK	19.05%
21.0	CHTR	9.52%	HLT	11.9%
21.0	SBUX	7.14%	HSBC	11.9%
21.0	QCOM	7.14%	VFC	11.9%
21.0	ELAN	7.14%	SBUX	9.52%
21.0	JAZZ	7.14%	SPY	9.52%
21.0	AMC	7.14%	FRA	9.52%
21.0	AA	4.76%	BIIB	9.52%
21.0	AAPL	4.76%	CSCO	7.14%
21.0	OXY	4.76%	AZN	7.14%
21.0	MUB	4.76%	AAPL	7.14%
21.0	WYNN	2.38%	TRGP	7.14%
21.0	NAVI	2.38%	MUB	7.14%
21.0	MRK	2.38%	QQQ	4.76%
21.0	EXPE	2.38%	HYG	4.76%
21.0	AZN	2.38%	TXN	4.76%
21.0	BHP	2.38%	AA	4.76%
21.0	BUD	0.0%	GSK	2.38%
21.0	NWL	0.0%	BBY	2.38%
21.0	QQQ	0.0%	PEP	2.38%
21.0	ACGL	0.0%	BHP	2.38%
21.0	PWR	0.0%	ADBE	2.38%
21.0	PRGO	0.0%	KHC	2.38%
21.0	POST	0.0%	NVS	2.38%

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 2025-05-29 through 2024-06-03

Horizon	Ticker_V	VaRBreak_V	Ticker_S	VaRBreak_S
1.0	B	7.14%	B	7.14%
1.0	QCOM	6.85%	NVDA	5.65%
1.0	TSLA	6.05%	TMUS	5.24%
1.0	VZ	4.84%	TXN	5.24%
1.0	AMGN	4.84%	TRGP	5.24%
1.0	NAVI	4.84%	QCOM	5.24%
1.0	TXN	4.84%	UNH	5.24%
1.0	UNH	4.44%	AMAT	5.24%
1.0	LQD	4.03%	GS	4.84%
1.0	ZTS	3.63%	MU	4.84%
1.0	HCA	3.63%	IRM	4.84%
1.0	MSTR	3.63%	QQQ	4.84%
1.0	MU	3.63%	WFC	4.44%
1.0	SBUX	3.23%	CMG	4.44%
1.0	EXPE	3.23%	HLT	4.44%
1.0	CDNS	3.23%	LLY	4.44%
1.0	MSFT	2.82%	CCL	4.03%
1.0	GOOGL	2.82%	SPY	4.03%
1.0	GSK	2.82%	VST	4.03%
1.0	WFC	2.82%	KHC	4.03%
1.0	CHTR	2.42%	JPM	4.03%
1.0	LLY	2.42%	CDNS	3.63%
1.0	SLV	2.42%	PWR	3.63%
1.0	AMC	2.42%	PEP	3.63%
1.0	AMZN	2.42%	AZN	3.63%
1.0	CMCSA	2.42%	PCG	3.63%
1.0	CMA	2.42%	MS	3.63%
1.0	GNRC	2.42%	NVS	3.23%
1.0	GME	2.02%	JAZZ	3.23%
1.0	BHC	2.02%	META	3.23%

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 2025-05-29 through 2024-06-03

Horizon	Ticker_V	VaRBreak_V	Ticker_S	VaRBreak_S
10.0	UNH	8.79%	UNH	11.3%
10.0	TSLA	7.95%	WDC	8.79%
10.0	ZTS	6.69%	MRK	7.95%
10.0	CVS	6.69%	AZN	7.53%
10.0	KALU	6.69%	ABBV	7.11%
10.0	AAP	6.28%	BAC	6.69%
10.0	ELAN	5.02%	TRGP	6.28%
10.0	LW	5.02%	VFC	6.28%
10.0	GSK	4.6%	CCL	5.86%
10.0	AMC	4.18%	MU	5.86%
10.0	BHC	4.18%	PCG	5.86%
10.0	CZR	4.18%	FRA	5.86%
10.0	CMA	4.18%	CSTM	5.44%
10.0	CLF	3.77%	BBY	5.44%
10.0	CHTR	3.35%	KALU	5.44%
10.0	NAVI	3.35%	CVS	5.02%
10.0	BIIB	3.35%	WFC	5.02%
10.0	EXPE	3.35%	MUB	4.62%
10.0	NEM	2.93%	CDNS	4.6%
10.0	MU	2.93%	MS	4.6%
10.0	GNRC	2.93%	BHC	4.6%
10.0	BMY	2.93%	JAZZ	4.6%
10.0	LLY	2.93%	SPY	4.18%
10.0	TXN	2.51%	AAPL	4.18%
10.0	BUD	2.51%	SBUX	4.18%
10.0	OXY	2.51%	JPM	4.18%
10.0	FITB	2.51%	NWL	4.18%
10.0	VFC	2.09%	QQQ	4.18%
10.0	ON	2.09%	OXY	4.18%
10.0	JAZZ	2.09%	LW	4.18%

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 2025-05-29 through 2024-06-03

Horizon	Ticker_V	VaRBreak_V	Ticker_S	VaRBreak_S
21.0	BUD	10.09%	WDC	12.28%
21.0	KALU	9.65%	UNH	11.4%
21.0	UNH	9.65%	PCG	9.21%
21.0	CVS	7.46%	INTC	8.77%
21.0	BMY	7.02%	VFC	8.33%
21.0	ELAN	7.02%	AZN	7.46%
21.0	AAP	6.58%	HLT	7.02%
21.0	TSLA	6.58%	ELAN	6.58%
21.0	GNRC	6.14%	JAZZ	6.14%
21.0	ON	6.14%	BUD	5.7%
21.0	CMA	5.7%	TEVA	5.7%
21.0	BIIB	5.26%	FRA	5.26%
21.0	WDC	5.26%	MU	5.26%
21.0	LW	4.82%	KALU	5.26%
21.0	BHC	4.82%	LW	5.26%
21.0	GSK	4.39%	LVS	5.26%
21.0	CZR	3.51%	OXY	4.82%
21.0	ZTS	3.51%	CMG	4.82%
21.0	AMGN	3.07%	BMY	4.39%
21.0	CHTR	3.07%	MRK	4.39%
21.0	KHC	2.63%	JPM	3.95%
21.0	NEM	2.63%	IRM	3.95%
21.0	CSTM	2.63%	ABBV	3.95%
21.0	AA	2.63%	NEM	3.95%
21.0	AMC	2.63%	CCL	3.95%
21.0	LQD	2.19%	CSTM	3.51%
21.0	HCA	2.19%	ISRG	3.51%
21.0	INTC	2.19%	CDNS	3.51%
21.0	BALL	1.75%	NWL	3.51%
21.0	OXY	1.32%	HCA	3.07%

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 2025-05-29 through 2024-06-03

Horizon	Ticker_V	VaRBreak_V	Ticker_S	VaRBreak_S
63.0	BUD	20.43%	PCG	16.67%
63.0	ON	14.52%	BUD	11.83%
63.0	WDC	6.99%	VFC	9.68%
63.0	AAP	5.91%	AZN	8.06%
63.0	GNRC	4.84%	WDC	6.99%
63.0	UNH	4.84%	UNH	6.99%
63.0	CVS	2.69%	IRM	4.3%
63.0	GSK	2.69%	HCA	2.69%
63.0	LQD	2.15%	MU	2.69%
63.0	CNC	2.15%	TEVA	1.61%
63.0	OXY	1.61%	LVS	1.61%
63.0	FITB	1.08%	AAPL	1.08%
63.0	HCA	0.54%	FRA	1.08%
63.0	CMCSA	0.54%	SPY	0.54%
63.0	CLF	0.54%	CCL	0.54%
63.0	GOOGL	0.54%	NVDA	0.0%
63.0	BMY	0.54%	NFLX	0.0%
63.0	UAA	0.54%	NWL	0.0%
63.0	MSTR	0.0%	ON	0.0%
63.0	MNST	0.0%	ORCL	0.0%
63.0	PCG	0.0%	NEM	0.0%
63.0	LUMN	0.0%	NAVI	0.0%
63.0	LVS	0.0%	ORLY	0.0%
63.0	ORLY	0.0%	OXY	0.0%
63.0	ORCL	0.0%	MUB	0.0%
63.0	LW	0.0%	NVS	0.0%
63.0	NWL	0.0%	AA	0.0%
63.0	NVS	0.0%	MSTR	0.0%
63.0	META	0.0%	MSI	0.0%
63.0	NVDA	0.0%	PEP	0.0%

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 2025-05-29 through 2024-06-03

Horizon	Ticker_V	VaRBreak_V	Ticker_S	VaRBreak_S
126.0	ON	8.94%	UNH	10.57%
126.0	BIIB	7.32%	IRM	4.88%
126.0	OXY	6.5%	LEN	0.81%
126.0	UNH	6.5%	AA	0.0%
126.0	CLF	4.88%	NVDA	0.0%
126.0	CNC	4.07%	MU	0.0%
126.0	MRK	2.44%	MUB	0.0%
126.0	PEP	1.63%	NAVI	0.0%
126.0	AAP	1.63%	NEM	0.0%
126.0	UAA	1.63%	NFLX	0.0%
126.0	GNRC	1.63%	NWL	0.0%
126.0	MUB	0.0%	NVS	0.0%
126.0	NAVI	0.0%	MSI	0.0%
126.0	NEM	0.0%	ON	0.0%
126.0	NVDA	0.0%	ORCL	0.0%
126.0	NFLX	0.0%	ORLY	0.0%
126.0	NVS	0.0%	OXY	0.0%
126.0	NWL	0.0%	PCG	0.0%
126.0	ORCL	0.0%	MSTR	0.0%
126.0	ORLY	0.0%	MS	0.0%
126.0	PCG	0.0%	MSFT	0.0%
126.0	MU	0.0%	PHM	0.0%
126.0	AA	0.0%	MRK	0.0%
126.0	MSTR	0.0%	MOS	0.0%
126.0	PHM	0.0%	MNST	0.0%
126.0	MSFT	0.0%	META	0.0%
126.0	MS	0.0%	LW	0.0%
126.0	MOS	0.0%	LVS	0.0%
126.0	MNST	0.0%	LUMN	0.0%
126.0	META	0.0%	LQD	0.0%

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 2025-05-29

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
1.0	GME	0.56%	MSTR	0.47%
1.0	MSTR	0.53%	VST	0.29%
1.0	NFLX	0.17%	NVDA	0.27%
1.0	INTU	0.17%	GME	0.23%
1.0	META	0.17%	GBTC	0.22%
1.0	AVGO	0.16%	AVGO	0.21%
1.0	ORCL	0.15%	PWR	0.17%
1.0	VST	0.13%	NFLX	0.17%
1.0	AAPL	0.13%	X	0.17%
1.0	NVDA	0.12%	GE	0.17%
1.0	UAA	0.11%	LLY	0.15%
1.0	GWW	0.11%	THC	0.14%
1.0	B	0.11%	CAH	0.14%
1.0	TDG	0.1%	TRGP	0.14%
1.0	PWR	0.1%	META	0.13%
1.0	X	0.1%	TEVA	0.12%
1.0	MU	0.09%	TDG	0.12%
1.0	THC	0.09%	ETRN	0.12%
1.0	NWL	0.09%	IRM	0.11%
1.0	XOM	0.09%	ORCL	0.11%
1.0	TMUS	0.08%	TMUS	0.11%
1.0	GE	0.08%	GWW	0.11%
1.0	ISRG	0.08%	ISRG	0.1%
1.0	TEVA	0.08%	CDNS	0.1%
1.0	GBTC	0.08%	ACGL	0.1%
1.0	AMZN	0.08%	ORLY	0.1%
1.0	ZTS	0.07%	PHM	0.1%
1.0	GNRC	0.07%	COST	0.1%
1.0	TRGP	0.07%	TSLA	0.09%
1.0	HCA	0.07%	CCL	0.09%

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 2025-05-29

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
10.0	MSTR	8.42%	MSTR	4.85%
10.0	B	6.74%	B	4.18%
10.0	GME	5.42%	VST	2.9%
10.0	NFLX	1.94%	NVDA	2.66%
10.0	META	1.93%	GBTC	2.14%
10.0	VST	1.92%	AVGO	2.03%
10.0	NVDA	1.74%	GME	1.99%
10.0	TEVA	1.45%	NFLX	1.77%
10.0	GBTC	1.37%	PWR	1.67%
10.0	ETRN	1.26%	GE	1.6%
10.0	AVGO	1.23%	LLY	1.55%
10.0	MU	1.21%	META	1.54%
10.0	ORCL	1.17%	X	1.43%
10.0	INTU	1.1%	CAH	1.43%
10.0	GE	1.09%	ETRN	1.41%
10.0	CAH	1.08%	TRGP	1.38%
10.0	CTLT	1.06%	THC	1.33%
10.0	AAPL	1.05%	TEVA	1.32%
10.0	PWR	1.02%	TDG	1.14%
10.0	LLY	1.02%	IRM	1.12%
10.0	SLV	1.0%	CDNS	1.12%
10.0	WDC	0.98%	GWW	1.11%
10.0	XOM	0.95%	TSLA	1.06%
10.0	THC	0.9%	ORCL	1.04%
10.0	TMUS	0.89%	PHM	1.03%
10.0	HCA	0.82%	ISRG	1.01%
10.0	HLT	0.82%	ORLY	1.0%
10.0	IRM	0.82%	TMUS	0.94%
10.0	TRGP	0.82%	COST	0.94%
10.0	GWW	0.81%	ACGL	0.93%

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 2025-05-29

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
21.0	MSTR	19.59%	MSTR	10.93%
21.0	GME	9.91%	VST	6.17%
21.0	NFLX	5.37%	NVDA	5.64%
21.0	META	5.34%	GBTC	4.6%
21.0	VST	4.58%	AVGO	4.17%
21.0	GBTC	3.91%	NFLX	3.86%
21.0	NVDA	3.66%	PWR	3.53%
21.0	TEVA	3.37%	ETRN	3.5%
21.0	AVGO	3.07%	META	3.43%
21.0	CTLT	2.71%	GE	3.37%
21.0	ETRN	2.53%	LLY	3.31%
21.0	ORCL	2.48%	GME	3.14%
21.0	PWR	2.4%	CAH	2.99%
21.0	GE	2.33%	TRGP	2.89%
21.0	CAH	2.3%	TEVA	2.85%
21.0	LLY	2.26%	X	2.81%
21.0	XOM	2.23%	THC	2.7%
21.0	THC	2.09%	GWW	2.4%
21.0	INTU	2.06%	IRM	2.36%
21.0	TMUS	1.99%	TSLA	2.36%
21.0	TRGP	1.77%	CDNS	2.35%
21.0	IRM	1.76%	TDG	2.34%
21.0	HCA	1.74%	PHM	2.29%
21.0	GWW	1.63%	ORCL	2.26%
21.0	SLV	1.58%	ISRG	2.19%
21.0	TSLA	1.58%	ORLY	2.09%
21.0	X	1.51%	COST	2.04%
21.0	ABBV	1.49%	ACGL	2.0%
21.0	MSI	1.46%	TMUS	1.96%
21.0	GILD	1.45%	CPRT	1.94%

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 2025-05-29

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
63.0	MSTR	39.12%	MSTR	30.76%
63.0	META	21.94%	VST	18.67%
63.0	VST	14.96%	NVDA	18.34%
63.0	NVDA	14.51%	GBTC	14.7%
63.0	NFLX	14.41%	NFLX	12.13%
63.0	GBTC	12.34%	META	11.72%
63.0	AVGO	11.38%	AVGO	11.61%
63.0	CTLT	10.43%	ETRN	10.28%
63.0	ETRN	10.07%	LLY	10.14%
63.0	LLY	9.17%	GE	10.08%
63.0	GME	9.15%	TRGP	8.84%
63.0	TEVA	7.71%	PWR	8.34%
63.0	CAH	7.54%	CAH	8.18%
63.0	GILD	7.38%	PHM	8.15%
63.0	TMUS	7.16%	THC	7.17%
63.0	ORCL	7.15%	TDG	7.0%
63.0	GE	6.94%	TEVA	6.77%
63.0	ISRG	6.81%	GWW	6.61%
63.0	AMZN	6.43%	ISRG	6.46%
63.0	TDG	5.71%	ACGL	6.31%
63.0	TRGP	5.43%	ORLY	6.19%
63.0	THC	5.21%	TMUS	6.17%
63.0	PWR	5.16%	ORCL	6.17%
63.0	GWW	4.72%	CPRT	5.79%
63.0	AZO	4.72%	IRM	5.7%
63.0	XOM	4.64%	CDNS	5.67%
63.0	ACGL	4.62%	MSI	5.56%
63.0	MSI	4.52%	CMG	5.47%
63.0	CMG	4.48%	GILD	5.45%
63.0	CCL	4.47%	X	5.36%

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 2025-05-29

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
126.0	MSTR	99.65%	MSTR	75.99%
126.0	META	61.85%	NVDA	50.54%
126.0	NVDA	47.01%	VST	44.6%
126.0	GBTC	41.73%	GBTC	41.36%
126.0	VST	41.22%	META	30.18%
126.0	NFLX	38.51%	NFLX	29.96%
126.0	AVGO	35.25%	AVGO	27.93%
126.0	LLY	27.47%	GE	24.67%
126.0	TEVA	21.5%	LLY	21.72%
126.0	ISRG	21.33%	TRGP	21.33%
126.0	ORCL	20.2%	PHM	20.21%
126.0	AMZN	19.66%	THC	18.94%
126.0	GE	19.14%	ETRN	18.49%
126.0	CAH	18.49%	PWR	18.48%
126.0	GILD	18.33%	CAH	17.11%
126.0	ETRN	18.14%	ISRG	16.57%
126.0	TDG	17.12%	TEVA	16.51%
126.0	TMUS	16.0%	TDG	16.26%
126.0	TRGP	15.34%	ORCL	16.03%
126.0	TSLA	15.11%	GWW	15.46%
126.0	THC	15.05%	ACGL	14.63%
126.0	GOOGL	14.96%	IRM	14.54%
126.0	GWW	14.48%	CCL	14.21%
126.0	MSI	14.13%	CMG	13.84%
126.0	PWR	13.96%	MSI	13.83%
126.0	INTU	12.85%	CPRT	13.68%
126.0	IRM	12.78%	ORLY	13.42%
126.0	PHM	12.75%	JPM	13.35%
126.0	LEN	12.56%	DHI	13.15%
126.0	ORLY	12.53%	COST	12.92%

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 2025-05-29

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
252.0	MSTR	270.34%	MSTR	229.44%
252.0	VST	160.18%	NVDA	151.19%
252.0	NVDA	147.11%	VST	127.47%
252.0	META	137.42%	GBTC	123.01%
252.0	GBTC	123.48%	META	82.56%
252.0	AVGO	108.42%	AVGO	73.31%
252.0	NFLX	90.49%	NFLX	67.91%
252.0	ISRG	67.83%	GE	61.52%
252.0	AMZN	66.69%	PHM	58.63%
252.0	THC	62.27%	LLY	56.85%
252.0	GE	61.66%	THC	53.06%
252.0	ORCL	60.59%	TRGP	50.73%
252.0	TDG	57.27%	PWR	42.43%
252.0	TEVA	53.6%	TDG	41.72%
252.0	PHM	52.25%	TEVA	40.35%
252.0	INTU	51.17%	ISRG	40.16%
252.0	LLY	49.68%	IRM	38.04%
252.0	TRGP	46.04%	ORCL	37.69%
252.0	GOOGL	45.87%	DHI	36.88%
252.0	COST	45.66%	ACGL	36.16%
252.0	GWW	43.74%	ETRN	35.78%
252.0	LEN	43.74%	CCL	35.77%
252.0	MSI	43.1%	GWW	35.03%
252.0	CAH	41.01%	CMG	34.46%
252.0	IRM	39.82%	CPRT	32.34%
252.0	DHI	37.54%	LEN	32.07%
252.0	PWR	37.37%	COST	31.98%
252.0	TMUS	37.26%	CAH	31.6%
252.0	AMD	36.2%	MSI	31.23%
252.0	ETRN	35.77%	AMAT	31.14%

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 2025-05-29 through 2025-05-02

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
1.0	AMC	5.22%	AAP	2.61%
1.0	TSLA	2.87%	ELAN	1.87%
1.0	MU	2.14%	CYH	1.79%
1.0	ELAN	1.76%	AMC	1.73%
1.0	AMZN	1.35%	X	1.18%
1.0	AAP	1.3%	TSLA	1.04%
1.0	AVGO	1.08%	INTU	0.97%
1.0	WDC	1.01%	CCL	0.95%
1.0	TXN	0.86%	AVGO	0.93%
1.0	ORCL	0.75%	MOS	0.91%
1.0	AMGN	0.75%	NVDA	0.9%
1.0	CSTM	0.72%	GE	0.9%
1.0	GE	0.7%	MU	0.86%
1.0	QQQ	0.69%	VST	0.8%
1.0	GNRC	0.67%	WDC	0.78%
1.0	X	0.67%	THC	0.71%
1.0	AA	0.66%	UAA	0.64%
1.0	GME	0.6%	AMD	0.63%
1.0	LW	0.54%	BA	0.6%
1.0	AMD	0.51%	TXN	0.59%
1.0	META	0.5%	GME	0.53%
1.0	EXPE	0.47%	WYNN	0.52%
1.0	ADBE	0.46%	ORCL	0.51%
1.0	HCA	0.44%	HCA	0.49%
1.0	PRGO	0.42%	CSTM	0.49%
1.0	MSFT	0.39%	ADBE	0.46%
1.0	QCOM	0.38%	META	0.45%
1.0	BUD	0.38%	LW	0.44%
1.0	CCL	0.38%	LVS	0.43%
1.0	BAC	0.37%	AMZN	0.43%

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 2025-05-29 through 2025-05-02

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
10.0	AMC	61.11%	AAP	32.99%
10.0	MU	28.05%	AMC	20.37%
10.0	TSLA	26.1%	CYH	16.7%
10.0	AAP	22.79%	TSLA	14.9%
10.0	WDC	20.87%	ELAN	13.57%
10.0	GME	15.64%	X	12.81%
10.0	GE	14.97%	NVDA	11.23%
10.0	X	12.44%	UAA	11.14%
10.0	ELAN	11.32%	MU	10.79%
10.0	CYH	10.83%	WDC	10.46%
10.0	NVDA	9.82%	GME	10.26%
10.0	ADBE	8.96%	MOS	10.17%
10.0	ZTS	8.66%	GE	10.09%
10.0	UAA	8.44%	CCL	9.87%
10.0	AVGO	8.36%	AVGO	9.45%
10.0	GILD	6.99%	VST	9.43%
10.0	GOOGL	6.86%	INTU	8.4%
10.0	B	6.74%	THC	7.83%
10.0	CCL	6.64%	GILD	7.6%
10.0	AMD	6.08%	AMD	7.46%
10.0	THC	5.86%	GBTC	7.31%
10.0	HCA	5.67%	ADBE	6.66%
10.0	BUD	5.62%	AA	6.57%
10.0	ON	5.62%	TXN	6.54%
10.0	QCOM	5.48%	BIIB	6.34%
10.0	AMZN	5.42%	GOOGL	6.3%
10.0	TXN	4.93%	HCA	5.8%
10.0	AA	4.78%	BA	5.47%
10.0	PWR	4.65%	CSTM	5.18%
10.0	LW	4.65%	GS	4.93%

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 2025-05-29 through 2025-03-03

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
1.0	AMC	1.03%	MSTR	0.82%
1.0	MU	0.86%	AAP	0.75%
1.0	PWR	0.78%	MOS	0.74%
1.0	ELAN	0.67%	X	0.61%
1.0	GME	0.63%	THC	0.55%
1.0	MSTR	0.59%	PWR	0.55%
1.0	ORCL	0.56%	VST	0.53%
1.0	AVGO	0.51%	AVGO	0.49%
1.0	TEVA	0.41%	GT	0.49%
1.0	MSFT	0.37%	TSLA	0.47%
1.0	AMZN	0.35%	CYH	0.47%
1.0	THC	0.34%	GME	0.45%
1.0	META	0.33%	INTU	0.4%
1.0	QQQ	0.33%	NEM	0.39%
1.0	AAP	0.33%	ELAN	0.39%
1.0	TSLA	0.32%	NFLX	0.38%
1.0	NFLX	0.31%	BA	0.38%
1.0	CDNS	0.31%	GBTC	0.36%
1.0	NEM	0.3%	GE	0.36%
1.0	X	0.3%	NVDA	0.35%
1.0	GS	0.29%	HCA	0.35%
1.0	CMCSA	0.28%	AMC	0.34%
1.0	GWW	0.28%	CDNS	0.33%
1.0	LW	0.27%	CAH	0.3%
1.0	MOS	0.27%	CSTM	0.3%
1.0	IRM	0.26%	MSFT	0.3%
1.0	CSTM	0.26%	AMD	0.29%
1.0	ON	0.26%	BUD	0.25%
1.0	WDC	0.24%	MNST	0.25%
1.0	VZ	0.23%	WDC	0.24%

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 2025-05-29 through 2025-03-03

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
10.0	MU	11.42%	MSTR	7.98%
10.0	TSLA	10.06%	CYH	7.91%
10.0	ELAN	9.38%	MOS	7.69%
10.0	GME	8.67%	TSLA	6.89%
10.0	WDC	8.5%	PWR	6.47%
10.0	MSTR	8.08%	VST	6.26%
10.0	PWR	7.96%	THC	6.08%
10.0	B	6.74%	BA	5.58%
10.0	AMC	6.54%	NFLX	5.37%
10.0	THC	5.86%	GME	5.37%
10.0	BA	5.39%	ELAN	5.18%
10.0	CYH	5.01%	CDNS	5.14%
10.0	GE	5.0%	X	4.83%
10.0	VST	4.45%	GBTC	4.74%
10.0	NEM	4.39%	AVGO	4.69%
10.0	X	4.36%	AAP	4.62%
10.0	TEVA	4.25%	WDC	4.29%
10.0	META	4.13%	B	4.18%
10.0	NFLX	4.05%	GE	4.1%
10.0	AMD	3.96%	GT	3.95%
10.0	NVDA	3.95%	CAH	3.85%
10.0	AVGO	3.86%	NVDA	3.77%
10.0	AAP	3.35%	NEM	3.72%
10.0	IRM	3.31%	HCA	3.45%
10.0	MOS	3.24%	MSFT	3.37%
10.0	ORCL	3.05%	INTU	3.24%
10.0	CAH	2.96%	AMD	3.2%
10.0	CDNS	2.79%	CCL	2.79%
10.0	MS	2.77%	IRM	2.77%
10.0	FCX	2.73%	MNST	2.69%

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 2025-05-29 through 2025-03-03

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
21.0	MU	22.78%	CYH	17.82%
21.0	PWR	21.92%	MSTR	17.78%
21.0	MSTR	21.64%	MOS	14.72%
21.0	GME	16.44%	PWR	14.7%
21.0	THC	15.64%	TSLA	13.66%
21.0	WDC	13.79%	THC	12.97%
21.0	CYH	13.37%	VST	12.53%
21.0	VST	12.14%	NFLX	12.0%
21.0	META	11.99%	CDNS	11.67%
21.0	TSLA	11.88%	AVGO	10.89%
21.0	AVGO	10.81%	GBTC	10.58%
21.0	CSTM	10.36%	ELAN	10.53%
21.0	KALU	9.96%	GME	10.49%
21.0	BA	9.68%	BA	10.23%
21.0	IRM	8.74%	GT	10.14%
21.0	ORCL	8.4%	WDC	8.6%
21.0	NVDA	8.21%	MSFT	8.13%
21.0	GE	8.14%	CAH	8.06%
21.0	CHTR	7.96%	NEM	7.08%
21.0	TEVA	7.88%	GE	6.97%
21.0	CDNS	7.44%	IRM	6.51%
21.0	MOS	7.18%	NVDA	6.47%
21.0	NEM	6.89%	HCA	6.3%
21.0	GS	6.84%	CSTM	6.16%
21.0	NFLX	6.32%	CHTR	6.16%
21.0	X	6.06%	X	6.16%
21.0	BUD	5.91%	INTU	5.9%
21.0	AMAT	5.28%	CPRT	5.39%
21.0	GBTC	5.11%	GLD	4.99%
21.0	CAH	5.01%	TEVA	4.9%

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 2025-05-29 through 2024-06-03

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
1.0	MSTR	0.72%	MSTR	0.52%
1.0	NWL	0.46%	TSLA	0.38%
1.0	TSLA	0.37%	LUMN	0.35%
1.0	ORCL	0.28%	VST	0.33%
1.0	GME	0.28%	AVGO	0.32%
1.0	MU	0.23%	NFLX	0.28%
1.0	META	0.22%	GILD	0.24%
1.0	AMZN	0.2%	GME	0.21%
1.0	CHTR	0.19%	VNO	0.21%
1.0	EXPE	0.18%	CCL	0.2%
1.0	GILD	0.18%	GE	0.19%
1.0	PWR	0.18%	X	0.19%
1.0	NFLX	0.18%	EXPE	0.19%
1.0	AVGO	0.17%	CAH	0.19%
1.0	PRGO	0.16%	T	0.19%
1.0	VFC	0.15%	GBTC	0.18%
1.0	ABBV	0.15%	ORCL	0.17%
1.0	MSFT	0.14%	CHTR	0.16%
1.0	NEM	0.14%	ORLY	0.15%
1.0	VST	0.14%	TMUS	0.15%
1.0	GWW	0.13%	META	0.15%
1.0	LNC	0.13%	ISRG	0.15%
1.0	GS	0.12%	TRGP	0.15%
1.0	SLV	0.12%	GLD	0.14%
1.0	UAA	0.11%	INTU	0.14%
1.0	ORLY	0.11%	GS	0.14%
1.0	B	0.11%	NVDA	0.13%
1.0	X	0.11%	MS	0.13%
1.0	GE	0.11%	CSCO	0.13%
1.0	ADBE	0.1%	THC	0.13%

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 2025-05-29 through 2024-06-03

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
10.0	MSTR	10.75%	MSTR	5.41%
10.0	B	6.74%	LUMN	5.05%
10.0	TSLA	3.87%	B	4.18%
10.0	MU	3.21%	TSLA	3.96%
10.0	CHTR	3.07%	VST	3.48%
10.0	LUMN	2.58%	NFLX	2.83%
10.0	VST	2.35%	AVGO	2.68%
10.0	META	2.0%	GILD	2.31%
10.0	EXPE	1.87%	VNO	2.12%
10.0	GILD	1.83%	CAH	1.95%
10.0	GE	1.78%	CHTR	1.93%
10.0	NFLX	1.77%	CCL	1.92%
10.0	ABBV	1.69%	GBTC	1.9%
10.0	CVS	1.64%	T	1.88%
10.0	PWR	1.62%	GE	1.88%
10.0	GME	1.47%	EXPE	1.64%
10.0	AVGO	1.46%	TRGP	1.57%
10.0	VFC	1.42%	GLD	1.49%
10.0	VNO	1.35%	ORLY	1.46%
10.0	NEM	1.35%	GS	1.45%
10.0	GS	1.32%	MS	1.45%
10.0	CAH	1.31%	CSCO	1.44%
10.0	ORCL	1.3%	TMUS	1.42%
10.0	UAA	1.28%	JPM	1.38%
10.0	GBTC	1.27%	HSBC	1.38%
10.0	BA	1.24%	CYH	1.36%
10.0	BXP	1.1%	AZO	1.34%
10.0	NVDA	1.08%	X	1.34%
10.0	JPM	1.07%	META	1.34%
10.0	SLV	1.06%	ISRG	1.32%

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 2025-05-29 through 2024-06-03

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
21.0	MSTR	26.44%	MSTR	12.63%
21.0	LUMN	10.72%	LUMN	11.92%
21.0	TSLA	9.02%	TSLA	7.74%
21.0	CHTR	7.05%	VST	7.34%
21.0	VST	5.82%	NFLX	5.8%
21.0	GME	4.66%	AVGO	4.61%
21.0	META	4.65%	VNO	4.46%
21.0	GILD	4.32%	GILD	4.45%
21.0	PWR	3.97%	GBTC	4.22%
21.0	GBTC	3.48%	CAH	4.05%
21.0	GE	3.43%	T	3.97%
21.0	AVGO	3.4%	CHTR	3.9%
21.0	GS	3.29%	GE	3.57%
21.0	NEM	3.25%	CCL	3.52%
21.0	NFLX	3.12%	GLD	3.26%
21.0	ABBV	3.05%	TMUS	3.25%
21.0	CVS	3.04%	EXPE	3.24%
21.0	MU	3.01%	CYH	3.07%
21.0	EXPE	3.0%	TRGP	3.05%
21.0	VFC	2.93%	MS	2.9%
21.0	BXP	2.8%	GS	2.86%
21.0	BUD	2.59%	HSBC	2.81%
21.0	ORCL	2.57%	ORLY	2.81%
21.0	CAH	2.49%	CSCO	2.81%
21.0	VNO	2.48%	JPM	2.79%
21.0	UAA	2.48%	NEM	2.73%
21.0	BA	2.13%	WFC	2.73%
21.0	SNY	2.02%	PWR	2.65%
21.0	JPM	1.95%	META	2.63%
21.0	CYH	1.95%	ISRG	2.6%

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 2025-05-29 through 2024-06-03

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
63.0	MSTR	49.71%	MSTR	46.67%
63.0	LUMN	24.66%	LUMN	25.22%
63.0	VST	20.82%	VST	22.51%
63.0	GILD	18.24%	TSLA	17.74%
63.0	TSLA	17.89%	NFLX	16.68%
63.0	NFLX	14.08%	GILD	15.17%
63.0	GBTC	12.74%	GBTC	14.79%
63.0	CVS	11.7%	T	13.35%
63.0	BXP	9.27%	VNO	11.85%
63.0	EXPE	8.76%	TMUS	11.8%
63.0	VFC	8.75%	TRGP	11.77%
63.0	TMUS	8.75%	CAH	11.38%
63.0	CAH	8.66%	EXPE	10.53%
63.0	NEM	8.18%	CCL	10.42%
63.0	GE	8.09%	GLD	9.84%
63.0	AZO	7.97%	HSBC	9.58%
63.0	META	7.91%	AVGO	8.92%
63.0	UAA	7.52%	ORLY	8.86%
63.0	CHTR	7.19%	CSCO	8.73%
63.0	GLD	6.91%	WFC	8.39%
63.0	BMY	6.77%	GE	7.96%
63.0	TRGP	6.55%	AZO	7.27%
63.0	GS	6.55%	MS	7.1%
63.0	CMA	6.39%	BMY	7.1%
63.0	T	6.35%	MNST	6.67%
63.0	VNO	6.28%	JPM	6.31%
63.0	ABBV	6.19%	META	6.22%
63.0	AVGO	6.16%	GS	5.85%
63.0	GME	5.24%	CHTR	5.73%
63.0	HSBC	5.23%	CVS	5.53%

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 2025-05-29 through 2024-06-03

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
126.0	MSTR	116.97%	MSTR	101.1%
126.0	TSLA	69.5%	VST	51.44%
126.0	VST	52.15%	TSLA	47.03%
126.0	NFLX	51.45%	NFLX	41.0%
126.0	GILD	43.21%	GBTC	39.07%
126.0	GBTC	36.54%	GILD	30.43%
126.0	EXPE	28.39%	TRGP	27.94%
126.0	META	23.96%	CCL	27.04%
126.0	AVGO	23.11%	AVGO	26.61%
126.0	TMUS	20.22%	EXPE	26.58%
126.0	AZO	19.98%	T	25.56%
126.0	CCL	19.43%	LUMN	23.18%
126.0	CAH	18.11%	TMUS	22.99%
126.0	LUMN	18.0%	WFC	22.88%
126.0	VNO	17.94%	CAH	22.49%
126.0	HSBC	17.8%	HSBC	22.32%
126.0	VFC	17.64%	VNO	21.33%
126.0	GS	17.4%	CSCO	19.91%
126.0	CTLT	16.25%	MS	18.66%
126.0	GME	15.81%	ORLY	17.83%
126.0	T	15.58%	GLD	17.14%
126.0	CHTR	15.49%	JPM	17.02%
126.0	BMY	15.16%	GS	16.89%
126.0	WFC	15.01%	META	16.72%
126.0	GLD	14.84%	BMY	15.54%
126.0	ORLY	14.83%	GME	15.31%
126.0	TRGP	14.66%	AZO	14.73%
126.0	GE	12.84%	ISRG	14.38%
126.0	CMA	12.06%	VFC	14.01%
126.0	ISRG	10.77%	GE	13.6%

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 2025-05-29

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	AAP	-0.2%	IEP	-0.18%
1.0	BHC	-0.15%	VFC	-0.13%
1.0	LUMN	-0.14%	AMC	-0.13%
1.0	IEP	-0.12%	AAP	-0.13%
1.0	VFC	-0.11%	NWL	-0.12%
1.0	FIS	-0.08%	BHC	-0.11%
1.0	BXP	-0.07%	LUMN	-0.1%
1.0	TLT	-0.07%	B	-0.08%
1.0	INTC	-0.06%	CLF	-0.07%
1.0	ELAN	-0.06%	CZR	-0.07%
1.0	GSK	-0.05%	UAA	-0.07%
1.0	CHTR	-0.05%	INTC	-0.06%
1.0	BIIB	-0.04%	TLT	-0.05%
1.0	PRGO	-0.04%	BALL	-0.05%
1.0	CLF	-0.04%	BIIB	-0.04%
1.0	CVS	-0.04%	LNC	-0.04%
1.0	BMY	-0.03%	CVS	-0.04%
1.0	LQD	-0.03%	GNRC	-0.04%
1.0	CNC	-0.03%	BXP	-0.04%
1.0	VZ	-0.03%	UNH	-0.03%
1.0	T	-0.03%	ELAN	-0.03%
1.0	TFC	-0.03%	TFC	-0.03%
1.0	AMC	-0.02%	CMCSA	-0.03%
1.0	USB	-0.02%	AA	-0.03%
1.0	GT	-0.02%	PEP	-0.03%
1.0	KALU	-0.01%	KHC	-0.03%
1.0	CMCSA	-0.01%	GSK	-0.03%

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 2025-05-29

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	FRCB	-2.21%	FRCB	-2.19%
10.0	AMC	-2.12%	IEP	-1.67%
10.0	AAP	-2.11%	AMC	-1.53%
10.0	IEP	-1.21%	AAP	-1.45%
10.0	BHC	-1.16%	VFC	-1.33%
10.0	VFC	-1.12%	NWL	-1.17%
10.0	NWL	-1.0%	BHC	-0.98%
10.0	GSK	-0.78%	CZR	-0.8%
10.0	LUMN	-0.66%	LUMN	-0.79%
10.0	TFC	-0.59%	UAA	-0.79%
10.0	TLT	-0.56%	CLF	-0.65%
10.0	BXP	-0.55%	INTC	-0.57%
10.0	BMY	-0.43%	TLT	-0.54%
10.0	CLF	-0.41%	LNC	-0.49%
10.0	PRGO	-0.41%	BALL	-0.49%
10.0	LQD	-0.4%	BIIB	-0.49%
10.0	ZION	-0.39%	GNRC	-0.44%
10.0	FIS	-0.36%	CVS	-0.44%
10.0	CNC	-0.35%	BXP	-0.44%
10.0	BIIB	-0.35%	ELAN	-0.41%
10.0	ELAN	-0.29%	ZION	-0.41%
10.0	UNH	-0.29%	AA	-0.39%
10.0	GT	-0.27%	UNH	-0.35%
10.0	LW	-0.24%	TFC	-0.33%
10.0	CYH	-0.24%	CMCSA	-0.3%
10.0	CZR	-0.23%	GSK	-0.3%
10.0	EMB	-0.23%	BMY	-0.29%
10.0	BALL	-0.21%	CMA	-0.28%

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 2025-05-29

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	-8.74%	FRCB	-6.02%
21.0	FRCB	-6.98%	AMC	-3.99%
21.0	AAP	-3.57%	IEP	-3.56%
21.0	BHC	-2.98%	AAP	-3.39%
21.0	VFC	-2.61%	VFC	-2.78%
21.0	NWL	-2.49%	NWL	-2.61%
21.0	IEP	-2.46%	BHC	-2.3%
21.0	ELAN	-2.11%	CZR	-1.76%
21.0	TLT	-1.21%	UAA	-1.66%
21.0	ZION	-1.2%	LUMN	-1.36%
21.0	GSK	-1.12%	INTC	-1.28%
21.0	BIIB	-1.06%	CLF	-1.27%
21.0	PRGO	-1.0%	AA	-1.22%
21.0	BXP	-0.96%	LNC	-1.14%
21.0	BALL	-0.93%	TLT	-1.1%
21.0	CZR	-0.84%	BALL	-1.06%
21.0	LNC	-0.83%	GNRC	-1.05%
21.0	BMY	-0.81%	BIIB	-1.04%
21.0	ON	-0.75%	BXP	-1.01%
21.0	TFC	-0.74%	ELAN	-0.91%
21.0	FITB	-0.7%	CVS	-0.84%
21.0	LQD	-0.68%	TFC	-0.68%
21.0	LW	-0.65%	ZION	-0.67%
21.0	KEY	-0.63%	BMY	-0.64%
21.0	FIS	-0.62%	CMCSA	-0.6%
21.0	LUMN	-0.58%	GSK	-0.58%
21.0	UNH	-0.56%	CMA	-0.58%
21.0	CNC	-0.53%	CNC	-0.55%

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 2025-05-29

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	-28.6%	AMC	-16.03%
63.0	AAP	-11.77%	IEP	-11.93%
63.0	VFC	-9.11%	AAP	-11.2%
63.0	IEP	-8.7%	NWL	-8.22%
63.0	NWL	-7.47%	VFC	-8.1%
63.0	ELAN	-7.0%	CLF	-6.35%
63.0	BHC	-6.49%	CZR	-6.18%
63.0	CLF	-5.75%	BHC	-5.97%
63.0	MOS	-4.96%	AA	-5.26%
63.0	AA	-4.87%	UAA	-4.96%
63.0	CHTR	-4.15%	MOS	-4.6%
63.0	CZR	-3.88%	ELAN	-4.56%
63.0	ON	-3.56%	INTC	-4.47%
63.0	LNC	-3.45%	LUMN	-3.73%
63.0	TLT	-3.3%	LNC	-3.48%
63.0	BALL	-3.26%	BALL	-3.46%
63.0	BIIB	-3.22%	GNRC	-3.4%
63.0	UAA	-3.13%	BXP	-3.35%
63.0	LUMN	-2.58%	BIIB	-2.91%
63.0	JAZZ	-2.15%	TLT	-2.9%
63.0	BMY	-1.99%	CVS	-2.72%
63.0	INTC	-1.91%	CSTM	-2.54%
63.0	ZION	-1.74%	BHP	-2.29%
63.0	CNC	-1.59%	CNC	-2.17%
63.0	BXP	-1.56%	PRGO	-2.07%
63.0	KHC	-1.48%	KHC	-1.92%
63.0	GSK	-1.47%	TFC	-1.84%

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 2025-05-29

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	-44.67%	AMC	-29.5%
126.0	AAP	-29.69%	IEP	-22.97%
126.0	IEP	-16.84%	AAP	-20.71%
126.0	VFC	-16.67%	NWL	-14.99%
126.0	NWL	-16.32%	VFC	-12.34%
126.0	MOS	-12.85%	MOS	-10.95%
126.0	AA	-11.5%	CLF	-10.34%
126.0	ELAN	-10.82%	CZR	-8.53%
126.0	CHTR	-10.77%	CVS	-7.73%
126.0	CLF	-10.45%	INTC	-7.63%
126.0	BHC	-8.91%	ELAN	-7.6%
126.0	CZR	-8.71%	AA	-7.4%
126.0	CVS	-7.02%	BHC	-6.78%
126.0	TLT	-6.74%	UAA	-5.96%
126.0	PRGO	-5.98%	PRGO	-5.84%
126.0	JAZZ	-5.86%	CTLT	-5.69%
126.0	UAA	-5.75%	LNC	-5.57%
126.0	GNRC	-5.2%	TLT	-5.31%
126.0	BALL	-5.14%	BXP	-5.17%
126.0	FIS	-5.08%	GNRC	-5.05%
126.0	INTC	-4.6%	BALL	-4.95%
126.0	CNC	-4.47%	CNC	-4.87%
126.0	LNC	-4.44%	LUMN	-4.73%
126.0	BIIB	-4.33%	BIIB	-4.68%
126.0	GSK	-3.89%	GSK	-4.49%
126.0	KHC	-3.86%	KHC	-4.16%
126.0	LUMN	-3.86%	BHP	-3.78%

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 2025-05-29

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	-77.61%	AMC	-57.69%
252.0	AAP	-75.18%	IEP	-44.46%
252.0	VFC	-36.41%	AAP	-42.7%
252.0	NWL	-33.42%	NWL	-28.77%
252.0	IEP	-31.7%	VFC	-24.43%
252.0	MOS	-24.64%	MOS	-23.75%
252.0	BIIB	-22.02%	CVS	-18.88%
252.0	AA	-21.85%	CLF	-15.69%
252.0	CVS	-20.58%	CZR	-13.51%
252.0	CLF	-18.29%	PRGO	-13.33%
252.0	CHTR	-18.19%	BMY	-12.43%
252.0	PRGO	-17.51%	UAA	-12.41%
252.0	JAZZ	-16.98%	AA	-11.09%
252.0	CZR	-16.45%	JAZZ	-10.13%
252.0	BMY	-14.46%	LUMN	-9.96%
252.0	OXY	-14.37%	INTC	-9.66%
252.0	UAA	-13.77%	CNC	-9.39%
252.0	BHC	-11.61%	BHC	-9.18%
252.0	TLT	-11.37%	BIIB	-8.8%
252.0	CNC	-11.14%	TLT	-8.52%
252.0	LUMN	-9.96%	GT	-7.69%
252.0	BHP	-8.73%	KHC	-7.44%
252.0	ELAN	-8.22%	CHTR	-6.65%
252.0	GT	-8.03%	OXY	-6.27%
252.0	KHC	-7.73%	CTLT	-6.24%
252.0	INTC	-7.03%	LNC	-5.72%
252.0	CTLT	-6.82%	BHP	-5.37%

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 2025-05-29 through 2025-05-02

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
1.0	LLY	-1.43%	CLF	-2.08%
1.0	UNH	-1.26%	UNH	-1.31%
1.0	CDNS	-1.26%	BHC	-0.9%
1.0	CLF	-1.12%	CPRT	-0.86%
1.0	BHC	-0.72%	SNY	-0.59%
1.0	CNC	-0.48%	LLY	-0.55%
1.0	CPRT	-0.47%	JAZZ	-0.5%
1.0	INTC	-0.43%	MRK	-0.39%
1.0	SBUX	-0.41%	DHI	-0.38%
1.0	MRK	-0.36%	KHC	-0.35%
1.0	JAZZ	-0.29%	FSUGY	-0.34%
1.0	BMY	-0.28%	IEP	-0.34%
1.0	CVS	-0.28%	CDNS	-0.34%
1.0	MSTR	-0.26%	ABBV	-0.32%
1.0	FSUGY	-0.25%	PHM	-0.31%
1.0	DHI	-0.25%	MSTR	-0.31%
1.0	LEN	-0.2%	CNC	-0.3%
1.0	SNY	-0.2%	INTC	-0.26%
1.0	VFC	-0.17%	CVS	-0.25%
1.0	XOM	-0.14%	BMY	-0.21%
1.0	KHC	-0.12%	XOM	-0.19%
1.0	AZN	-0.11%	LEN	-0.18%
1.0	PHM	-0.1%	CZR	-0.14%
1.0	ORLY	-0.1%	ORLY	-0.14%
1.0	BBY	-0.09%	CMG	-0.14%
1.0	ABBV	-0.09%	TMUS	-0.14%
1.0	FIS	-0.09%	TRGP	-0.12%
1.0	IEP	-0.09%	BBY	-0.1%
1.0	AAPL	-0.08%	POST	-0.1%
1.0	TMUS	-0.08%	AAPL	-0.1%

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 2025-05-29 through 2025-05-02

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
10.0	UNH	-20.28%	UNH	-15.49%
10.0	CLF	-9.12%	CLF	-15.07%
10.0	LLY	-4.91%	LUMN	-7.13%
10.0	MSTR	-4.46%	CPRT	-6.14%
10.0	LUMN	-4.39%	LLY	-4.01%
10.0	BHC	-3.51%	BHC	-3.99%
10.0	CVS	-3.49%	KHC	-3.82%
10.0	IEP	-3.04%	IEP	-3.67%
10.0	VFC	-2.72%	CVS	-3.66%
10.0	FSUGY	-2.66%	CNC	-3.56%
10.0	CNC	-2.17%	PHM	-3.3%
10.0	CPRT	-2.15%	DHI	-2.87%
10.0	XOM	-2.08%	FSUGY	-2.84%
10.0	DHI	-2.05%	MSTR	-2.83%
10.0	KHC	-1.87%	XOM	-2.56%
10.0	PHM	-1.81%	VFC	-2.29%
10.0	TLT	-1.43%	INTC	-1.94%
10.0	LEN	-1.41%	LEN	-1.88%
10.0	LNC	-1.4%	ABBV	-1.74%
10.0	INTC	-1.37%	LNC	-1.6%
10.0	EXPE	-1.0%	TLT	-1.56%
10.0	BMY	-0.88%	VNO	-1.47%
10.0	MRK	-0.86%	MRK	-1.44%
10.0	POST	-0.81%	TMUS	-1.16%
10.0	VNO	-0.77%	POST	-1.12%
10.0	TMUS	-0.75%	TRGP	-0.97%
10.0	AAPL	-0.68%	EXPE	-0.92%
10.0	ABBV	-0.61%	CZR	-0.87%
10.0	CDNS	-0.59%	CDNS	-0.44%
10.0	FRA	-0.46%	FRA	-0.4%

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 2025-05-29 through 2025-03-03

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
1.0	CLF	-0.74%	VFC	-0.82%
1.0	BHC	-0.69%	CLF	-0.73%
1.0	VFC	-0.6%	BHC	-0.66%
1.0	SBUX	-0.41%	UNH	-0.59%
1.0	NAVI	-0.35%	SBUX	-0.46%
1.0	UNH	-0.32%	JAZZ	-0.37%
1.0	BBY	-0.28%	BBY	-0.34%
1.0	EXPE	-0.27%	BMY	-0.32%
1.0	LLY	-0.27%	LLY	-0.32%
1.0	TXN	-0.24%	TRGP	-0.29%
1.0	INTC	-0.23%	MRK	-0.29%
1.0	KEY	-0.23%	PEP	-0.27%
1.0	BMY	-0.2%	IEP	-0.26%
1.0	CVS	-0.17%	KHC	-0.24%
1.0	CMA	-0.17%	AAPL	-0.22%
1.0	JAZZ	-0.16%	LUMN	-0.21%
1.0	USB	-0.16%	SNY	-0.2%
1.0	KHC	-0.15%	TFC	-0.19%
1.0	CZR	-0.14%	ABBV	-0.18%
1.0	MRK	-0.14%	CZR	-0.18%
1.0	CNC	-0.13%	EXPE	-0.17%
1.0	CYH	-0.12%	NWL	-0.17%
1.0	FITB	-0.12%	AA	-0.17%
1.0	ACGL	-0.12%	TMUS	-0.17%
1.0	AAPL	-0.11%	FITB	-0.16%
1.0	OXY	-0.1%	OXY	-0.16%
1.0	LEN	-0.1%	LNC	-0.15%
1.0	XOM	-0.1%	LEN	-0.15%
1.0	IEP	-0.1%	INTC	-0.14%
1.0	TRGP	-0.1%	ZION	-0.13%

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 2025-05-29 through 2025-03-03

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
10.0	BHC	-9.56%	UNH	-7.18%
10.0	UNH	-5.73%	BHC	-6.72%
10.0	BMY	-4.67%	CLF	-5.99%
10.0	CLF	-3.72%	VFC	-4.95%
10.0	VFC	-3.19%	BMY	-4.33%
10.0	LLY	-3.0%	JAZZ	-3.74%
10.0	AMGN	-2.72%	SBUX	-3.59%
10.0	JAZZ	-2.62%	MRK	-3.49%
10.0	SBUX	-2.44%	LUMN	-2.89%
10.0	MRK	-1.96%	PEP	-2.79%
10.0	AA	-1.7%	LLY	-2.56%
10.0	SNY	-1.43%	KHC	-2.56%
10.0	LUMN	-1.41%	AMGN	-2.44%
10.0	KHC	-1.39%	ABBV	-2.32%
10.0	GILD	-1.08%	TRGP	-2.2%
10.0	PEP	-1.04%	NWL	-2.12%
10.0	GNRC	-0.96%	LEN	-2.11%
10.0	LEN	-0.94%	SNY	-1.97%
10.0	TLT	-0.93%	BIIB	-1.85%
10.0	CVS	-0.87%	AAPL	-1.74%
10.0	RIO	-0.85%	AA	-1.53%
10.0	NWL	-0.81%	IEP	-1.51%
10.0	TRGP	-0.76%	TMUS	-1.46%
10.0	AAPL	-0.74%	AZN	-1.46%
10.0	IEP	-0.64%	OXY	-1.4%
10.0	BIIB	-0.59%	DHI	-1.26%
10.0	POST	-0.58%	TLT	-1.11%
10.0	AZN	-0.57%	GILD	-1.06%
10.0	TMUS	-0.56%	BBY	-0.94%
10.0	INTC	-0.42%	EXPE	-0.93%

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 2025-05-29 through 2025-03-03

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
21.0	BHC	-24.41%	BHC	-17.05%
21.0	UNH	-15.75%	UNH	-15.53%
21.0	BMY	-12.73%	CLF	-11.1%
21.0	AMGN	-8.71%	BMY	-11.05%
21.0	CLF	-8.29%	JAZZ	-10.15%
21.0	AA	-7.92%	VFC	-8.77%
21.0	JAZZ	-7.16%	TRGP	-8.17%
21.0	GNRC	-7.14%	SBUX	-8.11%
21.0	SBUX	-5.86%	MRK	-8.1%
21.0	MRK	-5.84%	AA	-7.01%
21.0	NWL	-5.46%	PEP	-6.49%
21.0	VFC	-5.44%	AMGN	-6.38%
21.0	QCOM	-4.08%	NWL	-6.19%
21.0	LLY	-4.07%	BIIB	-5.9%
21.0	OXY	-3.73%	LLY	-5.61%
21.0	AZN	-3.38%	OXY	-5.51%
21.0	TRGP	-3.32%	ABBV	-5.42%
21.0	KHC	-3.3%	KHC	-4.74%
21.0	FITB	-3.12%	SNY	-4.61%
21.0	SNY	-3.11%	LEN	-4.37%
21.0	PEP	-3.07%	LUMN	-4.34%
21.0	LUMN	-2.65%	AAPL	-3.84%
21.0	CMCSA	-2.43%	AZN	-3.78%
21.0	TLT	-2.36%	INTC	-3.6%
21.0	CVS	-2.25%	GILD	-3.56%
21.0	GILD	-2.08%	TMUS	-3.46%
21.0	BIIB	-2.06%	IEP	-3.16%
21.0	INTC	-1.99%	XOM	-3.09%
21.0	AAPL	-1.84%	LNC	-2.97%
21.0	IEP	-1.75%	DHI	-2.51%

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 2025-05-29 through 2024-06-03

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
1.0	CLF	-0.34%	CLF	-0.35%
1.0	AAP	-0.23%	ETRN	-0.33%
1.0	INTC	-0.17%	WRK	-0.26%
1.0	CSTM	-0.16%	IEP	-0.23%
1.0	BHC	-0.15%	BIIB	-0.21%
1.0	IEP	-0.12%	MRK	-0.19%
1.0	KALU	-0.11%	CSTM	-0.17%
1.0	ETRN	-0.11%	FSUGY	-0.17%
1.0	NAVI	-0.11%	UNH	-0.16%
1.0	MRK	-0.1%	ON	-0.16%
1.0	WRK	-0.09%	AA	-0.15%
1.0	BIIB	-0.09%	LEN	-0.15%
1.0	OXY	-0.09%	OXY	-0.14%
1.0	KHC	-0.09%	LW	-0.13%
1.0	ON	-0.08%	QCOM	-0.1%
1.0	LEN	-0.08%	AMD	-0.1%
1.0	AMD	-0.08%	KHC	-0.1%
1.0	LW	-0.07%	PEP	-0.1%
1.0	AA	-0.07%	INTC	-0.1%
1.0	FSUGY	-0.06%	BALL	-0.09%
1.0	BALL	-0.06%	B	-0.08%
1.0	CYH	-0.06%	WDC	-0.08%
1.0	PEP	-0.05%	FCX	-0.08%
1.0	CZR	-0.05%	AMAT	-0.08%
1.0	DHI	-0.05%	KALU	-0.07%
1.0	BHP	-0.05%	BBY	-0.07%
1.0	TXN	-0.05%	CNC	-0.07%
1.0	UNH	-0.04%	BHC	-0.07%
1.0	CMG	-0.04%	CZR	-0.07%
1.0	CNC	-0.04%	DHI	-0.07%

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 2025-05-29 through 2024-06-03

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
10.0	CLF	-3.48%	ETRN	-5.36%
10.0	AAP	-2.6%	CLF	-2.92%
10.0	ON	-2.18%	BIIB	-2.29%
10.0	LW	-2.15%	WRK	-2.2%
10.0	ETRN	-2.0%	IEP	-2.13%
10.0	BIIB	-1.99%	MRK	-2.03%
10.0	AMC	-1.19%	ON	-1.82%
10.0	UNH	-1.1%	LW	-1.63%
10.0	WRK	-1.09%	UNH	-1.58%
10.0	MRK	-0.97%	CSTM	-1.5%
10.0	IEP	-0.89%	FSUGY	-1.48%
10.0	OXY	-0.83%	AMC	-1.41%
10.0	BALL	-0.78%	LEN	-1.36%
10.0	CZR	-0.77%	OXY	-1.3%
10.0	KHC	-0.76%	QCOM	-1.21%
10.0	CSTM	-0.6%	AMAT	-1.05%
10.0	RIO	-0.58%	AMD	-1.03%
10.0	LLY	-0.54%	PEP	-0.98%
10.0	LEN	-0.52%	AAP	-0.98%
10.0	CNC	-0.5%	AA	-0.95%
10.0	KALU	-0.48%	WDC	-0.91%
10.0	FSUGY	-0.42%	BALL	-0.88%
10.0	CMG	-0.41%	KHC	-0.88%
10.0	GSK	-0.37%	ELAN	-0.76%
10.0	PEP	-0.36%	CMG	-0.76%
10.0	INTC	-0.36%	INTC	-0.73%
10.0	AA	-0.34%	CZR	-0.71%
10.0	BHC	-0.3%	FCX	-0.67%
10.0	BMY	-0.29%	BBY	-0.62%
10.0	BHP	-0.29%	MU	-0.6%

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 2025-05-29 through 2024-06-03

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
21.0	ON	-5.85%	ETRN	-9.38%
21.0	CLF	-5.78%	WRK	-6.87%
21.0	LW	-5.32%	CLF	-5.77%
21.0	AAP	-5.12%	BIIB	-5.25%
21.0	AMC	-4.32%	IEP	-4.52%
21.0	ETRN	-4.28%	MRK	-4.39%
21.0	BIIB	-4.27%	ON	-4.08%
21.0	WRK	-4.24%	AMC	-4.01%
21.0	ELAN	-4.23%	AAP	-3.67%
21.0	OXY	-3.11%	LW	-3.55%
21.0	MRK	-3.05%	CSTM	-3.26%
21.0	CZR	-2.67%	OXY	-3.22%
21.0	IEP	-2.24%	FSUGY	-2.87%
21.0	UNH	-2.21%	AMD	-2.83%
21.0	AA	-1.66%	QCOM	-2.81%
21.0	BHC	-1.48%	AMAT	-2.75%
21.0	KHC	-1.44%	WDC	-2.7%
21.0	QCOM	-1.42%	LEN	-2.68%
21.0	INTC	-1.37%	UNH	-2.47%
21.0	AMD	-1.33%	MU	-2.46%
21.0	PEP	-1.24%	AA	-2.39%
21.0	BALL	-1.24%	PEP	-2.1%
21.0	CSTM	-1.1%	INTC	-2.06%
21.0	BHP	-1.03%	ELAN	-1.9%
21.0	LEN	-0.96%	FCX	-1.79%
21.0	RIO	-0.95%	CMG	-1.74%
21.0	CMG	-0.84%	CZR	-1.71%
21.0	CNC	-0.77%	BALL	-1.62%
21.0	FSUGY	-0.74%	KHC	-1.54%
21.0	KALU	-0.72%	BBY	-1.48%

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 2025-05-29 through 2024-06-03

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
63.0	ON	-24.46%	IEP	-17.91%
63.0	CLF	-19.63%	CLF	-17.44%
63.0	IEP	-16.79%	ON	-16.62%
63.0	ELAN	-15.97%	BIIB	-16.24%
63.0	AMC	-15.97%	AMC	-16.23%
63.0	BIIB	-14.77%	CSTM	-15.2%
63.0	AAP	-14.08%	WDC	-13.49%
63.0	OXY	-12.93%	AAP	-13.01%
63.0	WDC	-12.71%	AMD	-12.47%
63.0	CSTM	-10.7%	MRK	-12.12%
63.0	MRK	-10.0%	AMAT	-11.16%
63.0	GNRC	-9.59%	LEN	-10.63%
63.0	AMD	-9.56%	OXY	-10.36%
63.0	LW	-9.25%	ELAN	-9.93%
63.0	KALU	-8.63%	ADBE	-9.73%
63.0	QCOM	-7.41%	FSUGY	-9.47%
63.0	ADBE	-7.32%	MU	-8.79%
63.0	BALL	-6.34%	CZR	-8.35%
63.0	AMAT	-6.11%	QCOM	-7.56%
63.0	FSUGY	-5.83%	LW	-7.49%
63.0	MU	-5.71%	KALU	-7.0%
63.0	FCX	-5.7%	FCX	-6.9%
63.0	INTC	-5.18%	BALL	-6.45%
63.0	DHI	-5.01%	INTC	-6.45%
63.0	PEP	-4.72%	DHI	-6.37%
63.0	LEN	-4.61%	BBY	-6.19%
63.0	CZR	-4.57%	PEP	-5.83%
63.0	KHC	-4.54%	UNH	-5.36%
63.0	CNC	-4.35%	NAVI	-5.08%
63.0	BHP	-4.35%	CNC	-4.99%

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 2025-05-29 through 2024-06-03

Horizon	Ticker_V	ROVBC_V	Ticker_S	ROVBC_S
126.0	CLF	-39.44%	IEP	-35.41%
126.0	IEP	-35.41%	CSTM	-32.05%
126.0	BIIB	-33.21%	BIIB	-31.53%
126.0	ON	-32.86%	CLF	-31.13%
126.0	AMC	-30.46%	ON	-30.97%
126.0	ELAN	-29.04%	AMC	-30.46%
126.0	CYH	-26.69%	CYH	-28.48%
126.0	CSTM	-24.28%	AMD	-27.56%
126.0	AMD	-23.65%	LEN	-26.49%
126.0	OXY	-23.32%	MRK	-22.47%
126.0	MRK	-22.91%	WDC	-21.77%
126.0	AAP	-21.91%	ELAN	-20.97%
126.0	LW	-21.79%	DHI	-20.73%
126.0	WDC	-20.11%	AMAT	-19.35%
126.0	CZR	-19.46%	ADBE	-19.24%
126.0	FCX	-17.98%	CZR	-18.65%
126.0	KALU	-17.97%	LW	-18.38%
126.0	DHI	-17.52%	OXY	-17.7%
126.0	GNRC	-15.71%	FCX	-17.49%
126.0	BALL	-14.92%	AAP	-16.98%
126.0	AA	-14.82%	BALL	-16.95%
126.0	LEN	-14.53%	FSUGY	-16.36%
126.0	INTC	-14.31%	PHM	-15.0%
126.0	QCOM	-13.96%	MU	-14.94%
126.0	KHC	-13.72%	PEP	-14.07%
126.0	ZTS	-13.67%	BBY	-13.23%
126.0	ADBE	-13.33%	UNH	-12.96%
126.0	FSUGY	-12.62%	KHC	-12.89%
126.0	AMAT	-12.58%	INTC	-12.81%
126.0	PEP	-12.48%	CNC	-12.75%

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 2025-05-29

Hzn	Ticker	95VaRBreak_VmS	Ticker	99VaRBreak_VmS
1.0	SBNY	22.3%	SBNY	11.87%
1.0	B	14.29%	SIVBQ	7.55%
1.0	SIVBQ	13.31%	TSLA	6.23%
1.0	CHTR	13.17%	LQD	5.27%
1.0	TSLA	12.93%	GME	4.07%
1.0	LQD	11.02%	FRCB	3.6%
1.0	GME	10.9%	ZTS	2.75%
1.0	UAA	8.5%	AMC	2.51%
1.0	MSTR	7.66%	MSTR	2.4%
1.0	AAP	7.31%	JAZZ	2.28%
1.0	FRCB	7.19%	BUD	2.04%
1.0	AMC	7.07%	GNRC	2.04%
1.0	META	6.35%	AAP	1.92%
1.0	BALL	6.11%	ISRG	1.92%
1.0	GNRC	5.87%	KALU	1.68%
1.0	KEY	5.63%	CHTR	1.68%
1.0	ZTS	5.63%	EXPE	1.44%
1.0	SBUX	5.63%	CDNS	1.2%
1.0	SLV	5.63%	SLV	1.2%
1.0	VFC	5.39%	ELAN	1.09%
1.0	PRGO	5.15%	FRA	1.08%
1.0	BUD	5.03%	TLT	1.08%
1.0	AMZN	4.91%	PRGO	1.08%
1.0	NFLX	4.67%	BXP	0.84%
1.0	JAZZ	4.55%	GSK	0.6%

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 2025-05-29

Hzn	Ticker	95VaRBreak_VmS	Ticker	99VaRBreak_VmS
10.0	SBNY	30.51%	SBNY	14.34%
10.0	GME	14.04%	TSLA	8.72%
10.0	CHTR	13.92%	AMC	7.75%
10.0	TSLA	13.68%	SIVBQ	7.35%
10.0	AMC	12.83%	LQD	5.69%
10.0	SIVBQ	11.76%	CHTR	5.57%
10.0	AAP	11.62%	AAP	4.96%
10.0	ZTS	9.56%	ZTS	4.0%
10.0	TLT	9.56%	MSTR	3.51%
10.0	LQD	9.56%	GNRC	3.51%
10.0	BUD	9.08%	GME	3.27%
10.0	KALU	7.99%	KALU	2.3%
10.0	MSTR	7.99%	ISRG	2.3%
10.0	SLV	7.75%	VCSH	1.94%
10.0	JAZZ	7.51%	BIIB	1.94%
10.0	PRGO	6.9%	CVS	1.82%
10.0	VFC	6.54%	SNY	1.45%
10.0	NEM	6.05%	META	1.33%
10.0	META	5.93%	TLT	1.21%
10.0	BIIB	5.69%	OXY	1.21%
10.0	FRCB	5.51%	CMA	1.09%
10.0	OXY	5.45%	ORCL	0.85%
10.0	VCSH	5.33%	NEM	0.85%
10.0	GNRC	5.33%	WYNN	0.85%
10.0	KEY	5.08%	BHC	0.73%

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 2025-05-29

Hzn	Ticker	95VaRBreak_VmS	Ticker	99VaRBreak_VmS
21.0	SBNY	47.78%	SBNY	15.93%
21.0	CHTR	16.69%	CHTR	9.94%
21.0	TSLA	13.99%	AMC	9.45%
21.0	AMC	12.88%	TSLA	8.47%
21.0	AAP	12.02%	SIVBQ	7.04%
21.0	TLT	11.41%	VCSH	6.38%
21.0	ZTS	11.17%	GNRC	5.64%
21.0	GME	10.8%	LQD	4.17%
21.0	SIVBQ	10.37%	BIIB	4.05%
21.0	LQD	9.94%	ZTS	3.07%
21.0	BUD	9.57%	KALU	2.82%
21.0	PRGO	9.33%	META	2.7%
21.0	MSTR	9.2%	AAP	2.58%
21.0	KALU	8.96%	ORCL	2.09%
21.0	GNRC	8.96%	MSTR	2.09%
21.0	JAZZ	8.83%	GME	1.96%
21.0	BIIB	8.1%	BUD	1.84%
21.0	NEM	7.85%	BHC	1.72%
21.0	META	7.73%	FIS	1.35%
21.0	VCSH	7.48%	CMA	1.35%
21.0	CVS	7.48%	BHP	1.23%
21.0	UAA	7.48%	FRCB	1.11%
21.0	VFC	7.36%	TLT	1.1%
21.0	GSK	7.12%	KEY	1.1%
21.0	BXP	6.87%	ON	1.1%

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 2025-05-29

Hzn	Ticker	95VaRBreak_VmS	Ticker	99VaRBreak_VmS
63.0	SBNY	55.19%	SBNY	28.89%
63.0	AAP	29.11%	CHTR	18.5%
63.0	CHTR	22.51%	AMC	12.68%
63.0	AMC	17.85%	AAP	9.44%
63.0	BIIB	16.95%	VCSH	6.6%
63.0	KALU	16.43%	GNRC	6.6%
63.0	TSLA	15.27%	LQD	5.43%
63.0	VFC	13.71%	MSTR	4.92%
63.0	SIVBQ	11.85%	SIVBQ	4.81%
63.0	GNRC	11.64%	ZION	4.61%
63.0	META	10.61%	BMY	4.14%
63.0	FIS	9.57%	TLT	3.75%
63.0	AMZN	9.31%	ON	3.49%
63.0	TLT	9.06%	META	3.49%
63.0	MSTR	8.93%	BXP	2.85%
63.0	BHC	8.93%	BIIB	2.85%
63.0	LQD	6.86%	VNO	2.72%
63.0	BUD	6.6%	NWL	2.2%
63.0	JAZZ	6.47%	BUD	2.07%
63.0	FITB	5.95%	CMA	1.68%
63.0	LNC	5.69%	CVS	1.68%
63.0	ZTS	5.69%	BA	1.42%
63.0	OXY	5.56%	FRA	1.29%
63.0	ON	5.43%	FITB	1.29%
63.0	CMA	5.3%	TSLA	1.16%

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 2025-05-29

Hzn	Ticker	95VaRBreak_VmS	Ticker	99VaRBreak_VmS
126.0	SBNY	55.19%	SBNY	26.3%
126.0	CHTR	31.41%	AAP	24.65%
126.0	VFC	27.61%	AMC	20.42%
126.0	AMC	26.06%	CHTR	20.14%
126.0	AAP	20.14%	BXP	8.31%
126.0	TSLA	18.73%	VFC	7.89%
126.0	GNRC	18.17%	VCSH	6.76%
126.0	SIVBQ	15.93%	CTLT	5.65%
126.0	TLT	14.79%	GNRC	5.63%
126.0	BIIB	14.37%	TLT	4.93%
126.0	OXY	13.38%	CMA	4.79%
126.0	CVS	12.39%	OXY	4.08%
126.0	ZION	11.64%	ZION	3.59%
126.0	AMZN	11.55%	VNO	2.54%
126.0	BUD	11.41%	LQD	2.25%
126.0	BXP	9.86%	SNY	1.97%
126.0	FIS	9.01%	META	1.83%
126.0	BMY	8.87%	BIIB	1.69%
126.0	CCL	8.03%	ON	1.55%
126.0	META	7.75%	SIVBQ	1.48%
126.0	EXPE	7.18%	BHC	1.13%
126.0	CMA	7.04%	FIS	1.13%
126.0	NEM	6.76%	CLF	0.85%
126.0	SNY	6.48%	HYG	0.85%
126.0	ZTS	6.2%	CNC	0.7%

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 2025-05-29

Hzn	Ticker	95VaRBreak_VmS	Ticker	99VaRBreak_VmS
252.0	AMC	50.34%	AMC	37.67%
252.0	AAP	48.97%	AAP	36.47%
252.0	CHTR	40.92%	SBNY	25.93%
252.0	BIIB	34.42%	BIIB	16.44%
252.0	VFC	32.19%	CHTR	15.07%
252.0	CMA	25.86%	BXP	14.38%
252.0	ZION	25.09%	VFC	13.36%
252.0	SBNY	20.37%	CMA	8.9%
252.0	FIS	19.35%	VNO	7.02%
252.0	CVS	15.24%	OXY	6.85%
252.0	TLT	13.01%	ZION	6.49%
252.0	OXY	12.33%	CTLT	3.85%
252.0	BHC	10.96%	BHC	3.77%
252.0	ELAN	9.28%	KEY	3.25%
252.0	NWL	8.73%	GNRC	3.08%
252.0	EXPE	8.56%	VCSH	2.57%
252.0	CTLT	8.52%	BMY	2.57%
252.0	GNRC	8.22%	MRK	1.71%
252.0	PRGO	7.53%	FIS	1.54%
252.0	AMZN	7.53%	EMB	1.54%
252.0	CLF	7.53%	GSK	1.2%
252.0	VNO	6.68%	ELAN	1.05%
252.0	LQD	6.34%	TLT	1.03%
252.0	BXP	5.99%	FITB	0.68%
252.0	FITB	5.82%	NEM	0.34%

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 2025-05-29 through 2025-05-02

Hzn	Ticker	95VaRBreak_VmS	Ticker	99VaRBreak_VmS
1.0	SBUX	36.84%	SBUX	15.79%
1.0	LLY	26.32%	LLY	10.53%
1.0	TSLA	21.05%	AMC	10.53%
1.0	B	14.29%	UNH	10.53%
1.0	ZTS	10.53%	ZTS	5.26%
1.0	INTC	10.53%	VZ	5.26%
1.0	CNC	10.53%	LQD	5.26%
1.0	QQQ	10.53%	CYH	5.26%
1.0	RIO	10.53%	BUD	5.26%
1.0	CDNS	10.53%	TXN	5.26%
1.0	UAA	10.53%	AAP	5.26%
1.0	TDG	10.53%	AMGN	5.26%
1.0	VZ	10.53%	VST	0.0%
1.0	AMZN	10.53%	MSFT	0.0%
1.0	AMC	10.53%	ORLY	0.0%
1.0	AAP	10.53%	ORCL	0.0%
1.0	LQD	5.26%	ON	0.0%
1.0	CVS	5.26%	NWL	0.0%
1.0	ORLY	5.26%	NVS	0.0%
1.0	PRGO	5.26%	NVDA	0.0%
1.0	PWR	5.26%	NFLX	0.0%
1.0	GWW	5.26%	NEM	0.0%
1.0	AAPL	5.26%	NAVI	0.0%
1.0	CMG	5.26%	MUB	0.0%
1.0	ORCL	5.26%	MU	0.0%

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 2025-05-29 through 2025-05-02

Hzn	Ticker	95VaRBreak_VmS	Ticker	99VaRBreak_VmS
10.0	LLY	50.0%	UNH	10.0%
10.0	CVS	40.0%	AA	0.0%
10.0	CDNS	30.0%	MSI	0.0%
10.0	TLT	10.0%	MU	0.0%
10.0	BMY	10.0%	MUB	0.0%
10.0	JAZZ	10.0%	NAVI	0.0%
10.0	OXY	0.0%	NEM	0.0%
10.0	ORLY	0.0%	NFLX	0.0%
10.0	ORCL	0.0%	NVDA	0.0%
10.0	ON	0.0%	NVS	0.0%
10.0	MUB	0.0%	NWL	0.0%
10.0	NVS	0.0%	ON	0.0%
10.0	PCG	0.0%	ORCL	0.0%
10.0	NVDA	0.0%	ORLY	0.0%
10.0	NFLX	0.0%	OXY	0.0%
10.0	NEM	0.0%	PCG	0.0%
10.0	NAVI	0.0%	PEP	0.0%
10.0	PEP	0.0%	MSTR	0.0%
10.0	PHM	0.0%	MSFT	0.0%
10.0	NWL	0.0%	POST	0.0%
10.0	MU	0.0%	LQD	0.0%
10.0	MSTR	0.0%	KALU	0.0%
10.0	LVS	0.0%	KEY	0.0%
10.0	KEY	0.0%	KHC	0.0%
10.0	KHC	0.0%	LEN	0.0%

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 2025-05-29 through 2025-03-03

Hzn	Ticker	95VaRBreak_VmS	Ticker	99VaRBreak_VmS
1.0	SBUX	19.35%	VZ	9.68%
1.0	TSLA	17.74%	AMC	6.45%
1.0	ZTS	14.52%	AMGN	6.45%
1.0	CDNS	14.52%	LQD	6.45%
1.0	B	14.29%	NAVI	4.84%
1.0	MSFT	12.9%	MU	4.84%
1.0	AMZN	12.9%	UNH	4.84%
1.0	LLY	11.29%	TSLA	4.84%
1.0	AMC	9.68%	GNRC	4.84%
1.0	TXN	9.68%	QCOM	4.84%
1.0	VZ	9.68%	MSTR	4.84%
1.0	LQD	9.68%	CSTM	3.23%
1.0	INTC	9.68%	HCA	3.23%
1.0	AMGN	8.06%	ZTS	3.23%
1.0	MU	8.06%	PWR	3.23%
1.0	META	8.06%	SBUX	3.23%
1.0	CVS	8.06%	CMCSA	3.23%
1.0	NAVI	6.45%	CHTR	1.61%
1.0	PRGO	6.45%	LLY	1.61%
1.0	CHTR	6.45%	KEY	1.61%
1.0	ISRG	6.45%	AAP	1.61%
1.0	UNH	4.84%	TDG	1.61%
1.0	CYH	4.84%	TEVA	1.61%
1.0	TLT	4.84%	EXPE	1.61%
1.0	TDG	4.84%	CYH	1.61%

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 2025-05-29 through 2025-03-03

Hzn	Ticker	95VaRBreak_VmS	Ticker	99VaRBreak_VmS
10.0	CVS	16.98%	ZTS	18.87%
10.0	AMGN	16.98%	AMC	9.43%
10.0	CHTR	15.09%	GNRC	9.43%
10.0	META	13.21%	CHTR	9.43%
10.0	TSLA	13.21%	NAVI	7.55%
10.0	AAP	11.32%	MU	5.66%
10.0	ELAN	11.32%	KALU	5.66%
10.0	WDC	11.32%	ELAN	3.77%
10.0	EXPE	11.32%	SNY	3.77%
10.0	AMC	11.32%	AMGN	3.77%
10.0	SBUX	11.32%	EXPE	1.89%
10.0	LQD	9.43%	LQD	1.89%
10.0	KALU	9.43%	CMCSA	1.89%
10.0	JAZZ	9.43%	QCOM	1.89%
10.0	ZTS	9.43%	TEVA	1.89%
10.0	INTC	9.43%	LLY	1.89%
10.0	CMCSA	9.43%	BMY	1.89%
10.0	GE	9.43%	GE	1.89%
10.0	MU	7.55%	MSTR	1.89%
10.0	CMA	7.55%	NVS	1.89%
10.0	CZR	7.55%	LW	0.0%
10.0	BHC	7.55%	GWW	0.0%
10.0	QCOM	7.55%	NEM	0.0%
10.0	ON	5.66%	T	0.0%
10.0	TDG	5.66%	HD	0.0%

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 2025-05-29 through 2025-03-03

Hzn	Ticker	95VaRBreak_VmS	Ticker	99VaRBreak_VmS
21.0	AMGN	42.86%	GNRC	33.33%
21.0	ZTS	38.1%	BHC	23.81%
21.0	WDC	33.33%	KALU	19.05%
21.0	ELAN	33.33%	ZTS	19.05%
21.0	GNRC	30.95%	AMGN	16.67%
21.0	ON	26.19%	BMY	14.29%
21.0	BHC	23.81%	CHTR	9.52%
21.0	QCOM	19.05%	AMC	7.14%
21.0	NAVI	19.05%	ELAN	7.14%
21.0	LQD	19.05%	QCOM	7.14%
21.0	INTC	16.67%	UNH	4.76%
21.0	META	16.67%	NAVI	2.38%
21.0	TXN	16.67%	MSI	0.0%
21.0	CHTR	16.67%	MSTR	0.0%
21.0	FITB	14.29%	MU	0.0%
21.0	VFC	14.29%	JPM	0.0%
21.0	CVS	14.29%	NEM	0.0%
21.0	AA	14.29%	MSFT	0.0%
21.0	BBY	14.29%	NVDA	0.0%
21.0	CMA	11.9%	NWL	0.0%
21.0	AMC	11.9%	ON	0.0%
21.0	GE	11.9%	NFLX	0.0%
21.0	CSTM	9.52%	MOS	0.0%
21.0	SBUX	9.52%	MS	0.0%
21.0	AMD	9.52%	AAP	0.0%

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 2025-05-29 through 2024-06-03

Hzn	Ticker	95VaRBreak_VmS	Ticker	99VaRBreak_VmS
1.0	B	14.29%	TSLA	2.82%
1.0	TSLA	14.11%	MSTR	2.42%
1.0	INTC	9.27%	LQD	2.42%
1.0	MSFT	8.47%	VZ	2.42%
1.0	SBUX	8.06%	NAVI	2.42%
1.0	CHTR	8.06%	AMC	2.42%
1.0	CLF	7.66%	AMGN	2.02%
1.0	AAP	6.85%	QCOM	1.61%
1.0	UNH	6.85%	GSK	1.21%
1.0	QCOM	6.85%	SBUX	1.21%
1.0	ZTS	6.45%	CHTR	1.21%
1.0	AMZN	6.05%	GME	1.21%
1.0	KHC	5.65%	EXPE	1.21%
1.0	ON	5.24%	CMCSA	0.81%
1.0	VFC	5.24%	GNRC	0.81%
1.0	MU	5.24%	CMA	0.81%
1.0	NFLX	5.24%	INTC	0.81%
1.0	BHC	4.84%	AAP	0.81%
1.0	LQD	4.84%	LW	0.81%
1.0	UAA	4.84%	BHC	0.4%
1.0	KEY	4.44%	KEY	0.4%
1.0	AMC	4.44%	CZR	0.4%
1.0	PRGO	4.03%	CSTM	0.4%
1.0	CNC	4.03%	SLV	0.4%
1.0	GME	4.03%	HCA	0.4%

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 2025-05-29 through 2024-06-03

Hzn	Ticker	95VaRBreak_VmS	Ticker	99VaRBreak_VmS
10.0	TSLA	20.5%	TSLA	7.53%
10.0	ZTS	9.62%	ZTS	6.69%
10.0	GSK	8.79%	AMC	4.18%
10.0	VZ	8.37%	GSK	3.77%
10.0	BUD	8.37%	CMA	3.77%
10.0	INTC	7.95%	CLF	3.77%
10.0	AAP	7.95%	AAP	3.77%
10.0	CZR	7.95%	CHTR	3.35%
10.0	CMA	7.53%	GNRC	2.09%
10.0	MSTR	7.11%	CZR	2.09%
10.0	SLV	7.11%	LQD	2.09%
10.0	CHTR	7.11%	NAVI	2.09%
10.0	KEY	6.69%	CVS	1.67%
10.0	ON	5.86%	ON	1.67%
10.0	LQD	5.44%	MSTR	1.26%
10.0	CVS	5.44%	BIIB	1.26%
10.0	GNRC	5.02%	KALU	1.26%
10.0	CLF	4.6%	LW	0.84%
10.0	KALU	4.6%	ELAN	0.84%
10.0	LW	4.6%	KHC	0.84%
10.0	AMC	4.6%	SLV	0.84%
10.0	AMGN	4.6%	SNY	0.84%
10.0	EXPE	4.18%	GE	0.42%
10.0	META	4.18%	BMY	0.42%
10.0	NAVI	4.18%	EXPE	0.42%

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 2025-05-29 through 2024-06-03

Hzn	Ticker	95VaRBreak_VmS	Ticker	99VaRBreak_VmS
21.0	ZTS	17.54%	GNRC	6.14%
21.0	ON	16.67%	TSLA	6.14%
21.0	GSK	13.6%	ON	6.14%
21.0	TSLA	12.72%	AAP	5.7%
21.0	CHTR	12.72%	CMA	5.7%
21.0	CMA	11.84%	CVS	4.82%
21.0	BUD	11.4%	BHC	4.39%
21.0	GNRC	10.96%	BUD	4.39%
21.0	LQD	10.09%	KALU	4.39%
21.0	CZR	9.21%	ZTS	3.51%
21.0	NAVI	9.21%	BIIB	3.51%
21.0	INTC	9.21%	CZR	3.07%
21.0	BIIB	8.33%	GSK	3.07%
21.0	AMGN	7.89%	CHTR	3.07%
21.0	LW	7.89%	AMC	2.63%
21.0	AAP	7.46%	BMY	2.63%
21.0	CLF	7.02%	LQD	2.19%
21.0	BHC	7.02%	AMGN	2.19%
21.0	ELAN	6.58%	BALL	1.75%
21.0	AA	6.58%	AA	0.88%
21.0	CVS	5.7%	GME	0.44%
21.0	SBUX	5.7%	KHC	0.44%
21.0	KEY	5.7%	GOOGL	0.44%
21.0	OXY	5.26%	CLF	0.44%
21.0	META	4.82%	NAVI	0.44%

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 2025-05-29 through 2024-06-03

Hzn	Ticker	95VaRBreak_VmS	Ticker	99VaRBreak_VmS
63.0	AAP	40.86%	ON	14.52%
63.0	BIIB	29.03%	BUD	8.6%
63.0	ON	25.81%	AAP	5.91%
63.0	GNRC	23.66%	GNRC	4.84%
63.0	BHC	18.28%	CVS	2.69%
63.0	KALU	16.67%	GSK	2.69%
63.0	OXY	16.13%	LQD	2.15%
63.0	GOOGL	13.98%	CNC	2.15%
63.0	CLF	13.44%	OXY	1.61%
63.0	CMA	12.37%	FITB	1.08%
63.0	KHC	11.29%	UAA	0.54%
63.0	LW	11.29%	BMY	0.54%
63.0	BMY	11.29%	GOOGL	0.54%
63.0	PEP	10.75%	CLF	0.54%
63.0	CSTM	9.68%	CMCSA	0.54%
63.0	AMGN	9.68%	NVDA	0.0%
63.0	LQD	9.14%	MUB	0.0%
63.0	ELAN	7.53%	NFLX	0.0%
63.0	SBUX	6.99%	NVS	0.0%
63.0	CVS	6.99%	NWL	0.0%
63.0	GSK	6.45%	NEM	0.0%
63.0	KEY	6.45%	ORCL	0.0%
63.0	VFC	6.45%	ORLY	0.0%
63.0	CNC	5.91%	NAVI	0.0%
63.0	FITB	5.91%	AA	0.0%

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 2025-05-29 through 2024-06-03

Hzn	Ticker	95VaRBreak_VmS	Ticker	99VaRBreak_VmS
126.0	BUD	39.02%	ON	8.94%
126.0	BIIB	37.4%	BIIB	7.32%
126.0	OXY	35.77%	OXY	6.5%
126.0	CLF	34.15%	CLF	4.88%
126.0	GNRC	32.52%	CNC	4.07%
126.0	UAA	26.02%	MRK	2.44%
126.0	AAP	24.39%	GNRC	1.63%
126.0	CZR	21.14%	UAA	1.63%
126.0	VFC	20.33%	PEP	1.63%
126.0	CNC	17.89%	AAP	1.63%
126.0	MRK	17.89%	LVS	0.0%
126.0	BHC	17.07%	NAVI	0.0%
126.0	KHC	15.45%	PCG	0.0%
126.0	INTC	11.38%	ORLY	0.0%
126.0	NAVI	10.57%	ORCL	0.0%
126.0	WDC	9.76%	KEY	0.0%
126.0	ON	9.76%	KHC	0.0%
126.0	MU	8.94%	NWL	0.0%
126.0	ELAN	8.94%	NVS	0.0%
126.0	BMY	8.94%	LLY	0.0%
126.0	CVS	8.94%	NVDA	0.0%
126.0	GSK	8.13%	NFLX	0.0%
126.0	AMD	6.5%	NEM	0.0%
126.0	PEP	6.5%	MUB	0.0%
126.0	BXP	6.5%	LW	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 2025-05-29

Hzn	Ticker	95VaRBreak_VmS	Ticker	99VaRBreak_VmS
1.0	NVDA	-5.51%	TRGP	-2.51%
1.0	PHM	-5.39%	QQQ	-2.51%
1.0	TRGP	-4.91%	NVDA	-2.4%
1.0	VST	-4.79%	CMG	-2.28%
1.0	MS	-4.55%	VST	-2.28%
1.0	PCG	-4.31%	IRM	-2.28%
1.0	QQQ	-4.19%	PCG	-2.16%
1.0	IRM	-4.07%	GS	-2.04%
1.0	HYG	-3.95%	PHM	-2.04%
1.0	MOS	-3.95%	LEN	-1.92%
1.0	AMAT	-3.95%	PEP	-1.92%
1.0	VNO	-3.71%	SPY	-1.92%
1.0	CCL	-3.59%	EMB	-1.8%
1.0	THC	-3.59%	CAH	-1.8%
1.0	CAH	-3.59%	HLT	-1.8%
1.0	AMD	-3.35%	THC	-1.8%
1.0	FSUGY	-3.23%	AMAT	-1.8%
1.0	CPRT	-2.99%	MS	-1.8%
1.0	GLD	-2.99%	HSBC	-1.8%
1.0	CSCO	-2.99%	DHI	-1.68%
1.0	DHI	-2.99%	PWR	-1.68%
1.0	X	-2.99%	ACGL	-1.68%
1.0	WRK	-2.79%	MOS	-1.68%
1.0	GS	-2.75%	HYG	-1.68%
1.0	MRK	-2.63%	ORLY	-1.56%

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 2025-05-29

Hzn	Ticker	95VaRBreak_VmS	Ticker	99VaRBreak_VmS
10.0	MS	-6.42%	MUB	-4.85%
10.0	MUB	-5.33%	BAC	-3.27%
10.0	NVDA	-5.21%	ABBV	-3.15%
10.0	CSCO	-4.6%	PCG	-3.15%
10.0	BAC	-4.36%	TRGP	-2.91%
10.0	TRGP	-4.36%	COST	-2.66%
10.0	AZN	-4.12%	WDC	-2.66%
10.0	HON	-4.0%	SBUX	-2.3%
10.0	X	-4.0%	VST	-2.3%
10.0	QQQ	-3.87%	JPM	-2.3%
10.0	HLT	-3.75%	MRK	-2.3%
10.0	IRM	-3.75%	AZN	-2.18%
10.0	COST	-3.63%	MS	-2.18%
10.0	VST	-3.51%	WRK	-2.17%
10.0	UNH	-3.51%	IRM	-2.06%
10.0	PHM	-3.39%	HCA	-2.06%
10.0	PCG	-3.39%	BBY	-2.06%
10.0	MU	-3.39%	WFC	-2.06%
10.0	THC	-3.27%	HLT	-1.94%
10.0	AMAT	-3.27%	X	-1.94%
10.0	MNST	-3.27%	USB	-1.94%
10.0	WRK	-3.17%	ADBE	-1.82%
10.0	PWR	-3.15%	CSTM	-1.69%
10.0	CMG	-3.15%	QQQ	-1.57%
10.0	ABBV	-3.03%	CCL	-1.57%

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 2025-05-29

Hzn	Ticker	95VaRBreak_VmS	Ticker	99VaRBreak_VmS
21.0	MUB	-9.71%	MUB	-4.79%
21.0	ABBV	-5.4%	LW	-4.17%
21.0	QQQ	-5.03%	COST	-2.7%
21.0	MS	-5.03%	PCG	-2.58%
21.0	COST	-4.66%	AZN	-2.33%
21.0	TRGP	-4.42%	USB	-2.33%
21.0	TEVA	-4.17%	HLT	-2.09%
21.0	IRM	-3.93%	WDC	-2.09%
21.0	WRK	-3.57%	TEVA	-1.96%
21.0	FSUGY	-3.56%	INTC	-1.96%
21.0	SPY	-3.44%	FRA	-1.6%
21.0	PEP	-3.31%	ADBE	-1.6%
21.0	AZN	-3.19%	ABBV	-1.6%
21.0	MNST	-3.19%	CMG	-1.6%
21.0	CSCO	-3.07%	LVS	-1.6%
21.0	THC	-3.07%	TFC	-1.47%
21.0	CPRT	-2.82%	TRGP	-1.47%
21.0	CMG	-2.82%	FCX	-1.47%
21.0	NVDA	-2.82%	IRM	-1.35%
21.0	USB	-2.7%	MU	-1.35%
21.0	HLT	-2.7%	HSBC	-1.35%
21.0	PWR	-2.58%	X	-1.23%
21.0	LVS	-2.45%	BAC	-1.23%
21.0	AMAT	-2.33%	MS	-1.1%
21.0	LUMN	-2.09%	NFLX	-1.1%

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 2025-05-29

Hzn	Ticker	95VaRBreak_VmS	Ticker	99VaRBreak_VmS
63.0	MUB	-6.48%	IEP	-8.15%
63.0	LEN	-5.56%	MUB	-5.05%
63.0	USB	-5.17%	PCG	-4.01%
63.0	IRM	-4.27%	BHC	-3.1%
63.0	CSCO	-3.88%	USB	-3.1%
63.0	TRGP	-3.62%	GSK	-2.33%
63.0	X	-3.49%	VFC	-2.33%
63.0	FSUGY	-2.98%	HCA	-2.2%
63.0	AZN	-2.85%	X	-2.2%
63.0	CMG	-2.85%	VZ	-2.2%
63.0	SPY	-2.85%	AZN	-1.94%
63.0	DHI	-2.72%	TFC	-1.81%
63.0	GE	-2.46%	AA	-1.68%
63.0	PCG	-2.33%	CTLT	-1.61%
63.0	ACGL	-2.33%	CLF	-1.55%
63.0	THC	-2.33%	IRM	-1.03%
63.0	QQQ	-2.07%	HYG	-0.91%
63.0	NVDA	-1.94%	SNY	-0.91%
63.0	MS	-1.94%	LW	-0.65%
63.0	MSI	-1.94%	MU	-0.65%
63.0	PWR	-1.81%	EMB	-0.52%
63.0	PHM	-1.81%	UNH	-0.52%
63.0	LUMN	-1.68%	NEM	-0.52%
63.0	LW	-1.55%	LVS	-0.39%
63.0	TEVA	-1.42%	FSUGY	-0.26%

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 2025-05-29

Hzn	Ticker	95VaRBreak_VmS	Ticker	99VaRBreak_VmS
126.0	MUB	-8.17%	IEP	-17.46%
126.0	LEN	-7.18%	BALL	-3.38%
126.0	LW	-6.06%	LW	-2.96%
126.0	IRM	-5.49%	GSK	-2.82%
126.0	VZ	-3.52%	VZ	-1.69%
126.0	LUMN	-3.38%	EMB	-1.13%
126.0	BALL	-3.38%	IRM	-0.85%
126.0	INTC	-2.25%	MUB	-0.85%
126.0	FSUGY	-1.83%	UNH	-0.7%
126.0	PHM	-1.69%	INTC	-0.42%
126.0	BBY	-1.55%	NEM	-0.28%
126.0	CSTM	-1.55%	LEN	-0.14%
126.0	LVS	-1.55%	MS	0.0%
126.0	UNH	-1.27%	MSFT	0.0%
126.0	WRK	-1.03%	NAVI	0.0%
126.0	X	-0.99%	MU	0.0%
126.0	NVDA	-0.85%	NFLX	0.0%
126.0	PCG	-0.7%	NVDA	0.0%
126.0	CSCO	-0.56%	MSI	0.0%
126.0	GOOGL	-0.56%	MOS	0.0%
126.0	ACGL	-0.42%	AA	0.0%
126.0	SPY	-0.28%	LVS	0.0%
126.0	TRGP	-0.28%	NVS	0.0%
126.0	EMB	-0.28%	LUMN	0.0%
126.0	TXN	-0.14%	LNC	0.0%

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 2025-05-29

Hzn	Ticker	95VaRBreak_VmS	Ticker	99VaRBreak_VmS
252.0	LUMN	-15.24%	IEP	-33.56%
252.0	LW	-14.9%	FRCB	-0.37%
252.0	VZ	-7.88%	LW	-0.17%
252.0	MRK	-3.6%	IRM	0.0%
252.0	BMY	-2.57%	ORCL	0.0%
252.0	CSTM	-2.4%	ON	0.0%
252.0	IEP	-2.23%	NWL	0.0%
252.0	PEP	-1.54%	NVS	0.0%
252.0	INTC	-0.86%	NVDA	0.0%
252.0	UNH	-0.68%	NFLX	0.0%
252.0	MU	0.0%	NAVI	0.0%
252.0	MUB	0.0%	MUB	0.0%
252.0	NFLX	0.0%	MU	0.0%
252.0	NVDA	0.0%	MSTR	0.0%
252.0	NVS	0.0%	MSI	0.0%
252.0	ON	0.0%	MSFT	0.0%
252.0	ORCL	0.0%	MS	0.0%
252.0	NAVI	0.0%	MOS	0.0%
252.0	MSI	0.0%	ORLY	0.0%
252.0	ISRG	0.0%	MNST	0.0%
252.0	MS	0.0%	META	0.0%
252.0	ORLY	0.0%	LVS	0.0%
252.0	LVS	0.0%	LUMN	0.0%
252.0	LLY	0.0%	LQD	0.0%
252.0	LEN	0.0%	LNC	0.0%

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 2025-05-29 through 2025-05-02

Hzn	Ticker	95VaRBreak_VmS	Ticker	99VaRBreak_VmS
1.0	GLD	-15.79%	MRK	-10.53%
1.0	T	-10.53%	SNY	-10.53%
1.0	OXY	-5.26%	JAZZ	-5.26%
1.0	NAVI	-5.26%	GLD	-5.26%
1.0	CPRT	-5.26%	CVS	-5.26%
1.0	IRM	-5.26%	BBY	-5.26%
1.0	PHM	-5.26%	CAH	-5.26%
1.0	CMA	-5.26%	AZO	-5.26%
1.0	CLF	-5.26%	BMY	-5.26%
1.0	SNY	-5.26%	CLF	-5.26%
1.0	CAH	-5.26%	KHC	-5.26%
1.0	GME	-5.26%	ABBV	-5.26%
1.0	BMY	-5.26%	GILD	-5.26%
1.0	TFC	-5.26%	NFLX	0.0%
1.0	BALL	-5.26%	NVS	0.0%
1.0	BAC	-5.26%	NWL	0.0%
1.0	BIIB	-5.26%	ON	0.0%
1.0	EMB	-5.26%	ORCL	0.0%
1.0	XOM	-5.26%	NEM	0.0%
1.0	AZO	-5.26%	NAVI	0.0%
1.0	AZN	-5.26%	ORLY	0.0%
1.0	USB	-5.26%	MUB	0.0%
1.0	HYG	-5.26%	OXY	0.0%
1.0	ZION	-5.26%	NVDA	0.0%
1.0	HLT	-5.26%	MSTR	0.0%

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 2025-05-29 through 2025-05-02

Hzn	Ticker	95VaRBreak_VmS	Ticker	99VaRBreak_VmS
10.0	CPRT	-20.0%	CPRT	-40.0%
10.0	PCG	0.0%	MSTR	0.0%
10.0	OXY	0.0%	MU	0.0%
10.0	ORLY	0.0%	MUB	0.0%
10.0	ORCL	0.0%	NAVI	0.0%
10.0	ON	0.0%	NEM	0.0%
10.0	NWL	0.0%	NFLX	0.0%
10.0	NVS	0.0%	MSI	0.0%
10.0	NVDA	0.0%	NVDA	0.0%
10.0	NFLX	0.0%	NWL	0.0%
10.0	NEM	0.0%	ON	0.0%
10.0	NAVI	0.0%	ORCL	0.0%
10.0	MUB	0.0%	ORLY	0.0%
10.0	MU	0.0%	OXY	0.0%
10.0	MSTR	0.0%	PCG	0.0%
10.0	MSI	0.0%	NVS	0.0%
10.0	AA	0.0%	PEP	0.0%
10.0	MS	0.0%	MSFT	0.0%
10.0	JPM	0.0%	MRK	0.0%
10.0	KALU	0.0%	JPM	0.0%
10.0	KEY	0.0%	KALU	0.0%
10.0	KHC	0.0%	KEY	0.0%
10.0	LEN	0.0%	KHC	0.0%
10.0	LNC	0.0%	LEN	0.0%
10.0	PEP	0.0%	LLY	0.0%

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 2025-05-29 through 2025-03-03

Hzn	Ticker	95VaRBreak_VmS	Ticker	99VaRBreak_VmS
1.0	GLD	-11.29%	HLT	-11.29%
1.0	HSBC	-11.29%	GS	-9.68%
1.0	CSCO	-9.68%	QQQ	-8.06%
1.0	NVDA	-9.68%	HSBC	-8.06%
1.0	HYG	-9.68%	COST	-8.06%
1.0	HLT	-9.68%	MRK	-8.06%
1.0	CAH	-8.06%	JAZZ	-6.45%
1.0	BMY	-8.06%	HYG	-6.45%
1.0	TRGP	-8.06%	GLD	-6.45%
1.0	VNO	-8.06%	JPM	-6.45%
1.0	EMB	-6.45%	SPY	-6.45%
1.0	PHM	-6.45%	LNC	-6.45%
1.0	LVS	-6.45%	TMUS	-6.45%
1.0	TMUS	-6.45%	TRGP	-6.45%
1.0	QQQ	-6.45%	AZO	-6.45%
1.0	SPY	-6.45%	BIIB	-4.84%
1.0	MS	-6.45%	USB	-4.84%
1.0	VCSH	-4.84%	CCL	-4.84%
1.0	USB	-4.84%	GWW	-4.84%
1.0	T	-4.84%	CSCO	-4.84%
1.0	VST	-4.84%	VCSH	-4.84%
1.0	BALL	-4.84%	GILD	-4.84%
1.0	GS	-4.84%	FIS	-4.84%
1.0	COST	-3.23%	HD	-4.84%
1.0	LEN	-3.23%	CAH	-4.84%

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 2025-05-29 through 2025-03-03

Hzn	Ticker	95VaRBreak_VmS	Ticker	99VaRBreak_VmS
10.0	TRGP	-18.87%	XOM	-16.98%
10.0	CSCO	-18.87%	TRGP	-16.98%
10.0	HLT	-15.09%	HSBC	-15.09%
10.0	LNC	-15.09%	LNC	-15.09%
10.0	HYG	-13.21%	VFC	-15.09%
10.0	MRK	-13.21%	BBY	-13.21%
10.0	LVS	-13.21%	ABBV	-13.21%
10.0	HD	-11.32%	BAC	-13.21%
10.0	HON	-11.32%	JAZZ	-11.32%
10.0	HSBC	-11.32%	TFC	-9.43%
10.0	EMB	-9.43%	HON	-9.43%
10.0	SPY	-9.43%	SPY	-9.43%
10.0	ISRG	-9.43%	SBUX	-9.43%
10.0	AAPL	-9.43%	HYG	-9.43%
10.0	MS	-7.55%	MUB	-9.43%
10.0	NWL	-7.55%	FRA	-9.43%
10.0	GS	-7.55%	HLT	-9.43%
10.0	ABBV	-7.55%	AAPL	-9.43%
10.0	BAC	-7.55%	LVS	-9.43%
10.0	TMUS	-7.55%	BIIB	-9.43%
10.0	BALL	-7.55%	MRK	-7.55%
10.0	COST	-7.55%	EMB	-7.55%
10.0	MUB	-5.66%	COST	-7.55%
10.0	NFLX	-5.66%	AZN	-7.55%
10.0	NVDA	-5.66%	CPRT	-7.55%

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 2025-05-29 through 2025-03-03

Hzn	Ticker	95VaRBreak_VmS	Ticker	99VaRBreak_VmS
21.0	TRGP	-26.19%	LVS	-26.19%
21.0	LVS	-26.19%	JAZZ	-26.19%
21.0	LNC	-23.81%	OXY	-21.43%
21.0	CSCO	-21.43%	ABBV	-19.05%
21.0	HSBC	-19.05%	MRK	-16.67%
21.0	ABBV	-14.29%	HLT	-11.9%
21.0	SPY	-14.29%	HSBC	-11.9%
21.0	QQQ	-11.9%	VFC	-11.9%
21.0	MRK	-11.9%	FRA	-9.52%
21.0	EMB	-11.9%	SPY	-9.52%
21.0	PEP	-9.52%	BIIB	-9.52%
21.0	USB	-9.52%	CSCO	-7.14%
21.0	TFC	-9.52%	TRGP	-7.14%
21.0	HYG	-9.52%	QQQ	-4.76%
21.0	GSK	-9.52%	HYG	-4.76%
21.0	CPRT	-9.52%	AZN	-4.76%
21.0	HON	-7.14%	TXN	-4.76%
21.0	HLT	-7.14%	SNY	-2.38%
21.0	FRA	-7.14%	AAPL	-2.38%
21.0	ISRG	-7.14%	MUB	-2.38%
21.0	AMZN	-7.14%	GSK	-2.38%
21.0	XOM	-7.14%	KHC	-2.38%
21.0	BAC	-7.14%	NVS	-2.38%
21.0	VNO	-4.76%	CPRT	-2.38%
21.0	CCL	-4.76%	ADBE	-2.38%

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 2025-05-29 through 2024-06-03

Hzn	Ticker	95VaRBreak_VmS	Ticker	99VaRBreak_VmS
1.0	WRK	-13.64%	NVDA	-5.65%
1.0	NVDA	-8.87%	TRGP	-5.24%
1.0	TRGP	-8.47%	QQQ	-4.84%
1.0	QQQ	-7.66%	TMUS	-4.84%
1.0	SPY	-7.26%	HLT	-4.44%
1.0	PHM	-7.26%	GS	-4.44%
1.0	GLD	-6.85%	AMAT	-4.44%
1.0	PCG	-6.05%	CMG	-4.44%
1.0	TMUS	-5.65%	JPM	-4.03%
1.0	HSBC	-5.65%	IRM	-4.03%
1.0	VST	-5.65%	PCG	-3.63%
1.0	CCL	-5.24%	VST	-3.63%
1.0	IRM	-5.24%	SPY	-3.63%
1.0	LEN	-5.24%	PEP	-3.23%
1.0	MS	-5.24%	THC	-3.23%
1.0	GS	-4.84%	GLD	-3.23%
1.0	AMAT	-4.44%	CCL	-3.23%
1.0	HLT	-4.44%	MRK	-2.82%
1.0	THC	-4.44%	CAH	-2.82%
1.0	HYG	-4.44%	HSBC	-2.82%
1.0	CAH	-4.44%	MS	-2.82%
1.0	GBTC	-4.03%	MSI	-2.82%
1.0	CPRT	-4.03%	LEN	-2.82%
1.0	CMG	-4.03%	VNO	-2.42%
1.0	T	-4.03%	AVGO	-2.42%

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 2025-05-29 through 2024-06-03

Hzn	Ticker	95VaRBreak_VmS	Ticker	99VaRBreak_VmS
10.0	ETRN	-17.65%	MRK	-7.95%
10.0	WRK	-15.38%	WDC	-7.53%
10.0	TRGP	-11.3%	ABBV	-6.69%
10.0	NVDA	-10.88%	TRGP	-6.28%
10.0	HON	-9.21%	BAC	-6.28%
10.0	QQQ	-8.79%	PCG	-5.86%
10.0	LEN	-8.37%	AZN	-5.86%
10.0	CMG	-7.95%	BBY	-5.44%
10.0	PHM	-7.95%	CCL	-5.02%
10.0	SPY	-7.53%	CSTM	-4.6%
10.0	BAC	-7.53%	MUB	-4.2%
10.0	IRM	-7.53%	SPY	-4.18%
10.0	AMAT	-7.11%	GT	-4.18%
10.0	MSI	-7.11%	CDNS	-4.18%
10.0	CPRT	-6.69%	NWL	-4.18%
10.0	LLY	-6.69%	FRA	-4.18%
10.0	MS	-6.69%	VFC	-4.18%
10.0	CSCO	-6.28%	QQQ	-4.18%
10.0	AAPL	-6.28%	COST	-3.77%
10.0	MU	-6.28%	JPM	-3.77%
10.0	GS	-6.28%	MS	-3.77%
10.0	PCG	-6.28%	ISRG	-3.77%
10.0	MRK	-5.86%	HLT	-3.77%
10.0	HD	-5.86%	CMG	-3.77%
10.0	GT	-5.44%	XOM	-3.77%

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 2025-05-29 through 2024-06-03

Hzn	Ticker	95VaRBreak_VmS	Ticker	99VaRBreak_VmS
21.0	LVS	-10.53%	PCG	-9.21%
21.0	QQQ	-9.65%	VFC	-7.02%
21.0	IRM	-9.21%	HLT	-7.02%
21.0	TRGP	-8.77%	WDC	-7.02%
21.0	ISRG	-8.33%	AZN	-7.02%
21.0	SPY	-8.33%	INTC	-6.58%
21.0	GT	-8.33%	TEVA	-5.7%
21.0	FIS	-7.89%	FRA	-5.26%
21.0	CMG	-7.89%	LVS	-5.26%
21.0	TEVA	-7.89%	MU	-4.82%
21.0	COST	-7.89%	CMG	-4.82%
21.0	MSI	-7.46%	JAZZ	-4.82%
21.0	LEN	-7.46%	CCL	-3.95%
21.0	ABBV	-7.02%	JPM	-3.95%
21.0	FSUGY	-7.02%	MRK	-3.95%
21.0	CPRT	-6.58%	IRM	-3.95%
21.0	FRA	-6.58%	ABBV	-3.95%
21.0	CDNS	-6.58%	NWL	-3.51%
21.0	AMZN	-6.58%	CDNS	-3.51%
21.0	PHM	-6.14%	OXY	-3.51%
21.0	HD	-5.7%	ISRG	-3.51%
21.0	MS	-5.7%	LEN	-3.07%
21.0	PCG	-5.26%	COST	-3.07%
21.0	TFC	-5.26%	AMAT	-3.07%
21.0	TMUS	-5.26%	MSI	-2.63%

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 2025-05-29 through 2024-06-03

Hzn	Ticker	95VaRBreak_VmS	Ticker	99VaRBreak_VmS
63.0	LEN	-29.57%	PCG	-16.67%
63.0	IRM	-17.74%	VFC	-9.68%
63.0	TEVA	-11.83%	AZN	-8.06%
63.0	CCL	-11.83%	IRM	-4.3%
63.0	AZN	-11.83%	MU	-2.69%
63.0	DHI	-11.29%	UNH	-2.15%
63.0	PCG	-9.68%	HCA	-2.15%
63.0	ACGL	-9.68%	LVS	-1.61%
63.0	NVS	-9.14%	TEVA	-1.61%
63.0	PHM	-8.06%	FRA	-1.08%
63.0	MSI	-8.06%	AAPL	-1.08%
63.0	FIS	-7.53%	SPY	-0.54%
63.0	PWR	-7.53%	CCL	-0.54%
63.0	TRGP	-6.99%	NFLX	0.0%
63.0	FRA	-6.99%	NEM	0.0%
63.0	BAC	-5.91%	NAVI	0.0%
63.0	CMG	-5.91%	MSTR	0.0%
63.0	SPY	-4.84%	NVS	0.0%
63.0	FSUGY	-3.76%	NWL	0.0%
63.0	CYH	-3.76%	MUB	0.0%
63.0	QQQ	-2.69%	ORCL	0.0%
63.0	HCA	-2.69%	NVDA	0.0%
63.0	LVS	-2.15%	AA	0.0%
63.0	ORCL	-2.15%	MSFT	0.0%
63.0	UNH	-2.15%	JPM	0.0%

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 2025-05-29 through 2024-06-03

Hzn	Ticker	95VaRBreak_VmS	Ticker	99VaRBreak_VmS
126.0	LEN	-41.46%	IRM	-4.88%
126.0	IRM	-31.71%	UNH	-4.07%
126.0	PHM	-9.76%	LEN	-0.81%
126.0	BBY	-8.94%	MSI	0.0%
126.0	LVS	-8.94%	MSTR	0.0%
126.0	UNH	-7.32%	MU	0.0%
126.0	CSTM	-6.5%	MUB	0.0%
126.0	PCG	-4.07%	NAVI	0.0%
126.0	MUB	-3.25%	NEM	0.0%
126.0	ACGL	-2.44%	NFLX	0.0%
126.0	TRGP	-1.63%	NVDA	0.0%
126.0	BHP	-1.63%	NVS	0.0%
126.0	TXN	-0.81%	NWL	0.0%
126.0	FCX	-0.81%	ORCL	0.0%
126.0	KEY	0.0%	ORLY	0.0%
126.0	INTU	0.0%	MSFT	0.0%
126.0	ORLY	0.0%	MS	0.0%
126.0	ORCL	0.0%	AA	0.0%
126.0	NVS	0.0%	PCG	0.0%
126.0	NVDA	0.0%	META	0.0%
126.0	NFLX	0.0%	LW	0.0%
126.0	NEM	0.0%	LVS	0.0%
126.0	MSTR	0.0%	LUMN	0.0%
126.0	MOS	0.0%	LQD	0.0%
126.0	MS	0.0%	LNC	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 2025-05-29

Hzn	Ticker	95ROVBC_VmS	Ticker	99ROVBC_VmS
1.0	B	0.48%	GME	0.33%
1.0	GME	0.3%	NWL	0.21%
1.0	MSTR	0.26%	B	0.2%
1.0	NWL	0.16%	UAA	0.18%
1.0	NFLX	0.14%	GNRC	0.11%
1.0	META	0.13%	INTU	0.11%
1.0	INTU	0.13%	AMC	0.11%
1.0	AAPL	0.11%	BALL	0.1%
1.0	ZTS	0.1%	AAPL	0.09%
1.0	AA	0.09%	CZR	0.09%
1.0	HD	0.09%	ZTS	0.08%
1.0	UAA	0.08%	MSTR	0.07%
1.0	XOM	0.07%	CTLT	0.06%
1.0	BHP	0.06%	IEP	0.06%
1.0	CZR	0.06%	QCOM	0.06%
1.0	ORCL	0.06%	AA	0.05%
1.0	WDC	0.05%	HD	0.05%
1.0	BA	0.05%	CMA	0.05%
1.0	AMZN	0.05%	ORCL	0.04%
1.0	GWW	0.05%	UNH	0.04%
1.0	ADBE	0.05%	XOM	0.04%
1.0	TFC	0.05%	LNC	0.04%
1.0	AMC	0.04%	BHP	0.04%
1.0	GNRC	0.04%	SBUX	0.03%
1.0	VFC	0.04%	FRA	0.03%

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 2025-05-29

Hzn	Ticker	95ROVBC_VmS	Ticker	99ROVBC_VmS
10.0	GME	4.83%	MSTR	3.57%
10.0	B	4.53%	GME	3.43%
10.0	MSTR	3.97%	B	2.55%
10.0	META	1.27%	CTLT	1.11%
10.0	CTLT	1.13%	GNRC	0.98%
10.0	UAA	1.12%	CMA	0.72%
10.0	CZR	1.08%	AAPL	0.71%
10.0	NFLX	0.97%	UAA	0.69%
10.0	SLV	0.78%	INTU	0.61%
10.0	AAPL	0.75%	MU	0.59%
10.0	OXY	0.73%	CZR	0.57%
10.0	TEVA	0.71%	AA	0.55%
10.0	INTU	0.66%	WDC	0.52%
10.0	MU	0.64%	XOM	0.51%
10.0	BA	0.6%	IEP	0.46%
10.0	HD	0.59%	INTC	0.45%
10.0	INTC	0.57%	SLV	0.41%
10.0	AA	0.55%	META	0.39%
10.0	XOM	0.49%	ZTS	0.39%
10.0	SNY	0.48%	KEY	0.35%
10.0	ORCL	0.48%	CSTM	0.34%
10.0	GOOGL	0.46%	LNC	0.34%
10.0	GNRC	0.41%	KALU	0.34%
10.0	ABBV	0.38%	CVS	0.33%
10.0	GWW	0.37%	ABBV	0.32%

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 2025-05-29

Hzn	Ticker	95ROVBC_VmS	Ticker	99ROVBC_VmS
21.0	MSTR	11.22%	MSTR	8.66%
21.0	GME	7.64%	GME	6.77%
21.0	META	4.32%	CTLT	2.74%
21.0	CTLT	2.68%	META	1.92%
21.0	NFLX	2.66%	AA	1.7%
21.0	TEVA	2.27%	GNRC	1.57%
21.0	UAA	2.06%	UAA	1.54%
21.0	CZR	1.55%	NFLX	1.51%
21.0	ORCL	1.34%	CMA	1.28%
21.0	AA	1.24%	CLF	1.27%
21.0	INTU	1.18%	XOM	1.25%
21.0	SLV	1.17%	KALU	1.11%
21.0	AMZN	1.12%	IEP	1.1%
21.0	OXY	1.11%	INTU	1.08%
21.0	INTC	1.05%	INTC	1.04%
21.0	AAPL	1.02%	CZR	0.92%
21.0	HD	1.02%	ZTS	0.91%
21.0	BA	0.99%	CSTM	0.9%
21.0	XOM	0.99%	FSUGY	0.79%
21.0	MU	0.97%	LUMN	0.78%
21.0	KALU	0.95%	CVS	0.69%
21.0	KEY	0.91%	ABBV	0.57%
21.0	GWW	0.87%	CYH	0.56%
21.0	GNRC	0.86%	AAPL	0.55%
21.0	CLF	0.84%	MU	0.55%

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 2025-05-29

Hzn	Ticker	95ROVBC_VmS	Ticker	99ROVBC_VmS
63.0	MSTR	21.64%	CTLT	10.61%
63.0	META	14.11%	META	10.22%
63.0	CTLT	11.29%	MSTR	8.36%
63.0	NFLX	11.14%	GME	5.14%
63.0	GME	5.88%	CMA	4.63%
63.0	CMA	4.97%	IEP	3.24%
63.0	ORCL	3.45%	AMZN	2.82%
63.0	GNRC	3.23%	INTC	2.56%
63.0	INTU	3.2%	KALU	2.52%
63.0	UAA	3.17%	CZR	2.29%
63.0	TEVA	3.0%	NFLX	2.28%
63.0	XOM	2.83%	CVS	2.12%
63.0	SLV	2.79%	GNRC	2.04%
63.0	HD	2.63%	NEM	2.03%
63.0	GILD	2.57%	WRK	2.02%
63.0	WRK	2.52%	XOM	1.95%
63.0	CZR	2.46%	GILD	1.93%
63.0	SBUX	2.28%	UAA	1.83%
63.0	GOOGL	2.25%	BXP	1.78%
63.0	AAPL	2.14%	ZTS	1.78%
63.0	BA	1.91%	GOOGL	1.73%
63.0	SNY	1.9%	USB	1.6%
63.0	AMD	1.9%	SNY	1.52%
63.0	LVS	1.89%	LVS	1.52%
63.0	GWW	1.76%	HD	1.5%

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 2025-05-29

Hzn	Ticker	95ROVBC_VmS	Ticker	99ROVBC_VmS
126.0	MSTR	71.81%	META	31.66%
126.0	META	41.01%	MSTR	23.66%
126.0	NFLX	29.51%	AMZN	8.84%
126.0	ORCL	10.34%	NFLX	8.54%
126.0	GME	9.1%	GILD	7.37%
126.0	AVGO	8.94%	AVGO	7.32%
126.0	INTU	8.87%	GOOGL	6.87%
126.0	GILD	7.76%	IEP	6.14%
126.0	AMD	7.68%	BA	5.82%
126.0	TEVA	7.46%	LLY	5.75%
126.0	BA	7.01%	INTU	5.54%
126.0	LVS	6.94%	WRK	5.32%
126.0	CTLT	6.59%	TEVA	4.99%
126.0	XOM	6.4%	GME	4.93%
126.0	LEN	5.93%	ISRG	4.76%
126.0	ISRG	5.85%	LVS	4.36%
126.0	AMZN	5.76%	TSLA	4.33%
126.0	GOOGL	5.48%	ORCL	4.17%
126.0	GNRC	5.17%	AMD	4.05%
126.0	WRK	5.06%	XOM	3.97%
126.0	AAPL	5.02%	CSTM	3.73%
126.0	WDC	4.66%	CTLT	3.44%
126.0	SLV	4.36%	KALU	3.36%
126.0	ADBE	4.0%	TMUS	3.3%
126.0	SBUX	3.99%	SBUX	3.16%

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 2025-05-29

Hzn	Ticker	95ROVBC_VmS	Ticker	99ROVBC_VmS
252.0	MSTR	212.14%	META	54.86%
252.0	META	106.38%	MSTR	40.9%
252.0	NFLX	70.84%	AMZN	37.38%
252.0	AVGO	38.72%	AVGO	35.11%
252.0	AMZN	38.26%	VST	32.71%
252.0	INTU	33.81%	INTU	30.81%
252.0	ORCL	32.76%	ISRG	27.68%
252.0	VST	29.82%	ORCL	22.89%
252.0	ISRG	28.43%	NFLX	22.58%
252.0	TEVA	25.26%	GOOGL	22.12%
252.0	AMD	21.24%	TDG	15.55%
252.0	LLY	20.94%	COST	13.68%
252.0	GOOGL	20.72%	TEVA	13.26%
252.0	WDC	20.5%	GILD	12.82%
252.0	GNRC	19.38%	IEP	12.76%
252.0	LEN	19.09%	TMUS	12.37%
252.0	GME	18.18%	MSI	11.87%
252.0	MSI	18.1%	LEN	11.67%
252.0	CTLT	18.05%	QQQ	10.58%
252.0	BA	16.95%	LW	10.45%
252.0	TDG	15.97%	CAH	9.41%
252.0	EXPE	15.18%	THC	9.2%
252.0	GILD	14.84%	HD	8.81%
252.0	TSLA	12.97%	GWW	8.71%
252.0	AAPL	11.97%	WRK	8.43%

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 2025-05-29 through 2025-05-02

Hzn	Ticker	95ROVBC_VmS	Ticker	99ROVBC_VmS
1.0	AAP	4.52%	AMC	3.5%
1.0	AMC	3.45%	TSLA	1.83%
1.0	TSLA	1.75%	MU	1.28%
1.0	MU	1.13%	CLF	0.96%
1.0	AMZN	1.03%	AMZN	0.93%
1.0	META	0.76%	AMGN	0.6%
1.0	AMGN	0.62%	CPRT	0.39%
1.0	CLF	0.61%	SNY	0.39%
1.0	WDC	0.48%	AA	0.37%
1.0	B	0.48%	QQQ	0.37%
1.0	ADBE	0.46%	GNRC	0.31%
1.0	QQQ	0.45%	LNC	0.29%
1.0	AA	0.42%	EXPE	0.28%
1.0	LW	0.39%	TXN	0.27%
1.0	AVGO	0.36%	IEP	0.25%
1.0	GOOGL	0.35%	ORCL	0.24%
1.0	IEP	0.34%	WDC	0.24%
1.0	EXPE	0.32%	KHC	0.23%
1.0	GME	0.32%	CSTM	0.23%
1.0	TXN	0.31%	ABBV	0.22%
1.0	CSTM	0.27%	PHM	0.21%
1.0	VZ	0.25%	JAZZ	0.21%
1.0	CPRT	0.24%	B	0.2%
1.0	ISRG	0.23%	BHC	0.18%
1.0	GNRC	0.22%	QCOM	0.17%

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 2025-05-29 through 2025-05-02

Hzn	Ticker	95ROVBC_VmS	Ticker	99ROVBC_VmS
10.0	AMC	40.74%	AMC	40.74%
10.0	TSLA	29.25%	MU	17.26%
10.0	MU	19.55%	TSLA	11.21%
10.0	WDC	15.4%	WDC	10.41%
10.0	AAP	13.2%	CLF	5.95%
10.0	AA	9.49%	GME	5.37%
10.0	GME	7.73%	GE	4.88%
10.0	GE	7.63%	ZTS	4.55%
10.0	QQQ	7.45%	CPRT	3.99%
10.0	ZTS	5.91%	QCOM	3.03%
10.0	TXN	5.46%	LUMN	2.74%
10.0	LW	5.07%	B	2.55%
10.0	GOOGL	4.8%	ADBE	2.29%
10.0	B	4.53%	AMGN	2.14%
10.0	CLF	4.41%	KHC	1.95%
10.0	BUD	3.7%	ON	1.76%
10.0	AMGN	3.64%	AMZN	1.52%
10.0	MSFT	3.46%	CMCSA	1.52%
10.0	CPRT	3.38%	PHM	1.49%
10.0	AMZN	3.35%	CNC	1.39%
10.0	ELAN	3.15%	BUD	1.29%
10.0	META	2.9%	PWR	1.24%
10.0	ADBE	2.87%	BXP	1.17%
10.0	LUMN	2.79%	GNRC	1.15%
10.0	QCOM	2.68%	CZR	1.13%

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 2025-05-29 through 2025-03-03

Hzn	Ticker	95ROVBC_VmS	Ticker	99ROVBC_VmS
1.0	AAP	1.35%	AMC	0.69%
1.0	PWR	0.67%	MU	0.67%
1.0	AMC	0.65%	ORCL	0.48%
1.0	GME	0.61%	CMCSA	0.33%
1.0	B	0.48%	PRGO	0.31%
1.0	WDC	0.45%	AMZN	0.3%
1.0	ORCL	0.43%	META	0.29%
1.0	MU	0.43%	ADBE	0.29%
1.0	ADBE	0.39%	ELAN	0.29%
1.0	ELAN	0.39%	TEVA	0.28%
1.0	QCOM	0.38%	LNC	0.28%
1.0	BA	0.37%	UNH	0.27%
1.0	CMCSA	0.33%	GS	0.26%
1.0	AMZN	0.32%	ON	0.25%
1.0	TEVA	0.3%	PWR	0.24%
1.0	NWL	0.29%	QQQ	0.23%
1.0	CDNS	0.29%	VFC	0.22%
1.0	META	0.28%	ABBV	0.21%
1.0	QQQ	0.27%	VZ	0.21%
1.0	LUMN	0.27%	JAZZ	0.21%
1.0	GS	0.22%	B	0.2%
1.0	INTU	0.2%	TRGP	0.2%
1.0	OXY	0.2%	GME	0.17%
1.0	TRGP	0.19%	PEP	0.17%
1.0	LNC	0.18%	LUMN	0.16%

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 2025-05-29 through 2025-03-03

Hzn	Ticker	95ROVBC_VmS	Ticker	99ROVBC_VmS
10.0	MU	10.46%	MU	9.28%
10.0	GME	6.99%	AMC	4.36%
10.0	ELAN	6.59%	WDC	4.21%
10.0	WDC	4.78%	ELAN	4.2%
10.0	B	4.53%	ABBV	3.45%
10.0	AMC	4.36%	GME	3.31%
10.0	TEVA	4.26%	TSLA	3.16%
10.0	PWR	3.69%	META	3.09%
10.0	META	3.39%	B	2.55%
10.0	TSLA	3.24%	CLF	2.27%
10.0	MSTR	3.02%	TEVA	2.17%
10.0	ORCL	2.8%	ADBE	1.86%
10.0	ABBV	2.66%	VFC	1.76%
10.0	AA	2.39%	PEP	1.75%
10.0	CDNS	2.37%	ORCL	1.71%
10.0	QQQ	2.36%	BBY	1.65%
10.0	UNH	2.23%	EXPE	1.62%
10.0	AMZN	2.08%	AMZN	1.54%
10.0	NEM	1.96%	MRK	1.53%
10.0	GS	1.95%	PWR	1.49%
10.0	OXY	1.83%	LUMN	1.48%
10.0	CLF	1.83%	UAA	1.46%
10.0	MSFT	1.67%	UNH	1.45%
10.0	AAP	1.51%	TRGP	1.44%
10.0	TXN	1.47%	CZR	1.39%

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 2025-05-29 through 2025-03-03

Hzn	Ticker	95ROVBC_VmS	Ticker	99ROVBC_VmS
21.0	MU	20.9%	MU	21.03%
21.0	ELAN	19.92%	META	9.3%
21.0	PWR	13.16%	PWR	7.23%
21.0	GME	12.67%	GME	5.95%
21.0	META	11.79%	ORCL	5.4%
21.0	WDC	10.08%	KALU	5.27%
21.0	KALU	9.67%	WDC	5.2%
21.0	TEVA	9.48%	ABBV	5.19%
21.0	MSTR	8.22%	TRGP	4.84%
21.0	TSLA	8.06%	TXN	4.34%
21.0	ORCL	7.0%	CSTM	4.2%
21.0	GS	5.09%	MSTR	3.86%
21.0	TRGP	4.84%	BIIB	3.84%
21.0	BA	4.44%	BBY	3.47%
21.0	AMZN	4.41%	PEP	3.42%
21.0	THC	3.91%	GS	3.36%
21.0	AVGO	3.9%	VFC	3.33%
21.0	TXN	3.54%	EXPE	3.06%
21.0	VNO	3.38%	JAZZ	2.99%
21.0	AMAT	3.24%	TEVA	2.97%
21.0	MS	3.22%	CLF	2.81%
21.0	NEM	3.05%	LEN	2.68%
21.0	ABBV	2.9%	THC	2.66%
21.0	BALL	2.77%	ADBE	2.6%
21.0	CHTR	2.69%	VNO	2.34%

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 2025-05-29 through 2024-06-03

Hzn	Ticker	95ROVBC_VmS	Ticker	99ROVBC_VmS
1.0	NWL	0.49%	NWL	0.5%
1.0	B	0.48%	MU	0.28%
1.0	MSTR	0.33%	ETRN	0.22%
1.0	PRGO	0.32%	MSTR	0.21%
1.0	GME	0.26%	B	0.2%
1.0	VFC	0.25%	WRK	0.16%
1.0	CHTR	0.23%	PRGO	0.15%
1.0	ETRN	0.22%	QCOM	0.15%
1.0	AMZN	0.22%	ELAN	0.14%
1.0	PWR	0.18%	AMZN	0.12%
1.0	WDC	0.18%	BIIB	0.12%
1.0	AAP	0.17%	ORCL	0.12%
1.0	ELAN	0.14%	UNH	0.11%
1.0	META	0.12%	IEP	0.11%
1.0	WRK	0.12%	FSUGY	0.11%
1.0	LNC	0.12%	ADBE	0.1%
1.0	SLV	0.12%	LNC	0.1%
1.0	FSUGY	0.11%	MRK	0.1%
1.0	ADBE	0.11%	MSFT	0.09%
1.0	QCOM	0.11%	CMCSA	0.08%
1.0	ORCL	0.1%	VFC	0.08%
1.0	BHC	0.1%	AA	0.08%
1.0	ZTS	0.09%	WDC	0.08%
1.0	MU	0.09%	ON	0.07%
1.0	BA	0.09%	SLV	0.07%

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 2025-05-29 through 2024-06-03

Hzn	Ticker	95ROVBC_VmS	Ticker	99ROVBC_VmS
10.0	MSTR	4.79%	MSTR	5.34%
10.0	B	4.53%	MU	3.81%
10.0	MU	3.48%	ETRN	3.36%
10.0	ETRN	2.92%	B	2.55%
10.0	GME	2.1%	WDC	1.88%
10.0	NWL	2.07%	IEP	1.24%
10.0	VFC	1.69%	QCOM	1.18%
10.0	META	1.6%	CVS	1.16%
10.0	CHTR	1.44%	CHTR	1.14%
10.0	UAA	1.39%	WRK	1.11%
10.0	WDC	1.27%	FSUGY	1.06%
10.0	INTC	1.21%	MRK	1.06%
10.0	ABBV	1.19%	ABBV	1.05%
10.0	AMZN	1.1%	ELAN	0.96%
10.0	EXPE	1.09%	CSTM	0.89%
10.0	ELAN	1.07%	UAA	0.89%
10.0	SLV	1.0%	AMAT	0.86%
10.0	UNH	0.98%	LEN	0.84%
10.0	TEVA	0.94%	GME	0.78%
10.0	WRK	0.93%	AMD	0.75%
10.0	AMAT	0.92%	FCX	0.73%
10.0	SNY	0.89%	META	0.66%
10.0	PWR	0.83%	PEP	0.63%
10.0	NEM	0.76%	AA	0.6%
10.0	GILD	0.75%	LNC	0.54%

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 2025-05-29 through 2024-06-03

Hzn	Ticker	95ROVBC_VmS	Ticker	99ROVBC_VmS
21.0	MSTR	13.52%	MSTR	13.82%
21.0	MU	5.52%	MU	5.47%
21.0	GME	4.68%	ETRN	5.1%
21.0	ETRN	3.95%	CHTR	3.15%
21.0	CHTR	3.91%	GME	3.01%
21.0	UAA	3.76%	WRK	2.64%
21.0	META	3.19%	WDC	2.46%
21.0	VFC	3.09%	UAA	2.3%
21.0	WDC	2.79%	IEP	2.28%
21.0	AMAT	2.51%	AMAT	2.26%
21.0	PWR	2.38%	CSTM	2.15%
21.0	EXPE	2.33%	FSUGY	2.13%
21.0	AMZN	2.27%	META	2.02%
21.0	ELAN	2.13%	CVS	1.8%
21.0	BXP	2.09%	ABBV	1.78%
21.0	TEVA	1.97%	BXP	1.75%
21.0	WRK	1.97%	LEN	1.72%
21.0	TSLA	1.96%	AMD	1.51%
21.0	GILD	1.7%	QCOM	1.39%
21.0	GWW	1.44%	MRK	1.33%
21.0	BA	1.41%	PWR	1.31%
21.0	IEP	1.39%	TSLA	1.28%
21.0	LEN	1.35%	BBY	1.22%
21.0	SNY	1.27%	ADBE	1.19%
21.0	FSUGY	1.26%	VFC	1.12%

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 2025-05-29 through 2024-06-03

Hzn	Ticker	95ROVBC_VmS	Ticker	99ROVBC_VmS
63.0	MSTR	24.52%	UAA	9.0%
63.0	TSLA	15.18%	BXP	8.02%
63.0	UAA	12.49%	CVS	6.17%
63.0	BXP	9.34%	LEN	6.02%
63.0	CVS	9.06%	AMAT	5.04%
63.0	CHTR	5.73%	VFC	5.0%
63.0	BUD	5.17%	CSTM	4.5%
63.0	NEM	5.11%	CZR	3.78%
63.0	IEP	5.07%	FSUGY	3.63%
63.0	AMAT	5.03%	CYH	3.58%
63.0	LEN	5.02%	NEM	3.24%
63.0	GILD	4.99%	GILD	3.08%
63.0	EXPE	4.4%	MU	3.08%
63.0	GME	3.99%	MSTR	3.04%
63.0	AA	3.9%	AMD	2.91%
63.0	ABBV	3.29%	ABBV	2.82%
63.0	FSUGY	2.96%	AA	2.61%
63.0	VFC	2.82%	CMA	2.5%
63.0	PHM	2.74%	ADBE	2.41%
63.0	META	2.57%	PHM	2.29%
63.0	GWW	2.11%	BHC	2.2%
63.0	AZN	1.9%	AZN	2.17%
63.0	SNY	1.81%	MRK	2.12%
63.0	DHI	1.7%	CMG	2.05%
63.0	GE	1.68%	NWL	1.98%

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 2025-05-29 through 2024-06-03

Hzn	Ticker	95ROVBC_VmS	Ticker	99ROVBC_VmS
126.0	MSTR	69.38%	TSLA	22.47%
126.0	TSLA	39.12%	MSTR	15.87%
126.0	CHTR	16.75%	GILD	12.78%
126.0	GILD	16.72%	LEN	11.96%
126.0	EXPE	12.03%	NFLX	10.45%
126.0	AZO	9.76%	CSTM	7.77%
126.0	GME	9.34%	META	7.25%
126.0	LEN	8.85%	AMAT	6.77%
126.0	META	8.24%	BBY	5.96%
126.0	AMAT	6.96%	ADBE	5.91%
126.0	ADBE	6.91%	BXP	5.42%
126.0	PHM	6.41%	PHM	5.35%
126.0	CTLT	5.67%	AZO	5.25%
126.0	BA	4.69%	CHTR	4.7%
126.0	BXP	4.43%	PCG	4.42%
126.0	ACGL	4.42%	CTLT	4.32%
126.0	IRM	4.4%	AMD	3.9%
126.0	UNH	4.29%	CMA	3.77%
126.0	CMA	4.08%	IRM	3.76%
126.0	PCG	3.8%	FSUGY	3.74%
126.0	XOM	3.74%	MU	3.72%
126.0	IEP	3.41%	VFC	3.63%
126.0	FSUGY	3.13%	XOM	3.45%
126.0	KEY	3.13%	AZN	3.42%
126.0	NFLX	2.97%	DHI	3.21%

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 2025-05-29

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	VST	-0.18%	VST	-0.16%
1.0	CYH	-0.18%	NVDA	-0.15%
1.0	FRCB	-0.16%	GBTC	-0.14%
1.0	TSLA	-0.14%	LLY	-0.08%
1.0	NVDA	-0.13%	GE	-0.08%
1.0	GBTC	-0.12%	AAP	-0.08%
1.0	T	-0.1%	CAH	-0.07%
1.0	ETRN	-0.09%	TSLA	-0.07%
1.0	FIS	-0.09%	PWR	-0.07%
1.0	CSTM	-0.09%	X	-0.07%
1.0	LUMN	-0.09%	TRGP	-0.07%
1.0	LLY	-0.08%	ETRN	-0.07%
1.0	CCL	-0.08%	CCL	-0.06%
1.0	CHTR	-0.07%	CDNS	-0.06%
1.0	GE	-0.07%	ACGL	-0.06%
1.0	ELAN	-0.07%	FRCB	-0.06%
1.0	GILD	-0.06%	FIS	-0.05%
1.0	WFC	-0.06%	PHM	-0.05%
1.0	GSK	-0.06%	AVGO	-0.05%
1.0	TRGP	-0.06%	T	-0.05%
1.0	X	-0.05%	CMG	-0.05%
1.0	PHM	-0.05%	THC	-0.05%
1.0	KEY	-0.05%	GLD	-0.05%

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 2025-05-29

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	-1.57%	VST	-0.98%
10.0	AAP	-1.14%	NVDA	-0.92%
10.0	TSLA	-0.98%	AVGO	-0.81%
10.0	VST	-0.96%	GBTC	-0.76%
10.0	FRCB	-0.93%	TSLA	-0.69%
10.0	NVDA	-0.83%	X	-0.68%
10.0	GSK	-0.76%	AAP	-0.67%
10.0	CHTR	-0.66%	PWR	-0.65%
10.0	CCL	-0.65%	AMC	-0.59%
10.0	LLY	-0.59%	TRGP	-0.57%
10.0	GBTC	-0.58%	CPRT	-0.54%
10.0	FIS	-0.57%	LLY	-0.53%
10.0	TDG	-0.51%	PHM	-0.53%
10.0	TRGP	-0.49%	CMG	-0.51%
10.0	CYH	-0.46%	GE	-0.51%
10.0	PHM	-0.45%	GSK	-0.48%
10.0	CPRT	-0.42%	ISRG	-0.48%
10.0	PRGO	-0.4%	COST	-0.48%
10.0	PWR	-0.38%	ACGL	-0.45%
10.0	BIIB	-0.38%	THC	-0.43%
10.0	X	-0.37%	TDG	-0.42%
10.0	BXP	-0.37%	CCL	-0.42%
10.0	TLT	-0.36%	ORLY	-0.39%

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 2025-05-29

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	FRCB	-4.08%	AMC	-4.75%
21.0	AMC	-3.57%	NVDA	-1.98%
21.0	AAP	-2.88%	VST	-1.58%
21.0	VST	-1.72%	X	-1.3%
21.0	GSK	-1.55%	COST	-1.28%
21.0	NVDA	-1.48%	PHM	-1.26%
21.0	CCL	-1.38%	ELAN	-1.2%
21.0	TDG	-1.08%	PWR	-1.13%
21.0	X	-1.08%	TRGP	-1.12%
21.0	FIS	-0.97%	CDNS	-1.1%
21.0	LLY	-0.95%	AVGO	-1.1%
21.0	CPRT	-0.89%	CPRT	-1.07%
21.0	ON	-0.86%	LLY	-1.05%
21.0	VFC	-0.84%	GE	-1.04%
21.0	CYH	-0.8%	ETRN	-0.97%
21.0	PHM	-0.73%	FRCB	-0.96%
21.0	TSLA	-0.73%	ORLY	-0.94%
21.0	IRM	-0.72%	ACGL	-0.92%
21.0	CHTR	-0.72%	TDG	-0.91%
21.0	LW	-0.71%	CMG	-0.91%
21.0	VNO	-0.67%	HSBC	-0.79%
21.0	ACGL	-0.67%	TSLA	-0.78%
21.0	PRGO	-0.65%	PCG	-0.78%

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 2025-05-29

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	-17.3%	AMC	-12.57%
63.0	AAP	-8.62%	PHM	-4.29%
63.0	VFC	-5.93%	NVDA	-3.83%
63.0	ON	-5.07%	VST	-3.71%
63.0	NVDA	-4.9%	TRGP	-3.41%
63.0	ELAN	-3.69%	CPRT	-3.23%
63.0	VNO	-3.32%	PWR	-3.19%
63.0	PWR	-3.23%	GE	-3.14%
63.0	TSLA	-3.11%	DHI	-2.67%
63.0	GSK	-2.74%	CDNS	-2.66%
63.0	CHTR	-2.43%	ELAN	-2.44%
63.0	PHM	-2.42%	JPM	-2.38%
63.0	CPRT	-2.39%	COST	-2.38%
63.0	VST	-2.37%	GBTC	-2.36%
63.0	FIS	-2.2%	CHTR	-2.35%
63.0	BHC	-2.01%	ON	-2.34%
63.0	CCL	-1.78%	PCG	-2.08%
63.0	GBTC	-1.76%	ORLY	-2.03%
63.0	TLT	-1.75%	THC	-1.96%
63.0	TRGP	-1.69%	IRM	-1.91%
63.0	MS	-1.56%	GWW	-1.88%
63.0	MU	-1.52%	ACGL	-1.69%

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 2025-05-29

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	-26.39%	AMC	-15.17%
126.0	VFC	-14.52%	AAP	-8.98%
126.0	AAP	-13.68%	CHTR	-7.71%
126.0	PHM	-7.36%	PHM	-7.46%
126.0	BHC	-6.78%	CPRT	-6.06%
126.0	PWR	-6.19%	TRGP	-5.99%
126.0	ELAN	-5.59%	GE	-5.53%
126.0	CPRT	-5.23%	JPM	-5.3%
126.0	CCL	-5.01%	CDNS	-4.62%
126.0	TRGP	-4.49%	PWR	-4.52%
126.0	JPM	-4.36%	VFC	-4.33%
126.0	THC	-4.12%	ACGL	-4.3%
126.0	CHTR	-4.09%	MS	-4.23%
126.0	GSK	-3.59%	AA	-4.1%
126.0	JAZZ	-3.48%	THC	-3.89%
126.0	IEP	-3.36%	PCG	-3.55%
126.0	MS	-3.31%	NVDA	-3.52%
126.0	TLT	-2.99%	VST	-3.38%
126.0	LNC	-2.63%	ELAN	-3.22%
126.0	NVDA	-2.62%	FIS	-3.15%
126.0	HLT	-2.49%	GS	-2.98%
126.0	IRM	-2.49%	DHI	-2.9%

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 2025-05-29

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	-50.55%	AAP	-32.49%
252.0	AAP	-38.88%	AMC	-19.93%
252.0	VFC	-20.09%	BIIB	-13.22%
252.0	BIIB	-13.82%	VFC	-11.98%
252.0	PHM	-13.79%	CHTR	-11.54%
252.0	AA	-13.43%	AA	-10.76%
252.0	IEP	-12.91%	FIS	-8.31%
252.0	CHTR	-11.38%	OXY	-8.11%
252.0	OXY	-10.06%	CPRT	-7.62%
252.0	NWL	-9.87%	LLY	-7.17%
252.0	UAA	-9.78%	JPM	-7.02%
252.0	BHC	-9.14%	JAZZ	-6.85%
252.0	MOS	-8.5%	PHM	-6.37%
252.0	PWR	-8.11%	KEY	-5.87%
252.0	CVS	-7.97%	ACGL	-5.84%
252.0	PRGO	-7.97%	MS	-5.22%
252.0	JPM	-7.21%	ELAN	-5.16%
252.0	TLT	-6.45%	PWR	-5.06%
252.0	JAZZ	-6.38%	ZION	-4.8%
252.0	MS	-5.71%	GS	-4.72%
252.0	CCL	-5.59%	TRGP	-4.69%
252.0	CLF	-5.53%	NWL	-4.65%

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 2025-05-29 through 2025-05-02

Hzn	Ticker	95ROVBC_VmS	Ticker	99ROVBC_VmS
1.0	CYH	-1.05%	CYH	-1.55%
1.0	LLY	-1.0%	AAP	-1.31%
1.0	CDNS	-0.89%	CDNS	-0.92%
1.0	VST	-0.63%	LLY	-0.88%
1.0	UAA	-0.61%	INTU	-0.65%
1.0	X	-0.56%	NVDA	-0.61%
1.0	MOS	-0.53%	VST	-0.6%
1.0	NVDA	-0.52%	MOS	-0.58%
1.0	ELAN	-0.48%	CCL	-0.57%
1.0	CCL	-0.46%	X	-0.51%
1.0	THC	-0.43%	SBUX	-0.39%
1.0	CVS	-0.43%	THC	-0.38%
1.0	CNC	-0.4%	UAA	-0.35%
1.0	AMAT	-0.33%	WYNN	-0.29%
1.0	VFC	-0.31%	NAVI	-0.29%
1.0	NAVI	-0.31%	GBTC	-0.28%
1.0	WYNN	-0.3%	LVS	-0.26%
1.0	KEY	-0.27%	ZTS	-0.26%
1.0	INTC	-0.24%	BA	-0.26%
1.0	ZTS	-0.23%	ACGL	-0.22%
1.0	PWR	-0.22%	LUMN	-0.2%
1.0	LUMN	-0.21%	GE	-0.2%
1.0	GBTC	-0.2%	VFC	-0.19%
1.0	SLV	-0.18%	BIIB	-0.19%
1.0	GE	-0.16%	CNC	-0.18%

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 2025-05-29 through 2025-05-02

Hzn	Ticker	95ROVBC_VmS	Ticker	99ROVBC_VmS
10.0	UNH	-5.8%	AAP	-10.2%
10.0	CYH	-5.44%	MOS	-6.76%
10.0	LLY	-5.1%	CYH	-5.87%
10.0	VST	-4.9%	VST	-5.82%
10.0	CVS	-4.63%	UNH	-4.79%
10.0	MOS	-4.48%	INTU	-4.59%
10.0	GBTC	-4.17%	GBTC	-4.37%
10.0	NVDA	-3.64%	BIIB	-4.06%
10.0	VFC	-2.54%	CCL	-3.23%
10.0	CCL	-2.5%	UAA	-2.69%
10.0	THC	-2.23%	CSCO	-2.69%
10.0	MNST	-1.95%	MNST	-2.31%
10.0	CSCO	-1.85%	ELAN	-2.25%
10.0	CDNS	-1.75%	HON	-2.2%
10.0	BA	-1.74%	BA	-2.18%
10.0	HSBC	-1.54%	NFLX	-2.13%
10.0	MSTR	-1.5%	THC	-1.97%
10.0	BHC	-1.35%	AA	-1.79%
10.0	NFLX	-1.34%	MSTR	-1.63%
10.0	MS	-1.05%	TXN	-1.61%
10.0	WYNN	-1.03%	NVDA	-1.41%
10.0	GS	-1.02%	HSBC	-1.38%
10.0	CAH	-0.94%	AMD	-1.38%
10.0	AAPL	-0.93%	GS	-1.37%
10.0	INTC	-0.93%	QQQ	-1.24%

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 2025-05-29 through 2025-03-03

Hzn	Ticker	95ROVBC_VmS	Ticker	99ROVBC_VmS
1.0	TSLA	-0.83%	CYH	-0.59%
1.0	CYH	-0.73%	MOS	-0.47%
1.0	INTC	-0.62%	AAP	-0.42%
1.0	NAVI	-0.49%	VST	-0.36%
1.0	VST	-0.41%	NAVI	-0.34%
1.0	CVS	-0.41%	X	-0.32%
1.0	MOS	-0.4%	GT	-0.31%
1.0	GT	-0.37%	INTU	-0.27%
1.0	ISRG	-0.36%	GBTC	-0.24%
1.0	CMA	-0.36%	MSTR	-0.23%
1.0	UAA	-0.28%	TXN	-0.21%
1.0	AMD	-0.26%	THC	-0.21%
1.0	X	-0.24%	NVDA	-0.2%
1.0	SBUX	-0.22%	CAH	-0.18%
1.0	LLY	-0.21%	CVS	-0.17%
1.0	KEY	-0.2%	ACGL	-0.17%
1.0	BBY	-0.2%	CCL	-0.17%
1.0	VFC	-0.19%	KEY	-0.16%
1.0	FIS	-0.16%	FIS	-0.16%
1.0	GBTC	-0.16%	BA	-0.15%
1.0	GLD	-0.15%	AMD	-0.15%
1.0	CAH	-0.15%	TSLA	-0.15%
1.0	CCL	-0.15%	HCA	-0.15%
1.0	SLV	-0.14%	GLD	-0.15%
1.0	BHC	-0.13%	GE	-0.13%

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 2025-05-29 through 2025-03-03

Hzn	Ticker	95ROVBC_VmS	Ticker	99ROVBC_VmS
10.0	CYH	-3.38%	MOS	-4.46%
10.0	SBUX	-2.92%	CYH	-2.9%
10.0	MOS	-2.91%	GBTC	-2.86%
10.0	GBTC	-2.3%	BHC	-2.84%
10.0	GT	-2.3%	GT	-2.63%
10.0	VFC	-2.27%	CDNS	-2.36%
10.0	BHC	-2.05%	VST	-1.8%
10.0	VST	-1.96%	INTU	-1.69%
10.0	CSTM	-1.77%	MNST	-1.5%
10.0	CVS	-1.65%	GLD	-1.44%
10.0	GLD	-1.5%	WFC	-1.44%
10.0	NFLX	-1.46%	NFLX	-1.32%
10.0	BMY	-1.45%	AAP	-1.27%
10.0	FIS	-1.13%	FIS	-1.22%
10.0	MNST	-1.06%	CPRT	-1.04%
10.0	AMGN	-1.06%	MSFT	-0.94%
10.0	RIO	-1.02%	HCA	-0.93%
10.0	CCL	-0.92%	CCL	-0.93%
10.0	GNRC	-0.87%	HON	-0.92%
10.0	WYNN	-0.85%	CAH	-0.89%
10.0	IEP	-0.74%	AVGO	-0.83%
10.0	LLY	-0.71%	ISRG	-0.76%
10.0	CPRT	-0.66%	RIO	-0.74%
10.0	CAH	-0.65%	ACGL	-0.73%
10.0	ACGL	-0.59%	CHTR	-0.67%

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 2025-05-29 through 2025-03-03

Hzn	Ticker	95ROVBC_VmS	Ticker	99ROVBC_VmS
21.0	BHC	-8.76%	MOS	-7.54%
21.0	MOS	-5.96%	BHC	-7.36%
21.0	GT	-5.53%	GT	-6.39%
21.0	CYH	-5.31%	NFLX	-5.68%
21.0	BMY	-5.24%	ELAN	-5.56%
21.0	GNRC	-4.76%	GBTC	-5.47%
21.0	AMGN	-4.29%	MSFT	-4.8%
21.0	AAP	-4.25%	GNRC	-4.66%
21.0	GBTC	-3.6%	CYH	-4.45%
21.0	CVS	-3.57%	CDNS	-4.22%
21.0	CSTM	-2.98%	CPRT	-3.28%
21.0	GLD	-2.9%	CAH	-3.05%
21.0	CPRT	-2.29%	MNST	-2.99%
21.0	VST	-2.01%	WYNN	-2.97%
21.0	INTC	-2.0%	GLD	-2.69%
21.0	MNST	-1.95%	INTU	-2.47%
21.0	FIS	-1.9%	WFC	-2.36%
21.0	WYNN	-1.84%	AMGN	-2.33%
21.0	LLY	-1.7%	ISRG	-2.23%
21.0	IEP	-1.69%	COST	-2.21%
21.0	COST	-1.36%	HCA	-2.17%
21.0	NAVI	-1.28%	HON	-1.88%
21.0	CAH	-1.23%	FIS	-1.8%
21.0	CDNS	-1.22%	TSLA	-1.78%
21.0	CMA	-1.03%	FITB	-1.75%

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 2025-05-29 through 2024-06-03

Hzn	Ticker	95ROVBC_VmS	Ticker	99ROVBC_VmS
1.0	VST	-0.39%	LUMN	-0.25%
1.0	CYH	-0.3%	AAP	-0.2%
1.0	AVGO	-0.29%	VST	-0.2%
1.0	LUMN	-0.24%	CCL	-0.15%
1.0	CSTM	-0.23%	CYH	-0.15%
1.0	CMA	-0.16%	AVGO	-0.15%
1.0	UAA	-0.15%	T	-0.12%
1.0	NAVI	-0.13%	VNO	-0.11%
1.0	CCL	-0.12%	CAH	-0.11%
1.0	VNO	-0.12%	NFLX	-0.1%
1.0	ISRG	-0.12%	TRGP	-0.1%
1.0	CVS	-0.1%	TMUS	-0.09%
1.0	CAH	-0.1%	NAVI	-0.09%
1.0	TRGP	-0.1%	GLD	-0.09%
1.0	TMUS	-0.1%	HSBC	-0.09%
1.0	T	-0.09%	BMY	-0.08%
1.0	CLF	-0.08%	GE	-0.08%
1.0	GLD	-0.08%	INTU	-0.08%
1.0	ON	-0.08%	CMA	-0.08%
1.0	HSBC	-0.08%	X	-0.08%
1.0	AMC	-0.07%	BHC	-0.08%
1.0	USB	-0.07%	CDNS	-0.08%
1.0	PEP	-0.07%	NVDA	-0.08%
1.0	MS	-0.07%	INTC	-0.08%
1.0	SBUX	-0.07%	GBTC	-0.08%

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 2025-05-29 through 2024-06-03

Hzn	Ticker	95ROVBC_VmS	Ticker	99ROVBC_VmS
10.0	LUMN	-2.44%	LUMN	-2.47%
10.0	VST	-1.78%	AAP	-1.62%
10.0	AMC	-1.73%	T	-1.26%
10.0	AAP	-1.52%	AVGO	-1.21%
10.0	BIIB	-0.97%	VST	-1.13%
10.0	TRGP	-0.97%	NFLX	-1.06%
10.0	CLF	-0.95%	CCL	-1.01%
10.0	ON	-0.94%	TRGP	-0.99%
10.0	NFLX	-0.83%	BMY	-0.99%
10.0	T	-0.8%	CSCO	-0.9%
10.0	CYH	-0.76%	ORLY	-0.88%
10.0	TMUS	-0.75%	CMA	-0.87%
10.0	GLD	-0.7%	ISRG	-0.83%
10.0	SBUX	-0.69%	VNO	-0.77%
10.0	LW	-0.68%	TMUS	-0.76%
10.0	ISRG	-0.67%	GLD	-0.74%
10.0	GSK	-0.67%	WFC	-0.65%
10.0	CSTM	-0.64%	CAH	-0.65%
10.0	VNO	-0.63%	GBTC	-0.64%
10.0	BMY	-0.6%	MOS	-0.62%
10.0	CSCO	-0.59%	INTU	-0.56%
10.0	BALL	-0.56%	CLF	-0.56%
10.0	CMA	-0.52%	HSBC	-0.55%
10.0	TSLA	-0.48%	COST	-0.55%
10.0	HSBC	-0.47%	MNST	-0.54%

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 2025-05-29 through 2024-06-03

Hzn	Ticker	95ROVBC_VmS	Ticker	99ROVBC_VmS
21.0	AAP	-4.32%	NFLX	-2.68%
21.0	ON	-3.85%	T	-2.66%
21.0	VST	-3.76%	ELAN	-2.34%
21.0	LW	-3.42%	VNO	-1.99%
21.0	LUMN	-3.16%	CSCO	-1.8%
21.0	CSTM	-2.22%	TRGP	-1.79%
21.0	BIIB	-2.03%	CCL	-1.78%
21.0	TRGP	-1.72%	ON	-1.77%
21.0	CLF	-1.68%	LW	-1.77%
21.0	T	-1.68%	WFC	-1.68%
21.0	CZR	-1.6%	HSBC	-1.68%
21.0	NFLX	-1.5%	ISRG	-1.58%
21.0	TMUS	-1.4%	CAH	-1.56%
21.0	GLD	-1.39%	ORLY	-1.53%
21.0	GSK	-1.39%	VST	-1.51%
21.0	CYH	-1.16%	AAP	-1.45%
21.0	HSBC	-1.09%	WYNN	-1.43%
21.0	COST	-1.05%	TMUS	-1.36%
21.0	BMY	-1.03%	BMY	-1.35%
21.0	CSCO	-1.02%	GLD	-1.32%
21.0	CMA	-1.01%	AVGO	-1.21%
21.0	MNST	-0.99%	LUMN	-1.2%
21.0	VNO	-0.92%	COST	-1.19%
21.0	ISRG	-0.9%	CMA	-1.15%
21.0	MOS	-0.88%	CYH	-1.12%

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 2025-05-29 through 2024-06-03

Hzn	Ticker	95ROVBC_VmS	Ticker	99ROVBC_VmS
63.0	ON	-17.55%	ON	-7.83%
63.0	AAP	-15.97%	T	-6.99%
63.0	VST	-7.69%	ELAN	-6.04%
63.0	CLF	-6.93%	GNRC	-5.58%
63.0	VNO	-6.23%	VNO	-5.56%
63.0	ELAN	-5.87%	CCL	-5.32%
63.0	T	-5.29%	CSCO	-5.28%
63.0	BIIB	-4.75%	TRGP	-5.22%
63.0	TRGP	-4.47%	WFC	-4.55%
63.0	CSCO	-4.39%	HSBC	-4.35%
63.0	TMUS	-4.34%	JPM	-4.05%
63.0	MS	-3.63%	ORLY	-3.84%
63.0	KALU	-3.2%	ZION	-3.48%
63.0	OXY	-3.16%	MS	-3.39%
63.0	MNST	-3.12%	TMUS	-3.06%
63.0	GOOGL	-3.05%	GLD	-2.93%
63.0	NFLX	-3.03%	AVGO	-2.76%
63.0	LW	-3.03%	CAH	-2.72%
63.0	GBTC	-2.95%	COST	-2.64%
63.0	HSBC	-2.77%	NFLX	-2.6%
63.0	AMZN	-2.61%	OXY	-2.57%
63.0	ISRG	-2.57%	MNST	-2.38%
63.0	GLD	-2.5%	ISRG	-2.34%
63.0	ORLY	-2.47%	GWW	-2.32%
63.0	AVGO	-2.21%	CLF	-2.19%

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 2025-05-29 through 2024-06-03

Hzn	Ticker	95ROVBC_VmS	Ticker	99ROVBC_VmS
126.0	AAP	-20.16%	TRGP	-13.28%
126.0	CLF	-14.31%	MS	-10.49%
126.0	BIIB	-14.14%	CSCO	-10.0%
126.0	TRGP	-13.09%	T	-9.97%
126.0	CZR	-10.25%	JPM	-9.45%
126.0	CSCO	-9.89%	CLF	-8.31%
126.0	ELAN	-9.81%	ELAN	-8.08%
126.0	OXY	-9.34%	WFC	-7.87%
126.0	T	-9.29%	CCL	-7.6%
126.0	JPM	-8.57%	GNRC	-6.84%
126.0	GBTC	-8.42%	KALU	-6.03%
126.0	GNRC	-8.16%	COST	-5.8%
126.0	WFC	-8.15%	OXY	-5.62%
126.0	MS	-8.05%	LUMN	-5.18%
126.0	TMUS	-5.62%	AAP	-4.93%
126.0	ISRG	-5.47%	AA	-4.61%
126.0	VST	-4.96%	HSBC	-4.52%
126.0	KALU	-4.8%	CAH	-4.39%
126.0	CPRT	-4.61%	ZTS	-3.82%
126.0	NAVI	-4.45%	ISRG	-3.61%
126.0	LW	-4.14%	AVGO	-3.51%
126.0	VNO	-4.05%	LW	-3.41%
126.0	BUD	-3.97%	CPRT	-3.4%
126.0	LUMN	-3.96%	VNO	-3.39%
126.0	INTC	-3.92%	BAC	-3.08%

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 probabilty of the Kupiec statistic occuring is obtained from the chi-squared distribution. The lower the statitic, the higher the p-Value, and the more likely that Sigma's VaR breakage is consistent with expectations.

The Christoferson VaR Violation Indepence test statistic (listed as VaR_chrStat in the table below) and its probabilty (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 expecataion given the specified probability level. The probabilty of the Christoferson statistic occuring is obtained from the chi-squared distribution. The lower the statitic, 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 2025-05-29. 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	130.28	0	6.84	0.01
Sigma	95	10	0.01	0.9	0.59	0.44
Sigma	95	21	30.96	0	0.38	0.54
Sigma	95	63	12.43	0	nan	0
Sigma	95	126	20.2	0	nan	0
Sigma	95	252	14.29	0	nan	0
Sigma	99	1	454.2	0	31.31	0
Sigma	99	10	51.69	0	0.57	0.45
Sigma	99	21	0.25	0.61	1.23	0.27
Sigma	99	63	0.04	0.84	0.97	0.33
Sigma	99	126	0.37	0.54	nan	0
Sigma	99	252	0.49	0.49	nan	0