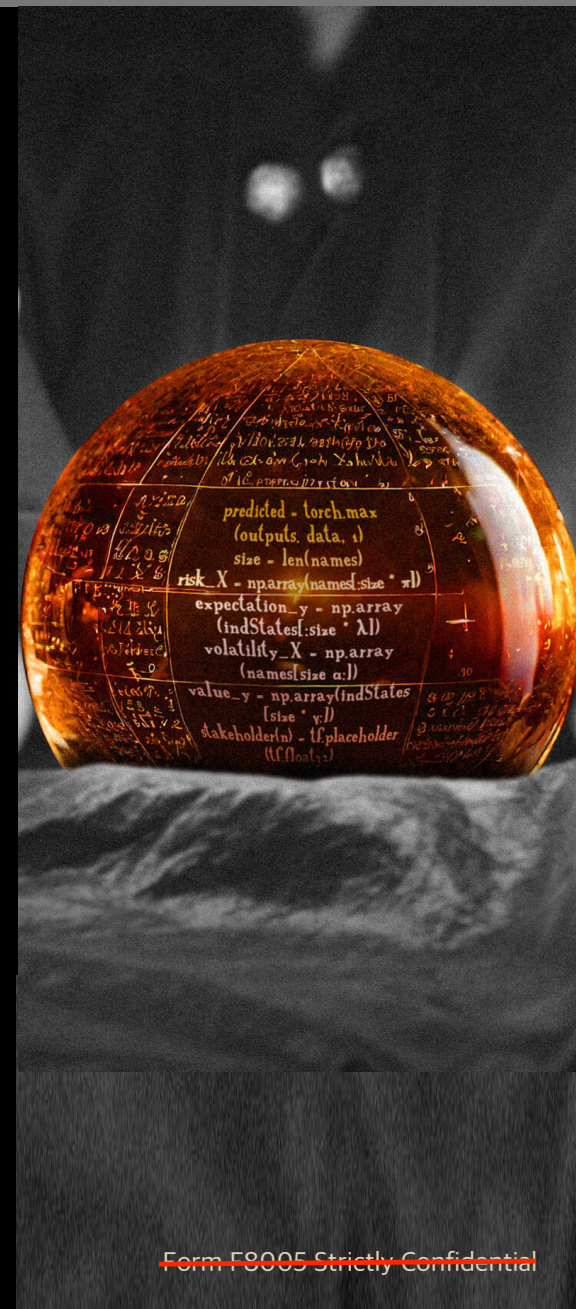


RESILIENCE MONITOR

REPUTATION HEALTH RISK FORECASTING AND BENCHMARKING

Boeing Company
December 8, 2023

Data Audit: RVM_CRR-BA-45300-4897



~~Form F8005 Strictly Confidential~~

Contents for BA	Page
Glossary and Technical Explanation. Guide to the charts.	8-10
Strategic Risk Management and Governance Environment: Measure of shifting stakeholder expectations and environmental risk, <i>aka</i> “Fear Index.”	5
Operational Enterprise Risk Management: Expected changes in stakeholder behaviors or operations.	2-4
Auditing Reputation Value and Risk Controls. Control bars and parametric insurance trigger values.	3
Benchmarking and Trends: Peer group metrics and spot values relative to period trends.	6-7

Description

This enterprise risk and reputation resilience report provides foresight for governance, recommended actions for risk management, and metrics for controls and benchmarking.

Effective reputation risk governance and management can mean the difference between customers buying or boycotting; employees working or fleeing; investors buying or selling; lenders adjusting interest rates down or up; regulators deferring or enforcing; and social license holders acquiescing or protesting.

Data shown here graphically are *inferred from forward-looking data of company-specific financial expectations*—four derivative measures capturing the economic notion of stock price fused into a synthetic index of reputation value.

The synthetic index has been validated for more than a decade by hedge funds and a public equity index, INDEXCME: REPUVAR. Company data are also presented in text form in the companion *Resilience Monitor* narratives.

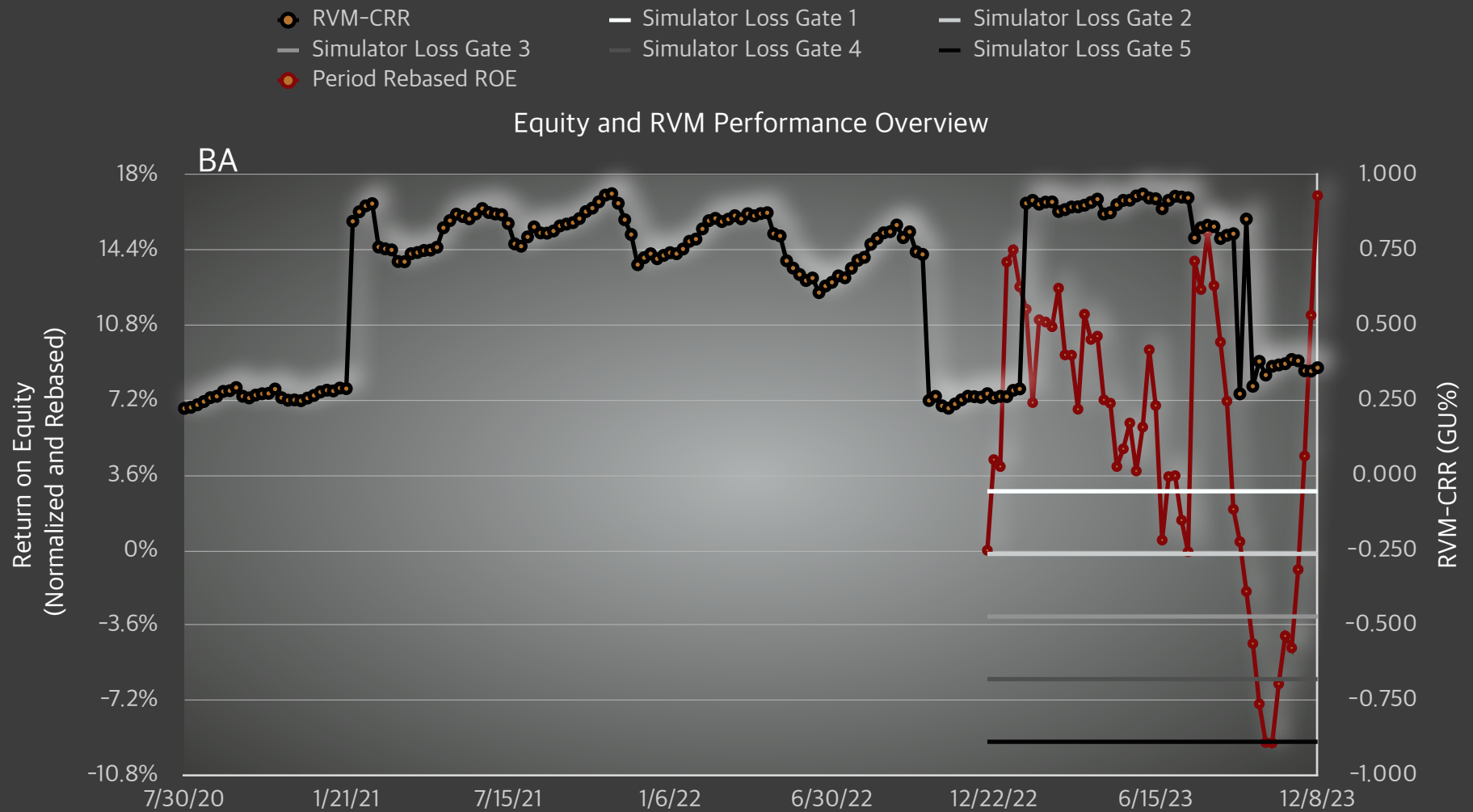
Vital Signs and Key Metrics

Simulation Start Date	December 15, 2022	
Simulation End Date	December 8, 2023	
Simulation Binding RVM%	0.260	
Current RVM% & Industry Rank	0.358	71
RVM% Sim/Current	0.2716	0.3581
RVM Sim/Current	-1.2902	-1.4382
Losses Gate 1/RM	0	1.50
Losses Gate 2/RM	0	2.50
Losses Gate 3/RM	0	3.50
Losses Gate 4/RM	0	4.50
Losses Gate 5/RM	0	5.50
RVM% Vol Sim/Current	0.2086	0.1615
RVM Vol Sim/Current	1.7506	1.8740

Subjectivities and Notices

This report comprises an analysis of publicly available data that have been subjected to proprietary algorithms maintained and operated by Steel City Re. The sources are believed to be reliable. The actuarial analysis was prepared by Steel City Re’s Maths Unit.

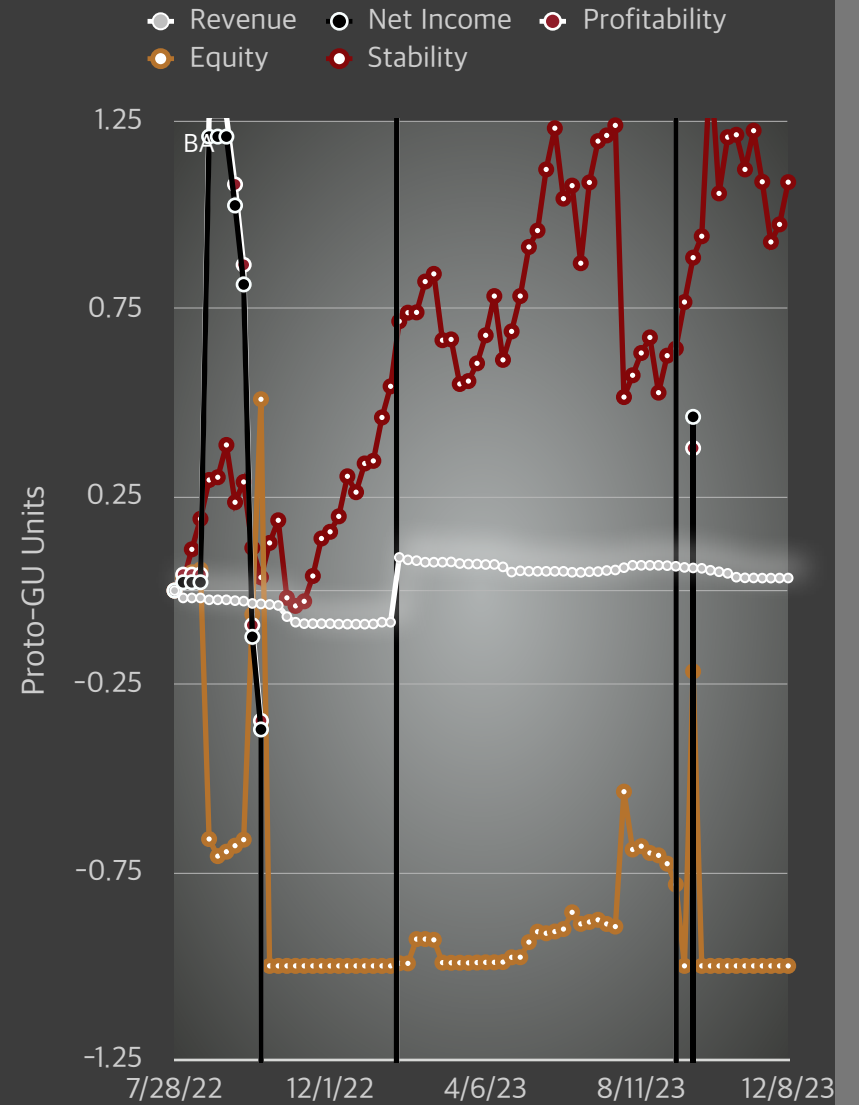
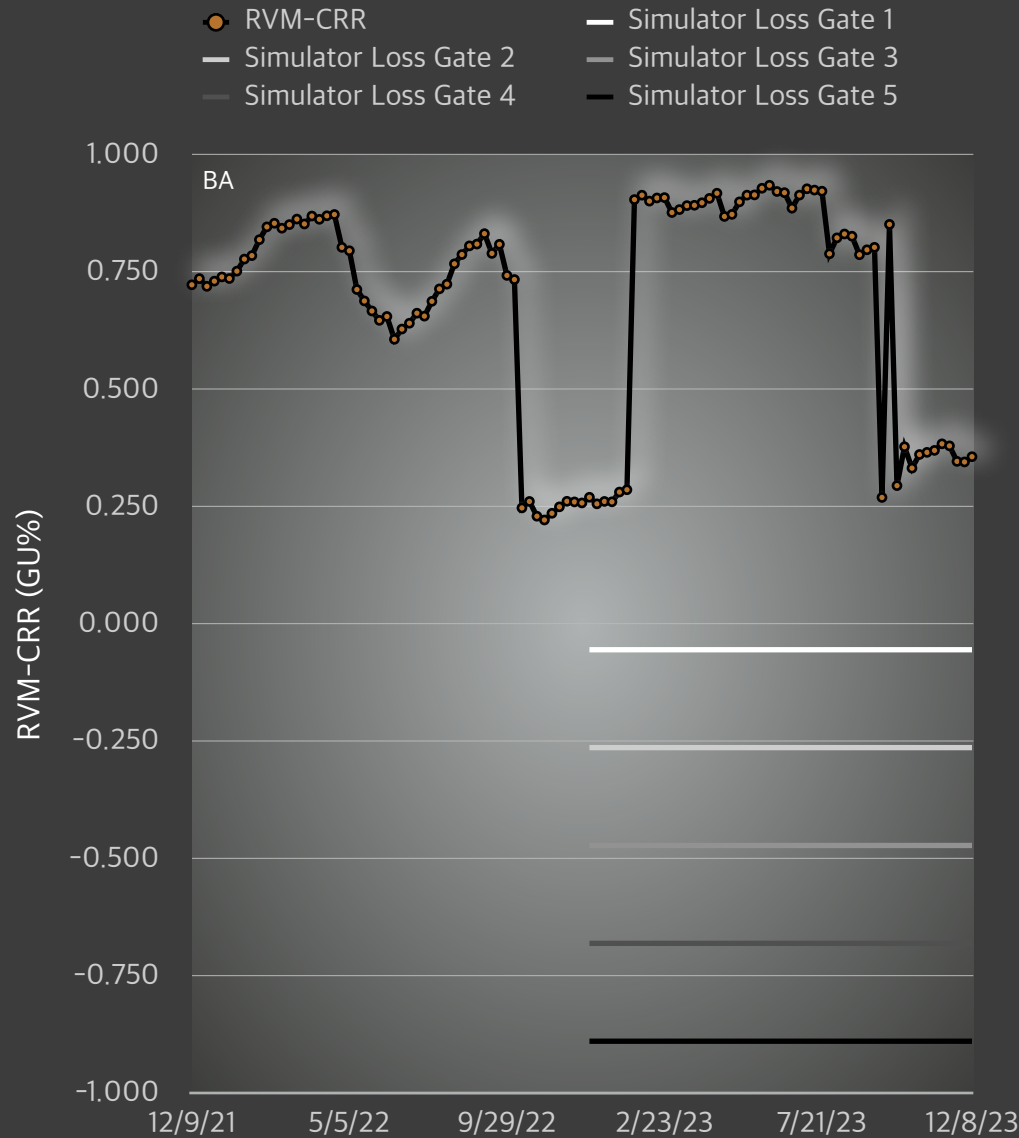
However, Steel City Re is not an auditor and has not independently verified the underlying data. Because of the possibility of human or mechanical error as well as other factors, all information contained herein is provided “As Is” without warranty of any kind.



Note:

RVM-CRR is a synthetic index of reputation value *inferred from forward-looking data of company-specific financial expectations*—four derivative measures capturing the economic notion of stock price—and reported for linguistic comfort in Gerken Units (GU%).

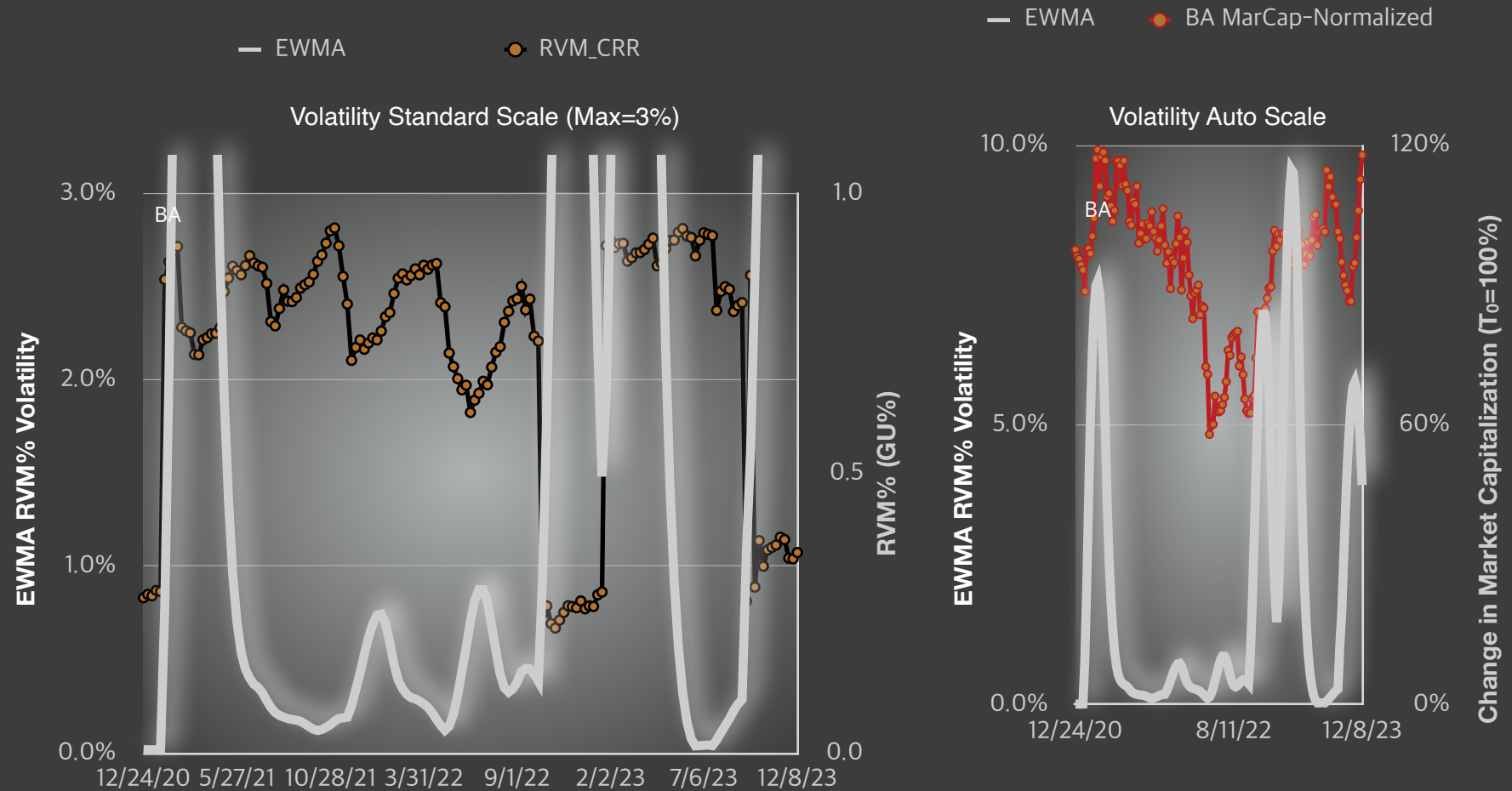
**STEEL
CITY
RE**



Detailed view of reputational value (RVM-CRR) movement and changes in its underlying components

Strategic Oversight of Mission-Critical (Reputation) Assets

Page 5 of



Volatility in reputational value (EWMA RVM%) – a quantitative measure of stakeholders' certainty in a company's ability to meet their expectations – is a leading sign of shifting stakeholder expectations that can trigger bank runs and stock price collapses. Corroborating measures are drops in reputational value (RVM%) and market capitalization.

Benchmarking and Forecasting



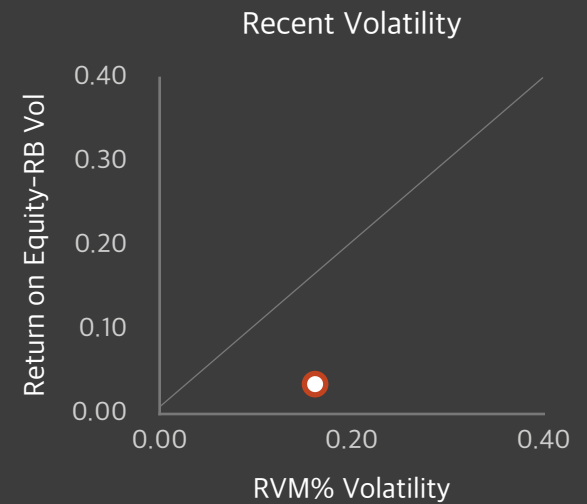
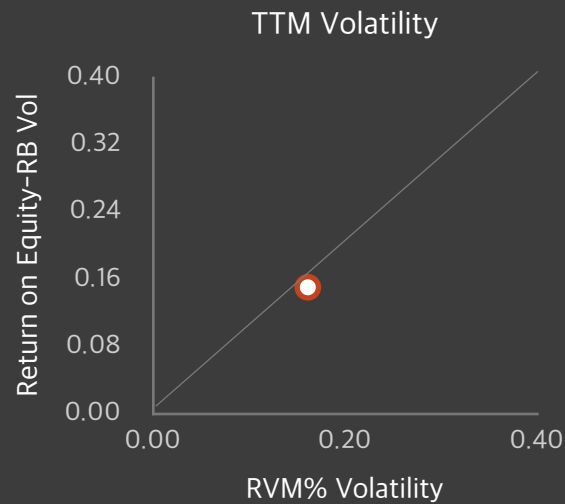
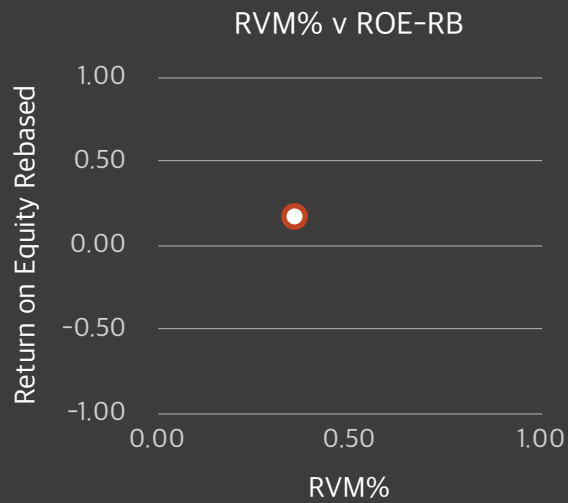
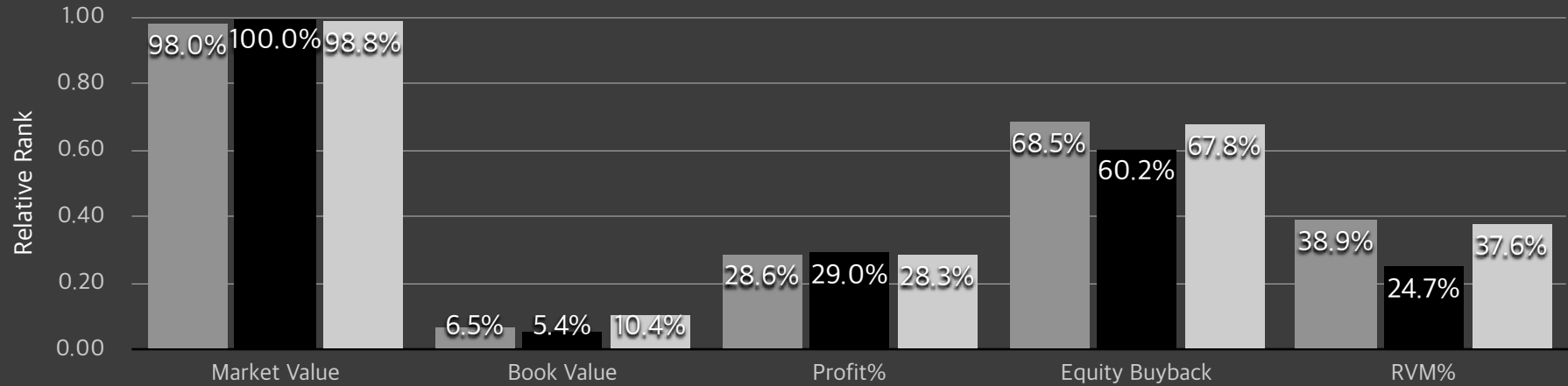
BA

Electronic Technology
Group Count is 496

Aerospace & Defense
Group Count is 93

0
Group Count is 7983

Peer Ranking by Sector, Industry and Proxy Groups



Benchmarking and Forecasting



Current

Simulator

Loss Gate 1

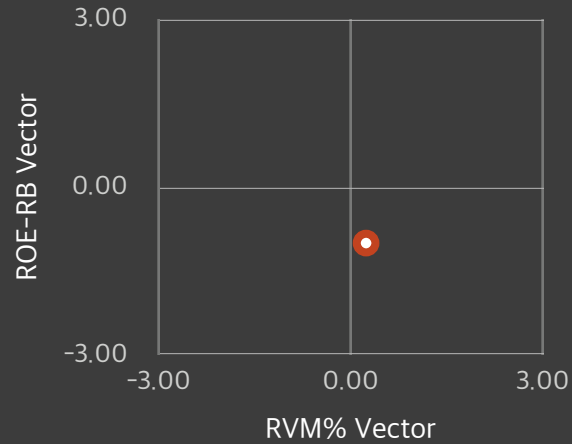
Loss Gate 2

Loss Gate 3

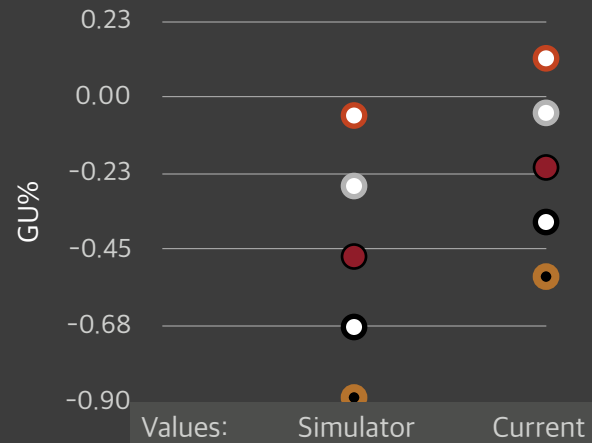
Loss Gate 4

Loss Gate 5

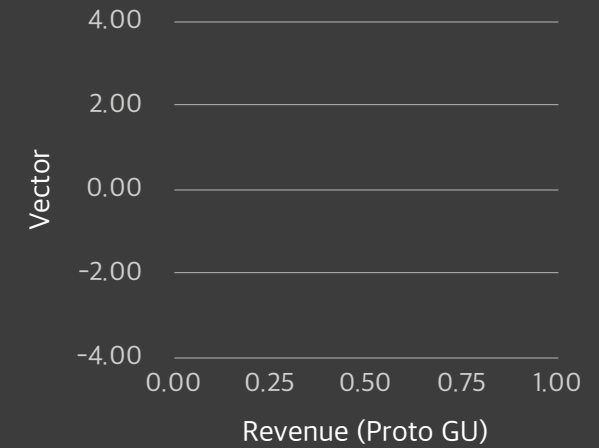
RVM% v ROE-RB Vector



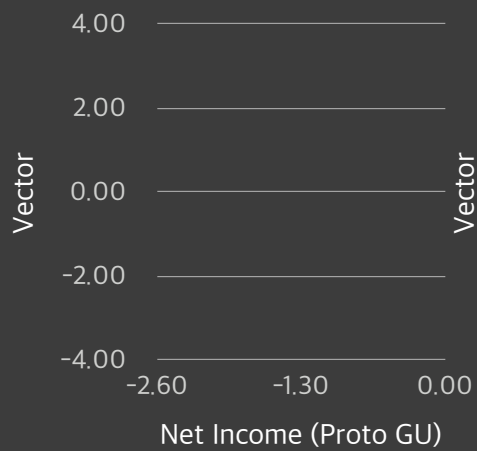
Loss Gate Distribution



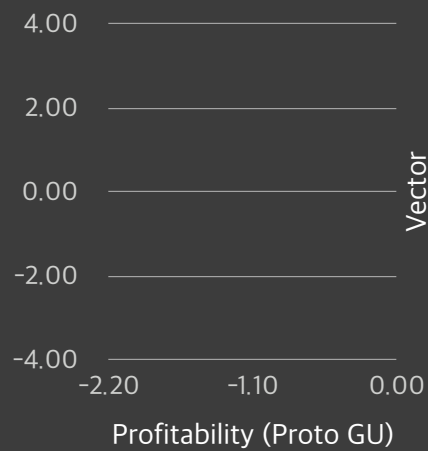
Revenue



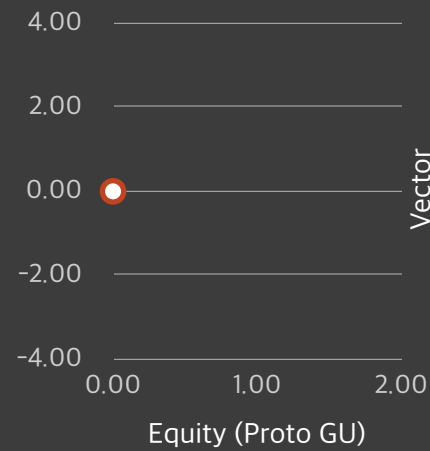
Net Income



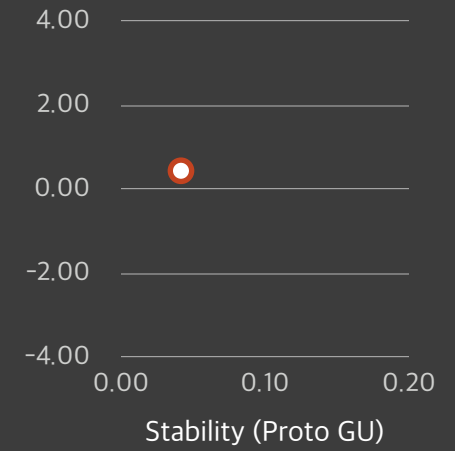
Profitability



Equity



Stability



Page 1

End date of the 3-year data sweep

Data source file for audit start point

Page 2: Vital Signs and Key Metrics

TTM Experience Simulation Window

RVM% Binding = Value 1-2 weeks before experience simulation.
Baseline for all Loss Gate calculations.

RVM% Sim/Current = Value at start and end of experience simulation.

RVM Sim/Current = Value of a pre-percentile ranked reputational value metric (research purposes).

Loss Gates 1-5. Number of breaches and the range multiple (~# standard deviation-like) of the Loss Gate.

RVM% Vol Sim/Current = Volatility value (standard-deviation) at start and end of experience simulation.

RVM Vol Sim/Current = Volatility value (standard-deviation) of a pre-percentile ranked reputational value metric (research purposes).

Page 3

Equity and RVM% Performance Overview

Equity ROI and RVM% chart overlay

Left vertical axis: Market capitalization time series normalized to the S&P500 index.

Right vertical axis: RVM%. Black line with gold centers: RVM% value time series (range 0-1).

Horizontal black, gray and white lines: Loss Gates 1-5 of the experience simulation.

Page 4

Equity and RVM% Subcomponent Performance Overview

Left chart: RVM%

Vertical axis: RVM%. Black line with gold centers: RVM% value time series (same as page 3).

Horizontal black, gray and white lines: Loss Gates 1-5 of the experience simulation (same as page 3).

Right chart: *Subcomponents of the RVM% value, change during experience simulation*

Vertical axis: Proto GU Units.

Revenue - Normalized expected forward twelve months sales per share time series (range -1 to 1).

Net Income - Normalized expected forward twelve months net income per share time series (range -1 to 1).

Profitability - Normalized expected forward twelve months net income% of expected sales time series (range -1 to 1.)

Equity - Normalized current share price per expected forward twelve months earnings multiple time series (range -1 to 1).

Stability - Normalized inverse exponentially weighted moving average share price volatility time series (EWMA λ 0.97) (range -1 to 1).

Page 5

EWMA RVM% Volatility, RVM%, & Market Cap

Trailing ten period exponentially weighted moving average of 13 trailing weeks of RVM% variance.

Left: Fixed scales of RVM% volatility and RVM% value.

Right: Self-adjusting scales for both RVM% volatility and change in market capitalization.

Page 6

Benchmarking and Forecasting

Top row: Benchmarking relative to sector, industry, and custom peer/proxy-defined group, spot value at end date (range 0-1)

Bottom row: Spot relationships between Market Capitalization and RVM%

Left: Rebased return on equity, trailing twelve months, spot value vs RVM% spot value.

Center: Rebased return on equity volatility, trailing twelve months, spot value vs RVM% volatility trailing twelve months, spot value.

Right: Rebased return on equity volatility, exponentially weighted moving average (EWMA λ 0.97) spot value vs RVM% volatility exponentially weighted moving average (EWMA λ 0.97) spot value.

Page 7

Benchmarking and Forecasting: Magnitude and Direction of Change

All vector value calculations: (End value - Initial value)/Trailing Twelve Month (TTM) Median value.

Top row

Left: Rebased return on equity, trailing twelve months, vector vs RVM% vector, comparing value at the beginning of the experience simulation and at the end.

Center: Values of the five Loss Gates (based on trailing twelve month RVM% volatility) for the experience model based on the initial RVM% value and volatility (simulation) and the end values (current).

Balance of Top Row and Bottom Row

Vector vs spot value plots of the subcomponents of the RVM% value (right chart, page 4).

Top Right: **Revenue** - Normalized expected sales per share end value (range -1 to 1) vs its vector (End value - Initial value)/Median value.

Bottom Left: **Net Income** - Normalized expected forward twelve months net income per share end value (range -1 to 1) vs its vector (End value - Initial value)/Median value.

Bottom Left Center: **Profitability** - Normalized expected forward twelve months net income% of expected sales end value (range -1 to 1) vs its vector (End value - Initial value)/Median value.

Bottom Right Center: **Equity** - Normalized current share price per expected forward twelve months earnings multiple end value (range -1 to 1) vs its vector (End value - Initial value)/Median value.

Bottom Right: **Stability** - Normalized inverse exponentially weighted moving average share price volatility end value (EWMA λ 0.97) (range -1 to 1) vs its vector (End value - Initial value)/Median value.

Glossary

Term	Page	Meaning
Ct	2	Count. Refers to number of times the particular loss gate has been breached by the weekly RVM% value.
EWMA	5	Exponentially-weighted moving average.
EWMA RVM% Volatility	5	Exponentially-weighted moving average of the volatility of the reputational value metric percentile (RVM%, aka RVM-CRR) value. This is a leading indicator of shifting stakeholder expectations.
GU%	3, 4, 5, 7	Gerken Unit percentile, the preferred unit of measure for reputational value metric percentile (RVM%). Named after Peter Gerken, a founder of Steel City Re.
Losses Gate n/Ct/RM	2	Details on an insurance trigger: priority (n), breach count (Ct), and magnitude of basis risk.
MarCap	5	Market capitalization.
Proto-GU	4, 7	Unit of measure of a subcomponent of the reputational value metric—proto Gerken Unit.
RB	6, 7	Rebased. Calculation baseline set to 0 or 100%.
RM	2	Range multiple—the parametric insurance equivalent of a deductible and basis risk.
ROE	3	Return on equity.
ROE-RB	7	Return on equity, rebased.
RVI	3	Reputation value insurance.
RVM	2, 3	Two meanings. Informally, the reputation value metric. Technically, the reputation value metric raw score of the amalgamated subcomponents, each measured in proto Gerken Units.
RVM-CRR	3, 4, 5	Reputation value metric - Corporate, relative reputation. Older term used to describe the normalized reputation value metric percentile (RVM%), reported in Gerken Units % (GU%).
RVM%	2, 5, 6	Reputation value metric percentile. The final form of a firm's measure of reputation value, also known historically as the RVM-CRR. Reported in Gerken Units % (GU%), it is an indicator of the value created by stakeholder expectations.
T ₀	5	Time zero.
TTM	6	Trailing twelve months.
Vector	7	Directional measure of historic change in value over time. Calculated as final value minus initial value divided by median value.
Vol	6	Volatility.