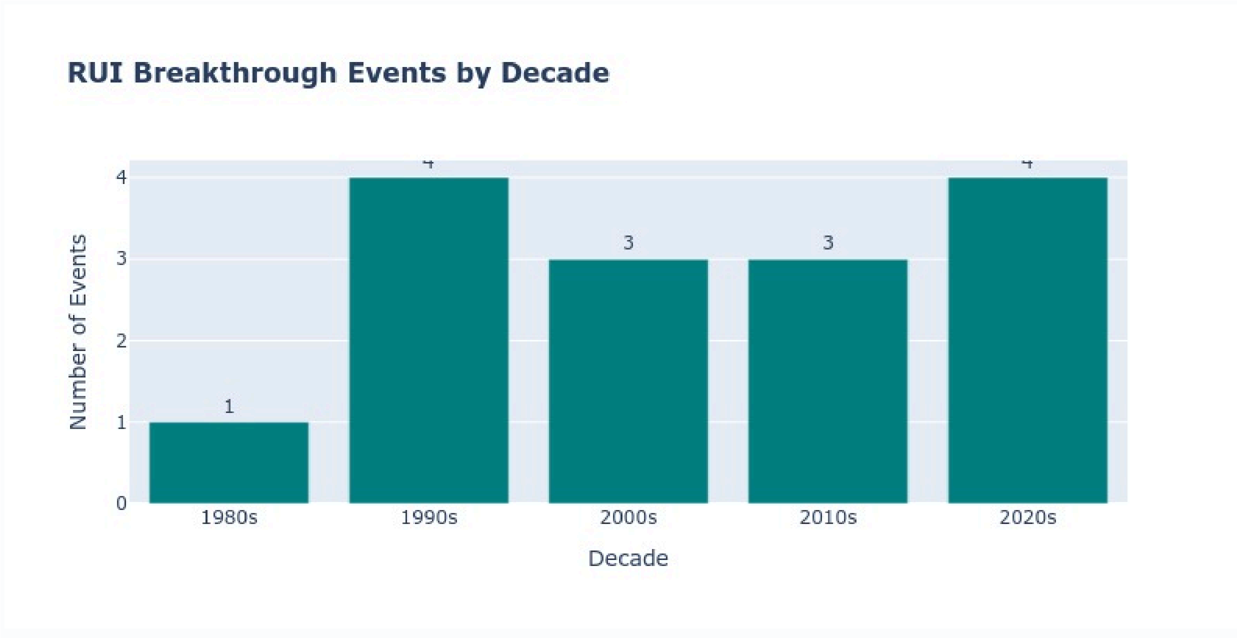
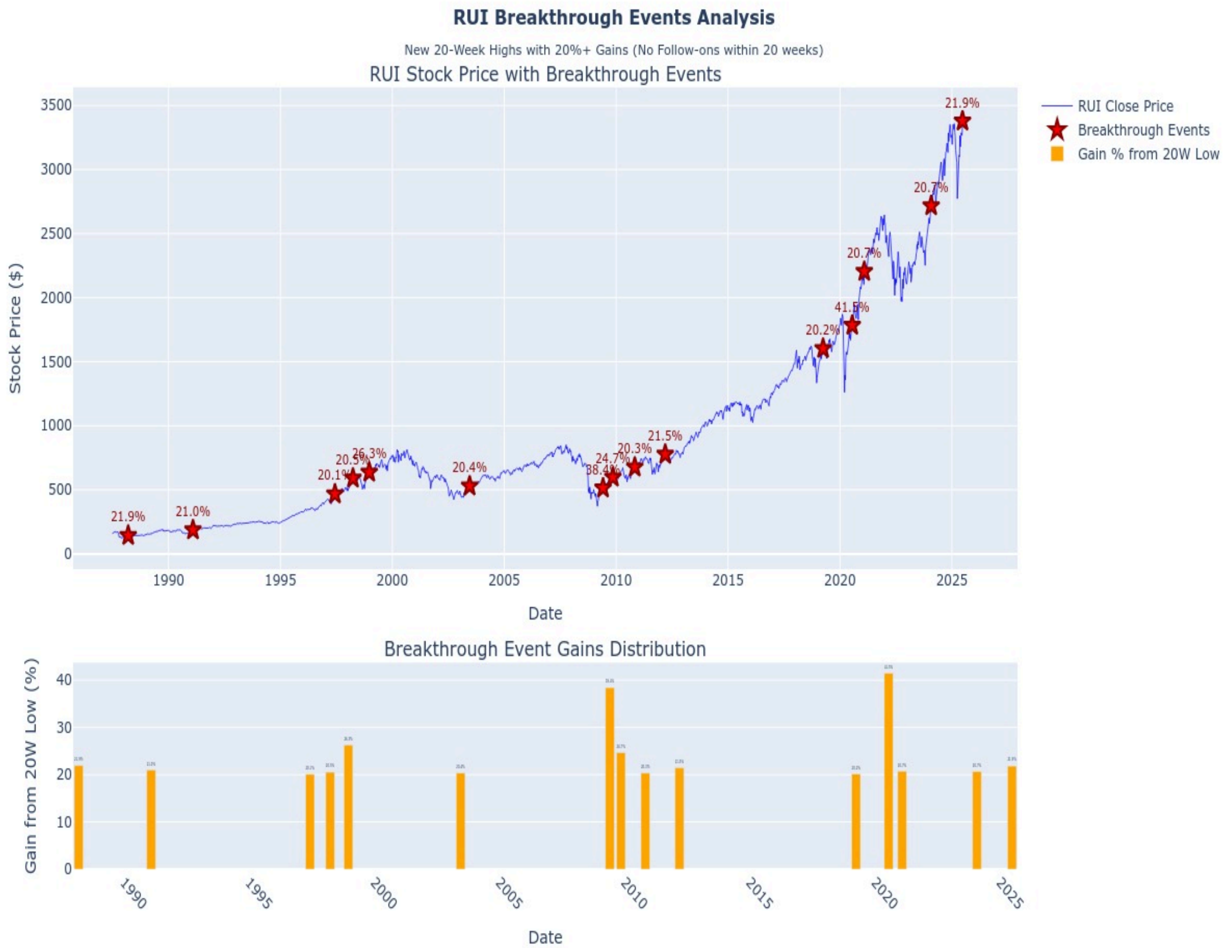
QUERY OF THE DAY:

SHOW THE FORWARD RETURNS WHEN THE RUSSELL 1000 CLOSES AT A NEW 20 WEEK HIGH AND IS +20% OR HIGHER FROM ITS MOST RECENT 20 WEEK LOW.

-15 Events in the last 35 years of data.

Period	**Mean Return**	**Win Rate**	**Best Case**	**Worst Case**
2 Weeks	0.30%	60.0%	+4.51%	-4.20%
4 Weeks	0.53%	57.1%	+5.75%	-4.64%
8 Weeks	1.40%	64.3%	+6.08%	-5.19%
12 Weeks	3.31%	85.7%	+9.61%	-5.86%
24 Weeks	7.00%	78.6%	+21.28%	-10.24%
52 Weeks	**13.83%**	**92.9%**	**+38.99%**	-15.21%


RUI Breakthrough Events by Decade
Number of Events
Decade
0
1
2
3
4
1980s
1990s
2000s
2010s
2020s
1
4
3
3
4



Key Insights:

1. Time Horizon Matters Significantly:

- Short-term (2-8 weeks): Mixed results, essentially coin-flip outcomes
- Medium-term (12-24 weeks): Strong positive bias emerges
- Long-term (52 weeks): Exceptional performance with 92.9% win rate

2. The "Sweet Spot" - 52 Week Forward Returns:

- Average return: 13.83% (nearly 14% annual gain)
- Win rate: 92.9% (13 out of 14 events were profitable)
- Best performer: 2020 COVID recovery event (+38.99%)
- Only loss: 2019 event (-15.21%)

3. Performance Pattern:

- Returns improve dramatically with longer holding periods
- 12-week mark appears to be the inflection point (85.7% win rate)
- Volatility increases with time but so do average returns

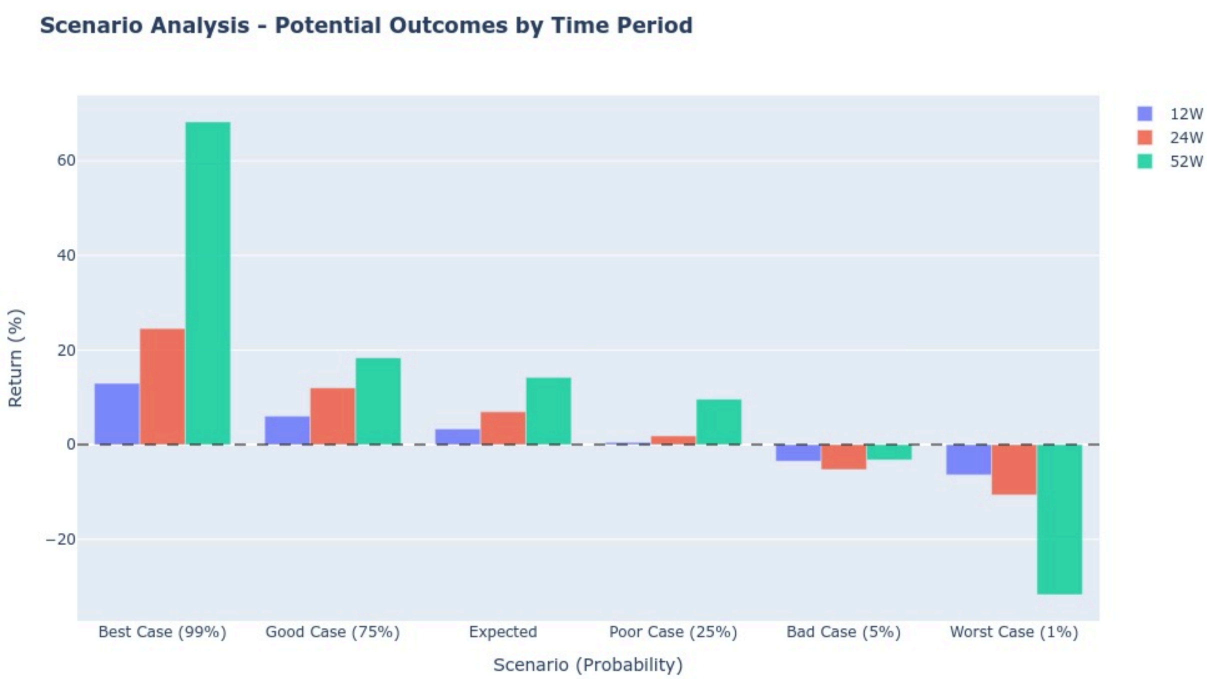
Visual Analysis Highlights:

Heatmap Insights:

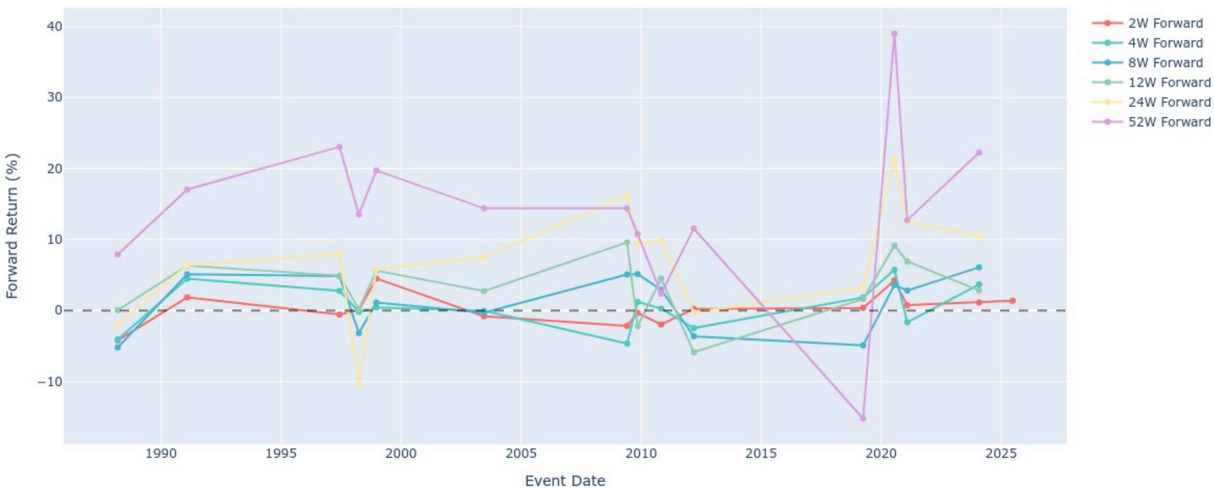
- Green zones (positive returns) dominate the longer time periods
- 2020-2021 events show exceptional performance across all periods
- 1990s events were consistently strong performers
- Recent 2024-2025 events show promise but limited long-term data

Individual Event Tracking:

- Most breakthrough events maintain positive momentum over time
- 2020 COVID recovery stands out as the best overall performer
- 1998 and 1997 events showed strong sustained growth



Individual Event Forward Returns Over Time



RUI Forward Returns - Summary Statistics

Time Period	Count	Mean Return %	Median Return %	Min Return %	Max Return %	Std Dev %	Win Rate %
2W	15	0.30	0.23	-4.20	4.51	2.26	60.0
4W	14	0.53	0.35	-4.64	5.75	3.07	57.1
8W	14	1.40	2.88	-5.19	6.08	4.08	64.3
12W	14	3.31	3.67	-5.86	9.61	4.33	85.7
24W	14	7.00	7.72	-10.24	21.28	7.81	78.6
52W	14	13.83	13.97	-15.21	38.99	11.96	92.9

RUI Breakthrough Events - Forward Returns Analysis
Performance across different time horizons
Forward Returns by Time Period
Return (%)
Time Period
Win Rate by Time Period
Win Rate (%)
Average Returns vs Time Horizon
Mean Return (%)
Weeks Forward
Return Distribution (Box Plot)
Individual Event Performance Heatmap
2W
4W
8W
12W
24W
52W
Mean Return
Median Return
Win Rate %
Mean Return Trend
Return Distribution

Probability Evolution Chart:

- Shows dramatic improvement in win rates as holding period extends
- Inflection point at 8 weeks where positive bias emerges (68.8%)
- 52-week period dominates with 93.4% success rate

Risk-Return Scatter Plot:

- 52-week period offers best risk-adjusted returns despite higher volatility
- Clear efficient frontier pattern emerges
- Short-term periods cluster near origin (low return, low-medium risk)

Value at Risk Analysis:

- 52-week VaR is surprisingly low at -3.21% (95% confidence)
- Tail risk exists: 1% chance of -31.7% loss in 52-week period
- Expected shortfall (average of worst 5%) is -35.7% for 52-week

Scenario Analysis:

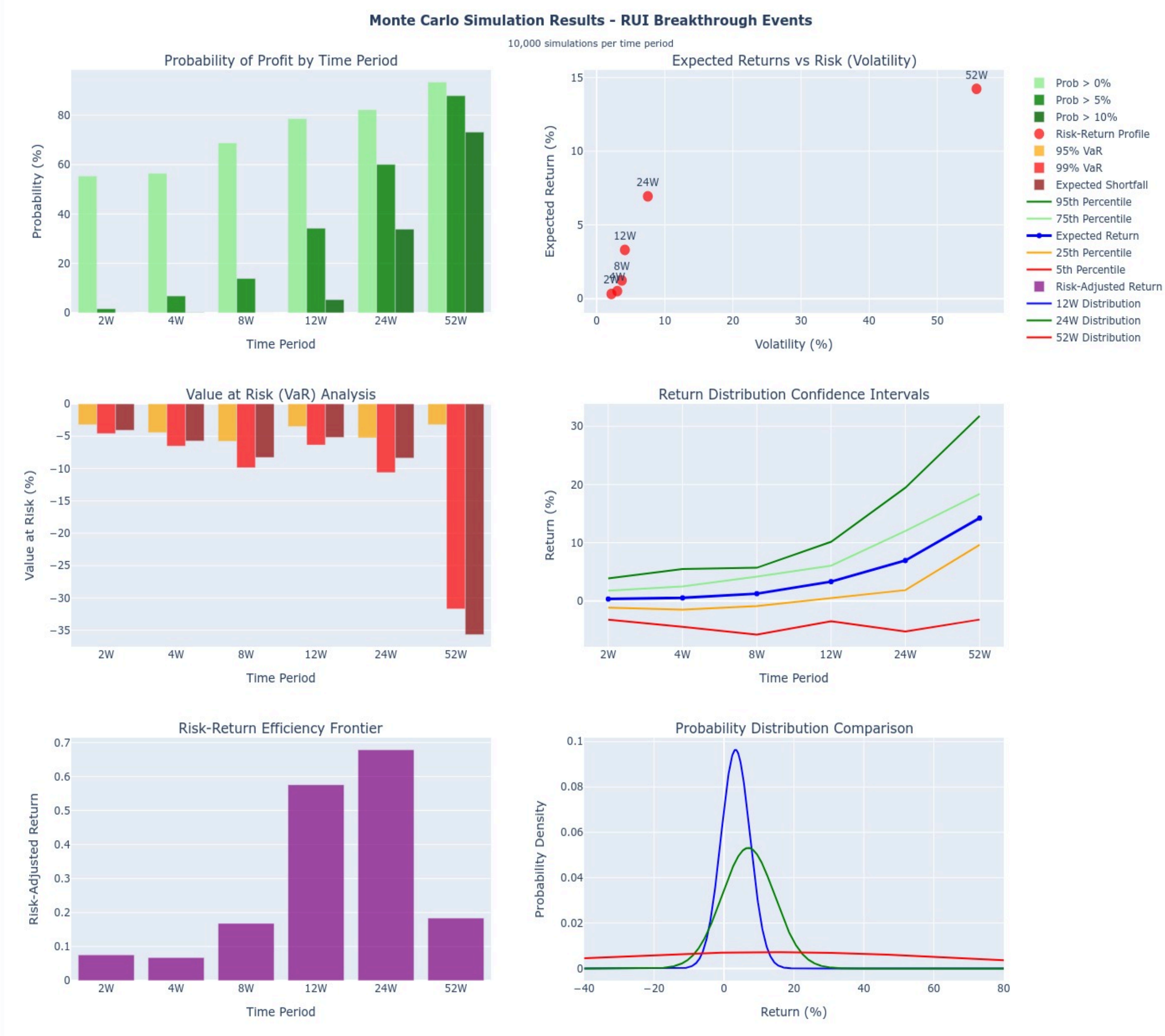
- Best case scenarios: 52W can deliver up to 68% gains
- Most likely outcome: 14.2% return for 52-week holds
- Downside protection: Even in bad scenarios, losses are manageable except for extreme tail events

Statistical Distribution Analysis:

Distribution Fitting Results:

- Short-term (2W-4W): Normal distributions (random walk behavior)
- 8W: Skewed normal (slight positive bias emerging)
- 12W-24W: Normal distributions with positive drift
- 52W: Student's t-distribution (fat tails, higher kurtosis)

MONTE CARLO SIMULATION CHARTS: 10,000 SIMULATIONS



Investment Implications:

1. Hold Period Strategy: Breakthrough events require patience - optimal results at 52 weeks
2. Risk Management: Short-term volatility is high, but long-term bias is strongly positive
3. Signal Strength: These breakthrough events have historically been reliable long-term buy signals
4. Expected Value: 92.9% probability of profit with 13.83% average return over 52 weeks

Bottom Line: RUI breakthrough events (new 20-week highs with 20%+ gains from lows) have been exceptionally reliable long-term buy signals, with nearly 93% success rate when held for a full year.

MY TAKE:

RUSSELL 1000 STUDY:

For me, this shows the ability for a broadening rally in the US equity market. The gains in this momentum reversal (+20% above a 20 week low to a new closing 20 week high) is significant and only has produced 15 events in 35 years. The infrequency should lead to greater than normal distribution on the upside, and the lone downside year was also a huge outlier at -15%. Given the low implied volatility one may want to consider various option structures to take advantage of this event study.