

Two Alternative Calibrations

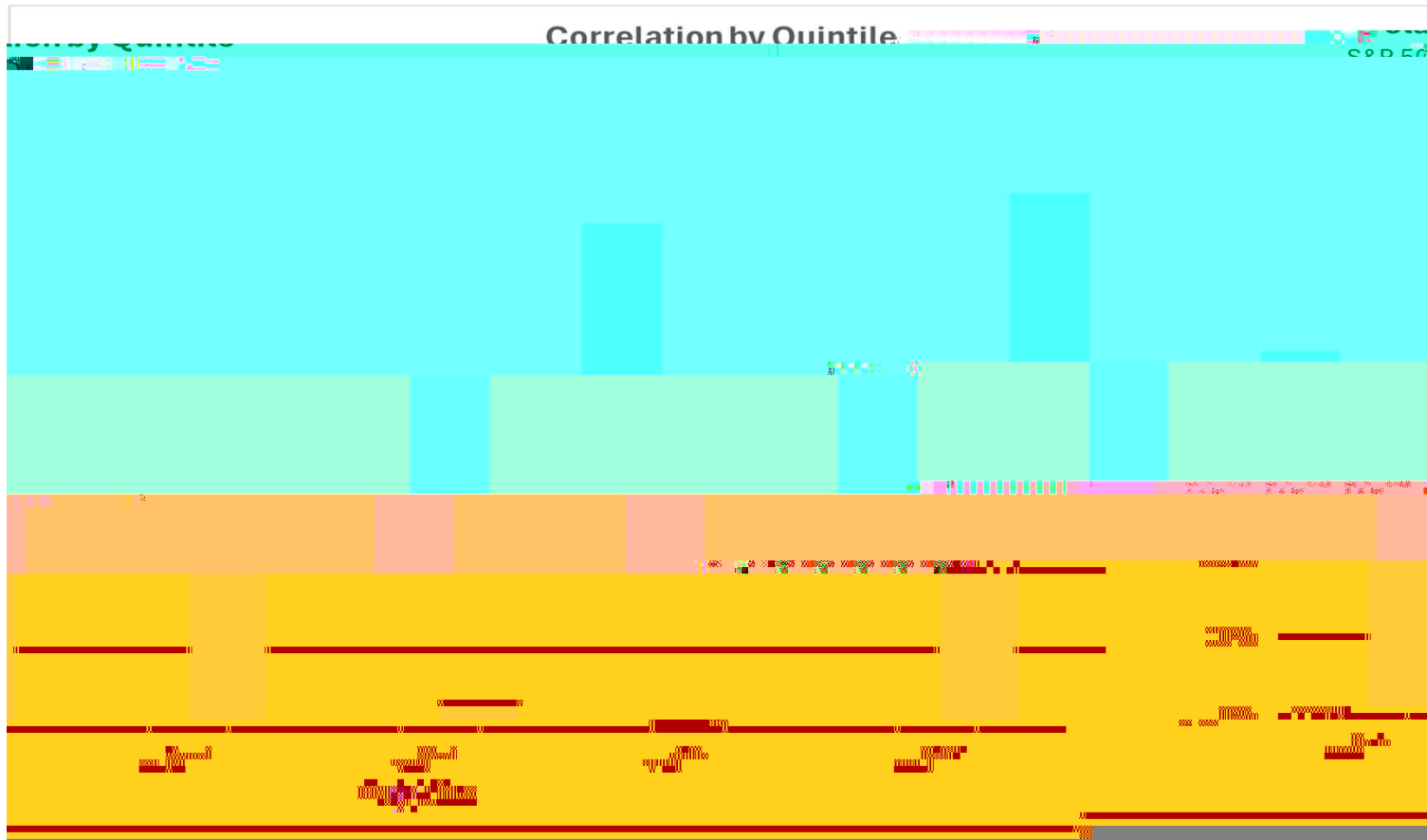
Modified GEMS Calibration

- a) Based on standard GEMS calibration approach
- b) Adjusted for NAIC's mean and standard deviation targets
- c) Basis for Field Test #2 runs

ACI's Proposed Calibration

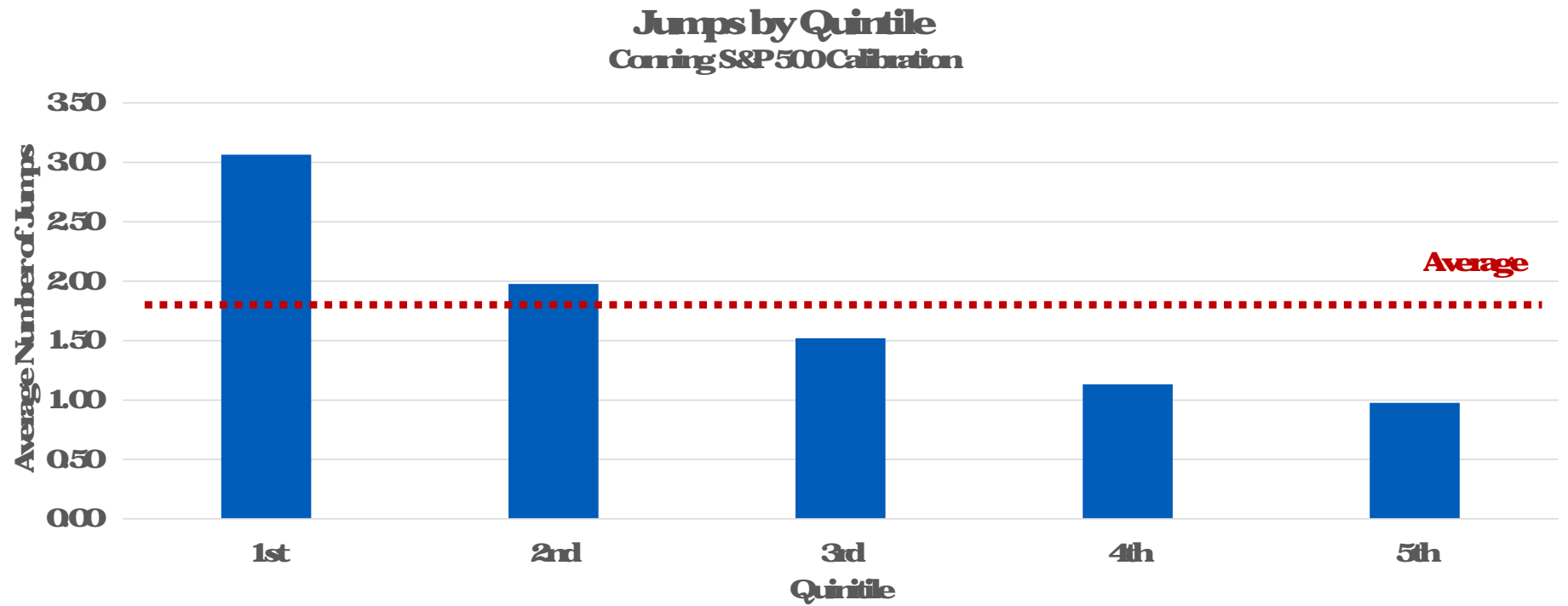
- a) Based on Run #6 from Field Test #1
- b) Adjusted to address some of Corning's previous concerns

Previous Concern: Tail Correlation



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Focus on Impact of Jumps



Previous Concern: Tail Correlation

Way to achieve this in GEMS

- a) Correlation between Variances

Calibration	Mid Cap	Small Cap	US Aggressive Equity
	08920	08530	09360

Previous Concern: Tail Correlation

- $\text{Expected Frequency} = \text{Jump Intensity} \times \text{Variance}$

Way to achieve this in GEMS

a) Correlation between Variances

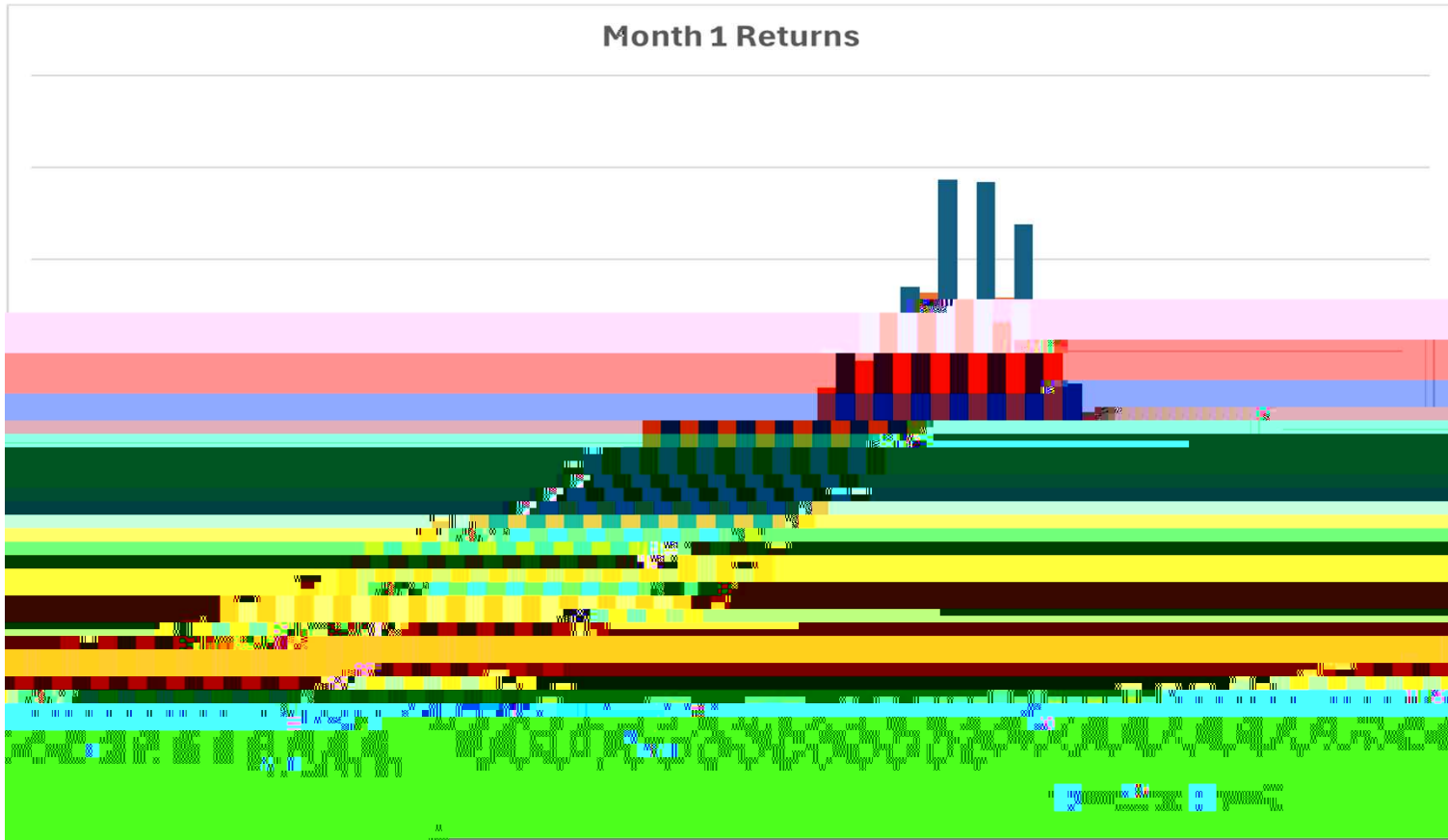
b) Correlations between Jump Losses

c) Similar Jump Frequencies

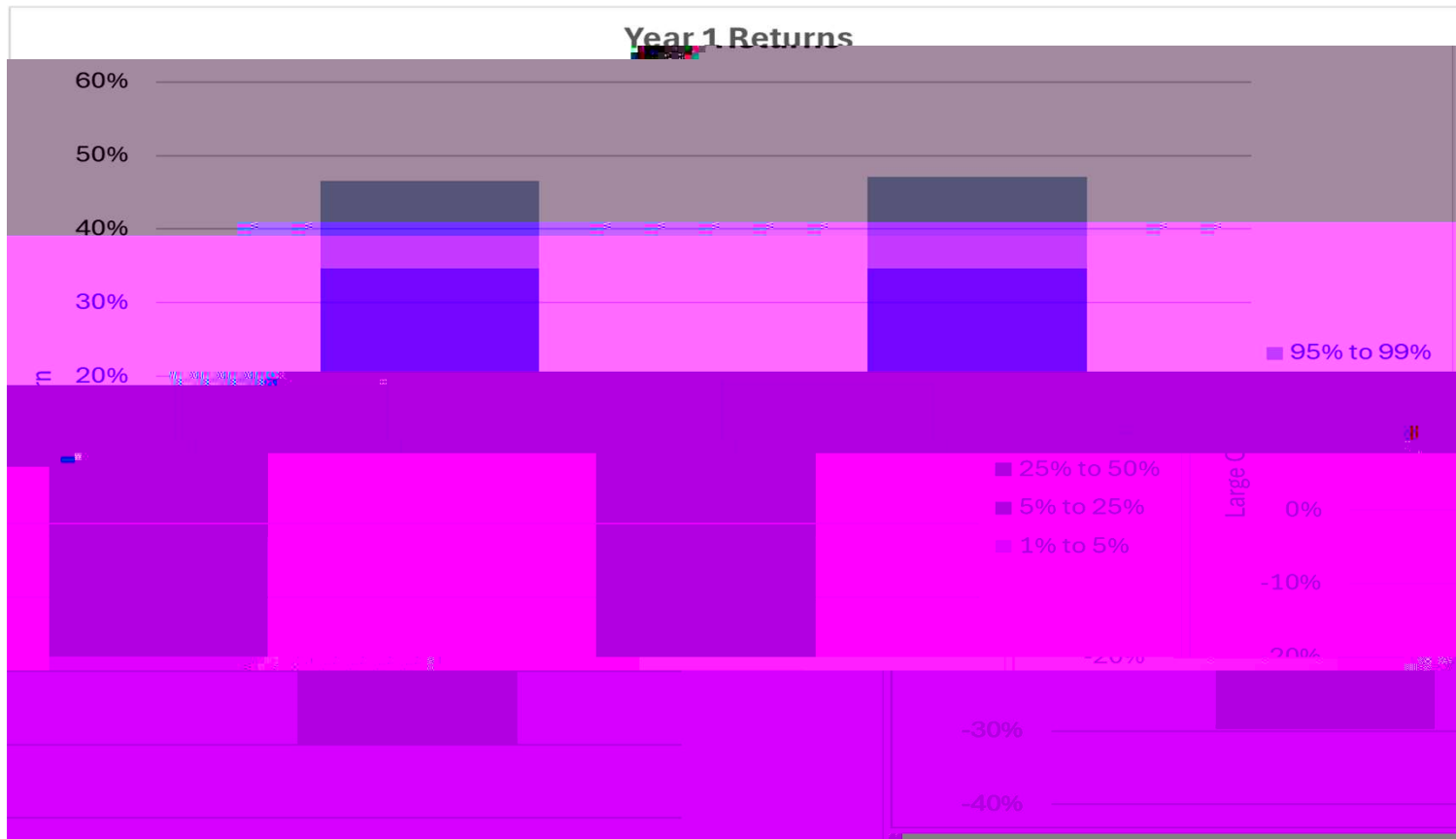
- Frequency is linked to Variance: $\text{Expected Frequency} = \text{Jump Intensity} \times \text{Current Variance}$

U • Variance reverts to /

Alternative Calibrations: First Month Returns



Alternative Calibrations: First Year Returns



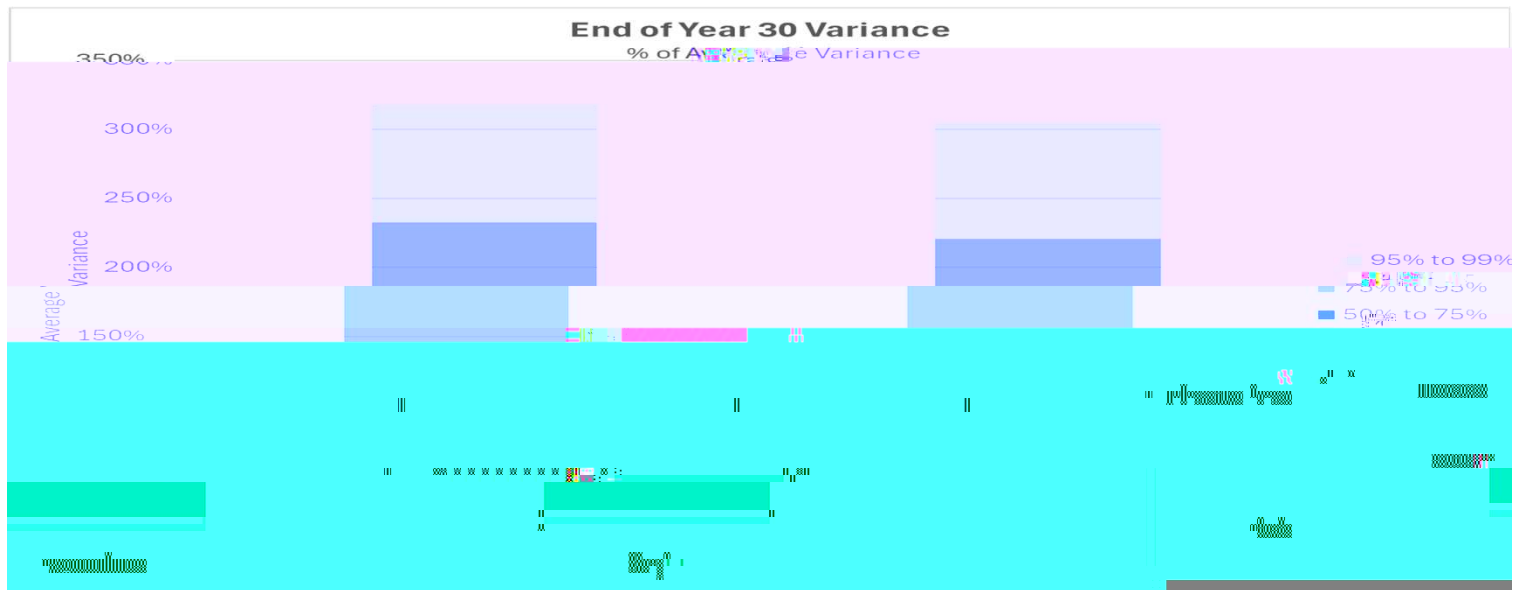
Alternative Calibrations: Changes over Time

Evolution only Impacted by Variance

- Core volatility is completely independent

Impact of Variance

- Is it variable?



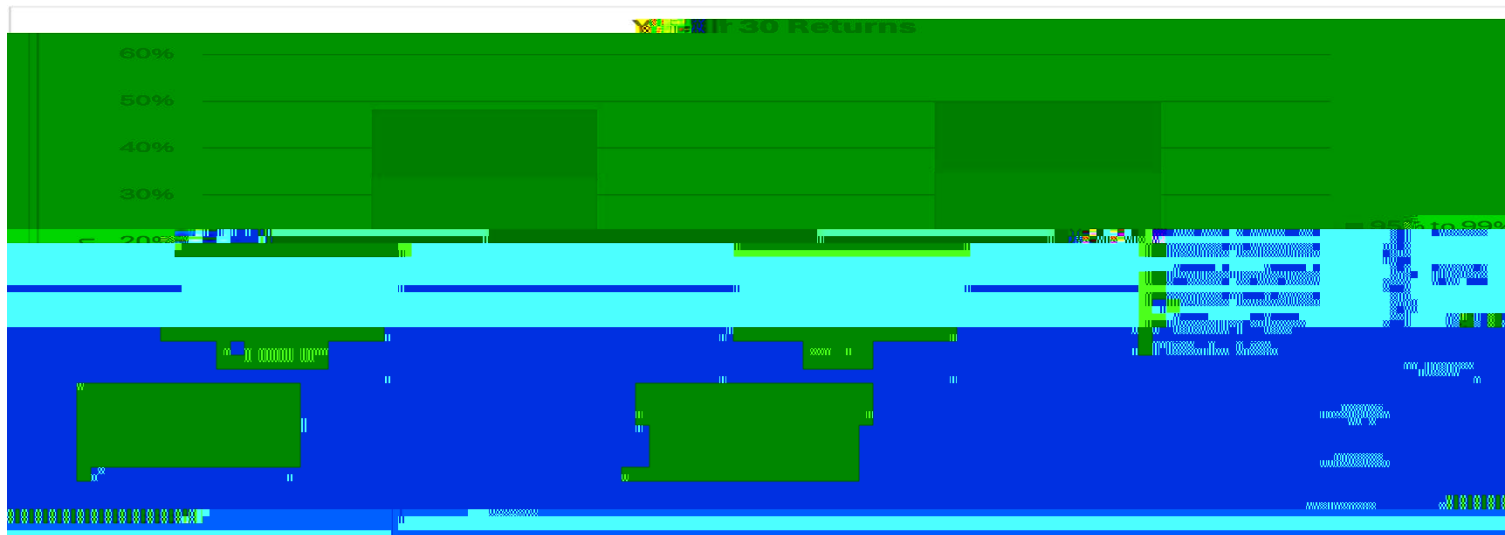
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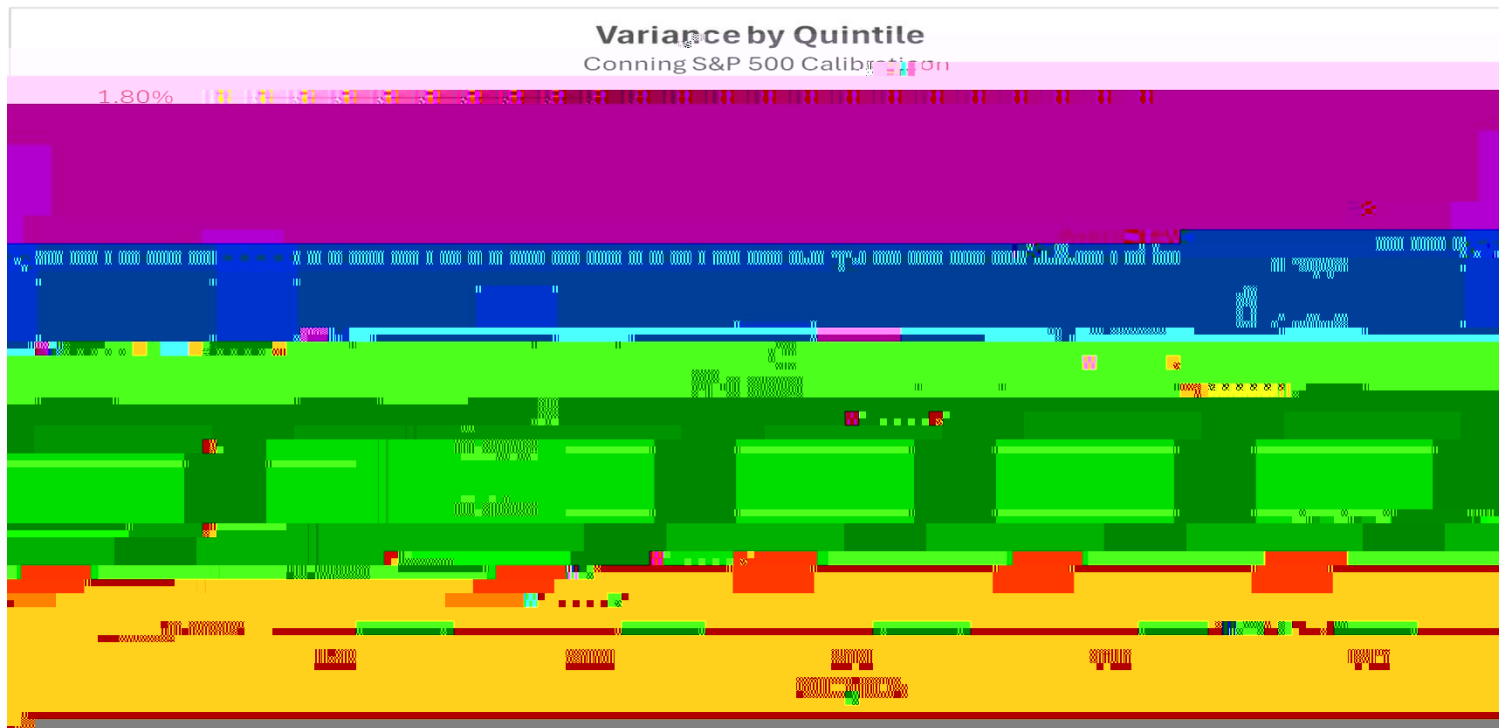
Impact of Variance

- Is it variable?
- Does that variability impact return?
- How does it impact serial correlation?

Alternative Calibrations: Impact on Serial Correlation

Impact is Complicated

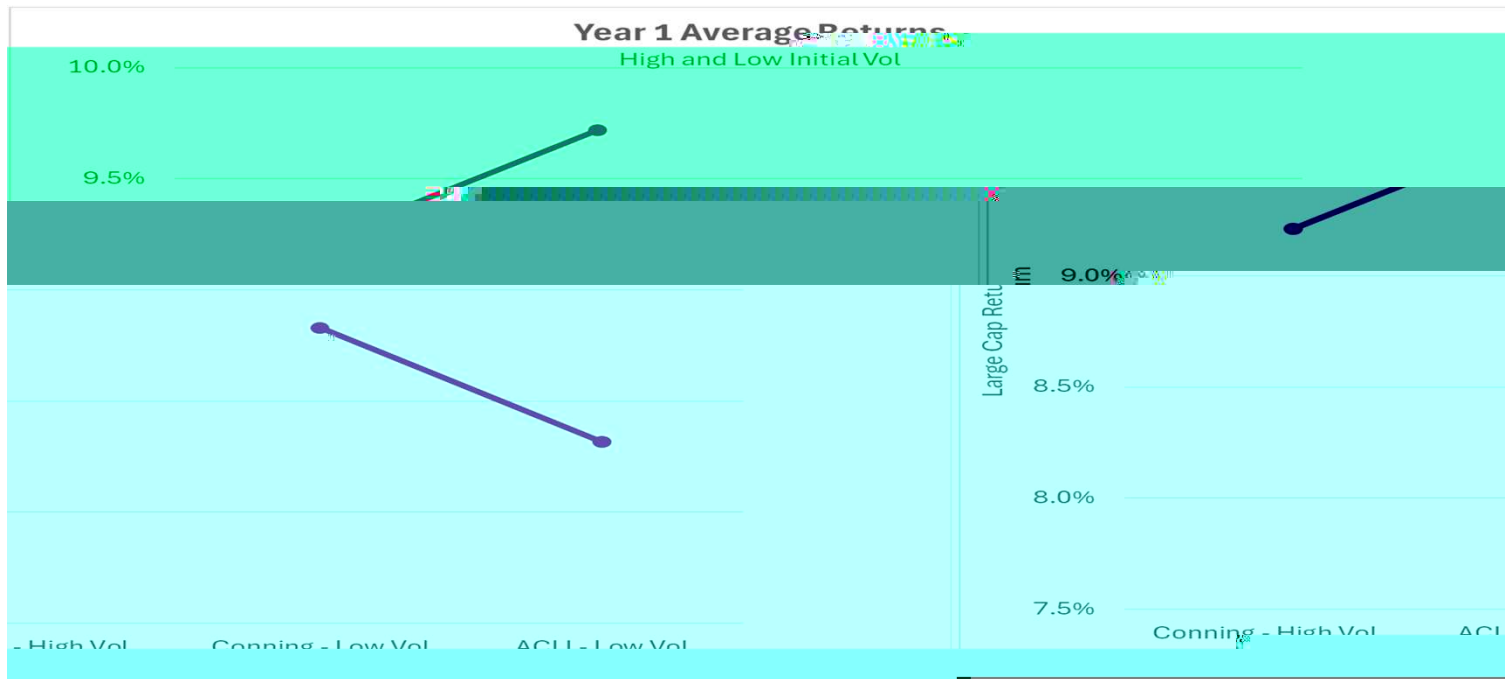
- Like Jumps, Variance increases with bad returns



Alternative Calibrations: Impact on Serial Correlation

Impact is Complicated

- Like Jumps, Variance increases with bad returns
- Large Risk Premium Coefficient makes Average Return very susceptible to changes in Variance



Alternative Calibrations: Impact on Serial Correlation

Impact is Complicated

- Like Jumps, Variance increases with bad returns
- Large Risk Premium Coefficient makes Average Return very susceptible to changes in Variance
- Changes the sign of Serial Correlation
 - Corning's Year 1 vs Year 2 is +2%
 - ACIs is -3%

