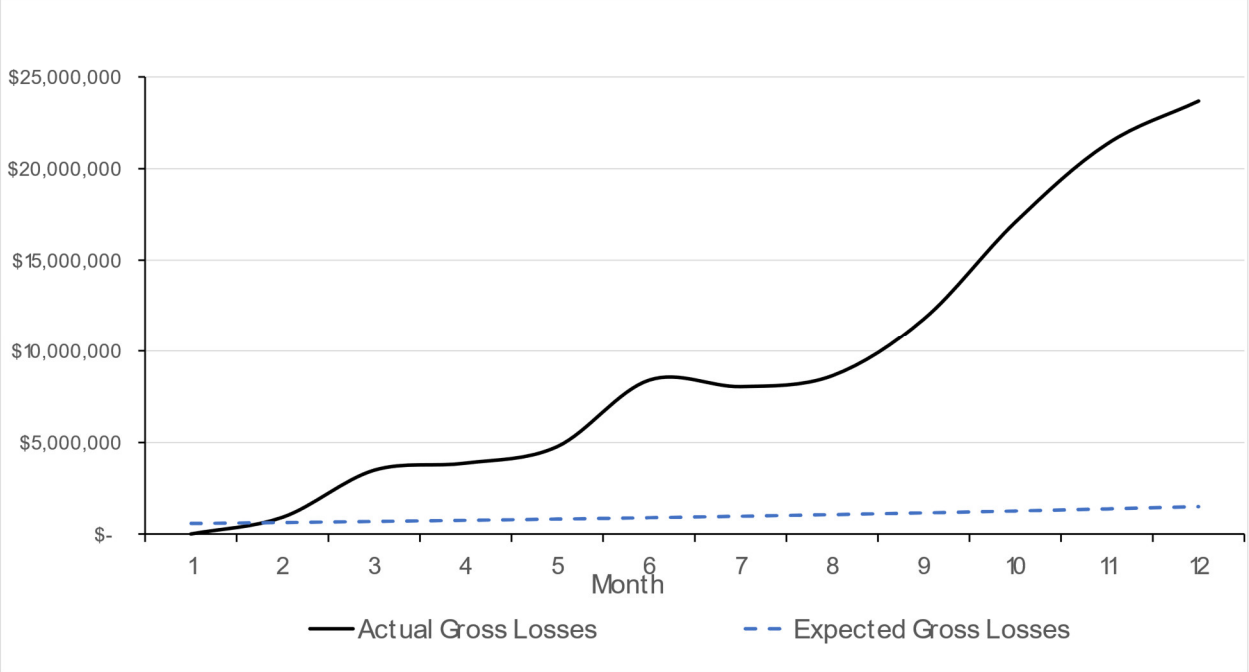
RMBS Loss Causation Analysis

In *National Credit Union Administration Board v. RBS Securities Inc., et al.* (D. Kan. No. 11-cv-02340), plaintiffs alleged that defendants violated Sections 11 and 12(a)(2) of the Securities Exchange Act because material facts about certain characteristics of the loans underlying the RMBS certificates were allegedly misstated and that originators' compliance with underwriting guidelines was misrepresented in the offering documents.

NCUA alleged that the collateral underlying the RMBS performed significantly worse than would have been expected at the time of issuance. They also claimed that the difference in performance between what would have been expected and what actually occurred (unexpected defaults) was the result of alleged misrepresentations. *See* **Chart 1**: *Actual Losses Exceeded Expected Losses as Alleged by Plaintiff.*

Chart 1: *Actual Losses Exceeded Expected Losses as Alleged by Plaintiff*



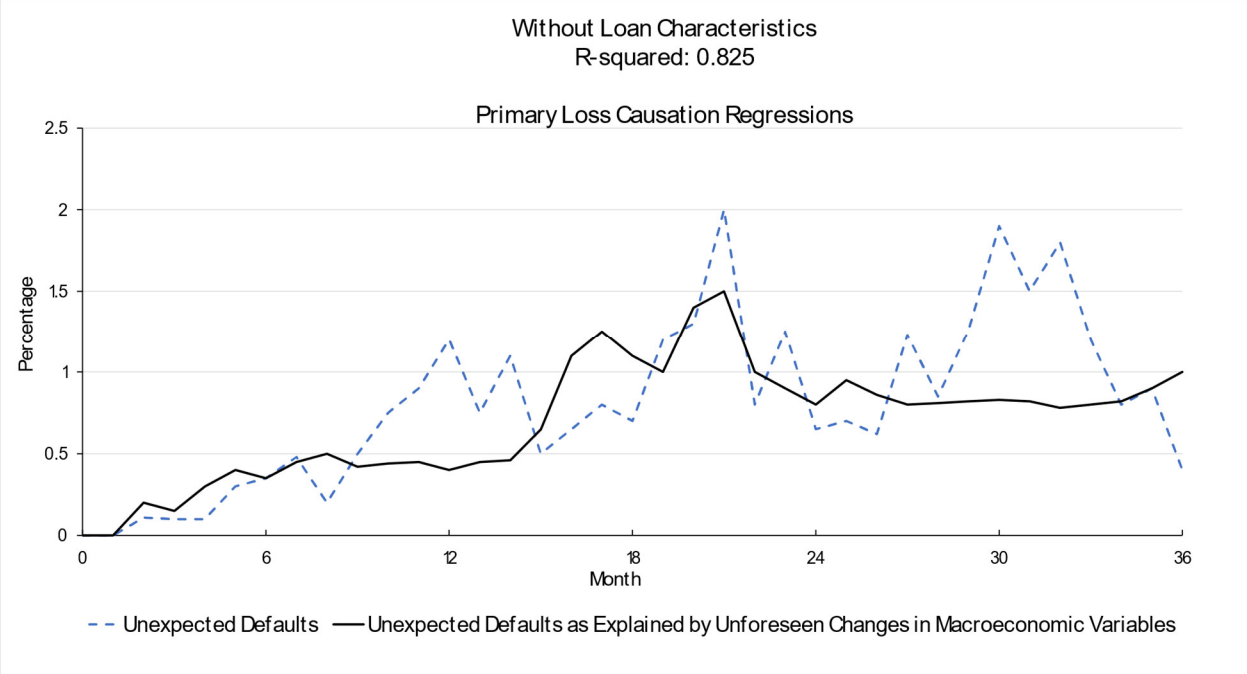
Vega was retained to support Dr. Ethan Cohen-Cole in analyzing whether macroeconomic events were the key drivers of the unexpected defaults experienced by loans underlying the RMBS. In order to identify the causes of unexpected defaults, the Vega expert performed five separate analyses.

First, the expert conducted a series of regressions that quantified the impact of unforeseen changes of specific macroeconomic variables on unexpected defaults. Having established that unforeseen

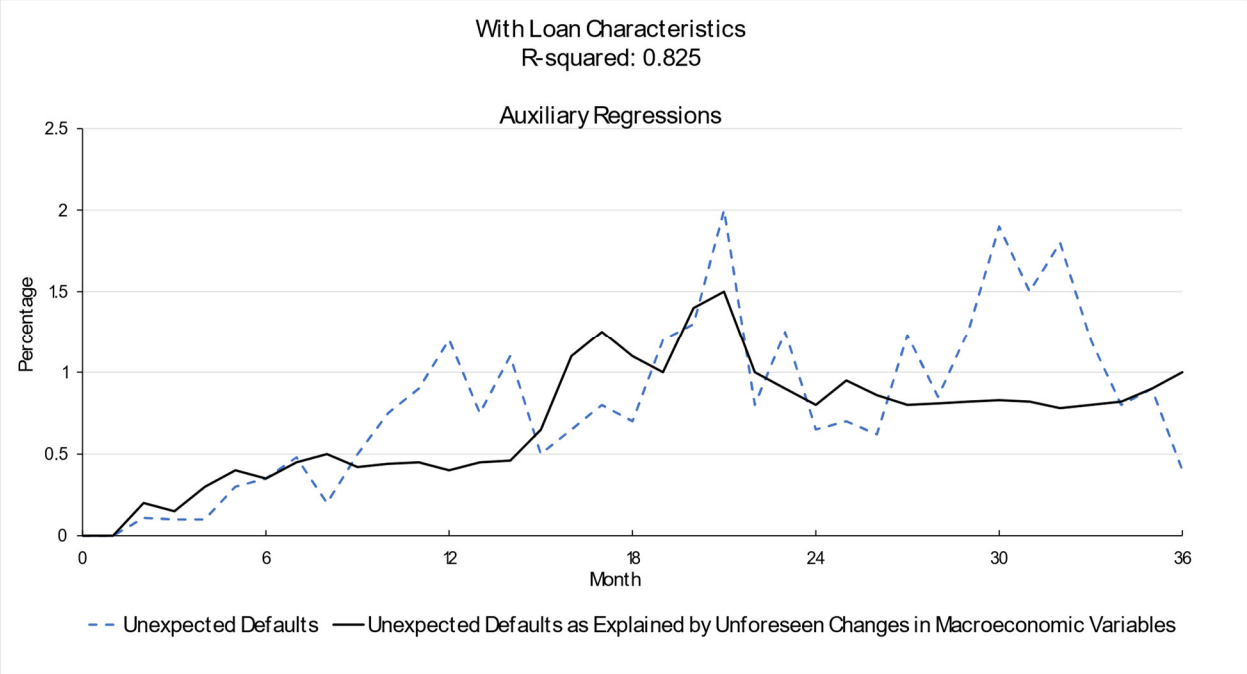
changes in the macroeconomic variables explained a majority of the unexpected defaults in a statistically significant manner, the Vega expert then performed four additional tests to evaluate whether the proportion of defaults not explained by those macroeconomic variables could be explained by the underlying loan characteristics.

In one such test (illustrated below), the expert compared the model's predictive ability with and without the underlying loan characteristics as explanatory variables. This test demonstrated that the underlying loan characteristics were not statistically significant predictors of unexpected defaults and they did not improve the model's predictive ability. *See* **Example Analysis A**: *Loss Causation Regressions Without Loan Characteristics* and **Example Analysis B**: *Loss Causation Regressions With Loan Characteristics*.

Example Analysis A: *Loss Causation Regressions Without Loan Characteristics*.



Example Analysis B: *Loss Causation Regressions With Loan Characteristics.*



The charts above show that the inclusion of loan characteristics in the regression analysis did not improve the model's ability to explain unexpected defaults, as shown by the R-Squared. In other words, because the regression model including loan characteristics did not increase the R-Squared, the pool-level characteristics do not explain unexpected defaults beyond the portion explained by unforeseen changes in macroeconomic variables.

Finally, the Vega expert performed a sentiment analysis to measure the degree to which sentiment about macroeconomic factors was related to the unexpected defaults experienced by the collateral underlying the securities at-issue.

Public sentiments and expectations can have an effect on loan performance. These expectations may play a role when, for example, an unemployed person faces the decision on whether to keep paying a loan. If this person expects a rebounding of the economy, she may pay the loan even at great cost to herself. If the person perceives a continued decline in the economy, however, she may choose not to pay. In order to empirically establish the relationship between market perception and subsequent loan defaults, the Vega expert performed a set of statistical tests.

The Vega expert used state-of-the-art computing resources to scrape all online Wall Street Journal articles to measure the tone of the articles. This allowed the expert to statistically assess whether market sentiment related to unexpected collateral defaults. Further, the expert tested for negative, positive, uncertain, and net sentiment and found that they were related to changes in unexpected defaults in a consistent way.

Ultimately, the expert concluded the results of the sentiment analysis provided further evidence that macroeconomic events were the key drivers of the unexpected defaults.

In the past five years, the Vega team has supported experts in over 30 securities fraud cases where plaintiffs have alleged violations of Sections 11 and 12(a)(2) of the Securities Exchange Act and relevant state securities acts.

About Vega Economics

Vega Economics provides economic consulting and expert testimony in all phases of complex litigation and regulatory proceedings. We work with an extensive network of academic and industry professionals that provide support in a variety of practice areas. We always pair the best suited consultant or expert witness for each case. For additional inquiries, please contact info@vegaeconomics.com.