

THOMSON REUTERS STARMINE SMARTRATIOS CREDIT RISK MODEL

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THE STARMINE SMARTRATIOS CREDIT RISK MODEL IS ONE COMPONENT OF THE STARMINE CREDIT RISK MODEL SUITE. THE SMARTRATIOS MODEL IS AN INTUITIVE AND ROBUST DEFAULT PREDICTION MODEL THAT PROVIDES A VIEW OF A FIRM'S CREDIT CONDITION AND FINANCIAL HEALTH BY ANALYZING A WIDE ARRAY OF ACCOUNTING RATIOS THAT ARE PREDICTIVE OF CREDIT RISK. THE MODEL PRODUCES DAILY UPDATED ESTIMATES OF THE PROBABILITY OF DEFAULT OR BANKRUPTCY WITHIN ONE YEAR FOR 35,000 COMPANIES GLOBALLY, INCLUDING FINANCIALS. THE DEFAULT PROBABILITIES ARE ALSO MAPPED TO TRADITIONAL LETTER RATINGS AND RANKED TO PRODUCE 1-100 PERCENTILE SCORES.

The SmartRatios model groups various accounting ratios, along with industry-specific metrics, into 5 components: Profitability, Liquidity, Leverage, Coverage and Growth, which are combined in a logistic regression framework. The final default probability is also a function of geographic region. The main advantages of the SmartRatios model over traditional accounting-based credit models include:

- Incorporating information from both reported actuals and forward-looking analyst estimates via StarMine's proprietary SmartEstimate
- Utilizing industry-specific metrics for companies in the Banking, Insurance, Utility, Retail, Airline and Oil & Gas industries
- Combining the accounting ratios in a weighting scheme that ensures the most important ratios for a given sector receive the most weight
- Handling outliers and missing data seamlessly and intelligently

As a result, the SmartRatios model significantly outperforms traditional accounting-based credit models on default prediction. In addition, it can provide incremental value in an equity investment strategy. Finally, it can also serve as a leading indicator of future changes in agency ratings when the SmartRatios rating and the agency rating differ significantly.

MORE POWERFUL DEFAULT PREDICTIONS

Our research shows that analyst estimates have significantly more explanatory power in predicting defaults than using reported actual alone. Figure 1 compares the default prediction power of common financial ratios built using FY1 SmartEstimates vs. the reported FYO actuals.

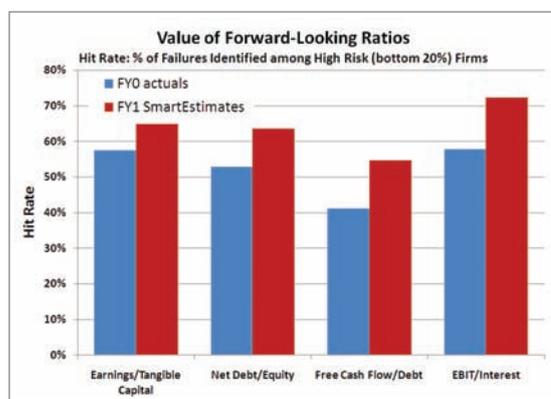


Figure 1. Value of SmartRatios in Default Prediction.

Figure 2 compares the power of the SmartRatios model in identifying corporate failures with other frameworks.

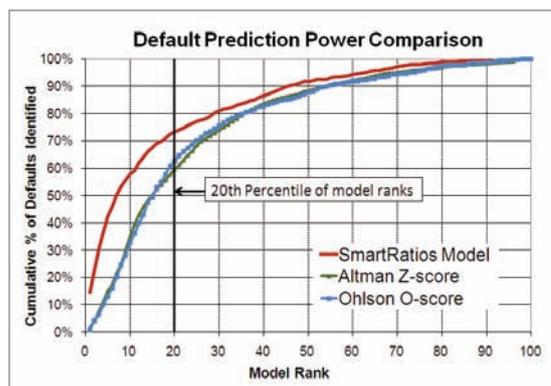


Figure 2. Default Prediction Power Comparison.



On the model level, the SmartRatios model is more powerful than common alternatives such as the Altman Z-score and the Ohlson O-score. The model accurately predicts 73% of default events at the 20th percentile of model scores compared to about 60% for the Altman Z-score and the Ohlson O-score.

IMPROVE EQUITY SELECTION PERFORMANCE

The model can also add value in equity selection frameworks. Adding the SmartRatios model as a simple screen to filter out risky securities significantly improves the performance of even the most powerful quantitative multi-factor equity selection models. Figure 3 shows how the Sharpe ratio and return of a long-only portfolio based on StarMine’s Value-Momentum model (Val-Mo) monotonically increase as we tighten the screen based on the SmartRatios model. The basic Val-Mo strategy goes long stocks in the top quintile of Val-Mo scores within the universe of Top 2000 stocks by market cap globally. By keeping only the stocks with PD less than 0.16% in the portfolio, we are able to improve the Sharpe ratio by ~40% and quintile return by ~60%. This demonstrates that the SmartRatios model can add value to a real-world equity investment strategy in a portfolio of large, tradable securities.

PREDICT CHANGES IN AGENCY RATING

To enable comparison to agency ratings and allow ease of use for those who are calibrated to letter grades, the SmartRatios PD is mapped to letter ratings using published historical default rates by rating. We found that when the SmartRatios rating differs significantly from the agency rating, if the agency rating does move it will move toward the SmartRatios rating at least 80% of the time. In other words, the agency ratings are about five times as likely to move toward the SmartRatios rating as they are to move away from it. This finding is illustrated in Figure 4, which implies that the SmartRatios model can be used as a leading indicator of the future moves of Agency Rating.

The StarMine SmartRatios model generates default probability estimates, letter ratings, 1-100 percentile rankings, and component scores on over 35,000 global companies every day. Contact your Thomson Reuters representative to determine the delivery option that works best for you.

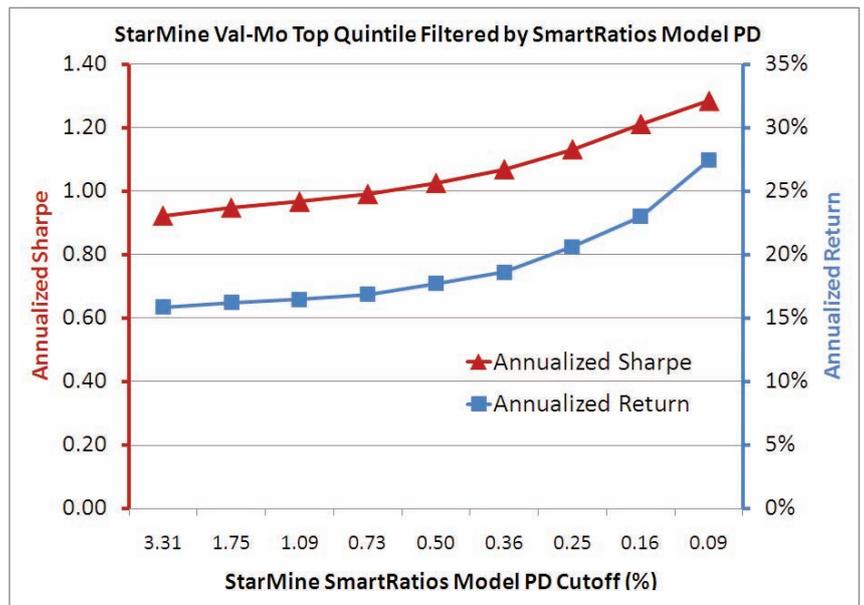


Figure 3. SmartRatios adds value in equity selection.

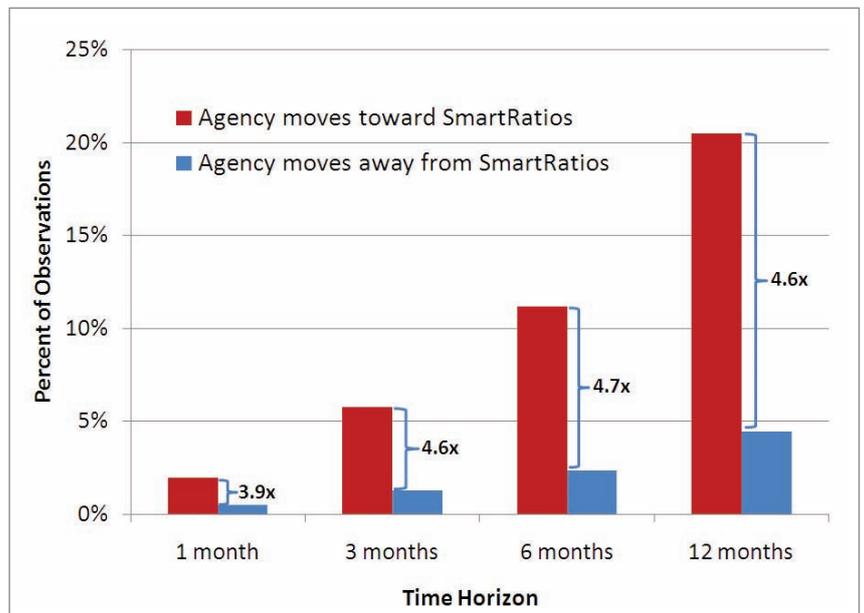


Figure 4. Direction of future changes in agency ratings when they differ significantly* from SmartRatios ratings. *A difference of at least six notches is deemed as “significant”, which corresponds to about 20% of the data.

QUESTIONS?

For more information, including delivery options, a detailed White Paper, or historical files for backtesting please contact your Thomson Reuters representative or StarMine Quantitative Consulting: starmine.quantconsulting@thomsonreuters.com