The Aggregated Equity Risk Premium.

Prof. Dr. Vitor Azevedo

03.02.2026

1 Abstract

We propose a new approach for predicting the equity risk premium that first estimates expected returns on individual stocks before aggregating them to the market level. Our deep learning combination forecast aggregates firm-level return predictions from neural networks of varying complexity, trained on a comprehensive two-dimensional feature set of post-publication firm-level characteristics and aggregate macroeconomic variables. Using this aggregation method, we achieve an out-of-sample R^2 of 2.74% from 2000 to 2021. The forecasts demonstrate strong economic significance in trading strategies even with transaction costs. While the market generated a return of 376% over this period, a simple market-timing strategy based on our model's forecast signs yields a net cumulative return of approximately 768%. Our results show that aggregating firm-level predictions can lead to profitable market timing signals, challenging the conventional wisdom that the equity risk premium is unpredictable out-of-sample and suggesting that valuable market-wide information can be extracted from the cross-section of individual stocks.