World Academy of Science, Engineering and Technology
International Journal of Economics and Management Engineering
Vol:16, No:12, 2022

Forecasting Equity Premium Out-of-Sample with Sophisticated Regression Training Techniques

Authors : Jonathan Iworiso

Abstract : Forecasting the equity premium out-of-sample is a major concern to researchers in finance and emerging markets. The quest for a superior model that can forecast the equity premium with significant economic gains has resulted in several controversies on the choice of variables and suitable techniques among scholars. This research focuses mainly on the application of Regression Training (RT) techniques to forecast monthly equity premium out-of-sample recursively with an expanding window method. A broad category of sophisticated regression models involving model complexity was employed. The RT models include Ridge, Forward-Backward (FOBA) Ridge, Least Absolute Shrinkage and Selection Operator (LASSO), Relaxed LASSO, Elastic Net, and Least Angle Regression were trained and used to forecast the equity premium out-of-sample. In this study, the empirical investigation of the RT models demonstrates significant evidence of equity premium predictability both statistically and economically relative to the benchmark historical average, delivering significant utility gains. They seek to provide meaningful economic information on mean-variance portfolio investment for investors who are timing the market to earn future gains at minimal risk. Thus, the forecasting models appeared to guarantee an investor in a market setting who optimally reallocates a monthly portfolio between equities and risk-free treasury bills using equity premium forecasts at minimal risk.

Keywords : regression training, out-of-sample forecasts, expanding window, statistical predictability, economic significance, utility gains
Conference Title : ICMBEF 2022 : International Conference on Management, Business, Economics and Finance
Conference Location : New York, United States
Conference Dates : December 09-10, 2022