A Comparative Analysis of Global Minimum Variance and Naïve Portfolios: Performance across Stock Market Indices and Selected Economic Regimes Using Various Risk-Return Metrics

Authors : Lynmar M. Didal, Ramises G. Manzano Jr., Jacque Bon-Isaac C. Aboy

Abstract : This study analyzes the performance of global minimum variance and naive portfolios across different economic periods, using monthly stock returns from the Philippine Stock Exchange Index (PSEI), S&P 500, and Dow Jones Industrial Average (DOW). The performance is evaluated through the Sharpe ratio, Sortino ratio, Jensen's Alpha, Treynor ratio, and Information ratio. Additionally, the study investigates the impact of short selling on portfolio performance. Six-time periods are defined for analysis, encompassing events such as the global financial crisis and the COVID-19 pandemic. Findings indicate that the Naive portfolio generally outperforms the GMV portfolio in the S&P 500, signifying higher returns with increased volatility. Conversely, in the PSEI and DOW, the GMV portfolio shows more efficient risk-adjusted returns. Short selling significantly impacts the GMV portfolio during mid-GFC and mid-COVID periods. The study offers insights for investors, suggesting the Naive portfolio for higher risk tolerance and the GMV portfolio as a conservative alternative. **Keywords :** portfolio performance, global minimum variance, naïve portfolio, risk-adjusted metrics, short-selling

Conference Title : ICASSS 2023 : International Conference on Applied Statistics and Statistical Science

Conference Location : Zurich, Switzerland

Conference Dates : September 11-12, 2023