

## Hedging properties of Gold in an emerging market economy: An application of intertemporal capital asset pricing model (CAPM)

Prof. Samaresh Bardhan, IIT Ropar



This study provides an intertemporal risk-return relationship in the Indian market, also focusing on the hedging properties of gold. By utilizing 3863 daily observations, from December 16, 2005, to June 30, 2022, this research employs the technique of ICAPM and DBEKK-GARCH model to investigate the dynamics of risk-return relationship in the Indian market, with a particular emphasis on the role of gold as a potential hedging instrument. The analysis also considered the multiple market indices (BSE 500, BSE 200, NIFTY 500), individual stocks (S&P, BSE, SENSEX, NIFTY 50); and two state variables (91- Treasury Bill Rate (TBR) and the gold prices) as hedging variables in the study. The findings of the study revealed a statistically significant and positive risk-aversion coefficient, highlighting the presence of positive risk-return relationships in the Indian stock market. In contrast to what ICAPM predicts, the study also finds notable differences in expected returns, with intercept contributing to these variations for specific market indices.

Moreover, the results of conditional covariances demonstrate a statistically significant and positive correlation between individual asset returns and the price of gold. This suggests robust and significant predictive power for forecasting returns on the S&P, BSE, and SENSEX stocks indicating potential hedging properties of gold in the Indian market. However, the conditional covariance with 91-day TBR is found to be statistically insignificant, indicating that it is not priced in the ICAPM framework. The findings of the study have implications for investment strategies, risk management, and portfolio diversification in the context of the Indian financial market offering important guidance for investors, financial analysts, and policymakers.