عنوان مقاله:

Risk Management in Oil Market: A Comparison between Multivariate GARCH Models and Copula-based Models

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خلاصه مقاله:

High price volatility and risk are the main features of commodity markets. One way to reduce this risk is to apply the hedging policy in future contracts. In this regard, in this paper, we will calculate the optimal hedging ratios for OPEC oil. In this study, besides the multivariate GARCH models, for the first time, we use conditional copula models for modeling the dependence structure between OPEC oil and WTI future contract with different maturities and estimating hedging ratios for OPEC oil by using WTI future contracts. The results of this study show that the dependence structure between OPEC oil and WTI future contract in three maturities is asymmetric. In addition, results indicate that during the studied period (۲۰۰۳-۲۰۱۷), Copula-based models have more efficient in applying the hedging policy than multivariate GARCH models. The average optimal hedge ratio increases with a rise in the maturity of contracts. On the other hand, the highest performance of hedging strategies was achieved by using WTI futures contracts with six months' maturity.

کلمات کلیدی:

Asymmetric Dependence, Optimal Hedge Ratio, Copula-based Models, OPEC Oil

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