

# The Effectiveness of Margin-Setting with Historical, Implied, or Realized Volatility

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## Abstract

In this paper, we investigate the effectiveness of volatility forecast in a risk management context. We look at a clearinghouse's margin-setting system, which is primarily designed to control the risk resulting from members' defaults. Once the default risk is judged to be prudential enough, the clearinghouse's remaining concern is the opportunity cost of the investors. Such a framework is applied to evaluate the effectiveness of volatility forecasts based on historical, implied and realized volatility using HSI (Hang Seng Index) futures and options data. Our results generally support the conclusion that IV (implied volatility) outperforms the RV (realized volatility) model, which in turn also outperforms the HV (historical volatility) model.

*JEL Classification:* G14, G15

*Keywords:* Historical volatility, implied volatility, information content, margin-setting, realized volatility

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