# Heterogeneous news flow on volatility

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Volatility. Credit: University of Vaasa

According to a new study from the University of Vaasa, it is possible to apply different statistical methods and information content of time series observations to estimate volatility. The results have importance, for example, in risk management, hedging strategies and option pricing.

Juha Kotkatvuori-Örnberg considers risk of an investment in his doctoral dissertation in the field of finance. The research results show that it is possible to apply different statistical methods and information content of time series observations to estimate volatility. The results have importance for example in risk management, hedging strategies and option pricing.

The research is founded on an axiom in the theory of finance, i.e., investors react to all information in their investment decisions in the financial markets. In consequence, through actions of investors, prices of investments changes and uncertainty of the investment returns increases, i.e., risk increases in the financial markets. Obviously, information changes, and so do returns of investments.

"So, it is concluded that information has influence on returns of an investment. Equally, it is possible to infer that changes in information have influence on risk i.e. volatility of an investment", says Kotkatvuori-Örnberg who will defend his doctoral thesis at the University of Vaasa.

In the dissertation research the econometric time series models are utilized to estimate volatility. The econometric models are applied to utilize efficiently the information content of the time series observations. For example, financial crisis period on volatility is analyzed in the research.

## No return without risk

Investments have very important influence on social environment. For society and individuals, it is important to understand the concept of risk that is related to the investment. An axiom in the theory of finance is also, "no return without risk".

"Obviously, even highly profitable investment is not undertaken if the risk is too high. However, highly profitable investment is not undertaken if the risk is not possible to estimate with sufficient accuracy."

Due to more accurate estimates of volatility the portfolio managers who are in responsible of wealth of investments have better return-per-risk ratio investment opportunities. Particularly important is to estimate volatility in price determination of derivatives, since value of option is based on the estimated volatility. For the portfolio managers the option markets enable to hedge wealth of portfolios that is known better as an insurance protection to home economics.

Provided by University of Vaasa

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