



THE UNIVERSITY OF CHICAGO

Department of Statistics

MASTER'S THESIS PRESENTATION

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Parametric and Non-Parametric Measures of Value-at-Risk in the
Chinese Stock Market

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ABSTRACT

The world of financial risk management has seen an abundant amount of research topics on the Value-at-Risk estimation in terms of its various models and methods, as well as comparing and evaluating the different models' forecasting ability on portfolio or stock market index. Previously, Chinese scholars have conducted a series of studies on the topic including testing twelve different VaR models on the stock returns in the Chinese market. Their key findings concluded that a number of models in the GARCH family consisting of GARCH, EGARCH, and the GJRGARCH model perform better than the Historical Simulation, Monte-Carlo, GARCH-M and TGARCH models. A recent paper was dedicated using the Kernel Density estimation for VaR. Therefore, the purpose of this paper is to evaluate the performances of Kernel based approaches and GARCH with Gaussian Distribution and Student-t error Distribution in estimating Value-at-Risk in SCI (Shanghai composite index). After estimation, failure rate and Christoferson test will be used to evaluate the accuracy of VaR estimation.

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