



THE UNIVERSITY OF
CHICAGO

Department of Statistics

MASTER'S THESIS PRESENTATION

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Kernel Estimation of Conditional Quantile for Value at Risk

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ABSTRACT

Value at Risk (VaR) is an important tool in risk management and risk measurement. Traditional methods for estimation of conditional VaR requires parametric model assumptions or strong assumption on the distribution of the data, which is often unrealistic in real data set. The paper considers kernel estimation of conditional quantiles as an estimate of Value at Risk. The method only requires mild regularity assumptions which makes the estimator more reliable in practice. We provide detailed explanation of the method. The algorithm is assessed based on a small simulation and is applied to S&P 500 Index and AT&T monthly returns.