



# THE UNIVERSITY OF CHICAGO

Department of Statistics

## MASTER'S THESIS PRESENTATION

---

YING ZHAO

Department of Statistics  
The University of Chicago

An Empirical Analysis of the Leverage Effect

TUESDAY, November 3, 2015, at 8:00 AM  
Eckhart 117, 5734 S. University Avenue

### ABSTRACT

One of the most enduring empirical regularities of equity markets is the fact that stock-return volatility rises as price declines, which is usually referred to as leverage effect. In 1976, Black first provides an explanation for this phenomenon in terms of the firm's financial leverage: a fall in a firm's stock value relative to the market value of its debt results in a rise in its debt-to-equity ratio and increases its stock volatility. In this study, we use high frequency data to estimate the leverage effect with a nonparametric estimator called Price-only Realized Leverage. In the following empirical studies, we show that this estimator displays robustness and efficiency. Furthermore, we use this estimator to study the correlation of leverage effect and firms' fundamentals and find that leverage effect is negatively correlated with firms' debt-to-equity ratio, which supports Black's leverage effect argument.

---

For information about building access for persons with disabilities, please contact Laura Rigazzi at 773.702-0541 or send an email to [lrigazzi@galton.uchicago.edu](mailto:lrigazzi@galton.uchicago.edu). If you wish to subscribe to our email list, please visit the following web site: <https://lists.uchicago.edu/web/arc/statseminars>.