

Colin B. Swaney

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Academic

UNIVERSITY OF MISSISSIPPI Visiting Assistant Professor of Finance	2017-2018
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Education

UNIVERSITY OF IOWA Ph.D. Finance	2012-2018 (proposal defended Aug. 2017)
UNIVERSITY OF IOWA M.S. Mathematics	2009-2011
KANSAS STATE UNIVERSITY B.S. Mathematics and Economics	2005-2009

Research Interests

Market microstructure and high-frequency trading; empirical asset pricing

Job Market Paper

Price Formation and the Shape of Limit Order Books (single authored)

Abstract

With a view towards exploring the information content of limit orders, as opposed to market orders, I propose a factor model of order book shape. I start by building a unique dataset of Nasdaq limit order books that tracks order activity at ultra high-frequency. Analyzing over 20,000 stock-days, I find that the limit order book comprises three common factors, which I characterize as level, slope, and curvature. By combining these factors alongside price increments in a vector autoregression, I demonstrate that the factors not only explain limit order book shape but also predict returns over one-minute time intervals.

Working Papers

Order Book Events on a Poisson Network (single authored)

Abstract

In this paper, I explore the dynamics of a fully electronic limit order book. Using recent advances from the field of machine learning, I demonstrate how to estimate a continuous-time, event-driven model of market dynamics in a fully Bayesian fashion. I estimate the model using event message data from the Nasdaq exchange for two stocks with contrasting order book characteristics over a one month period. My results highlight the importance of order book shape in explaining patterns in order arrivals, and because the model reacts to incoming orders, it serves as a plausible testing environment for evaluating the fitness of algorithmic order execution and trading strategies.

Evaluating Fund Manager Skill: A Mixture Model Approach (single authored; accepted at R/Finance 2016)

Abstract

Evaluating the performance of actively managed equity mutual funds is among the most important topics in the field of finance. In this paper, I present a new assessment of the stock picking ability of actively managed funds that accounts for the occurrence of false positives, an issue that complicates traditional assessments. I find that while the data is consistent with a small group of alpha-generating funds, the composition of this population experiences significant annual turnover and is, therefore, difficult to identify in advance. Between 1975 and 2015, the returns to a fund selection strategy based on the classification method fail to generate alpha.

Teaching

COURSES TAUGHT AS INSTRUCTOR

- ▶ Financial Management (Summer 2013, Fall 2013, Spring 2014)

COURSES TAUGHT AS ASSISTANT

- ▶ Financial Management, Investments, Corporate Finance, International Finance

Publications

Swaney, Colin et al. 2015. Efficient Skin Segmentation via Neural Networks: HP-ELM and BD-SOM. *Procedia Computer Science* 53: 400-409. (Presented at INNS Big Data 2015)

Professional Activity & Awards

- ▶ AFA Student Travel Grant, 2015
- ▶ Graduate College Summer Fellowship, 2014
- ▶ Discussant, FMA Annual Meeting, 2013

Industry

CONVERSANT

Decision Science Internship, Optimization Group

Summer 2016

- ▶ Analyzed data from real-time bidding platform.

Skills

GENERAL PROGRAMMING:

- Python, C, CUDA, UNIX/Linux, High-Performance Computing (HPC)

SCIENTIFIC AND DATA PROGRAMMING

- MATLAB, R, SAS, PostgreSQL

OTHER PROGRAMMING

- LaTeX, HTML, CSS, Git

References

Artem A. Durnev (Chair)

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