

# PAUL ALEXANDER BOROCHIN

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## PROFESSIONAL EXPERIENCE

<b>University of Miami – Miami Herbert Business School</b> <i>Assistant Professor of Professional Practice in Finance</i>	<b>Miami, FL</b> 2019 – present
<b>University of Connecticut – School of Business</b> <i>Assistant Professor of Finance</i>	<b>Storrs, CT</b> 2011 – 2019
<b>University of Toronto – Rotman School of Management</b> <i>Visiting Professor of Finance</i>	<b>Toronto, ON</b> 2018

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## EDUCATION

<b>Duke University – Fuqua School of Business</b> <i>PhD, Finance</i>	<b>Durham, NC</b> Class of 2011
<b>University of Pennsylvania – Wharton School of Business</b> <i>Bachelor of Science in Economics, Majors in Finance and Statistics</i> <i>Minors in Mathematics and Computer Science</i>	<b>Philadelphia, PA</b> Class of 2005

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## RESEARCH INTERESTS

- Asset Pricing, Institutional Ownership, Corporate Events and Policies, Fintech

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## PUBLISHED PAPERS

- Borochin, P., J. Knopf, 2021, “Do Managers Seek Control and Entrenchment?”, *Journal of Corporate Finance* forthcoming
- Borochin, P., Y. Zhao, 2020, “Risk Neutral Skewness Predicts Price Rebounds and so can Improve Momentum Performance”, *Critical Finance Review* forthcoming
- Borochin, P., H Chang, Y. Wu, 2020, “The Information Content of the Term Structure of Risk-Neutral Skewness”, *Journal of Empirical Finance* 58
- Borochin, P., 2020, “The Information Content of Real Operating Performance Measures from the Airline Industry”, *Journal of Financial Markets* 50
- Borochin, P., Y. Kopeliovich, K. Shea, 2020, “A General Method for Valuing Complex Capital Structures”, *Finance Research Letters* 35
- Borochin, P., Y. Zhao, 2019, “Belief Heterogeneity in the Option Markets and The Cross-Section of Stock Returns”, *Journal of Banking and Finance* 107
- Borochin, P., J. Cicon, J. DeLisle, and M. Price, 2018, “The Effects of Conference Call Tone on Market Perceptions of Value Uncertainty”, *Journal of Financial Markets* 40
- Borochin, P., C. Ghosh, and D. Huang, 2018, "Target Information Asymmetry and Takeover Strategy: Insights from a New Perspective", *European Financial Management* 25
- Borochin, P., and J. Yang, 2017, “The Effects of Institutional Investor Objectives on Firm Valuation and Governance”, *Journal of Financial Economics* 126
- Borochin, P., and W. Cu, 2017, “Alternative Corporate Governance: Domestic Media Coverage of Mergers and Acquisitions in China”, Lead Article, *Journal of Banking and Finance* 87
- Borochin, P., J. Glascock, R. Lu-Andrews, and J. Yang, 2017, “Using Option Market Liquidity to Predict REIT Leverage Changes”, *Journal of Real Estate Finance and Economics* 55
- Borochin, P., and J. Golec, 2016, “Using Options to Measure the Full Value-Effect of an Event: Application to Obamacare”, *Journal of Financial Economics* 120
- Borochin, P., and J. Yang, 2016, “Options, Equity Risks, and the Value of Capital Structure Adjustments”, *Journal of Corporate Finance* 42
- Bird, R., P. Borochin, and J. Knopf, 2015, “The Role of the Chief Legal Officer in Corporate Governance”, Lead Article, *Journal of Corporate Finance* 34
- Borochin, P., 2014, “When Does a Merger Create Value? Using Option Prices to Elicit Market Beliefs”, *Financial Management* 43

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## WORKING PAPERS

- Identifying the Heterogeneous Impact of Highly Anticipated Events: Evidence from the Tax Cuts and Jobs Act (with Murat Celik, Xu Tian, and Toni Whited)

- Minority Analysts, Diversity, and Market Behavior (with Vidhi Chhaochharia and Alok Kumar)
- The Economic Value of Equity Implied Volatility Forecasting with Machine Learning (with Yanhui Zhao)
- Can Long-Term Institutional Owners Improve Market Efficiency in Parsing Complex Legal Disputes? (with Xiaoqiong Wang and Siqi Wei)
- Common Ownership Types and Their Effects on Innovation and Competition (with Jie Yang and Rongrong Zhang)
- Do Boards Have Style? Evidence from Director Style Divergence and Board Turnover (with Robert Bird, John Knopf, and Luchun Ma)

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## AWARDS AND HONORS

- Financial Management Association Best Paper Award in Options & Derivatives, 2020
- Fellow, George Washington University, C-LEAF, Quality Shareholders Initiative, 2020-present
- Semifinalist for Financial Management Association Best Paper Award in Corporate Finance, 2016
- AAI Outstanding Paper Award, Eastern Finance Association, 2016
- Semifinalist for Financial Management Association Best Paper Award in Corporate Finance, 2014

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## RESEARCH GRANTS

- Eversource Energy Center Cybersecurity Grant, 2018-2019, with Amir Herzberg, Fei Miao, and Peng Zhang, \$350,000
- Eversource Energy Center Grid Resilience Grant, 2018-2019, with Ross Bagtzoglou, Wei Zhang, and Maria Chrysochoou, \$292,000
- Eversource Energy Center Grid Resilience Grant, 2016-2017, with Suresh Nair, \$100,000

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## MEDIA MENTIONS

- “Can Institutional Investors Help the Market Evaluate Complex Legal Disputes?”, Columbia Law Blue Sky Blog, 2020
- “Common Ownership Types and Their Effects on Innovation and Competition”, Blackrock Public Policy, 2019
- “Do Boards Have Style?”, Columbia Law Blue Sky Blog, 2019
- “Option-Implied Skewness and the Momentum Anomaly”, CFA Institute Enterprising Investor, 2019
- “The Effect of Institutional Ownership Types On Innovation and Competition”, Harvard Law School Forum on Corporate Governance, 2018
- “Insights into Cyber Security Investments”, UConn Eversource Energy Center, 2018
- “How Institutional Investor Objectives Affect Firm Valuation and Governance”, Columbia Law Blue Sky Blog, 2017
- “The Role of the Chief Legal Officer in Corporate Governance”, Columbia Law Blue Sky Blog, 2016
- “Do Managers Seek Control and Entrenchment”, Columbia Law Blue Sky Blog, 2015

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## RECENT PRESENTATIONS AND SEMINARS

Financial Management Association (2020), University of Mississippi (2020), Deakin University (2020)\*, Midwest Finance Association (2020)\*, American Finance Association (2020), Southern Finance Association (2019), OptionMetrics Research Conference (2019), Financial Management Association (2019), Florida Atlantic University (2019), University of Miami (2019), University of Waterloo (2019), Seton Hall University (2019), Santa Clara University (2019), UMass Amherst (2018), San Diego State University (2018), Rutgers University Camden (2018), OptionMetrics Research Conference (2018), Financial Management Association (2018), Wilfrid Laurier University (2018), ITAM Finance Conference (2018), University of Toronto (2018), Federal Reserve Board of Governors (2018), McMaster University (2018), Citadel LLC (2018), Florida International University (2018), The Clearing House (2018), University of Maryland (2018), American Economic Association (2018)\*, Financial Management Association (2017)\*, The Brattle Group (2017), European Financial Management (2017), University of Toronto (2017), Georgia State University (2017), York University (2017), Louisiana State University (2016), West Virginia University (2016), Financial Management Association (2016), American Accounting Association (2016)\*, European Financial Management (2016), Office of the Comptroller of the Currency (2015), Financial Management Association (2015), UMass Lowell (2015), IFABS Oxford (2015), Georgetown University (2015), Financial Intermediation Research Society (2015)

\* presentations by coauthors

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## TEACHING EXPERIENCE

Student Managed Investment Fund Portfolio Manager I/II, <i>Undergrad / Masters</i> Evaluations: Fall 2019 (3.66/5), Spring 2020 (4.83/5)	University of Miami 2019-
Mathematics of Financial Derivatives, <i>Masters</i> Evaluations: Fall 2019 (4.5/5)	University of Miami 2019-
Financial Modeling, <i>Masters</i> Evaluations: Fall 2019 (3.66/5)	University of Miami 2019-
Investments and Security Markets, <i>Undergraduate</i> Evaluations: Fall 2019 (3.66/5)	University of Miami 2019-

Theory of Financial Markets and Valuation, <i>PhD</i> Evaluations: Fall 2016 (4.85/5), Fall 2017 (4.47/5)	University of Connecticut 2013-2017
Applications in Financial Management, <i>Undergraduate</i> Evaluations: Fall 2016 (4.14/5), Spring 2016 (4.32/5), Fall 2017 (4.55/5)	University of Connecticut 2011-2017
Financial Management, <i>Undergraduate</i> Evaluations: Spring 2013 (3.78/5), Fall 2017 (3.90/5)	University of Connecticut 2013, 2017

## PROFESSIONAL SERVICE

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### Administrative Service:

- Conference Organizer, *Winter Research Conference in Machine Learning and Business*, University of Miami
- Faculty Advisor, Envestnet Institute on Campus, University of Miami
- Faculty Advisor, Student Managed Investment Fund, University of Miami
- Research Coordinator for Grid Resilience, Eversource Energy Center, University of Connecticut

### Ad-hoc Referee:

- Journal of Law and Economics, Management Science, Journal of Financial and Quantitative Analysis, Journal of Applied Econometrics, National Science Foundation, Journal of Empirical Finance, Journal of Financial Services Research, Israel Science Foundation, Journal of Banking and Finance, Journal of Corporate Finance, Health Economics, Financial Management

### PhD Dissertations Chaired:

- Stephen Rush (2011-2016), placed at Bowling Green State
- Yanhui Zhao (2013-2018), placed at Wisconsin-Whitewater

## SKILLS

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- CFA Charterholder
- IT Skills: Python, SAS, R, Matlab, STATA, C++, Java, SQL
- Languages: Fluent in English and Russian, conversant in Japanese and Spanish

## WORKING PAPER ABSTRACTS

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### **Identifying the Heterogeneous Impact of Highly Anticipated Events: Evidence from the Tax Cuts and Jobs Act** (with Murat Celik, Xu Tian, and Toni Whited)

We develop a method for estimating the stock market impact of aggregate events. Based on using data on both stock and options prices, our technique accounts for two important sources of bias present in traditional methods. First, our method takes into account market anticipation, without the need for information on specific firm characteristics. Many event studies only measure a fraction of an event's full value effect, so the measured market reaction at event resolution can be misleading, particularly in the case of a very high degree of market anticipation. Second, our method is robust to the possibility of the event being good news for some firms and bad for others, without prior specification of this heterogeneity. We apply the method to the passage of the Tax Cuts and Jobs Act (TCJA), which exhibits both anticipation and heterogeneity. We estimate the market anticipated the probability of passage to be as high as 95% 30 days before the event. The full value impact of the TCJA is found to be 12.36%, compared to 0.68% when market anticipation is ignored. The firm-level impact of the TCJA is considerably heterogeneous, with large and innovative firms with high growth prospects being the largest winners.

### **Minority Analysts, Diversity, and Market Behavior** (with Vidhi Chhaochharia and Alok Kumar)

This study examines whether race/ethnicity of financial intermediaries influences the production and dissemination of information in the U.S. capital markets. We find that brokerage diversity influences both the forecasting style and accuracy of analysts. Asian analysts are more likely to issue bold positive forecasts while African American and Hispanic analysts are relatively more pessimistic. Further, White (Asian) analysts are more (less) accurate while African American and Hispanic analysts are as accurate as their peers. These accuracy differences primarily reflect the effects of brokerage diversity. Stock market participants perceive Asian analysts relatively more favorably in spite of their lower accuracy but their career outcomes are adversely affected by increased diversity. In contrast, stock market participants perceive African American and Hispanic analysts relatively less favorably and their career outcomes are minimally affected by brokerage diversity. Taken together, these findings demonstrate that minority analysts do not benefit from increased diversity while White analysts do.

### **The Economic Value of Equity Implied Volatility Forecasting with Machine Learning** (with Yanhui Zhao) *2020 Financial Management Association Best Paper Award Winner in Options & Derivatives*

We evaluate the importance of nonlinear interactions in volatility forecasting by comparing the predictive power of decision tree ensemble models relative to classical ones for normalized at-the-money implied volatility innovations. We measure the economic significance of these predictions in cross-sectional and time series pricing tests of delta-hedged option returns. Classification tree ensembles outperform a multinomial logit classifier by 0.35% to 0.46% monthly abnormal returns in delta-hedged option portfolio sorts on volatility innovation forecast data, while regression tree ensembles outperform OLS and LASSO models by 0.03% to 0.14%. Since the predictive variables are the same across all models, these performance differences likely capture the value of nonlinear interactions in implied volatility forecasts. Our results are robust to look-ahead bias and model overfitting.

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## **Can Long-Term Institutional Owners Improve Market Efficiency in Parsing Complex Legal Disputes? (with Xiaoqiong Wang and Siqi Wei)**

Long-horizon institutional investors can help mitigate information asymmetries around securities class action (SCA) lawsuits. We find that the machine readability of SCA complaint filings can predict the outcome and duration of class actions. Long-term institutional investor ownership leads to a more positive post-SCA announcement price reaction and increases the volatility ratio of prices as a measure of price informativeness. Furthermore, there is a significant interaction effect between long-term institutional ownership and SCA complexity on price informativeness consistent with a superior information processing ability about complex corporate events affecting portfolio firms.

## **Common Ownership Types and Their Effects on Innovation and Competition (with Jie Yang and Rongrong Zhang)**

In corporate innovation, the type of institutional ownership matters. Using exogenous shocks from mergers of financial institutions, we identify two countervailing effects of common ownership on corporate innovation. Higher common ownership by focused, long-term dedicated institutional investors promotes innovation as measured by patenting overall, as well as more pathbreaking innovation as measured by citations received and patents cited. Common ownership by diversified, short-term transient investors discourages these. The effects of common ownership by diversified, long-term quasi-indexing institutions on innovation vary with industry competitiveness. Evidence suggests that common ownership affects innovation through the channels of firm valuation and corporate governance. These results contribute to an ongoing debate on the effects of common institutional ownership on competition.

## **Do Boards Have Style? Evidence from Director Style Divergence and Board Turnover (with Robert Bird, John Knopf, and Luchun Ma)**

We identify persistent director style effects on corporate policies. Director style explains a significant amount of cross-sectional variation in firm policy variables for financing, investment, operations, and corporate governance, among others. The results are significantly different from counterfactual random assignments of directors to firms, confirming the validity of director style measures. We also aggregate director effects at the firm level to create a median board style. Directors with effects that deviate from the board's overall style on acquisition, advertising, and compensation policies are significantly more likely to leave the board or leave their appointment to key board committees. Style divergent directors are also more likely to leave the board as the CEO's total compensation increases. Board style has predictive power for future firm performance.