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EMPLOYMENT Assistant Professor of Finance

J. Mack Robinson College of Business, Georgia State University, 2023 - Present

EDUCATION Ph.D. in Finance

Robert H. Smith School of Business, University of Maryland, 2017 - 2023

- Dissertation Committee: Vojislav Maksimovic (Co-Chair), Liu Yang (Co-Chair), Geoffrey Tate, Maria Cecilia Bustamante, Alex Xi He, John Haltiwanger

M.S. in Finance

Simon Business School, University of Rochester, 2015 - 2016

B.E. in Quantitative Economics

Shanghai University of Finance and Economics, 2011 - 2015

RESEARCH INTERESTS

Corporate Finance, Innovation, Labor and Finance, Entrepreneurship, Merger and Acquisition, and FinTech

WORKING PAPERS

Human Capital Reallocation and Agglomeration of Innovation: Evidence from Technological Breakthroughs

This paper identifies the reallocation of human capital as a key channel of agglomeration spillovers for innovative firms. To measure agglomeration spillovers, I study how R&D labs in different local labor markets respond differently to scientific breakthroughs, which create large and unexpected shocks to innovation productivity in certain technology categories. Taking advantage of U.S. Census longitudinal establishment data matched with patent records, I systematically locate R&D labs in all local labor markets for each firm. I document four main findings. First, following scientific breakthroughs, affected labs in thicker local labor markets (i.e., commuting zones with more inventors innovating in a certain field) produce more patents and higher-quality patents, consistent with positive agglomeration spillovers. Second, the increase in patenting is mostly attributed to new hires rather than incumbent inventors. Third, the thick labor market effect is concentrated in states and industries where there is lower enforceability of non-compete agreements and labor is more mobile. Finally, using textual analysis to identify lab-level exposure to scientific breakthroughs, I find that inventors are reallocated to labs that are more favorably affected by shocks, which helps labs in thicker labor markets to more easily bring in inventors working in the same niche fields and having a diverse knowledge base. Taken together, these results point to labor mobility as a key force in explaining why innovative firms cluster, and suggest that the clustering of firms in thick labor markets can foster corporate innovation by facilitating productivity-enhancing reallocation of human capital following scientific breakthroughs.

Presented at: 2024 AFA (scheduled), 2023 FMA (scheduled), 2023 SFS Cavalcade, 2023 NBER Productivity, Innovation, and Entrepreneurship Program, 2023 North American Meeting of the Urban Economics Association (scheduled), 2023 Labor and Finance Group Conference (scheduled), 4th Annual Boca Corporate Finance and Governance Conference (scheduled), 2023 China International Conference in Finance

(CICF), 2023 Columbia Private Equity Conference, 2023 Junior Academic Research Seminars (JARS) in Finance, WEFI PhD Workshop, City University of Hong Kong, Georgia State University, Michigan State University, Northeastern University, Shanghai Advanced Institute of Finance (SAIF), Southern Methodist University, The Ohio State University, University of Hong Kong, University of Kentucky, University of Pittsburgh, University of Rochester, University of Wisconsin-Madison, Copenhagen Business School (canceled), Melbourne Business School (canceled), National University of Singapore (canceled), University of Maryland.

Seizing Opportunities: Small Businesses, Social Capital, and Banks

(with Vojislav Maksimovic and Liu Yang)

Why do small businesses exploit business opportunities better in some areas than others? In a sample of 1.2 million consumer-facing establishments, stores differ significantly across neighborhoods and census tracts in the uptake of risk-free positive NPV forgivable loans to which they are entitled. Local social capital strongly predicts loan uptake after controlling for close-by bank branches, income, and education. Increasing our social capital measures by one standard deviation increases the loan uptake by 6.4 percent of the sample mean, accounting for 20 percent of the variation at the zip code level. The effect is higher than the effect of having a bank branch within 1000 yards. Large, low growth stores in less-dynamic areas benefit more from strong social capital, while small, high-growth stores in more-dynamic areas benefit more from bank branches. Virtual connections act similarly to in-person social connections and have the greatest effect on loan uptake in already advantaged locations. Virtual connections within the county predict higher use of local banks over FinTech lenders, while out-of-county virtual connections predict more increased use of FinTech lenders.

Presented at: *2023 WFA, 2023 SFS Cavalcade, 2023 MFA, 2022 NBER's Entrepreneurship Working Group, 2022 Virtual Corporate Finance Seminar, 2022 North American Meeting of the Urban Economics Association (UEA), 2022 UBC Summer Conference, 2022 China International Conference in Finance (CICF), University of Maryland.*

Identifying the Effects of Entry on Local Innovation

I identify the entry effects of top innovative firms on incumbent innovation. I exploit the inter-temporal variation in patenting activities of local inventors in chosen commuting zones that attracted the firm headquarters and in runner-up commuting zones that were finalists of location choice. Treated and control groups have similar trends prior to the entry, while the local inventors in the chosen zones perform better in quality and quantity after the entry of top innovative firms. They apply 6.7% more patents, gain 16.8% more top patents, and receive 11.6% more citations. In addition, I investigate the potential mechanisms underlying local innovation spillovers. Entry effects are stronger among local inventors who are technologically or socially closer to the entering firm, after controlling for innovation incentives and labor mobility. Social closeness, isolated from technological proximity, consistently explains the innovation gains, which suggests knowledge diffusion is the important channel for local innovation productivity spillovers. Overall, my results indicate that top innovative firms foster innovation of local participants largely through knowledge spillovers.

Presented at: *2022 North American Meeting of the Urban Economics Association (UEA), 2022 China International Conference in Finance (CICF), Workshop on Entrepreneurial Finance and Innovation (WEFI) Fellow Program, Stevens Institute of Technology PhD Workshop, University of Maryland.*

Award: *2022 Nancy S. and Edward F. Ebert Graduate Award in Free Enterprise.*

**WORK IN
PROGRESS****Value of Talent, Innovation and Labor Market Thickness: Evidence from
Inventor Deaths**

Human capital is increasingly essential to the growth and success of a firm. In this paper, I highlight the value of human capital in patenting activities of innovative firms and examine the interaction effects of labor market thickness. Using the pre-retirement deaths of inventors as an exogenous negative shock, I find firms suffer a significant and persistent decline in patenting outcomes, compared with their matched counterparties in the absence of such loss. Yet, a thick labor market mitigates the adverse effect. In particular, the reduction in innovation would be mostly zeroed out for firms located in an area with a high clustering of talent. I investigate two possible mechanisms underlying the thick market effects: risk-sharing and improved match quality. My results show that firms in a thick labor market do better in recruiting and retaining talent. Furthermore, I find a greater knowledge overlap and technological fit between onboarding inventors and the firms in a thick labor market, indicating a higher quality of worker-firm match which help preserve human capital and recover innovation activities. Taken together, the results emphasize the importance of talent in firms' innovation performance and suggest that labor market thickness can play a crucial role in shaping firms' human capital management.

Board Diversity and M&A Strategies

I construct a multidimensional measure of experience diversity in directors to examine the effects of board diversity on M&A strategies. Using the diversity in supply of directors as an instrument, I exploit the exogenous variation in board composition and show that greater board experience diversity leads to more diversifying strategies. Specifically, firms with a more diversified board tend to complete more deals. They are more likely to acquire a target that operates in a different industry, is located at a more distance place, and has lower cash flow correlation and lower level of product similarity. Announcement return and post-merger performance are not better for more diversified acquirers.

**REFeree
SERVICE**

Review of Financial Studies

**CONFERENCE
DISCUSSIONS**

North American Meeting of the Urban Economics Association, 2022
MFA, 2023
EFA, 2023
North American Meeting of the Urban Economics Association, 2023
FMA, 2023
CFEA, 2023

**PROFESSIONAL
ACTIVITIES**

NBER Innovation Research Boot Camp, 2022
NBER Entrepreneurship Research Boot Camp, 2019
Workshop on Entrepreneurial Finance and Innovation (WEFI) Fellows Program, 2021 - 2023
Co-Organizer, Student-led Workshop on Entrepreneurial Finance and Innovation (WEFI), 2021 - 2023
Organizer, Smith Finance Brownbag Seminar, 2022 - 2023

TEACHING

J. Mack Robinson College of Business, Georgia State University

Instructor:

- FI 4000 Fundamentals of Valuation, 2023
- This course is intended to provide finance majors with an introduction to the core tools and concepts used in the analysis of investments. Specific topics to be

covered include valuation, risk and return analysis, optimal portfolio selection, asset pricing, the analysis and pricing of derivative securities, term structure theory, and the economics of foreign exchange markets. By the end of the course, students should have a broad understanding of the key analytical tools and concepts that will be useful for further study in finance. Students taking this course are expected to have a working knowledge of basic probability and statistics, calculus, and spreadsheet programming.

University of Maryland

Instructor:

- Undergraduate core on International Finance (BMGT446), 2020
- BMGT446 introduces financial management in an international context. We apply standard economics and finance tools to analyze issues facing a multinational corporation. Topics include exchange rate determination, measuring and hedging exchange rate risk, organization and functions of foreign exchange, international capital market, and financial instruments which are commonly used for hedging purposes.
- Evaluation: 3.5/4.0

Teaching Assistant:

- Master elective on Corporate Governance and Performance (BUFN714), 2021

HONORS AND AWARDS

Frank T. Paine Award for Academic Achievement, University of Maryland
Nancy S. and Edward F. Ebert Graduate Award in Free Enterprise
Jacob K. Goldhaber Travel Grant
AFA Travel Grant Award
Dean's Fellowship, University of Maryland
Dean's List, University of Rochester
National Baosteel Scholarship, Shanghai University of Finance and Economics(3/20000)

SKILLS

SAS, R, STATA, Python

LANGUAGES

Mandarin (native), English (fluent), Cantonese (fluent)

OTHER

Census Special Sworn Status: 2020 to Present

REFERENCES

Vojislav (Max) Maksimovic (Co-chair)
William A. Longbrake Chair in Finance
University of Maryland
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Liu Yang (Co-chair)
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